

FIRST TO FILE PATENT DRAFTING: A Practitioner's Guide

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PREFACE

This monograph is all about *practice*, “how to” draft a patent application. But, where there are plural drafting choices due to ambiguities in the statutory wording, the fundamental case law support for and against the various options is provided, so the reader can make his own intelligent choice as to how to draft the application.

Impact of the new First-to-File Regime

At first blush, one may think that the major point of the *Leahy Smith America Invents Act* is the new first-to-file system. But, there are many other ore subtle changes in the patent law that need to be addressed.

At the outset, it is imperative to commence a study of the new patent law by focusing upon the statutory text of certain key provisions. The relevant text that defines prior art and the standard of nonobviousness is found at the end of § 1[a], *First-to-File Statutory Scheme*. The statutory test for *priority* based upon an earlier application (whether it is a domestic provisional application, a parent of a continuation, continuation-in-part or divisional) is found at § 4, *Priority Keyed to a Parent Disclosure*, which contains 35 USC § 119 (the relevant text for priority based upon a Paris Convention foreign priority application as well as a United States provisional application) and 35 USC § 120 (priority for a continuation, continuation-in-part or divisional application).

For the Asian or European patent applicant – already operating for generations under first-to-file, twin changes of greater importance are the creation of *global* “public use” and “on sale” bars to patentability which in the first instance include unique *substantive* law changes pects that every person in charge of a patent docket must master. See § 2[b], *Global “Public Use” and “On Sale” Prior Art*. In the second instance, there is now a right to *procedurally* challenge validity at the Patent Office based upon a violation of the “public use” and “on sale” provisions. See § 2[d][1], *“Public Use”, “On Sale” Challenges*.

For the American practitioner new to first-to-file, this monograph resolves the seeming dilemma of the need for “immediate” patent filing to meet the realities of first-to-file under the *Leahy Smith America Invents Act* versus the time-consuming apparent need to create a patent application with the numerous bells and whistles of the *Manual of Patent Examining Procedure* and antiquated case

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law; thus, applicants have traditionally included features such as a *Background of the Invention*, “objects”, “problems” faced by the inventor, “purpose” of the invention, “field”, “gist”, “heart”, “thrust” or “essence” of the invention, “inventive concept” and “advance in the art”. § 2[a], *Cold Reality of First-to-File*.

Before jumping into the nuances of first-to-file, it is important to note that there are many *earlier* changes in practice that also need to be considered. To simply adapt to first-to-file without considering the various nuances of changes of the past generation would be a mistake. See § 2[e], *Primacy of the Claims, Importance of the Specification*

First to file patent drafting is approached through the lens of a *business manager* without which the filing process loses coherency. Management needs to take a hands on approach to directing the drafting effort. Once a patent attorney has been given a complete technical description and drawings for the preferred embodiment, the *business objectives* for many filings may call for spending no more than an hour or so for an already *completed* invention filed for defensive purposes. At the other end of the spectrum an upstream prototype in an unpredictable technology may be visualized as a conception but the ultimate commercial embodiment is yet to be created; the drafting process, here, may take hundreds of hours to provide working and prophetic exemplary support to complement broad generic claims.

The very best prior art *is* cited. This means that if the best prior art is any one of three or four three references, then those three or four references are cited (as opposed to citing twenty or thirty or more including clearly less relevant prior art). The best prior art is simply *cited* and not *characterized*. The bells and whistles of the *Manual* and case law are eliminated in favor of a straight-forward presentation of the invention with a tailored *Summary of the Invention* including definitions of terms at the point of novelty.

A “first to file” application must be promptly and efficiently drafted, which does not mean hurriedly prepared or without attention to key detail. This monograph thus stresses a *timely, quality* presentation of a patent application focusing on essential statutory elements such as the *Summary of the Invention*, while discarding numerous traditional patent application features which add nothing to a patent position – and which may in fact create harmful ambiguities or estoppels.

Top Ten MPEP Faux Drafting “Requirements”

The freshly minted practitioner who has grown up only in the era of the *Leahy Smith America Invents Act* of 2011 is quite fortunate. There is a lot whole lot of historic thinking as to how to draft a patent application that person does not have to “unlearn”.

The most important *practical* change in the practice on a daily basis is the need to rethink patent *drafting* procedures. It is now a fatal flaw for the first inventor to gain *any* patent right at all where the first inventor does everything according to the *Manual of Patent Examining Procedure*, keeps the invention secret until filing, but, due to following the *Manual of Patent Examining Procedure* as to procedures *not required by statute* nor helpful to the examination, he has become “second to file”.

Thus, it is imperative for patent management to understand what requirements or suggestion in the *Manual of Patent Examining Procedure* are important and which are antiquated (such as one nineteenth century statutory requirement that has not been a part of the United States Code for more than sixty (60) years. Among the requirements or recommendations of the *Manual of Patent Examining Procedure* that *should not* be followed may be mentioned:

- (1) “I must recite the field of the invention”
- (2) “I must “describ[e] *** the prior art’ in the specification”
- (3) “The CFR says I should include a ‘[b]ackground of the invention”
- (4) “The MPEP says I should recite problems leading to the invention”
- (5) “The MPEP says I should disclose the ‘gist’ of the invention”
- (6) “I must disclose the best mode in the original filing”
- (7) “I should cite prior art in the specification as filed.”
- (8) “I should summarize the ‘nature and substance” of the invention”
- (9) “Any object recited should be that of the invention as claimed[.]”
- (10) I must disclose “the exact nature, operation, and purpose ...”

This list is explained in more detail in *Top Ten MPEP Faux Drafting “Requirements”* in § 6, *Role of the MPEP, the Manual of Patent Examining Procedure*.

Sources of Legislative History

This is a patent *practice* monograph. But, given the uncertainties of statutory interpretation and test cases yet to resolve these uncertainties, a fair degree of the history of controversial elements of the new law are included. The practitioner can determine for himself what the likely interpretation will be of various provisions of the new law. For an in depth study of the legislative history, there are two key sources that can be used as starting points. First, Robert A. Armitage of the APLA is the one person who was involved with the entire legislative process and wrote frequently about specific issues as the legislation progressed through Congress. His various reports can be obtained through a google search for the specific subject under consideration coupled with his name. Second, as quick study of what happened in Congress, Joe Matal kept copious notes from his perch with the Congressional staff responsible for the legislation. His information is compiled in an important two part series of articles, Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 21 Federal Circuit B. J. 435 (2012); *id*, *Part II of II*, 21 Federal Circuit B. J. 539 (2012). Matal is cited several times in this monograph.

It should also be noted that the APLA has recently published a nearly thousand page practitioner's guide, Alan J. Kaspar, Brad D. Pedersen, Ann M. Mueting, Gregory D. Allen & Brian R. Stanton, PATENTS AFTER THE AIA: EVOLVING LAW AND PRACTICE (Bloomberg BNA 2016). (Mr. Armitage is not one of the coauthors.) The many suggestions on how to prosecute an application in the APLA treatise complement the patent drafting rules of the present work.

Drafting Myths

For the experienced practitioner, a good starting point for this monograph appears immediately following this preface, *Top Ten Patent Drafting Myths*. Each of the ten points will be familiar to seasoned veterans of patent practice. More important than identifying myths of practice, immediately following each myth is a discussion of what *should* be done in patent preparation in the brave new world of

first-to-file and the other changes brought about by the *Leahy Smith America Invents Act*.

“How to” Draft, and Why: A Tailored Business Objective for Each Filing

This monograph differs in two important respects from traditional “how to” treatises on patent draftsmanship:

First, whenever possible, a *business motivation* is the central key to understanding the options open for patent draftsmanship. This is particularly important in the claim drafting exercise where some cases need little attention to claim drafting (as in the case where there is an entirely defensive business object that, thanks to first-to-file, minimizes the need for any *claim* to support the defensive right) up to the other extreme where a commercial embodiment has yet to be developed where prophetic disclosures and a ring of claims must be formulated.

Second, this monograph does not dictate a particular way to draft an application, but rather offers the patent draftsman *options* that sometimes follow and sometimes do not follow guidance from the *Rules of Practice in Patent Cases* or the *Manual of Patent Examining Procedure*. Happily there are some situations where the most practical approach neatly meshes with what is stated in both the *Rules of Practice in Patent Cases* and the *Manual of Patent Examining Procedure*, in which case there is a minimal citation of case law to support the options offered to the reader.

At the other end of the spectrum there are portions of the *Rules of Practice in Patent Cases* which are long outdated due to statutory changes dating back to the practice before the 1952 Patent Act (not to mention the *Leahy Smith America Invents Act* of 2011). Such regulations are often buttressed by practices set forth in the *Manual of Patent Examining Procedure*. In outlining options for practice that depart from either or both of the *Rules of Practice in Patent Cases* and the *Manual of Patent Examining Procedure*, the *reasons* for the departure are given, often buttressed by a discussion of the changes in the law and citations to relevant case law. The discussion of the changes is not in the first instance designed to justify a procedure to the draftsman of the patent application but, rather, to provide an explanation that can be shared with a corporate supervisor (who otherwise may

rightly wonder why a procedure inconsistent with the Patent Office guidelines is being taken) or by a Patent Examiner who has an understanding of the patent law and practice keyed to his desktop (or electronic) bible, the *Manual of Patent Examining Procedure*.

While the approaches offered in this monograph may at first blush appear to be directed to avoiding practice guidelines and the patent law, this is not at all the case. For example, where there *is* important guidance such as in the case of the duty of disclosure to cite prior art, here, efficient ways to cite the most pertinent references are provided that are better suited to the needs of the examiner for concise but complete citations to the best prior art.

Where there are several options for drafting, each suitable for some purposes, the options are explored so that the draftsman can make an intelligent choice as to the better approach for his particular needs.

Offensive vs. Defensive Strategies

Is the business objective of the patent filing to obtain *offensive* protection to either exclude others from practicing the invention? Or, is the business objective *defensive* to block a third party from obtaining a dominant patent to block the applicant's practice of the invention? The patent drafting strategy is entirely different for each objective.

Where the objective is *offensive* – either totally or as a component of the filing strategy, the starting point is necessarily the claims which form the centerpiece of the patent application. Everything else is subsidiary to the claims. For an offensive, claims-based strategy, see § 11, *A Holistic, Claims-Focused Presentation for Offensive Protection*.

If the business objective is entirely *defensive*, to block a third party from obtaining a dominant claim to the applicant's embodiment that he is about to commercialize, it is the *specification* that is the critical matter, and, unlike offensive protection where early grant of a patent may be a goal, speed in grant of a defensive patent is secondary, given that the patent-defeating impact of the published patent application 18 months from the filing date provides the necessary defensive right in a first-to-file environment. Here, the starting point is a fully enabled “cook book” example of the preferred embodiment. See § 9, “Cook Book” *Text of the Preferred Embodiment*.

“Abstract” Software and “Natural” Product § 101 Patent-Eligibility

For a “how to” approach to draft claims today with the goal of piggybacking off the results of test cases that are sure to come in the coming months and years, reference is made to § 1[b], *Technology-Specific Patent-Eligibility Challenges*. An outline of how to draft a patent application “today” for inventions involving issues under Section 101 relating to patent-eligibility is contained in the §§ 1[b][1] – 1[b][3]. A far more detailed exposition of the legal issues is found in Chapter 15, *Claiming Patent-Eligible Subject Matter*.

An even more detailed exposition of the issues is found in a parallel monograph included as an appendix, which is designed for in depth study of the issues for the purpose of a test case at either the Patent Trial and Appeal Board or the Federal Circuit.

A Comparative Approach

The comparative material relating to Japanese patent law and practice is in large measure the result of the education given this writer by several persons including Tomatsu Aoyama, Shoichi Okuyama and Eiji Katayama. (It was Mr. Aoyama, together with Shoji Matsui and the late Professor Dr. Zentaro Kitagawa, who arranged the writer’s early visits to Japan.) Thanks also are owed to Tetsu Tanabe for collaborations while the writer was a *Wissenschaftlicher Mitarbeiter* at the Max Planck Institute.

Most recently, the writer is indebted to the “Uemura Group” of practitioners for their view of Japanese practice areas that have nuanced differences from American patent practice. The “Uemura group” comprises Shozo Uemura and his colleagues Fumio Inai, Hironobu Kashihara, Shozo Yamashita and Tamaki Yoshida.

An Early Test Case

Helsinn Healthcare S.A. v. Teva Pharmaceuticals USA, Inc., Fed. Cir. 2016-1284, questions whether the *Leahy Smith America Invents Act* statutorily overrules *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir.1946)(L. Hand, J.). See § 1[a][7][C], *Inventor’s Secret Commercialization as Personalized Prior Art*.

A Rocky Road Ahead

We are now five years removed from the enactment of the *Leahy Smith America Invents Act*, but we have yet to feel the impact on the case law that is developing under what is undoubtedly the most complex statutory scheme of patent law of any major country of the world. Given the difficulties with interpretation of *earlier* legislation, it is difficult to predict the future of the case law evolution under the *Leahy Smith America Invents Act*. See § 1[a][8], *The “Dynamic Drinkware Phenomenon”, Beware!*

A Tribute to The Great Dissenter

For his remarkable record of achievement at the Supreme Court, legendary Justice Oliver Wendell Holmes, Jr., richly deserves the title of “The Great Dissenter”. As the Hon. Pauline Newman approaches her ninetieth birthday in 2017 now is a good time to mark her place in the history of the Judicial System. She shares in common with Justice Holmes a reputation for dissent, and in areas of practice before her court is known as “The Great Dissenter”.

At the appellate court level in patent law, no other jurist has as many dissents in precedential opinions as the Hon. Pauline Newman. She has richly deserved the title of “The Great Dissenter” at her court for her record-breaking number of dissents in patent cases over her several decades on the bench, unmatched by any other jurist in the history of the United States. Even as she approaches her ninetieth birthday in 2017, she continues today as the leader in patent dissents. Vin Gurrieri, *Newman Cements Status as Fed. Circ.’s Great Dissenter*, Law360 (March 8, 2016). Her reputation as the “Great Dissenter” is cemented by her bold departures from precedent where she puts her sense of fairness and justice at the forefront. Her reputation as the Great Dissenter goes beyond patents to other areas of Federal Circuit subject matter jurisdiction. W. Stanfield Johnson, *The Federal Circuit’s Great Dissenter and Her “National Policy of Fairness to Contractors*, 40 Public Contract Law Journal (No. 2) 275, 276 (2011)(“Her dissents represent such a significant percentage of contract-related appeals in which she has participated that the government contracting legal community may appropriately view her as the Federal Circuit’s ‘great dissenter.’ *** The dissents *** invariably argue fundamentally that contractors should be given their ‘day in court’ and ‘fair’ treatment.”).

* * *

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The writer acknowledges the influence of colleagues who have helped shape his thinking on patent practice as an Examiner – David G. Conlin, Kenneth E. Kuffner, Herbert Lidoff, Irving Marcus, Irving Pellman, Dr. Robert Raymond, Lorraine A. Weinberger, Richard K. Jackson, Sidney B. Williams; and in boutique practice – James Elwood Armstrong III, Barry E. Bretschneider, Herbert I. Cantor, Prof. Donald S. Chisum, Ellsworth H. Mosher, Douglas P. Mueller, Helmuth A. Wegner, Charles A. Wendel and John F. Witherspoon.

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TOP TEN PATENT DRAFTING MYTHS

- Myth 1: “First Inventor to File” is a Unique System
- Myth 2: “The Same One Year Grace Period Still Exists”
- Myth 3: “Throw Away the Lab Notebooks, they are Unnecessary”
- Myth 4: “I can draft examples later, when I file the application”
- Myth 5: “Patent Searcher should not be Given Inventor’s Prior art”
- Myth 6: “We never file a provisional”
- Myth 7: “Always Get Me the Broadest Possible Claims”
- Myth 8: “I Always Cite Prior Art in a *Background of the Invention*”
- Myth 9: “I can always file a CIP to narrow the claims, if necessary”
- Myth 10: “I won’t Tell My Attorney about Possibly Narrowing Claims”

The ten myths are all important but are unranked. They are listed, here, primarily by the sequence in the drafting process.

Myth 1: “First Inventor to File” is a Unique System

The new system is labelled as a “first inventor to file” system. In fact, the new American system is a classic “first to file” system. To be sure, the new American system is different from many other “first to file” systems. First, there is a limited grace period. Germany until it ratified the European Patent Convention, also had a grace period in its “first to file” system. Germany (and other countries) also is a first *inventor* to file system in the sense that if a third party files a patent application on subject matter derived from the first inventor, that first inventor is able to take title of the invention through legal proceedings in the German courts.

Myth 2: “The Same One Year Grace Period Still Exists”

This is mythology: Under the literal wording of the grace period statute, the grace period disqualifies as prior art the publication of the *same invention* by a third party within the one year period after the inventor’s disclosure. But, the state of the art for measuring obviousness is based upon the *inventor’s filing date* where much may have been learned following the inventor’s publication, so that an invention *unobvious* at the time the invention was made is now *obvious* in view of the heightened level of the state of the art. Additionally, the literal wording of the

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grace period statute does *not* apply to exempt a third party's disclosure of an *obvious variation* of the invention.

Thus, the grace period disqualifies as prior art the publication of the *same invention* by a third party within the one year period after the inventor's disclosure. But, the state of the art for measuring obviousness is based upon the *inventor's filing date* where much may have been learned following the inventor's publication, so that an invention *unobvious* at the time the invention was made is now *obvious* in view of the heightened level of the state of the art. *See* § 2[a][6][C], *State of the Art as of the Filing Date*.

Additionally, the literal wording of the grace period statute does *not* apply to exempt a third party's disclosure of an *obvious variation* of the invention. The literal wording of the grace period and its interpretation by the Patent Office is that a third party publication of an *obvious variant* of the claimed invention is prior art against the subsequent filing of the first inventor's patent application: *The grace period does not apply to anything other than a disclosure of the same invention: "A disclosure *** of a claimed invention shall not be prior art to the claimed invention [as having been patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention] if *** the subject matter disclosed had, before such disclosure, been publicly disclosed by *** another who obtained the subject matter disclosed *** from the inventor ***."* 35 USC § 102(b)(1)(B)(integrating in brackets text from 35 USC § 102(a)(1))(emphasis added). Undoubtedly, at some point in time there will be a test case challenging the literal interpretation of this statutory provision.

Myth 3: "Throw Away the Lab Notebooks; they are Unnecessary"

This is mythology: It *is* true that establishing a date of invention for priority purposes has lost meaning under the Leahy Smith America Invents Act.

But, *it is also true* that a Laboratory Notebook remains important to establish inventorship (which can be crucial in establishing a right to the grace period) and provide a contemporaneous record of what, precisely, was invented, and when.

The Laboratory Notebook helps pin down the inventive entity. The Laboratory Notebook provides evidence of derivation by a third party. The

Notebook pins down inventorship (important in terms of the one year grace period that exempts the inventor's own disclosures as prior art but does *not* exempt a third party's disclosure of an obvious variant). The Notebook also provides a record of the prior art known to the inventor, to facilitate inclusion of that prior art in an Information Disclosure Statement, or helping to establish that the inventor was not aware of certain prior art in the drafting process.

Myth 4: "I can draft examples later, when I file the application"

This is mythology: It is a difficult enough task to *contemporaneously* draft a "cook book" example to serve as "Example 1", but even more difficult at a much later date when the inventor tries to recreate what he did perhaps weeks or months earlier.

More importantly, a failure to *contemporaneously* draft the "cook book" example makes it more difficult to pin down who is the inventor of the subject matter. A key component of the Laboratory Notebook is the "cook book" example, which is the subject of a special chapter, § 9, "*Cook Book*" *Text of the Preferred Embodiment*.

While it is obvious that a trained patent attorney should supervise and actually draft the bulk of the patent application, it is also true that the *inventor* (or colleague working with the inventor on a daily basis) should keep a contemporaneous, running account of the development of the invention, including a "cook book" description of how to make and use the invention.

The cook book example of the preferred embodiment has plural functions. From the standpoint of drafting the patent application, an ideal "cook book" example can be simply "plugged into" the text of the application with only minor grammatical revisions. From the standpoint of establishing inventorship, the invention will only later be defined by the *claims*. Who invented what can be facilitated by *contemporaneous* record keeping, down to the level of a "cook book" example of the preferred embodiment.

Myth 5: “Patent Searcher should not be Given Inventor’s Prior art”

This is mythology: The inventor should name the most pertinent prior art references known to him in an Information Disclosure Statement. This will serve as basis for drafting an initial provisional application and also served as basis for an *informed* patentability search. Application preparation should *always* be conducted with full knowledge of what *the applicant* considers to be the most pertinent prior art. *First*, starting the patentability search with such knowledge will make this task more focused to find only prior art *as good as or better* than what the inventor has provided, ensuring that the search will produce fewer prior art references that will permit citation of only a few instead of perhaps dozens of references in an Information Disclosure Statement. *Second*, knowledge of the inventor’s prior art information and the sharper focus this gives the searcher makes it much more likely that the best prior art *will* be discovered in the search. Third, of course, if the best prior art is missed in the search but was known to the inventor, there are manifest consequences of coming up short on the applicant’s duty of disclosure under Rule 56.

Any prior art search should start with the inventor’s own starting off point or other close prior art known by the inventor. To conceal this information when commissioning a search in the first instance may mean that the search will not discover such prior art. See § 10[a][3], *Avoiding a “Willfully Blind” Search* (discussing the *T-Fal Fryer* case, *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360 (Fed. Cir. 2010)(Rader, J.), *modified*, *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011))(identify of commercial embodiment withheld from patent searcher and not found in his infringement search). More importantly, if the searcher starts from scratch he will pull many references in trying to pin down the state of the art, resulting in, say, forty or fifty references. If the searcher is given the inventor’s best known prior art, the searcher may come up with *no further* prior art as pertinent a what the inventor has cited, or perhaps no more than two or three references as pertinent. Citing just the two or three references in an Information Disclosure Statement (instead of forty or fifty references) makes the examination more productive.

Myth 6: “We never file a provisional”

This is mythology: A black and white position of this type is dangerous. Surely, there are some situations where a provisional *could be filed* based upon the “cook book” example and the prior art found in the Laboratory Notebook. If this disclosure is filed as a provisional before the subsequent Patent Committee approval, this gives the patentee valuable lead time in the first-to-file race to the Patent Office.

It *is* important to file a provisional for many other situations: In large organizations an initial triage to determine which invention disclosures should result in a patent application may take several weeks that delay the filing. The local research unit should be delegated the responsibility of filing an early *provisional application* before the Patent Committee meets. The filing should consist essentially of the “cook book” example of the preferred embodiment with generic coverage informed by the inventor’s prior art knowledge.

It should also be understood that secrecy must be maintained until at least a filing decision is made by the Patent Committee as the provisional *will* provide defensive protection and be basis for *limited offensive* protection but *may not* serve as basis for generic protection.

A “Bonus” Year of Patent Protection: The applicant who files a provisional application first enjoys a twenty-first year of patent protection, as the twenty year patent term does not start from the provisional filing date.

Foreign Priority Application as the Equivalent of a Provisional: An Asian or European patent applicant should feel comfortable filing a “home country” Paris Convention priority application instead of a provisional application. The notorious *Hilmer* case that denied a patent-defeating effect to an application as of its priority date has been overruled. *See* § 1[a][3], *Defensive Patent Right as of the Priority Date (Hilmer Overruled)*(discussing *In re Hilmer*, 359 F.2d 859 (CCPA 1966)).

Myth 7: “Always Get Me the Broadest Possible Claims”

This is mythology: A broad claim is *not* always a best goal of patent draftsmanship, particularly where either only narrow offensive protection is necessary or *any* defensive protection is the sole object of the application. To be sure, there *are* times when a broad claim *is* important, whenever broad *offensive* protection is important. But, the majority of situations do *not* require such broad protection: For **narrow offensive protection**, it may be counterproductive (and taken more time and money) to seek the broadest possible “claim 1”. For *any* **purely defensive** business objective, it is *not* the claims but a specific embodiment, e.g., “Example 1”, disclosed in the specification that provides the patent-defeating effect. Broad defensive protection requires multiple examples. *See Broad Defensive Protection Requires a “Matrix” Disclosure.*

Broad Protection May Come with a High Price Tag: Where the applicant is an early entrant into a field and wants *and needs* broad offensive protection, then by all means such protection can and should be sought. Thus, there *are* the relatively *rare* situations where obtaining the broadest possible claim *is* important, particularly where an inventor has a pioneer invention (which implies that there may be an absence of prior art that would permit obtaining a very broad “claim 1”, but this comes at a cost: The initial application with very broad protection should also have multiple layers of decreasing scope subgeneric claims (and disclosure), and in unpredictable areas include a matrix of examples that provide representative support for the broad scope of claim 1.

The obvious negatives to drafting a broad offensive patent application beyond the higher drafting cost is the problematic issues of first-to-file where such a filing may be delayed for days or weeks (during which a competitor may be the first-to-file) and the cost to produce a broad offensive application,

Beyond delays and cost considerations, the applicant with only broad generic claims generally cannot rely upon “claim 1” to take advantage of unobvious properties of the claimed invention because a showing of such unobvious properties may not have a “nexus” to the scope of claim 1. If claim 1 falls for formal or any other reasons, necessitating a new claim to a narrower generic scope, is one of the *originally disclosed* layers of decreasing scope generic

coverage available (or, is there basis in the specification to retreat to this narrower layer).

Assignee should Define the Needed Type of Protection: It is rare occasion that the objective should be to gain the very broadest protection possible. Among the most common objectives for a corporate sponsor are: (a) Broadest possible offensive protection; (b) narrow offensive protection to safeguard a commercial embodiment and minor variations of that embodiment; (c) broad defensive protection to block a generic claim dominating a scope beyond the present embodiment; and (d) narrow defensive protection to block a patent that would dominate the present embodiment and close equivalents. Objective (a) may require a very sophisticated and time consuming drafting process involving generic, telescoping definitions of generic and subgeneric protection while at the opposite end of the spectrum a narrow purely defensive objective is achieved by filing *only* the disclosure of the “cook book” example (and at least one claim to satisfy statutory requirements); the purely defensive filing is operative upon publication of the application (after which it may be abandoned).

A Written Understanding of the Business Objectives: Where the applicant merely instructs the patent attorney to file an application, without business objectives, it is important for the patent attorney to clarify that he plans to seek the broadest possible protection possible (outlining the extra efforts needed for such an application) unless he provides contrary instructions (with an outline of what options exist for broad vs. narrow and offensive vs. defensive protection). Armed with a confirmation of instructions, this serves as a safeguard against the owner of the patent, years later, challenging the failure of the patent attorney to gain the maximum offensive protection possible.

Myth 8: “I Always Cite Prior Art in a *Background of the Invention*”

This is mythology: It is wrong as a default filing policy for a first application to include a *Background of the Invention* section as the full state of the prior art is never known as of the filing date. Any characterization of the prior art in a *Background of the Invention* section may well create an argument for patentability that does not stand scrutiny (years later when other prior art is found) and arguments about the prior art may well be used as an admission against the

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patentee's interests. *There is no duty to characterize the prior art, only a duty to cite the most relevant prior art. See §8[b], Background of the Invention.*

Examiner-friendly Citation of Prior Art: At least in a first filing, an optimum procedure is to *avoid any citation or discussion* of prior art in the first filing. Even if a search has been conducted, the month or so after the first filing should be used to see whether there is any other prior art and to cull out any prior art that is not the most relevant prior art. In the end, the goal is to cite the three or four or so *most pertinent prior art* references, and not the thirty or forty or so references found in the patentability search. (If there is a doubt as to which of, say, seven or eight references is the most relevant, than all seven or eight should be cited – but not the thirty or forty found in the search.)

There may very well be good reasons to include a *Background of the Invention* section in a carefully drafted late stage continuation-in-part, but for a *first filing* the default should be to *never* file a first application with a *Background of the Invention*. This section will only hurt the applicant where the scope of protection may be construed to conform to limits of “objects” or “advantages” of the invention narrower than the claim wording; the statement of the prior art may be inaccurate (e.g., when later published but earlier filed published applications appear in the months after filing); the strength of the patent may be jeopardized by constructions of the invention inconsistent with the state of the art; or the section may explain the existence of a problem in the prior art, but this disclosure may very well provide the *motivation* to make the invention under *KSR* and hence destroy patentability.

(Of course, the duty of disclosure *must* be met: Meeting this duty is better accomplished through a simply Information Disclosure Statement that *lists* (but does not *characterize*) the most pertinent known references but includes copies of non-U.S. patent literature.)

An Information Disclosure Statement under Rule 56: At least in a first filing, an optimum procedure is to *avoid any citation or discussion* of prior art in the first filing. Even if a search has been conducted, the month or so after the first filing should be used to see whether there is any other prior art and to cull out any prior art that is not the most relevant prior art. In the end, the goal is to cite the three or four or so *most pertinent prior art* references, and not the thirty or forty or

so references found in the patentability search. (If there is a doubt as to which of, say, seven of eight references is the most relevant, than all seven or eight should be cited – but not the thirty or forty found in the search.)

To mitigate a searcher pulling too many references in his search, it is important that the search is not “willfully blind”: The inventor’s prior art information should be given to the searcher so that the searcher understands that he is looking for only prior art *as or more pertinent* as the inventor’s prior art.

Myth 9: “I can always file a CIP to narrow the claims, if necessary

This is mythology: It is a common misconception that if one starts with a broad claim or disclosure, if there is prior art to defeat the broad claim, one simply needs to file a continuation-in-part application *narrowing* the claims.

But, if there is no definition of the subgeneric retreat line in the original disclosure, the subgeneric definition may lack “written description” basis under Section 112(a). It is also not possible to avoid the “written description” problem by filing a continuation or continuation-in-part with the new subgeneric definition, assuming the original disclosure is now prior art: Under *Steenbock* a fresh subgeneric claim lacking “written description” basis in the parent stands naked as of the continuation or continuation-in-part filing date, and is hence barred due to lack of a priority right for the subgenus.

Steenbock applies if one presents a claim in a continuation-in-part that has a *different* scope than the parent disclosure, then the new claim lacks “written description” basis in the parent under Section 112(b), and thus stands naked as of the actual continuation-in-part filing date. The claim is thus barred under Section 102 if there is prior art prior to the continuation-in-part actual filing date. *See* § 11[d], *Steenbock “Rings” of Plural Generic Definitions* (discussing *In re Steenbock*, 83 F.2d 912 (CCPA 1936); *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)(Rich, J.)); § 11[d][2], *Priority to Genus of Different Scope* (discussing *Steenbock*; *see also* § 11[d][4][A], *Narrowed Range Barred by Intervening Disclosure* (explaining *In re Lukach*, 442 F.2d 967, 968-70 (CCPA 1971), where a narrowed scope of protection lacked “written description” basis).

Myth 10: “I won’t Tell My Attorney about Possibly Narrowing Claims”

The mythology is that the attorney should always be fighting for the broadest claims. Telling the attorney that one is willing to accept narrowed claims is seen as an invitation for the attorney to unnecessarily compromise the scope of protection.

Both at the time of filing and forward during procurement the attorney should be given the latest goals. Is this application really important to dominate a field? Is narrower protection suitable?

The patent attorney often is called “at the last minute” by a Patent Examiner seeking to finally “dispose” of an application. The patent attorney needs to know the parameters as to how far he may compromise to gain an immediate allowance. Since the alternative may be a final rejection, it is important to always keep the patent attorney apprised as to the latest business objectives.



PART I: BUSINESS APPROACH TO PATENT DRAFTSMANSHIP

§ 1. Major Changes in the New Patent Law

Patent practitioners continue to adapt their daily work of patent drafting to the realities of the *Leahy Smith America Invents Act* of 2011. While there are numerous changes impacting all areas of patent law and practice, for the patent draftsman there are two distinctly different major changes that are the prime focus of this group, one heavily impacting *domestic* practitioners who are learning to adapt to the global reality of first-to-file and the other heavily impacting *overseas* practitioners who must now adapt to the unique role of their “home country” activity that falls under the umbrella of a “public use” or “on sale” category of prior art that had previously been limited to acts within the United States.

Thus, for the *domestic* inventor who has no experience with a first-to-file system, the impact is dramatic. Under the now obsolete “first inventor” system, a patent applicant could take a much longer time than needed to draft a patent application, meeting the various formalities suggested by the *Manual of Patent Examining Procedure*. Today, the patent applicant must cut out the unnecessary formalities of the *Manual* and go to the heart of the patent drafting process. *See* § 2, *First-to-File sub nom First-Inventor-to-File*. (The Asian or European company is obviously already familiar with a first-to-file regime that is practiced essentially everywhere amongst the major countries of the world, now that the United States has changed its law.)

The Asian or European patent applicant now faces uniquely American patent-defeating bar under the American “public use” (including some *secret* use) and “on sale” bars. This represents a critical change in the law that presents particularly serious challenges to Asian and European corporate patent departments. *See* § 1[a][4], *Global “Public Use” and “On Sale” Bars to Patentability*

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The “best mode contemplated” requirement has been *maintained* in the new patent law but it may no longer be basis for challenging patentability or invalidity, *see* § 1[a][5], *An Attenuated “Best Mode” Invalidity Ground*. Whether *deliberate suppression* of a best mode is basis for unenforceability is an open question. *See* § 1[a][5][C], *Best Mode must not be Suppressed*. The statute is worded such that a failure to meet the best mode requirement, even if deliberate and rising to a level of conduct to render the patent unenforceable, the question still remains whether the defense that the patent is unenforceable may even be raised under the new law. Thus, the statute is worded so that beyond denial of invalidity based upon a best mode violation, challenge keyed to a best mode violation must surmount the statutory hurdle that denies a defense where “any claim may be *** held *** otherwise unenforceable” keyed to a best mode violation. *See* § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

A major procedural change in the law is the reinvigorated patent review board, now the “Patent Trial and Appeal Board”, particularly with strengthened post grant review options. *See* § 1[a][5][C], *Best Mode must not be Suppressed*. Of particular significance is the opportunity, for the first time in a Patent Office proceeding, to challenge a granted patent on the basis of a prior “public use” or “on sale” event. *See* § 1[a][7][C], *“Public Use” and “On Sale” Challenges*

One must never lose sight of the fact that as the case law interpreting the *Leahy Smith America Invents Act* unfolds, there will be more than a few highly unpredictable opinions that will be coming forth. *See* § 1[a][8], *The “Dynamic Drinkware Phenomenon”, Beware!*

Making matters less predictable is the generational divide within the Federal Circuit which is self-explanatory from the data shown below:

Federal Circuit Active Judges				
Active Judge	Age Diff. ⁺	First Judgeship [*]	Born	Retirement Eligible
Prost, C.J. ^{**}	24	2001	1951	<i>Now</i>
Newman, J.	0 ⁺	1984	1927	<i>Now</i>
Lourie, J.	8	1990	1935	<i>Now</i>
Dyk, J.	10	2000	1937	<i>Now</i>
Moore, J. ^{***}	41	2006	1968	2033
O'Malley, J.	29	1994 [*]	1956	2021 ^y
Reyna, J.	25	2011	1952	2021
Wallach, J.	22	1995 [*]	1949	<i>Now</i>
Taranto, J.	30	2013	1957	2022
Chen, J.	41	2013	1968	2033
Hughes, J.	39	2013	1966	2031
Stoll, J.	41	2015	1968	2033

Data is taken from the Federal Judicial Center website, www.fjc.gov
^{*}Year of first Judicial appointment for all members is the year of Federal Circuit judgeship, *except* for O'Malley, J. (N.D. Ohio original 1994 appointment elevated to Federal Circuit 2010); and Wallach, J. (original Court of International Trade appointment 1995 elevated to Federal Circuit 2011).
^{**}Chief Judge until no later than 2021.
^{***}Chief Judge for seven year term to succeed Chief Judge Prost.
⁺ Age base is keyed upon birthdate of senior-most active Judge (Newman, J.) as base = 0.
^y Retirement requires a minimum of ten years service.

§ 1[a] First-to-File Statutory Scheme

For the experienced global practitioner, several changes in the *Leahy Smith America Invents Act* may overshadow the change to first-to-file from the standpoint of a need to change current corporate practices. Yet, from the standpoint of a corporate domestic patent group, the dramatic shift to first-to-file is a remarkable matter that stages center stage. See § 2[a], *Cold Reality of First-to-File*.

To best understand the statutory changes it is, of course, necessary to study actual *text* of the *Leahy Smith America Invents Act*. The statutory scheme for novelty and nonobviousness are set forth in the Appendix: *The Leahy Smith America Invents Act Of 2011*, which includes the text of 35 USC § 102 (novelty over the prior art) and 35 USC §103 (nonobviousness), as well as sections of the patent law devoted to priority, 35 USC § 119 (priority based upon a parent United

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States provisional application or a Paris Convention based foreign application); § 120 (continuation, continuation-in-part and divisional priority)); and § 112 (claiming and disclosure requirements).

Basic definition of “prior art”

Under 35 USC § 102(a)(1):

“A person shall be entitled to a patent unless ...the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the *effective filing date* of the claimed invention[.]” (emphasis added)

Under 35 USC § 100(i)(1)(A) where the application is not entitled to priority, “[t]he term ‘effective filing date’ *** means *** the actual filing date of *** the application *** containing a claim to the invention[.]”

Under 35 USC § 100(i)(1)(B) where the application is not entitled to priority, “[t]he term ‘effective filing date’ *** means *** the filing date of the earliest application for which the *** application is entitled, as to such invention, to a right of priority under section 119 , 365(a) , 365(b) , 386(a) , or 386(b) or to the benefit of an earlier filing date under section 120 , 121 , 365(c) , or 386(c).”

Grace Period to Negate the Basic definition of “prior art”

Under 35 USC § 102(b)(1)(“Exceptions”, “Disclosures Made 1 Year or Less before the Effective Filing Date of the Claimed Invention”):

A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—

(A) the disclosure was made by the *inventor or joint inventor* or by another who obtained the subject matter disclosed directly or indirectly from the *inventor or a joint inventor*; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the *inventor or a joint inventor* or another who obtained the subject matter disclosed directly or indirectly from the *inventor or a joint inventor.*” (emphasis added).

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“Inventor” and “joint inventor” are terms specifically defined in 35 USC §§ 100(f), 100(g). Per § 100(f): “The term ‘inventor’ means the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention.” Per § 100(g): “The terms ‘joint inventor’ and ‘coinventor’ mean any 1 of the individuals who invented or discovered the subject matter of a joint invention.”

Earlier-Filed Later Published Application as “Prior Art”

Under 35 USC § 102(a)(2) a third party published patent application (or patent) that was “effectively filed” prior to the applicant’s effective filing date:

“A person shall be entitled to a patent unless *** the claimed invention was described in *** an application for patent published *** under [35 USC §] 122(b) , in which the *** application *** names another inventor and was *effectively filed* before the effective filing date of the claimed invention.” (emphasis added).

When an invention is “effectively filed” prior to the actual filing date is determined under 35 USC § 102(d)(2), *Patents and Published Applications Effective as Prior Art*:

“For purposes of determining whether a[n] *** application *** is prior art to a claimed invention under subsection (a)(2), such *** shall be considered to have been effectively filed, with respect to any subject matter described in the *** application *** if the *** application for patent is entitled to claim a right of priority under section 119 , 365(a) , 365(b) , 386(a) , or 386(b) , or to claim the benefit of an earlier filing date under section 120 , 121 , 365(c) , or 386(c) based upon 1 or more prior filed applications for patent, as of the filing date of the earliest such application that describes the subject matter.”

Grace Period to Negate Earlier-Filed Later Published Application

Under 35 USC § 102(b)(2)(“Exceptions”, “Disclosures Appearing in Applications and Patents”):

“A disclosure [in an earlier-filed later published application] shall not be prior art to a claimed invention *** if—

“(A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;

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“(B) the subject matter disclosed had, before such subject matter was effectively filed ***, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

“(C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were *owned by the same person or subject to an obligation of assignment to the same person.*” (emphasis added).

35 USC § 102(c) defines an exception to prior art for *Common Ownership under Joint Research Agreements*:

“Subject matter disclosed and a claimed invention shall be deemed to have been owned by the same person or subject to an obligation of assignment to the same person in applying the provisions of subsection (b)(2)(C) if—

“(1) the subject matter disclosed was developed and the claimed invention was made by, or on behalf of, 1 or more parties to a joint research agreement that was in effect on or before the effective filing date of the claimed invention;

“(2) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and

“(3) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement.”

Nonobviousness, the “Inventive Step”

The new statute is simply stated:

“35 U.S.C. 103 Conditions for patentability; non-obvious subject matter.

“A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in [35 USC §] 102, if the differences between the *claimed invention* and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing *date* of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.” (emphasis added)

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This closely tracks the wording of the old law, 35 USC § 103(a): “A patent may not be obtained though the invention is not identically disclosed or described as set forth in in [35 USC §] 102, if the differences between the *subject matter sought to be patented* and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.” (emphasis added).

What is the difference between “claimed invention” in the new law and the “subject matter sought to be patented”? Nothing. This is explained by the definition of “claimed invention” in 35 USC § 100(j): “The term ‘claimed invention’ means the subject matter defined by a claim in a patent or an application for a patent.”)

Claiming Requirements

35 U.S.C. 112 Specification.

(b) CONCLUSION. [*note*: corresponds to prior 35 USC § 112, ¶ 2]—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

(c) FORM. [*note*: corresponds to prior 35 USC § 112, ¶ 3] —A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

(d) REFERENCE IN DEPENDENT FORMS. [*note*: corresponds to prior 35 USC § 112, ¶ 4]—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

(e) REFERENCE IN MULTIPLE DEPENDENT FORM. [*note*: corresponds to prior 35 USC § 112, ¶ 5]—A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent

claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

(f) ELEMENT IN CLAIM FOR A COMBINATION. [*note*: corresponds to prior 35 USC § 112, ¶ 6] —An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Disclosure Requirements

35 U.S.C. 112 Specification.

(a) IN GENERAL. [*note*: corresponds to prior 35 USC § 112, ¶ 1] — The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention..

§ 1[a][1] An Unreliable Grace Period with Exceptions

One of the features that traditionalist patent applicants in the United States thought would be of comfort is the apparent *retention* of the one year grace period for filing after a first public disclosure. However, the grace period is extremely weak and one that is destroyed if a third party – even an admiring friendly third party – makes a public (prior art) disclosure describing an *obvious variant* of the invention: That obvious variant is prior art that is *without* a grace period. See § 2[a][1], *Prospective Reliance on the Grace Period is Untenable* .

§ 1[a][2] Defensive Patent Rights under First-to-File

Under the *Leahy Smith America Invents Act* defensive rights are obtained quite simply by filing a patent application that *discloses* (and may or may not claim) the invention for which *defensive* patent protection is sought. The application is permitted to become abandoned after the 18 month automatic publication of the application, which establishes the patent-defeating defensive right as of the *effective* filing date.

Prior to the *Leahy Smith America Invents Act* it was thought that for *defensive* patent rights a patent should be obtained with a *claim* to the invention where the defensive patent right is required. This is because under the old, “first inventor” system where there was no *claim* to the invention, a third party who was a junior applicant would be able to “swear behind” the filing date of the patent to establish a date of invention prior to the earlier filing date *without a patent interference*. Now, under the new law, where the first inventor independently established his invention the fact that he was first-to-file *blocks* a junior inventor from establishing an earlier date of invention.

§ 1[a][3] Defensive Patent Right as of the Priority Date (*Hilmer* Overruled)

A United States application has a full patent-defeating effect under both 35 USC § 102 (novelty) and § 103 (nonobviousness) as of the Paris Convention priority date. The statutory change overrules the notorious *Hilmer* case. *In re Giacomini*, 612 F.3d 1380, 1384 (Fed. Cir., 2010)(Rader, C.J.)(discussing *In re Hilmer*, 359 F.2d 859 (1966)).

Thus, the simple publication of a United States application properly claiming priority under the Paris Convention is given a “whole contents” patent-defeating date upon the automatic 18 month publication of the application.

§ 1[a][4] Global “Public Use” and “On Sale” Bars to Patentability

For the *Asian or European* patent organization, the applicant now faces the reality that its *domestic* Asian or European activities, some secret, may be captured as prior art under the new *global* definition of prior art as a “public use” or “on sale” bar. See § 2[b], *Global “Public Use” and “On Sale” Prior Art*.

While applicants outside the United States have long had a global definition of prior art, the unique nuances of the American law of “public use” (even though

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private or secret) and “on sale” must be mastered to avoid facing an unwitting prior art bar. For example, an “on sale” event may take place even *before* the invention has been reduced to practice, *see* § 2[b][1], *Offer of Sale for an Invention “Ready for Patenting”* (quoting *Atlanta Attachment Co. v. Leggett & Platt, Inc.*, 516 F.3d 1361, 1368 (Fed. Cir. 2008), quoting *Pfaff v. Wells Electronics, Inc.*, 525 U.S. 55, 66 (1998)). An inventor’s *secret* commercialization may create a patentability barrier, *see* § 2[b][2], *Secret Commercialization by the Inventor* (citing *Western Marine Elec., Inc. v. Furuno Elec. Co.*, 764 F.2d 840, 845 (Fed.Cir.1985))

§ 1[a][5] An Attenuated “Best Mode” Invalidity Ground

The best mode requirement has been *maintained* in the *Leahy Smith America Invents Act* of 2011, but failure to disclose the “best mode contemplated” is *not* a basis for establishing invalidity of a claim, while it remains an open question whether a *deliberate obfuscation* of the best mode contemplated remains basis for *unenforceability* of a claim. Whether failure to disclose a “best mode contemplated” *recognized as such* constitutes a basis for unenforceability is yet to be decided by the Federal Circuit.

§ 1[a][5][A] Refiling to Obviate a Best Mode Defect

A United States application that *does* disclose a best mode where the parent application fails to disclose that best mode *is* entitled to priority based upon the earlier-filed application. Thus, priority under the Paris Convention, 35 USC §119, and based upon a domestic parent, 35 USC §120, is granted if the earlier application has a fully enabling disclosure but lacks a disclosure of the “best mode contemplated”.

§ 1[a][5][B] “Best Mode” is no Longer Basis for Invalidity

A “best mode” violation under the *Leahy Smith America Invents Act* is no longer basis for a holding of invalidity. *See* § 19[g][2], *Violation is not a Direct Defense to Patent Infringement* (quoting 35 USC § 282(b)(3)(A)(that makes a 35 USC § 112 violation basis for invalidity “except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable....”). Neither may unenforceability keyed to a best mode violation be a defense to patent infringement under the quoted wording of the statute (“or otherwise unenforceable”). *See* § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

§ 1[a][5][C] Best Mode must not be Suppressed

While a “best mode” defense is no longer possible, the best mode *should* be disclosed, particularly as there is no case law under the *Leahy Smith America Inventors Act* which deals with the situation where a “best mode” is deliberately suppressed. It remains to be seen whether *Consolidated Aluminum* remains the law of the Federal Circuit. Thus, the new law *denies* unenforceability in the case of a violation of the “best mode” requirement. See § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?* (quoting *Consolidated Aluminum Corp. v. Foseco Intern. Ltd.*, 910 F.2d 804 (Fed. Cir. 1990)(claims held unenforceable where experimental data in the specification was fabricated to disguise the “best mode”)).

§ 1[a][6] Open Questions for Global “Public Use” and “On Sale” Bars

One of the major changes in the American patent law is the establishment of “public use” and “on sale” bars to patentability through acts in Asia or Europe anywhere else in the world. Patent applicants from Japan and European countries should note the major differences between the laws abroad and in the United States as to what constitutes a “public use” (and, of course, most countries do not have a separate “on sale” bar. See § 2[b], *Global “Public Use” and “On Sale” Prior Art*.

In many countries a *concrete, completed embodiment* of an invention may be a “public use” under various conditions. Under the American patent law even *drawings* long prior to creation of a completed embodiment is sufficient for establishing an “on sale” bar to patentability. See § 2[b][1], *Offer of Sale for an Invention “Ready for Patenting”*, and particularly § 2[b][1][A], *Pfaff “Ready for Patenting” Prior to Reduction to Practice*. To be sure, an “on sale” bar is negated where the invention was primarily used for experimentation. See § 2[b][1][B], *Offer “Not Primarily for Purposes of Experimentation”*.

One of the questions that is yet to be resolved in a test case is how to determine whether an invention is “on sale”. Prior to the *Leahy Smith America Inventors Act*, principles of United States law were used to determine whether an offer of sale (“on sale”) occurred in the United States. See § 2[b][1][C], *“Commercial Offer for Sale”*. To the extent that the law as to an “on sale” offer differs between, say Germany or Japan *versus* United States law, which law governs? See § 2[b][1][D], *Law to Determine Existence of a “Commercial Offer for Sale”*.

§ 1[a][7] Post Grant Validity Challenges at the Patent Office

Post grant validity challenges at the Patent Trial and Appeal Board include a continuation of the previous practice of Inter Partes Review (IPR) augmented by the option of a Post Grant Review (PGR) which must be filed within nine months of the patent grant. Both procedures strongly favor the patent challenger and in many instances represent a viable option to a Declaratory Judgment action for invalidity in a District Court.

§ 1[a][7][A] Planning Ahead for a Post Grant Challenge

In a typical patent prosecution where the applicant loses at the Board, it is possible to file a continuation application with slightly different claims or a slightly different issue and then take a “fresh” approach to prosecution, starting once again with a Patent Examiner. Even better for the applicant who sees a difficult road at the Board is to file the continuation *before* a decision by the Board.

§ 1[a][7][B] “Public Use” and “On Sale” with Global Prior art

Historically, a “public use” or “on sale” bar to patentability has not open to challenge in a post-grant proceeding such as Inter Partes Review. Now, as part of the Leahy Smith America Invents Act a post-grant challenge can be brought through Post Grant Review (PGR) that must be brought after the grant of the patent but not later than nine months from such grant. See § 2[d][1], “*Public Use*”, “*On Sale*” Challenges (quoting 35 USC § 321(b)).

The scope of a Post Grant Review (PGR) under 35 USC § 321(b) which may be filed within nine months of grant is open to “any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).”

Concurrently with the option of a PGR proceeding one may also file an Inter Partes Review (IPR), but unlike a PGR, the IPR may be filed throughout the life of the patent. The scope of an Inter Partes Review is expressly limited to “only [] a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.”

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§ 1[a][7][C] Inventor's Secret Commercialization as Personalized Prior Art

Prior to the *Leahy Smith America Invents Act* under *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir.1946)(L. Hand, J.), the commercialization of the product of a secret process created a statutory bar under 35 USC § 102(b) as a “public use” of the invention – even though the process remained secret. Where the patentee uses a patentable process to make a commercial product where the sale of that product does not reveal the identity of the product of that patentable process, does the patentee forfeit his right to a patent on the patentable process if he fails to file a patent application to that process within one year from his first commercialization?

Prior to the *Leahy Smith America Invents Act*, the answer has been “yes”, there is a bar. This is based upon the interpretation of the “on sale” bar in *Metallizing Engineering*: “[I]t is a condition upon the inventor's right to a patent that he shall not exploit his discovery competitively after it is ready for patenting; he must content himself with either secrecy or legal monopoly." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149 (1989)(quoting *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir.1946)(L. Hand, J.).

The question now is whether *Metallizing Engineering* remains the law as part of the *Leahy Smith America Invents Act*, an issue now before the Federal Circuit in *Helsinn Healthcare S.A. v. Teva Pharmaceuticals USA, Inc.*, Fed. Cir. 2016-1284.

Until there is a decision in *Helsinn Healthcare* or some future case, the safest approach in establishing a patent portfolio is to file a patent application on the patentable process *prior to* the one year anniversary of the first “on sale” event of the product made by that process.

The Federal Circuit explained the law of *Metallizing Engineering* in *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983): Budd and Cropper were involved in prior art activities for the *sale* of a product (a tape) where the prior art activities did *not* permit identification of the process used to make that product. Here, the sale of the product would have been a patent-defeating bar against a patent to the product, but not to the secret process, *except* against the party who had commercialized the tape:

“If Budd [and Cropper] offered and sold anything, it was only tape, not whatever process was used in producing [the tape]. *** [T]here was no evidence[] that the

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public could learn the claimed process by examining the tape. If Budd and Cropper commercialized the tape, that could result in a forfeiture of a patent granted them for their process on an application filed by them more than a year later. *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147-48 (Fed.Cir.1983); See *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir.1946). There is no reason or statutory basis, however, on which Budd's and Cropper's secret commercialization of a process, if established, could be held a bar to the grant of a patent to Gore on that process.”

W.L. Gore, 721 F.2d at 1550.

§ 1[a][7][C][i] The Literal Wording of the Statute

Whether *Metallizing Engineering* has survived the *Leahy Smith America Invents Act* depends in the first instance upon a change in the wording of the law

The basis for the bar to secret commercialization is the “public use” and “on sale” language of 35 USC § 102(b) which in *Metallizing Engineering* was judicially expanded to include *secret* commercialization.

35 USC § 102(b)(pre-*Leahy Smith America Invents Act*)(An invention was barred where more than one year before the United States filing date “the invention was *** in public use or on sale in this country ***”).

But, in the *Leahy Smith America Invents Act*, instead of merely repeating “public use” and “on sale” activities as a bar, this language is *qualified* and limited to acts “available to the public.” Thus, an invention today s barred for such activities where “the claimed invention was *** in public use, on sale, *or otherwise available to the public*[.]”35 USC § 102(a)(1)(*Leahy Smith America Invents Act*)(emphasis added).

§ 1[a][7][C][ii] Changed Circumstances since *Metallizing Engineering*

There are completely different public policy considerations today vis a vis the time of the *Metallizing Engineering* decision.

Today, policy arguments for or against a patent policy for the United States necessarily must consider how that policy will impact United States domestic industry vis a vis China, Japan, Germany and other leading industrial countries of the world. *Metallizing Engineering* was decided in a completely different era of

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domestic competition. It was a world without global economic competition, where the American manufacturing community was dealing with essentially only domestic competition. The trial case was decided on March 28, 1945, during the final months of World War II, and was considered by the Second Circuit in the months following that war. (The Circuit Court decision was handed down March 28, 1945.)

Whereas in 1946 China, Germany and Japan posed absolutely no threat as manufacturing competitors to the United States, the world has literally been turned upside down as today it is the United States that is having difficulty competing particularly with Asian countries. Countless stories are found in the business literature where American technology is copied by foreign concerns. In the case where it is impossible or at least time consuming and difficult to reverse engineer a product without knowledge of its manufacturing details, trade secret protection may in some cases be more important than gaining a patent. Americans should be *encouraged* to use trade secret protection to maintain American manufacturing jobs by blocking competition based upon trade secrecy.

One of the incentives to use trade secret protection would be the ability to *patent* the trade secret even years after use of the trade secret. But, this incentive is thwarted by *Metallizing Engineering* that blocks an American patent more than one year after secret commercialization.

To the contrary, foreign companies have this encouragement in their laws by virtue of the *absence* of *Metallizing Engineering*: When a foreign company recognizes that its trade secret process may well be reverse engineered in the near future, the foreign company will file a patent application at that time and thus transition to patent protection. (To be sure, an American company in a like situation may still obtain European and Asian patent protection even after secret commercialization, assuming there has been no public divulgation up this point.) Another aspect of public policy favoring *Metallizing Engineering* is that without this safeguard, an inventor may gain a prolonged exclusive right by piggybacking patent protection on top of several years of trade secret protection. Indeed, this is a point that must be weighed vis a vis the benefit of encouraging trade secret protection at the early point of commercialization.

§ 1[a][7][C][iii] **Danger a Third Party May Patent the Process**

The theory of *Metallizing Engineering* was that an inventor could in essence multiply the length of its exclusive rights without this case, because then the inventor could maintain his monopoly through trade secret protection and then, much later, file a patent application to the once secret process invention and thus start a new patent term.

This theory is flawed because if the inventor sits on his trade secret process it is not part of the prior art as to *third parties* and once a *third party* discovered the trade secret process that third party could obtain a dominant patent that would compromise the original inventor's rights to practice the invention.

§ 1[a][7][C][iv] **Prior User Rights under the New Patent Law**

More important perhaps in the context of the *Leahy Smith America Invents Act* is the fact that even assuming, *arguendo*, that one in 1946 (the date of *Metallizing Engineering*) one could first protect an invention as a trade secret and then much later file a patent application, today, failure to file a patent application would permit a third party who discovered the “secret” of the commercial process could be exempt from liability under the prior user right statute that did not exist in 1946 but is now a vibrant element of the *Leahy Smith America Invents Act* as 35 U.S.C. 273(a):

“A person shall be entitled to a defense under [35 USC § 282(b)] with respect to subject matter consisting of a process *** that would otherwise infringe a claimed invention being asserted against the person if—

“(1) such person, acting in good faith, commercially used the subject matter in the United States, either in connection with an internal commercial use or an actual arm's length sale or other arm's length commercial transfer of a useful end result of such commercial use; and

“(2) such commercial use occurred at least 1 year before *** (A) the effective filing date of the claimed invention[.]”

§ 1[a][7][C][v] **“[O]r otherwise available to the public”**

To say that “public use” or “on sale” events are *maintained* unchanged in the *Leahy Smith America Invents Act* overlooks the overall sentence that states that “the claimed invention was *** in public use, on sale, *or otherwise available to the public*[.]”35 USC § 102(a)(1)(*Leahy Smith America Invents Act*)(emphasis added).

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To be sure, the *original* language used in the earliest version of the legislation that wound up as the *Leahy Smith America Invents Act* had more explicit language that would have clearly and unmistakably overruled *Metallizing Engineering*. See Dmitry Karshedt, *Did Learned Hand Get it Wrong? The Questionable Patent Forfeiture Rule of Metallizing Engineering*, 57 Villanova L. Rev. 261, 332 n.435 (2012)(quoting Wegner, THE 201 PATENT LAW; LAW AND PRACTICE, § 155 at 108-09 (2nd ed. 2011)). Cf. § 1[a][7][C][vii], *Helsinn Healthcare Amicus Challenge, a Domestic Focus* (discussing *Metallizing Engineering*. See Mark A. Lemley, *Does “Public Use” Mean the Same Thing it Did Last Year*, 93 Texas L. Rev. 1119 (2015)).

The prime author of the text leading up to the *Leahy Smith America Invents Act* firmly sees *Metallizing Engineering* as having been overruled by the wording of the new law. See Robert A. Armitage, *Understanding the America Invents Act and its Implications for Patenting*, § III-C-5, *Step Four: Clarifying the “Available to the Public” Standard*, 40 AIPLA Q. J. 1, 58-60 (2012). He explains that “the phrase ‘available to the public’ is added to clarify the broad scope of relevant prior art, as well as to emphasize the fact that it must be publicly accessible.” *Id.* at 58 (citing statement of Sen. Jon Kyl, 157 Cong.rec. S1335, 1370 (daily ed. Mar. 8, 2011)). Thus, “[p] ublic disclosures will represent prior art and will be disclosures, made by any means or method, that have become *publicly accessible*, *i.e.* made *available to the public* ***.” *Id.* at 59 (original emphasis).

To say that *Metallizing Engineering* survives the *Leahy Smith America Invents Act* by focusing on the specific wording “public use” and “on sale” overlooks the entire context of the statute which in the same sense refers to “otherwise available to the public”. The more complete statement is that there is a bar against a “claimed invention [which] was *** in public use, on sale, *or otherwise available to the public*.” 35 USC § 102(a)(1). To say that “public use” and “on sale” should be interpreted as prior to the *Leahy Smith America Invents Act* is to deny the context and “all words” of the statute.

Ignoring words, e.g., “*or otherwise available to the public*”, simply cannot be ignored: “[T]he Court will avoid a reading which renders some words altogether redundant.” *Texas Dept. of Housing and Community Affairs v. Inclusive Communities Project, Inc.*, __ U.S. __, __, slip op. at 19 (2015)(quoting *Gustafson v. Alloyd Co.*, 513 U. S. 561, 574 (1995)). See also *Ford Motor Co. v. United States*, 715 F.3d 906, 920 (Fed. Cir.2013) (characterizing *Glover v. West*, 185 F.3d 1328, 1332 (Fed.Cir.1999), as “explaining that courts must ‘attempt to give full effect to all words contained within th[e] statute [and] regulation[s], thereby rendering superfluous as little of the statutory or regulatory language as

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possible’.”); *Sullivan v. McDonald*, ___ F.3d ___, ___ slip op. at 5 (Fed. Cir. Mar. 8, 2016)(same).

It requires a linguistic genius to unravel and find specific meaning in the phrase “or otherwise available to the public” to conclude that a secret disclosure is “otherwise available to the public.” A leading proponent of the view that a secret use is “public” makes the point loud and clear both in his Testimony before the Patent Office, Robert P. Merges, *Comments on “Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act”*, § 3[a], *Meaning of “Or Otherwise Available to the Public” under AIA § 102(a)(1)*, pp. 3-4, Letter to Mary Till, Legal Advisor, Office of Patent Legal Administration, U.S. Patent and Trademark Office (October 12, 2012)(“Testimony”), and in his law review article, Robert P. Merges, *Priority and Novelty under the AIA*, 27 *Berkeley Tech. L.J.* 1023, 1035 (2012)(with Research Assistance from Puneet Kohli)(“Law Review Article”).

In his testimony, and to his credit, this leading academic candidly admits that the lack of clarity of the statutory wording. “[He] recognize[s] that [his] case would be stronger if the statute read: ‘patented, or described in a printed publication, or in public use, on sale, or otherwise available to the public. *** [He] also recognize[s] that a semicolon, in [his] preferred alternative [reading], would have sent a clearer signal that the two phrases *** were meant to be read as separate and distinct.”. Testimony at p.4 n.6. The author’s scholarly treatment of the same issue speaks for itself. Indeed, the scholar candidly states that “[t]here is an obvious textual problem, so it would seem, with an argument that the word ‘disclosure’ is meant to include confidential sales, and the use in public of things that are made by but which in no way reveal the details of the underlying invention. Put simply, these sales and uses are in some sense secret. They are not open, widely discoverable, or easily accessible. So how can they be construed to be part of the general class of ‘disclosures’? Isn’t a disclosure something that is open or widely available?” Law Review Article at 1035-36.

The scholar extricates himself from this dilemma not through citation of a Supreme Court or Federal Circuit case, but instead by turning to the definition of “disclose” in the Oxford English Dictionary, citing, *inter alia*, “[e]xamples of ‘disclosure in the [Oxford English Dictionary] include watching an egg hatch or watching a caterpillar emerge from its cocoon.” Law Review Article at 1036.

§ 1[a][7][C][vi] Legislative History, the Harmonization Goal

As it is clear that the wording of the statute limits “public use” and “on sale” bars to *public* disclosure that does not retain the secrecy of an invention, resort to legislative history is unnecessary. But even assuming, *arguendo*, that there is at least ambiguity sufficient to open the door to a consideration of the legislative history it is even more clear that it was the intention of Congress to harmonize and to eliminate “on sale” or “public use” events which retained the secrecy of an invention. In the first instance, it is clear that the legislative history shows that harmonization of patent laws was a goal.

There is a mountain of legislative history that demonstrates that a driving overall purpose of what became the *Leahy Smith America Invents Act* is the harmonization of patent laws for the benefit of the United States industrial circles so that it would be easier and more reliable to obtain for American innovation parallel patent rights in Asia and Europe. At the time of *Metallizing Engineering* the world was either embroiled in the final stages of World War II (at the District Court level) or in the immediate recovery period after that conflict (at the appellate level). Beyond the *economic* state of the world where Japan and much of Europe lay in waste and the immediate concerns were domestic economic recovery without realistic immediate thoughts of economic competition with the United States, the state of the patent laws of the world was one of great disharmony with each of the United States, Germany, the United Kingdom, France and Japan have widely different patent laws making it difficult to obtain global patent rights. Individually tailored patent applications had to be crafted for divergent and often inconsistent national patent laws.

At the time of *Metallizing Engineering* one could not even agree on how to define an invention given, for example, the fact that Germany had a “central” system where claim language was mere guidance where the bounds of protection could be stretched to the full scope of the “general inventive thoughts” expressed in the patent, the United Kingdom and Japan had claiming systems with extremely narrow protection essentially void of a doctrine of equivalents and Italy at the other end of the spectrum provided for patents without *any* claims of any kind.

The European Patent Convention that would result in common patent provisions was more than a generation away; so, too, was the Patent Cooperation Treaty a vision yet to be born (and a generation away from accomplishment).

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With the gross divergence of patent laws and the economic reality of a war ravaged Europe and Japan, it is not surprising that *Metallizing Engineering* in 1946 had a narrow domestic focus.

In the debates in international fora to create a uniform patent law, *Metallizing Engineering* was a center stage issue of disharmonization. During the WIPO Patent Harmonization debates, *public disclosure* was the near consensus view of an essential element for prior art: “The prior art shall consist of everything which *** has been made available to the public anywhere in the world.” See Wegner, PATENT HARMONIZATION § 800, *Patentability: Novelty; Nonobviousness [Art. 11]*, pp. 77 (London: Sweet & Maxwell 1993)(quoting Art. 11(2)(b)). Because the United States law of *Metallizing Engineering* did not comport with this provision, the United State *unsuccessfully* sought to amend the treaty to accommodate this unique American position: “Art. 9^{bis}(1), PLT/CD/40, was proposed by the United States to provide in part for a bar based on *Metallizing Engineering* This measure ‘did not receive general support’ at the Hague [Diplomatic Conference], although “there was general agreement *** that nothing in the Treaty precluded’ U.S. retention of this current bar.” Wegner, PATENT HARMONIZATION, *supra*, § 814, *U.S. Secret Commercialization Bar*, p. 78 (quoting CA/H 8/92, Comment by the EPO to Art. 9^{bis} of the Basic Proposal.).

Whereas there were major divergent principles of patent law amongst the major countries of the world, in the wake of the European Patent Convention and the Patent Cooperation Treaty, there was substantial harmonization of patent laws around the world with one big asterisk: Whereas the other countries of the world created a largely harmonized patent law, the United States stood pat with a law focused on its unique domestic focus. What changed this focus in the United States? In the first instance, during the period beginning in 1984 there was a multi-year United Nations drafting of a substantive patent law treaty that sought to iron out remaining differences amongst the member states. Wegner, PATENT HARMONIZATION (London: Sweet & Maxwell 1993). In the end, the Geneva effort through WIPO died, fueled by the unilateral repudiation of the treaty by Harry Manbeck, the leader of the Patent Office just before and during the Diplomatic Conference. *Id.*, § 612, *Treaty Disintegration (1989-1991)*, p. 39.

But, in part inspired by the initial progress that was made, the United States in the 1980’s successfully launched parallel proceedings that by 1994 had resulted in the TRIPS Agreement that imposed substantive patent standards on all countries, with a particular focus on developing countries. The United States

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played a key leadership role in this effort, which helped spawn concern for an overall reform of United States patent law consistent with what had become the “international system”. The American Intellectual Property Law Association under the leadership of its late past President, Robert Benson, and its prime leader for patent harmonization of the era, Robert A. Armitage, forged a pathway to Introduction of domestic legislation where the common denominators behind this legislation were to simplify the American patent system and to make the American patent system compatible with the global realities of the “international system”. These dual features would be expected to make it easier for American to obtain overseas patent rights to spread the development costs of American innovations to the global marketplace and avoid the booby-traps created by divergent legal systems.

There are numerous article and debates within the American Intellectual Property Law Association pointing to these dual goals as well as statements within the legislative record that demonstrate support for the harmonization goals of the legislation.

There is a rich body of legislative history supporting *both* the fact that the legislation from a macroscopic approach is designed to *harmonize* American with overseas patent laws *and* that the legislation was designed to limit public uses and sales of an invention as prior art *only* if they make the invention available to the public.

In terms of the macroscopic goal of harmonization, there is a rich body of evidence supporting this point. In 2007 Senators Leahy and Hatch both explained the harmonization objective of the legislation: “Both [Senator Leahy] and Senator Hatch made affirmative arguments in favor of the first-to-file system, noting that it would produce greater international harmonization * * *.” Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 22 Federal Circuit B. J. 435, 453-54 n.129 (2012)(citing 153 Cong. Rec. S4685 (daily ed. Apr. 18, 2007) (statement of Sen. Leahy); *id.* at S4691 (statement of Sen. Hatch). *See also* the statement of Rep. Johnson that the reform legislation will further harmonize U.S. patent law with that of other industrialized nations. See 157 Cong. Rec. E1273 (daily ed. July 8, 2011) (statement of Rep. Johnson).

In terms of limiting public uses and sales of an invention as prior art *only* if they make the invention available to the public one may refer to the statement of

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Senator Kyl: Prior to Senate enactment of the *Leahy Smith America Invents Act*, Senator Kyl explained that “[p]ublic uses and sales of an invention will remain prior art, but only if they make the invention available to the public. * * * Only the sale or offer for sale of the invention to the relevant public or its use *in a way that makes it publicly accessible* will constitute prior art.” Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 22 Federal Circuit B. J. 435, 472-73 (2012)(quoting statement of Senator Kyl addressing the bill’s provision of “prior art”, 157 Cong. Rec. S5319-21 (daily ed. Sept. 6, 2011)(emphasis added, footnote omitted).

§ 1[a][7][C][vii] *Helsinn Healthcare* Amicus Challenge, a Domestic Focus

A leading patent scholar has sharply disagreed with the Patent Office view that the *Leahy Smith America Invents Act* legislatively overrules *Metallizing Engineering*. He does so without consideration of the harmonization of the law that is achieved by overruling *Metallizing Engineering*. See Mark A. Lemley, *Does “Public Use” Mean the Same Thing it Did Last Year*, 93 Texas L. Rev. 1119 (2015).

His conclusion with different reasoning is the backbone of his *amicus* brief coauthored by Professor Merges on behalf of a large group of academics. See Mark Lemley & Robert P. Merges, *Helsinn Healthcare S.A. v. Teva Pharmaceuticals USA, Inc.*, Fed. Cir. 2016-1284, *Brief of Amici Curiae 42 Intellectual Property Professors in Support of Appellant*, March 14, 2016.

The *amici* are Professor John R. Allison; Professor Clark Asay; Professor Margot A. Bagley; Professor Ann Bartow; Professor Jeremy Bock; Professor Dan L. Burk; Professor Michael A. Carrier; Professor Andrew Chin; Professor Ralph D. Clifford; Professor Kevin Collins; Professor Christopher A. Cotropia; Professor Thomas Cotter; Professor Robin Feldman; Professor William Gallagher; Professor Shuba Ghosh; Professor Yaniv Heled; Professor Timothy Holbrook; Professor Camilla Hrdy; Professor Dennis S. Karjala; Professor Dmitry Karshedt; Professor Amy L. Landers; Professor Mark A. Lemley; Professor Lee Ann Lockridge; Professor Brian J. Love; Professor Stephen Mcjohn; Professor Mark P. Mckenna; Professor Robert P. Merges; Professor Joseph Scott Miller; Professor Mike Mireles; Professor Craig Allan Nard; Professor Tyler T. Ochoa; Professor David S. Olson; Professor Michael Risch; Professor Sharon Sandeen; Professor Joshua D. Sarnoff; Professor Katherine J. Strandburg; Professor Kurt M. Saunders; Professor Sean B. Seymour; Professor Ted Sichelman; Professor Brenda Simon; Professor

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David O. Taylor; Professor R. Polk Wagner.

The *amici* treat *Metallizing Engineering* as a well-crafted cornerstone of the patent system, while in fact the Supreme Court has cited but never adopted the holding in the case nor do *amici* recognize the inherent weakness of the opinion itself. George Washington University Law School Professor Karshtedt makes this point clear:

“The patent forfeiture rule of *Metallizing* is unsupported by precedent or statute, and is inequitable on the actual facts of the case. *** The disclosure and extension-of-monopoly rationales for the rule are questionable, and all the more so because the most important policy rationale for the existence of the patent system – to provide incentives to invest and engage in inventive activities – might not be well served by the *Metallizing* rule. In addition, the rule likely contributes to over-patenting, which can in turn lead to patent thickets that stifle competition. *** While the Supreme Court cited the *Metallizing* case in three separate opinions, it has never endorsed the forfeiture rule. Moreover, the Supreme Court in recent patent cases has hewed closely to the language of the Patent Act and accepted rules that seemingly diverged from the patent statutes only as long as they have been supported by long-standing Supreme Court precedent. There are no such precedents for the *Metallizing* rule – *Pennock v. Dialogue* and *Woodbridge v. United States* are clearly distinguishable from *Metallizing* on their facts, and *Bates v. Coe* speaks directly against the rule by focusing on truly public uses as patent-invalidating activities. *** [T]he textualist orientation of the current Court seems to militate against ‘policy polymorphism’ of distinguishing first and third parties in a statute that, in its plain language, makes no such distinction. It appears that the *Metallizing* rule, whose justification and scope courts and commentators are still trying to understand, has remained on the books for as long as it did partly out of respect for a great judge. But should we always defer to Judge Learned Hand? Perhaps not. In the biting words of Judge Alex Kozinski, Judge Hand ‘was very knowledgeable about everything except how the world works.’”

Dmitry Karshtedt, *Did Learned Hand Get it Wrong? The Questionable Patent Forfeiture Rule of Metallizing Engineering*, 57 Villanova L. Rev. 261, 336-37 (2012)(footnotes omitted).

While there is a wealth of literature cited in their brief, there are several key authorities that have been overlooked, including the work of undoubtedly the most important draftsman of the legislation, Robert A. Armitage, as well as a law review article by one of the authors of the *amicus* effort as well as his testimony before the

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Patent Office. See Robert A. Armitage, *Understanding the America Invents Act and its Implications for Patenting*, § III-C-5, *Step Four: Clarifying the “Available to the Public” Standard*, 40 AIPLA Q. J. 1, 58-60 (2012); Robert P. Merges, *Priority and Novelty under the AIA*, 27 Berkeley Tech. L.J. 1023, 1036 (2012); Robert P. Merges, *Comments on “Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act”*, § 3[a], *Meaning of “Or Otherwise Available to the Public” under AIA § 102(a)(1)*, pp. 3-4, Letter to Mary Till, Legal Advisor, Office of Patent Legal Administration, U.S. Patent and Trademark Office (October 12, 2012)). See also the detailed analysis of the legislation by George Washington University Law School Professor Dmitry Karshedt, *Did Learned Hand Get it Wrong? The Questionable Patent Forfeiture Rule of Metallizing Engineering*, 57 Villanova L. Rev. 261 (2012).

What do *amici* say about the analysis of the legislation by Armitage, a principal draftsman of the *Leahy Smith America Invents Act* and by far the most prominent person on the stage throughout the planning for the legislation dating back to the mid-1990’s up through the entire six year legislative process? How do the *amici* answer the Armitage analysis of this legislation? They don’t. Instead, the *amici* law professors at pp. 2-5 of their brief spin a fantastic linguistic analysis that does not square with the picture painted Armitage, *supra*.

The *amici* ignore not only the prime work of Armitage but also their own previous law review article and testimony before the Patent Office, each of which paints entirely different approaches to justify the result they seek in their brief. (To be sure, while the Merges law review article is not cited in the body of the brief, there is a footnote citation to the article, p. 11 n. 11.)

Perhaps the most radically different argument is one that was previously made by one of the coauthors of the brief that focuses upon a dictionary definition of “disclose” as “includ[ing] watching an egg hatch or watching a caterpillar emerge from its cocoon.” Merges, 27 Berkeley Tech. L.J. at 1036. The testimony before the Patent Office is also of interest. See § 1[a][7][C][v](citing Merges’ testimony before the Patent Office).

Legislative history on the macroscopic scale as to harmonization is found repeatedly. See *id.* (citing 153 Cong. Rec. S4685 (daily ed. Apr. 18, 2007))

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(statement of Sen. Leahy); *id.* at S4691 (statement of Sen. Hatch); 57 Cong. Rec. E1273 (daily ed. July 8, 2011) (statement of Rep. Johnson)). Clearly, one of the major points for American reforms to harmonize its patent law with the mainstream view of essentially every other major country of the world was the elimination of *Metallizing Engineering* from the American patent law. What, precisely, do these 42 *amici* have to say about the legislative purpose of the *Leahy Smith America Invent Act* to *harmonize* and *simplify* American patent law, and the fact that overruling *Metallizing Engineering* clearly is within the purview of harmonization and simplification? See § 1[a][7][C][vi], *Legislative History, the Harmonization Goal*.

Nothing.

Absolutely nothing.

The *amici* implicitly argue that there is no real legislative history but instead only “*faux* legislative history” in the sense that statements made on the floor of the House or Senate *after* enactment do not constitute real legislative history. But, the legislative history cited in this monograph is hardly “*faux*” but focuses upon legislative history *prior to* Congressional passage. See § 1[a][7][C][vi], *Legislative History, the Harmonization Goal*. *Amici* thus argue that “those who claim the [America Invents Act] overruled *Metallizing [Engineering]* offer only a relatively weak form of legislative history – the statements of individual Senators. The basis of the argument is a “colloquy” on the floor of the Senate the day *after* the Senate had passed the [America Invents Act.]” p. 7. While it is true that there was such a “colloquy” and this post-passage discussion is, indeed, *faux* legislative history, the *amici* ignore “real” legislative history taking a macroscopic view of the legislation, see § 1[a][7][C][vi], *Legislative History, the Harmonization Goal*, as well as the specific legislative history dealing with *Metallizing Engineering*, see *id.* (citing, e.g., Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 22 Federal Circuit B. J. 435, 472-73 (2012)(quoting statement of Senator Kyl addressing the bill’s provision of “prior art”, 157 Cong. Rec. S5319-21 (daily ed. Sept. 6, 2011)). See also § 1[a][7][C][v], “[O]r otherwise available to the public” (citing Robert A. Armitage, *Understanding the America Invents Act and its Implications for Patenting*, § III-C-5, *Step Four: Clarifying the “Available to the Public” Standard*, 40 AIPLA Q. J. 1, 58 (2012)(explaining that “the phrase

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‘available to the public’ is added to clarify the broad scope of relevant prior art, as well as to emphasize the fact that it must be publicly accessible.”)(citing statement of Sen. Jon Kyl, 157 Cong. Rec. S1335, 1370 (daily ed. Mar. 8, 2011)).

Beyond consideration of whether *Metallizing Engineering* survives the new patent law, the *amici* fail to address complexities that arise through maintaining *Metallizing Engineering* as explained by George Washington University Law School Professor Dmitry Karshedt. He points out that “Professors Robert Merges and John Duffy offer a number of reasons why [the view that *Metallizing Engineering* was not abrogated] is the better view; for example, they argue that it was made during a colloquy devoted primarily to another issue – what kinds of disclosures by the inventor qualify for the one-year grace period under new Section 102(b)(1). The two issues are related, however: if the *Metallizing* bar continues in force, a question arises whether commercial exploitation of a secret invention is ‘disclosure’ within the meaning of Section 102(b)(1), in which case the one-year grace period applies, or whether it is not a ‘disclosure’, in which case the bar would appear to cause a forfeiture of the patent if the exploitation precedes the effective filing date even by a day. It remains for the Federal Circuit to answer these questions[.]” Dmitry Karshedt, *Did Learned Hand Get it Wrong? The Questionable Patent Forfeiture Rule of Metallizing Engineering*, 57 Villanova L. Rev. 261, 332-33 (2012)(footnotes omitted)

§ 1[a][7][D] Differences between American and Foreign Laws

In connection with the scope of the state of the art based upon a prior use or commercialization, care must be exercised to make sure that one understands that the comparable definitions under United States law in some cases have a wider meaning than in Europe or Japan. For example, an invention may be in “public use” even though secret. *See, e.g.,* § 2[b][1][E], *Differences between American and Overseas Laws*.

§ 1[a][8] The “*Dynamic Drinkware Phenomenon*”, Beware!

The “*Dynamic Drinkware Phenomenon*” is shorthand for the increasing uncertainties in the patent case law that are forthcoming in the wake of major statutory changes. These changes before and continuing through the *Leahy Smith America Invents Act* have created a web of complexities and the promise of patent decisions difficult to fathom.

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Dynamic Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375 (Fed. Cir. 2015), is a good case study. It shows that even the most experienced patent jurists with fifty or more years in the field are having great difficulties interpreting the new patent laws. (The case is considered in more detail at §4[h], *Patentability as a Condition for Patent-Defeating Effect*.)

Dynamic Drinkware does not even involve the *Leahy Smith America Invents Act*: “Because we refer to the pre-*[Leahy Smith America Invents Act]* version of [35 USC] § 102, we do not interpret here [its] impact on *[In re Wertheim, 646 F.2d 527, 537 (CCPA 1981),]* in newly designated [35 USC] § 102(d).” *Dynamic Drinkware*, 800 F.3d at 1381 n.2.

Dynamic Drinkware, itself, remarkably interprets the pre-*Leahy Smith America Invents Act* patent law. The panel denies a patent-defeating effect to disclosure as of a provisional application filing date. The court made this denial even though the relevant disclosure is found in the provisional application.

That *Dynamic Drinkware* is keyed to case law superseded by statutory enactment as explained in *Ex parte Yamaguchi*, 88 U.S.P.Q.2d 1606 (B.P.A.I. 2008). Astonishingly, the opinion cites but does not otherwise comment on the *Yamaguchi* case; it is simply judicially ignored as to its highly relevant content.

Why the *Dynamic Drinkware* opinion is so very wrong has already been explained by two of the leading appellate patent commentators, Courtenay C. Brinckerhoff and Professor Dennis Crouch. See Courtenay C. Brinckerhoff, *Wertheim, Dynamic Drinkware and the AIA*, PharmaPatentsBlog (Nov. 3, 2015); Professor Dennis Crouch, *Federal Circuit Backtracks (A bit) on Prior Art Status of Provisional Applications and Gives us a Disturbing Result (Dynamic Drinkware v. National Graphics (Fed. Cir. 2015))*, Patently O Blog (September 8, 2015).

§ 1[b] Technology-Specific Patent-Eligibility Challenges

An outline of how to draft a patent application “today” for inventions involving issues under Section 101 relating to patent-eligibility is contained in the immediately following §§ 1[b][1] – 1[b][3]. A far more detailed exposition of the legal issues is found in Chapter 15, *Claiming Patent-Eligible Subject Matter*.

An even more detailed exposition of the issues is found in a parallel monograph by this author, PATENT-ELIGIBILITY, which is designed for in

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depth study of the issues for the purpose of a test case at either the Patent Trial and Appeal Board or the Federal Circuit.

“Inventive” applications of software and biotechnology innovations as well as diagnostic methods have come under special scrutiny under 35 USC § 101 through a series of cases denying patent-eligibility starting with *Bilski v. Kappos*, 561 U.S. 593 (2010)(software), and continuing with *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012)(diagnostic method); the *Myriad* case, *Ass'n for Molecular Pathology v. Myriad Genetics., Inc.*, 133 S. Ct. 2107, 2116 (2013)(DNA); and *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014)(software). The current section deals with the pragmatic realities of dealing with the Patent Office interpretation of these cases where the goal is to gain a patent of any kind without an appeal.

For a first filing “today”, however, there may be some hope that when a new President in 2017 names a new Under Secretary of Commerce to head the Patent Office that the new Administration will take a more favorable view to patent-eligibility more in line with the historic case law as outlined in § 15, “*Inventive Patent-Eligible Subject Matter*.” See § 1[b][8], *New Approach in a New Administration in 2017* (discussing options open under a more patent-friendly Under Secretary of Commerce). There is, at this writing, no expectation that a particular candidate or party will prevail in the November 2016 election, much less who the new Under Secretary will be nor what policies may be taken. In any event, for a first filing “today”, the application will be *examined* under a new Administration: It is important, therefore, that any application drafted for a first filing “today” should focus on the realities of the case law and not the current Patent Office guidance which deviates from such case law.

To be sure, it must be recognized that even if an invention is patent-*eligible* this does not mean that it is *patentable* under the statutory standard of nonobviousness under 35 USC § 103. Thus, the title of the chapter 15 directly states that the quest is to define “inventive” patent-eligible subject matter. *Id.*

§ 1[b][1] Clear Definition of an “Inventive” Feature

Patent-eligibility under 35 USC § 101 for the “abstract” inventions involved with software and the “natural” products of biotechnology is in a state of flux. The goal of this discussion is to provide detailed strategies that may be successful at the level of the Patent Trial and Appeal Board (or the Federal Circuit).

A variety of approaches must be taken to be successful. In the first instance, claims should be drafted in a way that places the “abstract” concept or “natural” product as one of the elements in a combination claim which preferably is part of an overall industrial process or composition. The application needs to be crafted to define all elements of the claim as critical to the *combination* invention so that the claimed invention *as a whole* will be examined. To top this all off, the practitioner will need to master a series of historic Supreme Court case law dating back to the nineteenth century to put into proper perspective the handful of recent cases. And, above all, inventions that are truly meritorious will have the best chance of success.

A new filing regime is required for software and biotechnology innovations now under siege under Section 101 patent-eligibility considerations: First filings in areas impacted by Section 101 issues should now focus upon the presentation of combination claims that are supported by argumentation in the specification or preliminary amendment that explain in detail why the claimed *combination* is nonobvious under Section 103, and, hence, possesses the “inventive concept” needed for patent-eligibility under *Chakrabarty* and *Diehr*. *Diamond v. Chakrabarty*, 447 U.S. 303 (1980)(oil eating novel microorganisms); and *Diamond v. Diehr*, 450 U.S. 175 (1981)(method for curing rubber).

Complementing this approach the combination claims should include (a) an at first blush “conventional” element *or elements* critically defined as part of the claimed invention; (b) *plural* physical elements bolster patent-eligibility (while preserving the right for continuing application that may subsequently round out protection); and (c) *Diehr*-modelled claims to focus upon a physical process such as molding rubber where the Section 101 element is only one feature of the physical process.

In terms of argumentation to gain allowance of claims it is important to establish an “inventive” feature for the claimed subject matter. A detailed discussion below explains why an “inventive” feature should be considered to be merely a pre-1952 English usage that translates into nonobviousness. It is vital that the nonobvious feature of the *combination* invention be stressed.

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Missing in all of the discussions, here, are the “Hirshfeld Guidance” and other guidelines from the Director or the Commissioner for Patents. (Currently, the “Hirshfeld Guidance” is in the process of being replaced by what is here styled as the “Lee Guidance”. See § 1[b][6], “*Lee Guidance*” *Superseding the “Hirshfeld Guidance”*). The audience for the strategies set forth in this book as to “abstract” and “natural product” inventions is the Patent Trial and Appeal Board and *not* the examining corps that is bound by the “Hirshfeld Guidance”. See § 1[b][4], *Bypassing the “Hirshfeld Guidance”*).

By crafting carefully tailored and specific claims and arguments where the equities favor the applicant, it may be possible to prevail. In the end, success or failure will to a great extent be largely dependent upon the equities. Where all the applicant has done is to add a software solution to a business method and the combination is obvious, whether the rejection is a “try it” denial under *Mayo* or *Alice* or an obviousness denial under *KSR* the form of the rejection will not trump the substance. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). But, where there is a true breakthrough as in *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(prenatal paternal generic screening invention).

The road to a patentable invention keyed to an “abstract” concept or “natural” product is to craft a combination claim that clearly associates that concept or product as part of a combination claim that is “inventive”. From a standpoint of both establishing the equities to favor the applicant and also meet the requirement that the subject matter is “inventive”, the far more important task is to establish the nonobviousness of either a subcombination or the entire combination as claimed. See § 15[a], *Patent Eligibility and Patentability Conflated*.

To understand what is meant by “inventive” subject matter, it is important to understand that the current Supreme Court case law is freshly minted within the current lifetime of senior practitioners: It is *not* a matter of a matter of “*stare decisis* going back 150 years[.]” *Prometheus Laboratories, Inc. v. Mayo Collaborative Serv.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010)(Lourie, J.)(citing *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 174-75 (1853)), *subsequent proceedings sub nom Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012). The seminal case that is cited deals neither with an “abstract” concept or a “natural” element but instead involves technology to make a *pipe* where the claims were not properly cast to cover the inventive feature. See § 15[d][1], *Le Roy v. Tatham*: “[*S*]tare decisis going back 150 years.” To be sure, even earlier English case law is cited for the proposition that there is an exception to patent-eligibility, mythology exposed by a significant Federal Circuit scholar.

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Id., quoting *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Linn, J., concurring), citing Jeffrey A. Lefstin, *Inventive Application: a History*, 67 Fla. L. Rev. 565, 594-96 (2015).

§ 1[b][1][A] Dealing with *Parker v. Flook*

Flook cannot be read *in vacuo* but must be understood in the context of subsequent case law that is inconsistent with *Flook* which cabin the scope of the *Flook* decision. In particular, *Flook* must be seen in the context of the conflicting statements made in *Diamond v. Diehr*, 450 U.S. 175 (1981).

In *Diehr* the Court expressly stated that “[i]n determining the eligibility of [the patent applicants’] claimed process for patent protection under § 101, their *claims must be considered as a whole*. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis.” *Diehr*, 450 U.S. at 188 (emphasis added). To the extent that *Flook* stands for the proposition that one may dissect a claim into its constituent elements to determine patent-eligibility based upon the patent-eligibility of one of the components, *Flook* was cabined by *Diehr* (1981).

Additionally, *Diehr* and *Flook* cannot be considered in a vacuum as to just these two cases but must also be seen from the perspective of case law dating back to the nineteenth century evolution of the “all elements” rule including the following cases which are considered in more detail in PATENT-ELIGIBILITY, § 8[b][1], *Flook versus the “All Elements” Rule: Barrett v. Hall*, 2 F.Cas. 914, 924 (No. 1047)(D. Mass. 1818)(Story, J., riding circuit); *Prouty v. Draper*, 20 F.Cas. 11, 12 (No. 11,446) (D. Mass. 1841)(Story, J.; riding circuit), *aff’d*, 41 U.S. (16 Pet.) 336 (1842)(Taney, C.J); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79 (1864); *Vance v. Campbell*, 66 U.S. (1 Black) 427, 429 (1861); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79 (1864); *Gould v. Rees*, 82 U.S. (15 Wall.) 187 (1872); *Dunbar v. Myers*, 94 U.S. (4 Otto) 187, 202 (1876); *Water-Meter Co. v. Desper*, 101 U.S. (11 Otto) 332, 335-37 (1879); *Case v. Brown*, 69 U.S. (2 Wall.) 320, 327-28 (1864); *Gill v. Wells*, 89 U.S. (22 Wall.) 1, 26-30 (1874); *Fuller v. Yentzer*, 94 U.S. (4 Otto) 288, 297 (1876); *Gage v. Herring*, 107 U.S. (17 Otto) 640, 648 (1882); *Fay v. Cordesman*, 109 U.S. 408, 420-21 (1883); *Rowell v. Lindsay*, 113 U.S. 97, 102 (1885); *Sargent v. Hall Safe & Lock Co.*, 114 U.S. 63, 86 (1885); *Brown v. Davis*, 116 U.S. 237, 252 (1886); *Yale Lock Mfg. Co. v. Sargent*, 117 U.S. 373, 378 (1886); *McClain v. Ortmyer*, 141 U.S. 419, 425 (1891); *Wright v. Yuengling*, 155 U.S. 47, 52(1894); *Black Diamond Coal Mining Co. v. Excelsior Coal Co.*, 156 U.S. 611, 617-18 (1895); *Cimiotti Unhairing Co. v. American Fur Ref. Co.*, 198 U.S. 399, 410 (1905)).

§ 1[b][1][B] Specification Tailored to an “Inventive” Combination

Assume that an invention is to a combination of “old” elements including at least one element that is to either a “natural” product derivative or “abstract” concept (either of which, standing alone, may be patent-ineligible) *and* a physical element. Here, it is the *combination* of the elements which is the subject of the claim. If there is no motivation to combine the elements then the combination of “old” elements is nonobvious, i.e., it is “inventive”.

Here, it is useful to include in the *Summary of the Invention* a statement that an inventive feature of the claimed subject matter is the *combination* of the several elements of the claim.

§ 1[b][1][C] Avoiding an Unnecessary Discussion of the Prior Art

Of course, it is the obligation of the applicant to *cite* the most relevant known prior art, but it is *not* part of that obligation to *characterize* the prior art. It is incumbent on the Examiner to search and examine the claims for patentability. If the examiner’s search does not turn up prior art to render the claimed invention obvious, then the argument can be made that the claimed invention is “inventive” and hence patent-eligible under 35 USC §101.

§ 1[b][2] Claiming a *Diehr*-Like Physical Process

Beyond defining “inventive” – or nonobvious – subject matter it is also important to package the inventive subject matter in a combination claim that has clear physical limitations. This subject is considered in detail at § 15[c][1], “*Conventional*” Element vs. Combination “*As a Whole*”. Once an “inventive” feature is identified it must be properly packaged in a combination claim. Thus, a claim must be presented which is to an otherwise conventional process where an algorithm or biological product is one *element* of that combination. Thus, in the *Diehr* case the applicant was successful in sustaining patent-eligibility where the claim was to a method of curing rubber the mathematical steps of an equation were just one element of the claim. See § 15[b][4], *Diehr vs. a Simplistic “Apply it” Claim Approach* (discussing the approach in *Diamond v. Diehr*, 450 U.S. 175, 188 (1981)).

The *Diehr* claim is the antithesis of an “apply it” claim where the body of the claim is focused upon an algorithm followed by a generically stated,

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conventional step that applies the algorithm to a process. *Id.* (quoting *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, __ (2014), quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1294 (2012) (“*Mayo* made clear that transformation [of an abstract idea] into a patent-eligible application requires “more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ”)).

§ 1[b][3] Purposeful Violation of the “All Elements” Rule

A “Diehr claim” should be presented that is modeled after the claims in *Diehr* which are cast as a method for curing rubber. See § 15[b][4], *Diehr vs. a Simplistic “Apply it” Claim Approach*. In traditional technologies, generic “claim 1” in any application should, as a general rule, recite the “minimum elements” necessary to establish nonobviousness of an invention. See § 13, “*All Elements*” *Claim Drafting Rule* (discussing the practice under *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987) (en banc)). But, in the case of a claim on the borderline of Supreme Court patent-eligibility standards, it is important to include at least one physical limitation as a prominent feature of the claims, and to include as many physical elements as possible *which are necessary for the commercial application of the invention*.

In some instances the *commercial* embodiment may have, say, five physical steps and one algorithm-keyed step, but it is important for generic protection to have a much broader claim without all the physical steps. Here, one solution is to have multiple sets of claims with one to the six step commercial embodiment and others claims to the minimum elements needed for nonobviousness.

When a restriction requirement is made, the “six steps” claim can be elected that will clearly stress the patent-eligibility of the invention *as a whole* as being more than directed to the algorithm step.

(Later, a continuing or divisional application can be filed to the claims with the minimal number of steps.)

§ 1[b][4] Bypassing the “Hirshfeld Guidance”

For *drafting* a patent application, it is important to stay focused upon the Supreme Court and Federal Circuit case law to craft claims to meet the judicial standards set by these tribunals. At best minimal consideration should be given *at the drafting stage* to the so-called the so-called “Hirshfeld Guidance” issued in the wake of *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347

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(2014), will have long been superseded by Federal Circuit case law. *See Instructions to the Patent Examining Corps under Deputy Under Secretary of Commerce Michelle K. Lee* authored by Andrew Hirshfeld, Deputy Commissioner for Patent Examination Policy, *Preliminary Examination Instructions in view of the Supreme Court Decision in Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*, June 25, 2014. It can be imagined that every examiner in the relevant arts has electronic access to a pet form paragraph keyed to the notorious Hirshfeld Guidance.

It is understandable as a practical matter that a disposals-driven examining corps will take the easy and fastest way to examine complex technological and legal issues by simply rejecting claims under 35 USC § 101 on the basis of the Hirshfeld Guidance.

The best approach for a truly meritorious invention is to present claims according to the outline given in this section coupled with legal arguments that follow *Diehr* and emphasize the invention as a whole where, for example, an algorithm or natural product is only one element of that invention as a whole.

It may well be that an Examiner will answer with an electronically generated Hirshfeld Guidance-keyed rejection, but then if an appeal is filed that *could* be brought all the way to the Federal Circuit, the chances are very good that the claims will be allowed on the basis of the brief without even reaching the Patent Trial and Appeal Board.

(Experience teaches that test cases brought for consideration at the Board with strong legal arguments, excellent equities and an unemotional flat tone have often been short-circuited and never reached the Board: They have resulted in a correct decision being reached by the Examiner, *without* going forward with the appeal. Beyond the fact that the Examiner is doing his or her job by allowing the case, for the segment of the examining corps that is looking for the easy way to a disposal that segment will find a simple allowance a far better choice than fighting a difficult and possibly losing legal battle at the PTAB.)

§ 1[b][5] Value of the “Hirshfeld Guidance” during Examination

By the time an application drafted “today” is up for a first action on the merits by the Examiner, there will have been an elapsed time interval of anywhere from 18 months to three years or more. In that interval, the so-called “Hirshfeld Guidance” will have been supplanted by a series of Federal Circuit cases that will not depend on nor necessarily follow the Patent Office policy statement. Indeed, there is now pending a revision of the Hirshfeld Guidance. The new guidance is discussed below at § 1[b][6], j “*Lee Guidance*” *Superseding the “Hirshfeld Guidance”*)

Even if the Hirshfeld Guidance had been the most carefully thought out work product of the legal minds of the Solicitor’s Office and the Patent Trial and Appeal Board, it makes little sense to teach how to meet the standards of the Hirshfeld Guidance when there is no precedential value provided by this effort of the administrative leadership of the Patent Office: The real challenge is to provide a well-drafted patent application that *distinguishes Alice v. CLS Bank* and the preceding several Supreme Court rulings against patent-eligibility.

The Hirshfeld Guidance, however, is only deserving of the respect that a document produced “overnight”, without reflection, deserves. (The Hirshfeld Guidance was only figuratively given “overnight”, while in fact it was issued six (6) days after the Supreme Court decision.)

Does the Hirshfeld Guidance manifest careful and thoughtful reflection and input from the patent community – both inside and outside the Patent Office? The “overnight” analysis speaks for itself. The premature birth of the Hirshfeld Guidance also manifests the absence of significant participation by either the Solicitor’s Office or the Patent Trial and Appeals Board.

The Hirshfeld Guidance was issued in sharp contrast to Patent Office regulations published in the *Federal Register* that generally go through a long period of gestation. Such regulations first are introduced as a carefully thought out and detailed *proposal* published in the *Federal Register*. Following a comment period that give the public an opportunity to advise on possible modifications, *then* a final regulation is published in the *Federal Register*. The final notice is indeed entitled to a great deal of respect.

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The premature birth of the Hirshfeld Guidance also manifests the at most minimal significant participation by either the Solicitor's Office or the Patent Trial and Appeals Board.

§ 1[b][6] “Lee Guidance” Superseding the “Hirshfeld Guidance”

The “Hirshfeld Guidance” is in a state of flux and is expected to be replaced by the “Lee Guidance”. In part based upon his contributions to this guidance, on July 30, 2015, the author of the Hirshfeld Guidance was promoted to the position of Commissioner for Patents for a term that will run into the year 2020.

The “Lee Guidance”, here, refers to Under Secretary Lee's published “update” to it's the original “Hirshfeld Guidance”, the *2014 Interim Guidance on Subject Matter Eligibility*, available at <http://www.uspto.gov/patent/laws-and-regulations/examination-policy/2014-interim-guidance-subject-matter-eligibility-0>.

The Lee Guidance does not have the weight of statutory or case law authority in support of what the guidance says. This creates a truly lose-lose scenario: If on the one hand the Lee Guidance sets forth too liberal a standard of patent-eligibility beyond the Supreme Court case law, grant of a patent keyed to such liberality can be immediately challenged after grant in a Post-Grant Review. Thus, for any application filed “today”, the new Post Grant Review procedure will be applicable where any third party can challenge a patent for patent-eligibility at the Patent Trial and Appeal Board. Conversely, if the standard is too difficult – going beyond the case law – it will be difficult to convince an Examiner based upon the case law because of the heavy emphasis the Patent Office is placing on its own guidelines.

Secondly, the guidance provides a mechanism for analysis that radically departs from a proper analysis of an invention. As seen from § I of the “Workshop” example the Examiner determines patent-eligibility not by reference to what the claim says, but the Examiner's analysis of what the invention is governs with the subject matter eligibility determination. Thus, the Examiner is instructed as the very first stage of the analysis not to focus on the claim but rather the Examiner's own “brief description” of the invention which “should not merely reproduce the claim.”

Thirdly, the “inventive” feature of a claim surely refers to whether an element or the claimed invention as a whole is nonobvious, yet there is nothing in the guidance that suggests that a nonobviousness examination should be

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conducted. If the invention is nonobvious, then the Patent Office should consider that the invention *does* have “inventiveness” or an “inventive” step.

The guidance appears directed to giving an examiner a shortcut to *avoid* a patentability search and examination simply by a nonstatutory analysis of the claim and the examiner’s prior art-free determination whether the claimed subject matter is “inventive”. Examiners should be instructed in the first instance to do a complete search and examination for traditional patentability issues and *then*, if necessary, move on to Section 101 patent-eligibility.

It would be expected that where an applicant submits an Information Disclosure Statement (IDS) and the Examiner cites no closer prior art, to the extent that the IDS establishes patentable novelty, the argument can and will be made by the inventor to the Patent Trial and Appeal Board that, as a nonobvious invention, the claimed subject matter is *a fortiori* patent-eligible.

§ 1[b][7] Guidance Cannot be Challenged in a Federal Circuit Appeal

Assuming, arguendo, that the Guidance could be challenged in a mandamus action, it is clear that the Guidance cannot be challenged as part of an appeal from the PTAB to the Federal Circuit. As explained by Judge Stoll:

[The Federal Circuit] cannot address Applicants’ argument that the PTO’s 2014 *Interim Guidance on Patent Subject Matter Eligibility* (‘Interim Eligibility Guidance’) exceeds the scope of § 101 and the Supreme Court’s *Alice* decision. Applicants’ challenge to the Guidelines is not properly before us in this appeal. See 35 U.S.C. § 141(a) (stating that an applicant ‘dissatisfied with the final *decision*’ of the Board may appeal that decision to the Federal Circuit). As the Interim Eligibility Guidance itself states, it ‘is not intended to create any right or benefit, substantive or procedural, enforceable by any party against the Office. Rejections will continue to be based upon the substantive law, and it is *these rejections* that are appealable.’ Interim Eligibility Guidance, Vol. 79 Fed. Reg. 74618, 74619 (Dec. 16, 2014). And even if the Applicants had properly challenged the Guidance, we have previously determined that such Guidance is ‘not binding on this Court.’ See *In re Fisher*, 421 F.3d 1365, 1372 (Fed. Cir. 2005). Thus we decline to consider Applicants’ argument regarding the Interim Eligibility Guidance.”

In re Smith, ___ F.3d ___, slip op. at 6-7 (Fed. Cir. March 11, 2016)(Stoll, J.)(emphasis added by the court).

§ 1[b][8] New Approach in a New Administration in 2017

This book focuses upon drafting the first, priority application “today” which will receive a first action on the merits two or more years from now, at a time when there is a new President and a new Under Secretary of Commerce in charge of running the Patent Office. No matter which party wins the election, it is difficult to think that the new leadership of the Patent Office could be any less friendly toward patent applicants in the area of “abstract” technology under 35 USC § 101.

§ 1[b][8][A] Statutory Requirements for Patentability, Repudiating *Mayo*

There are many ways that a new Administration could take a fresh approach to examination of “abstract” innovations. Perhaps the most important approach would be to treat “abstract” innovations in the same manner as any other subject matter area, to provide a complete examination on the merits of every case, including an examination for novelty, nonobviousness and formalities. 35 USC §§ 102, 103, 112. Perhaps the examiner should be required in the first instance to examine *only* under these standard statutory criteria and *not* in the first instance consider patent-eligibility under 35 USC § 101. After all, if the invention is “obvious”, then there is no “inventive step” to consider under Section 101. And, if there *is* a nonobvious invention, then there *is* an “inventive step” present.

To be sure, there may be skeptics who think that there is some gray area where an invention may be nonobvious but still should be subject to rejection under 35 USC § 101. For such a case, the Patent Office should detail and embed in the relevant Technology Centers several Administrative Patent Judges who would take over an application with such an issue: They would then decide whether there is in the first instance merit in a further rejection, and, if so, promptly push the case up the appellate ladder acting as Examiners, followed by an expedited hearing at the Patent Trial and Appeal Board.

It is recognized that the Supreme Court in its evaluation of patent-eligibility declined the Government’s suggestion in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012), to focus a validity determination on patentability issues under 35 USC §§ 102, 103, 112:

[T]he Government argues that virtually any step beyond a statement of a law of nature itself should transform an unpatentable law of nature into a potentially patentable application sufficient to satisfy §101's demands. Brief for United States as *Amicus Curiae*. The Government does not necessarily believe that claims that (like the claims

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before us) extend just minimally beyond a law of nature should receive patents. But in its view, other statutory provisions—those that insist that a claimed process be novel, 35 U. S. C. §102, that it not be ‘obvious in light of prior art,’ §103, and that it be ‘full[y], clear[ly], concise[ly], and exact[ly]’ described, §112—can perform this screening function. In particular, it argues that these claims likely fail for lack of novelty under §102.

This approach, however, would make the ‘law of nature’ exception to §101 patentability a dead letter. The approach is therefore not consistent with prior law. The relevant cases rest their holdings upon section 101, not later sections. [citing *Bilski*; *Diehr*; *Flook*; *Benson*] See also H.R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952) (‘A person may have ‘invented’ a machine or a manufacture, which may include anything under the sun that is made by man, *but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled*’ (emphasis added)).

We recognize that, in evaluating the significance of additional steps, the §101 patent-eligibility inquiry and, say, the §102 novelty inquiry might sometimes overlap. But that need not always be so. And to shift the patent eligibility inquiry entirely to these later sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do.

Mayo v. Prometheus, 132 S.Ct. at 1304.

There is nothing inconsistent with the proposal, here, and the statement quoted from *Mayo v. Prometheus*. In the first instance, the guidance in *Mayo* speaks in the context of validity determinations in the courts and not about examination. Secondly, the proposal, here, does not preclude an examination under Section 101: Only the *order* of examination follows the classic patentability determination that has been the hallmark of the Patent Office since it opened its doors nearly 180 years ago in 1836.

(No hint or suggestion should be even remotely implied as to the incumbent leadership of any influence from Google. Years from now, the legacy of the incumbent leader of the Office will be viewed in the context of history as perhaps the most anti-patentee leader of in its entire history. The fact that the incumbent Under Secretary spent much of her career in a leadership position at Google is important only from the standpoint that Google during her tenure was constantly in a position of defending patent infringement charges so that her anecdotal, actual patent experience has been focused on this point of view. In terms of whether Google has any political influence over the Under Secretary, there is no evidence of any kind that this has occurred: To the contrary, her departure from Google was under circumstances that, if anything, would suggest a hostility toward Google.)

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§ 1[b][8][B] Eli Lilly et al *Sequenom* Amicus Filing, *Mayo* Déjà vu

In the end, the approach taken by the Government in *Mayo* discussed in the previous section must be revisited: The policy concerns that have created judicial hyperactivity in the interpretation of 35 USC § 101 should be rethought in favor of a strict interpretation of the *patentability* requirements of the patent law.

Perhaps the best argument in favor of a return to the statutory patentability requirements (versus the current Supreme Court patent-eligibility issues) is made in an *amicus* filing by several innovative pharmaceutical companies in the *Sequenom* case. *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, Supreme Court No. 15-1182, *Brief for Amici Curiae Eli Lilly and Company, Eisai Inc., Upsher-Smith Laboratories, Inc., Pfizer Inc., and Etiometry, Inc. in Support of Petitioner* (April 1, 2016).

The Court's analytical framework [focusing upon patent-eligibility under 35 USC § 101] is intended to operate as a surrogate for the broader policy question of whether a patent claim is so conceptual that rights under the patent might dominate or otherwise preempt access to a law or product of nature, a natural phenomenon, or an abstract idea. [footnote omitted] The Court has expressed concerns that the assertion of such a patent claim, by impairing access to basic tools of science and technology, could impede, rather than promote, progress in the useful arts. [footnote omitted]

Like many surrogate tests, it risks overreaching its policy objectives. This risk is magnified when the implicit exception is applied as a "threshold test." [footnote omitted] Not knowing if one or more of the remaining statutory patentability requirements would invalidate a patent claim, the tendency is to stretch the threshold test's application to assure a potentially problematic claim is invalidated lest such a claim might otherwise survive as valid under the explicit statutory requirements. Moreover, in applying such a nonstatutory limitation as a threshold consideration, it inherently operates without considering whether or how the present, explicit statutory framework, taken as a whole, may operate to routinely invalidate conceptual patent claims.

Indeed, while the Court's jurisprudence assumes some overlap between the implicit exception and the statutory doctrines limiting patents, the Court has never considered whether the *proper interpretation* of the *current statutory* requirements, considered together rather than piecemeal, would fully address the policy considerations that caused the Court to mandate the non-statutory implicit exception.^[11]

^[11] "[T]he § 101 patent eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap. But that need not always be so. And to shift the patent eligibility inquiry entirely to these later sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do." *Mayo* [*Collaborative Services v.*

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As detailed below, the explicit statutory requirements now present in the Patent Act, when properly interpreted and applied, bar securing valid patents that might prevent access to a law or product of nature, natural phenomenon, or abstract idea. For these reasons, it is now essential as an exercise of judicial restraint for the Court to consider whether to abrogate the implicit exception in deference to the present explicit statutory scheme.

Sequenom case, Eli Lilly et al Amicus Brief at pp. 5-6/

Unfortunately, the Petitioner complicated its task by providing a *Question Presented* having nothing to do with this issue. The *amici* Petitioners address this shortcoming by proposing their *own* entirely different *Question Presented*.

“The Patent Act contains a set of statutory patentability requirements. In addition to these statutory requirements, the Court has imposed a nonstatutory “implicit exception” to patentability. This implicit exception was judicially imposed in part to assure that patents cannot be granted for concepts—or afford exclusive rights that may dominate or otherwise preempt access to concepts. *Concepts*, in this sense, refer to *laws of nature, natural phenomena, or ideas*, including abstract ideas. The implicit exception similarly bars patents directed or relating to *natural products* and entirely *mental processes*.

“The Court has applied the implicit exception as part of a “threshold test” for patentability that operates before other patentability requirements may be considered. The exception, however, does no more than duplicate the statute’s effects when statutory provisions would also invalidate the same patent.

“As a threshold test, it has not taken account of the manner in which today’s statutory requirements have evolved to fully address any policy justification for maintaining the exception. When other patent-limiting laws fully vindicate the policies that underlie the implicit exception, judicial restraint might demand outright abrogation of the exception.

“Given the current explicit statutory limitations on patenting in the Patent Act—and the proper interpretation of those limitations—should the Court’s judicially imposed implicit exception to subject matter considered to be eligible for patenting be abrogated, such that patentability and patent validity are to be determined solely under such explicit statutory provisions?”

Whether the Court would treat this case exceptionally to rephrase the *Question Presented* in a grant of *certiorari* may make grant of the petition keyed to the new *Question Presented* problematic.

Prometheus Laboratories, Inc., 132 S. Ct. 1289, 1304 (2012)].

§ 1[b][8][C] The PTO Should Adopt the Government's View in *Mayo*

The Government in *Mayo* proposed an approach that *should* be taken is to shift from a patent-eligibility inquiry under 35 USC § 101 to a patentability focus under 35 USC §§ 102, 103, 112. Justice Breyer declined to follow the Government's proposal as he said that "to shift the patent eligibility inquiry entirely [§§ sections 102, 103, 112] *** assum[es] that those sections can do work that they are not equipped to do." *Mayo v. Prometheus*, 132 S.Ct. at 1304. Now, the Government position is reargued and presented by current *amici* in *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, Supreme Court No. 15-1182, *Brief for Amici Curiae Eli Lilly and Company, Eisai Inc., Upsher-Smith Laboratories, Inc., Pfizer Inc., and Etiometry, Inc. in Support of Petitioner* (April 1, 2016). See § 1[b][8][B], *Eli Lilly et al Sequenom Amicus Filing, Mayo Déjà vu*.

While it may well represent an insurmountable challenge for grant of *certiorari* based upon the *Question Presented* by amici that echoes its focus on patentability, there is no reason to stop the Patent Office from a two step examination that in the end permits a patent-eligibility examination but only *after* patentability is examined.

It would represent better public policy for the Patent Office to require that an Examiner exhaust all possibilities for examination under 35 USC §§ 102, 103, 112 *before* turning to a Section 101 patent-eligibility analysis. A three-fold scenario should be considered for any invention that today may invoke a consideration of patent-eligibility under 35 USC § 101:

First, an Examiner should make a complete examination on the merits as to all *statutory* requirements for patentability, including novelty (§ 102), nonobviousness (§ 103) and claiming and disclosure requirements (§ 103).

Second, if and only if after the complete examination based on statutory requirements, the invention is considered patentable as to all requirements of 35 USC §§ 102, 103, 112, *then* the application should be transferred to an Administrative Patent Judge to explore *whether* there is a basis for a patent-eligibility rejection under 35 USC § 101 and, if so, the APJ should then deal with further prosecution on the merits as to patent-eligibility.

Third, a record should be kept of all the referrals to APJ's to see whether, in fact, there are areas where patent-eligibility issues must be considered (where an invention is otherwise patentable). This could test the thesis of the Breyer opinion

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that questions whether §§ sections 102, 103, 112 “can do work that they are not equipped to do.” *Mayo v. Prometheus*, 132 S.Ct. at 1304.

In terms of the obligation of the Patent Office to respect the decisions of the Supreme Court, nothing in the proposal, *here*, in any way denies the possibility of a rejection under 35 USC §101: Rather, this option would only need to be considered if, *and only if*, a claimed invention is otherwise patentable under 35 USC §§102, 103,112.

As a special bonus, an advantage of the proposed two phase examination is that it would help thwart gamesmanship practiced by a significant percentage of Examiners who simply focus on §101 patent-eligibility *without* any patentability examination under 35 §§ 102, 103, 112.

§ 1[c] Manufacturing and Electronics Industries

Top Ten Domestic Patentees (2013)*

Rank (U.S.)	Rank (All)	Company	Total Patents
1	1	IBM	6788
2	6	Microsoft	2814
3	10	Google	2190
4	11	Qualcomm	2182
5	12	General Electric	2086
6	15	Apple	1775
7	17	AT&T	1658
8	18	General Motors	1621
9	21	Hewlett-Packard	1459
10	23	Micron Technology	1280

* Source: IPO “Top 300” Listings for 2013. Unranked companies had less than 95 patents granted.

The largest users of the patent system, all from *outside* the pharmaceutical and chemical industries, are the big winners of the Leahy Smith America Invents Act. Such applicants now obtain an iron clad patent-defeating date against junior applicants without the possibility of a costly patent interference. As shown in the chart above, the Top Ten domestic patentees on average had 2385 patents granted in 2013.

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Much of the worth of the patent portfolio for the largest filers is defensive in nature. To the extent that a defensive patent right is the goal for a particular application, this can now be safely obtained merely by filing a patent application that *discloses* the invention *without the need to prosecute the application*: The defensive right kicks in when the application is automatically published 18 months from the priority date, giving the published patent application a patent-defeating effect to deny novelty and nonobviousness retroactive to the priority date.

Previously, one had to obtain a patent to provide as basis for an interference because with a patent claiming the invention, the third party could not simply swear behind the applicant's filing date.

§ 1[d] Pharmaceutical Industry

The domestic pharmaceutical industry has long been operating on a *prospective* patent drafting basis as a first-to-file system so that there is virtually no adjustment that needs to be made for filing strategies for a domestic pharmaceutical company.

A new chemical entity proposed as a pharmaceutical requires expensive, extensive regulatory testing that can take many years and hundreds of millions of dollars before the first tablet can be put on the market. Here, the corporate research sponsor typically will develop *hundreds* if not *thousands* of promising new chemical entities where only a handful can be considered to be put through the regulatory testing gauntlet. It is axiomatic that any drug candidate must pass *global* patentability muster, at least for the very top commercial countries for exploitation of pharmaceutical patents. This means as a minimum that there must be patent protection beyond the United States to include a European Patent and a Japanese patent – both under strict first-to-file regimes.

The patent focus of pharma has been on filing *few* applications but all of high quality, given the importance of a patent to the success of the product. The Top Ten filers obtained an average of less than 286 patents each in 2013:

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Revenue Rank	Company	Country	Patent Rank (all)**	Pharma** Rank	Total Patents**
1	Johnson & Johnson	USA	29	1	1107
2	Novartis	European	119	3	287
3	Roche	European	82	2	458
4	Pfizer	USA	270	13	107
5	Sanofi	European	137	5	238
6	Glaxo SmithKline	European	224	10	129
7	Merck	USA	126	4	268
8	Bayer HealthCare	European	<i>Unranked</i>		<95 ⁺
9	AstraZeneca	European	<i>Unranked</i>		<95 ⁺
10	Eli Lilly	USA	<i>Unranked</i>		< 95 ⁺

* FiercePharma 2013, <http://www.fiercepharma.com/special-reports/top-10-pharma-companies-2013-revenue>

** Source: IPO "Top 300" Listings for 2013.

+ Lowest ranked "Top 300" organization had 95 patents granted.

§ 1[e] Academic Institution Patent Filing Regimes

The major academic research institutions of the United States symbolize the odd man out in the *Leahy Smith America Invents Act*. There is no other segment of the patent community that more stubbornly resisted the change to first to file. The academic research community topped matters off by gaining a grace period that was in reality anything but a success.

Only a thin fraction of the research work of a typical academic institution is suitable for patenting purposes. Since an academic institution needs either no or minimal defensive patent protection for its ongoing research work and since the academic institution does not itself manufacture products, its patent objectives should be focused upon *product* innovations that can be *exclusively licensed*, particularly new pharmaceutical products that are subject to regulatory review that make it difficult for competitors to design around a patented pharmaceutical product.

Yet, the patent filings by the leading academic institutions are *huge* particularly when contrasted with the low numbers of the leading pharmaceutical houses:

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Top Ten Domestic Academic Institution Patentees (2013)*		
Rank	Academic Institution	Total Patents
1	California (state system)	399
2	Massachusetts Institute of Technology	281
3	Stanford	170
4	Texas	169
5	Wisconsin (WARF)	160
6	California Institute of Technology	147
7	Columbia	104
8	Georgia Tech Research Corp.	98
9	Michigan	97
10	Illinois	97

*Source: Kevin E. Noonan, *IPO Names Top 100 Patenting Universities*, Patent Docs (July 24, 2014), <http://www.patentdocs.org/2014/07/ipo-names-top-100-patenting-universities.html>

§ 1[f] Time to Draft the Very First Application: “Weeks?”, “An Hour”?

As an introduction to patent drafting strategies, it is *always* important that the *business objectives* of the applicant be clearly articulated. One example makes the point: Should drafting of the patent application start with the claims or the disclosure? For an *offensive* patent application, the answer is *always* that the starting point is with the claims; for a purely defensive patent application the claims in a first-to-file world have lessened meaning and the starting point is the *disclosure*. The authoritative guide of the World Intellectual Property Organization states that for any offensive application, “[o]ne of the first things to do [in drafting a patent application is to prepare the claims for the invention. *** The majority of patent agents prepare several draft patent claims as their first step in writing a patent application.” WIPO PATENT DRAFTING MANUAL, § III-B-1, *The Claims*, p. 34 (downloaded Jan. 13, 2016), available at http://www.wipo.int/edocs/pubdocs/en/patents/867/wipo_pub_867.pdf. Cf. § 2[e][1], *Drafting the Claims First, the Specification Second* (citing the “disclosure first” approach taught by a lead instructor for the Practicing Law Institute course on preparation for the patent bar examination, Gene Quinn).

American corporate patent management responsible for oversight of its domestic and international patent procurement policies should consider one point: A greater emphasis should be placed on drafting the initial application as opposed to post-filing procurement. The need for an efficient, premium early filing is

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important under the current first-to-file system. The new system is quite unforgiving when it comes to drafting mistakes. Prospectively, one can no longer rely upon the *very* limited grace period (while the grace period does offer a still useful “Plan B” tool for the unexpected prior art divulgation of an invention where a patent application should have been filed, but wasn’t, where the applicant should then *immediately* file to beat a third party’s disclosure of a trivial variation that kills the grace period.)

On a broader scale, the first filing for many purposes is the “global” patent disclosure because if the American first filing does not meet the requirements of European and Asian laws priority may be lost: The inventor’s post-filing publication may then bar some overseas patent rights.

All in all, the single most important patent drafting and prosecution event is the first filing. Many “sins” of bad practices at a later date of drafting and procurement are trivial compared to fatal defects that can be built into a patent family through errors in the first filing. The comparative patent law expert Paul Cole, speaking from the viewpoint of his native European country where first-to-file has been at the center of patent ground rules for ages, notes that “[w]hat that experience teaches us [in the first-to-file world of Europe] is how desperately front-loaded the patent system is – if the right information and the right generalisations are not in the application as filed, the situation is likely to be irremediable and rights will be lost. That applies both at the provisional/first filing stage and at the utility/foreign filing stage. The [U.S. Patent and Trademark Office] may be relatively forgiving about added subject matter or priority, but the [European Patent Office] is not and the Chinese patent office seems to be modelling itself on the [European Patent Office]. The [United States] bean-counter driven trend towards low cost fixed price filing is an invitation to disaster because the cost of drafting the first filed or 12-month specification as a proportion of overall patenting costs is relatively low, but it is unwise economy at this initial stage that is likely to have the most serious consequences.” Paul Cole, private communication, May 15, 2015.

With one exception this book may be seen as very “America centric” in that most of the chapters deal strictly with American patent practice. This is not to neglect European and Asian laws and practice, but rather a recognition of the difficulty of creating a clear understanding of *one* set of laws and practices: This is hard enough, without the complexity of dealing with the several laws of Europe and Asia.

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The starting point for patent experts to reconsider filing strategies is the cold reality of first-to-file. This new system has multiple implications for patent drafting.

Because time is of the essence in filing a patent application in a first-to-file world, drafting the application requires a narrow focus on the critical issues necessary for an application.

Too much confusion has been generated in the area of patent drafting particularly in the past generation as many if not most prospective patent attorneys have focused their attention on passing the patent registration examination which, in turn, means that the focal point of study has been on the *Manual of Patent Examining Procedure*. There is a growing reality that the *Manual* is *not* the way to learn basic patent law and practice, yet the Patent Office directs the prospective registration candidate to study this nearly 3700 page document as the primary source of knowledge about patent practice. While there is much good in the *Manual* there are serious flaws in this document that has created a generation of new practitioners that are drafting patent applications that are much too complicated – both for applicants’ interests as well as for the workload of the examining core.

“File a patent application!” Such an instruction is incomplete and only leads to confusion: The business objective of the applicant dictates the type of filing. If, for example, only defensive protection is needed for a specific embodiment, the entire drafting exercise can be focused upon the specification and, given a working example, one need spend no more than an hour or so drafting the application. At the other end of the spectrum is the “upstream” innovation in biotechnology prior to the creation of the “downstream” embodiments that will enter the marketplace. Creating claims as a prophecy of what will be created can take a considerable amount of time and effort both to visualize a genus and then to craft prophetic support for products not yet made.

Filing strategies are often industry-specific and should be taken into account. Currently, there is much concern within the academic community about the seeming destruction of its provisional filing model that is seemingly destroyed by a limited grace period, although as pointed out here, this need not necessarily be the case for most inventions from the academic community.

In keeping with the holistic theme that dominates this book, the individual pieces to the filing puzzle must be considered in a subordinate role to the big picture: The goal of patent drafting should be a simple, direct presentation of the

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invention. Simplicity has both a positive and a negative component. The *positive* component is the presentation beyond the claims of only what's important, which can and should be fit within the *Summary of the Invention*. The *negative* component is the array of elements should only obfuscate the invention and create a confused prosecution history, all of which should be *avoided* in drafting the application.

The inventor provides the patent practitioner with a “cook book” example or “blue print” description of his invention containing a technical description of his best way of making and using his new “Widget”, complete with any necessary technical drawings with reference numerals identifying the various features of his “Widget”. How long should it take to draft a first application to protect the inventor's interests?

One hour? Weeks (or months)?

Each answer is correct for specific situations.

The “weeks” answer involves an unpredictable technology for a pioneer “upstream” discovery as in the case of a new family of biotechnology entities in an academic's laboratory, which is discussed more fully in § 1[f][1], “*Weeks*”: *Offensive Coverage for Yet-to-be-Invented Products*. The academic has discovered a brand new core for a family of pharmaceutically interesting molecules, but so far has made and tested only one – a prototype entity that is basis for continuing research to make literally hundreds of variants, all with the goal of finding one with both the best efficacy *and* without a toxicity profile that would make it difficult or impossible for clinical development. This is the *Ariad* situation where it may take weeks or months to make or even prophetically describe representative examples for the entire family of biotechnology entities having the inventor's family of molecules. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336 (Fed. Cir. 2010) (en banc). See §7[f], *Generic Support for an “Unpredictable” Ariad Invention* (discussing the sequential filing of a first provisional application with limited exemplary support complemented by a second provisional application containing representative exemplary support).

Here, the objective is not defensive but rather offensive, to gain an exclusive right to the entire family of biotechnology entities. But, the inventor will not be able to gain a broad claim covering the entire family because the single example will not establish “possession” of the family under the *Ariad* line of case law.

As a practical matter, an early *provisional* application may be filed with a proper definition of the family of biotechnology entities as “claim 1” backed up by

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the single example. The priority date will provide the best guarantee to block a junior inventor from gaining a claim that would dominate the entire family. But, *absolute secrecy* must then be continued until a second – or even third – provisional application is filed which contains additional examples which are based on actual working examples, detailed prophetic biotechnology – or both. Ideally, the secrecy would be maintained for the full eighteen months from the date of the first priority filing so that further subgeneric and specific coverage can be obtained without any patent-defeating effect through premature publication.

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

The opposite end of the spectrum – the “one hour” application – is the situation where a “Widget” is about to be commercially launched; there is no likelihood that this “Widget” will ever be modified to a different commercial form; and the *only* business interest is defensive. § 1[f][2], *“One Hour”: Defensive Coverage for an Existing Embodiment*.

Here, indeed, it should take no more than an hour or so to prepare and file the patent application, once given the disclosure of an enabled embodiment from the inventor. Essentially *any* claim can be provided to complement the specification which may have nothing more than the description of the enabled embodiment. The goal under the new patent law is simply to obtain the earliest filing date for the enabled embodiment which, upon automatic publication 18 months from the priority date, will have a patent-defeating effect to defeat novelty and nonobviousness as of that priority date.

Prior to the *Leahy Smith America Invents Act* it was important to have a *claim* that could be found allowable to cover the “Widget” because a third party with a junior filing date could seek to establish priority before the applicant’s filing date, but that is no longer possible. Furthermore, to the extent that the third party would seek to overcome the inventor’s filing date through an argument of derivation, the inventor has the insurance policy of an *inter partes* proceeding to establish anticipation as part of a trial at the Patent Office under Post Grant Review (PGR).

§ 1[f][1] “Weeks”: Offensive Coverage for Yet-to-be-Invented Products

It is very important that where broad offensive patent protection is needed that this point is stressed in the instructions from the applicant to his attorney. Surprisingly, this point is not even mentioned in the authoritative guide of the World Intellectual Property Organization fails to distinguish between the offensive and defensive needs of the applicant, and merely makes the *implicit assumption* that an applicant will always want coverage of maximum scope: “[W]hose role is it to make sure that the claims *approach* their theoretical maximum [scope]? Answer: The patent agent [or attorney]. *** The quick answer *** is *that the patent agent will generally strive for a broad set of claims that cover various aspects of the invention at various levels of detail.*” WIPO PATENT DRAFTING MANUAL, § V, *Patent Claim Drafting*, p. 67 (downloaded Jan. 13, 2016), available at http://www.wipo.int/edocs/pubdocs/en/patents/867/wipo_pub_867.pdf.

On the one hand the most difficult challenge of all involves drafting a patent application for *offensive* protection to cover as yet undiscovered “downstream” products in chemical or biotechnology research at a time when the research is still at an “upstream” stage where there may be one or two prototype products that *have* been created but undoubtedly the best, commercial products have yet to be created. While the legal issues in the cases are different, the classic factual setting representing the “upstream”/“downstream” situation *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193, 202 (2005), where Integra invented a genus of compounds at the “upstream” stage where specific embodiments at the “downstream” stage were invented by Merck’s partner, the Scripps Clinic.

Classically, many of the “upstream”/“downstream” situations arise keyed to the “upstream” research of academic institutions such as the work of the Massachusetts Institute of Technology, the Whitehead Institute for Biomedical Research, and Harvard College as part of *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (en banc), where Eli Lilly then invented the specific “downstream” products for commercial marketing. Lilly, of course, had its own *specific* patent position on its newly discovered molecule, but the Ariad patentees had a generic claim dominating the entire field based upon limited exemplary support. Here, the Ariad patentees expected royalties from Eli Lilly for its product that fell squarely within its generic coverage: But, the Ariad patentees did not have sufficient representative exemplary support to demonstrate “possession” of the family. The situation of the *Ariad* case will only become more problematic under the *Leahy Smith America Invents Act* because if the pioneer inventor in the situation of the patentees in the *Ariad* case somehow do slip through the examination to gain a patent, a future “Eli Lilly” will be able to

challenge validity through a Post Grant Review (PGR) that is now available for patents filed after the effective date of the *Leahy Smith America Invents Act*.

For offensive protection based on rudimentary test results of prototype products the inventor must envision an often broad generic definition of products, many (or most of which) have not yet been made. Great skill and experience is required to lay out the proper generic claim. Even greater skill is required to create the prophetic examples necessary to support the generic definition to show “possession” of that generic invention under the *Ariad* case.

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

§ 1[f][2] “One Hour”: Defensive Coverage for an Existing Embodiment

As noted at the very outset of this section, the business objective drives the patent drafting strategy. As pointed out in that opening section, without business objectives to direct the drafting process, the patent draftsman does not even know where to begin, whether to start with the claims (the default and always the starting point for an *offensive* application) or the disclosure (the starting point for a purely *defensive* filing). Others, e.g., Gene Quinn, favor a “disclosure first” strategy. See § 2[e][1], *Drafting the Claims First, the Specification Second* (citing the “disclosure first” approach of a principal instructor of the Practising Law Institute patent bar review course, Gene Quinn).

At the other end of the spectrum remote from the pioneer “upstream” invention one encounters the situation that the drafting task is only to provide *defensive* coverage to protect a *specific* existing product: The sole goal of the patent application is to provide coverage to block a third party from obtaining a claim that will dominate this *specific* existing product.

Here, filing “immediately” once there is a “cook book” example or “blue print” disclosure of the invention should be the goal; this example forms the heart of the detailed disclosure.

A claim that “fingerprints” the entire identity of the specific example is all that is needed to complement this example. (To be sure, this is a claim like that in the *Pennwalt* case which is rightly criticized for allowing an easy design around the invention to avoid infringement. *Pennwalt Corp. v. Durand-Wayland, Inc.*,

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833 F.2d 931 (Fed. Cir. 1987)(en banc). But, if *defensive* protection is all that is needed, a *Pennwalt* claim is perfectly fine.)

If the patent practitioner has been provided with the “cook book” or “blue print” disclosure of the preferred embodiment, it should not take much time at all to put together a proper application in a matter of a couple of hours, plus whatever scrivener time is involved in putting together the “cook book” or “blue print” disclosure.

Whether the claim or claims pass muster in this case is largely irrelevant because the patent-defeating right is created by the automatic publication of the application 18 months from the priority filing date. Absent any derivation issue, any subsequently filed third party patent application with claims that read on either the example or is to novel subject matter obvious over the example will be barred by the published disclosure.

§ 1[f][3] The Many Shades of Gray, Mixed Objectives

Most cases fall somewhere between the two examples.

For example, a defensive application may also desirably provide offensive protection to block a third party from practicing the invention. While a *Pennwalt* claim is desirable from a *defensive* point of view, the lesson of *Pennwalt* is to provide generic coverage for a combination invention where only the *essential elements* to establish patentability will be included in “claim 1.”

Another typical scenario is that while the applicant wants defensive coverage to block third party domination of his *current* embodiment, the applicant would also like to block third party domination of *variants* to permit changes in the practice of the technology. For example, a defensive patent may be obtained for a new compound that will block domination of that compound, but it may not dominate variations that the applicant may wish to consider at a future date.

Here, just as a “checkerboard” has many squares, envision the field of the invention as a checkerboard where the current embodiment occupies just one square. Here, a broad defensive situation should involve filling in the checkerboard with prophetic examples. Another challenge is that new uses may be discovered for a defensive disclosure of a new product. If a competitor patents the combination of the new product with a new use, then the applicant will be blocked from commercialization of his new product with the new use.

§ 1[f][4] Priority Document for Foreign Protection

Is this invention to be the subject of patent protection in Asia and Europe?

If the answer is yes, the business objectives must be modified so that the earliest possible priority date can be achieved. This may mean filing an “immediate” provisional application where an enabled embodiment is included and *some* claims are provided, coupled with continued secrecy of the invention and then, as soon as possible, a *second* provisional application that contains the full range of disclosure needed for foreign protection.

1[f][5] Clear Written Understanding of the Business Objectives

Where there is any ambiguity in the applicant’s instructions as to business goals, it is best that the practitioner discuss this with the applicant to create a firm understanding of the business objectives. A written record should be made of this understanding so that this will become a permanent part of the prosecution file.

§ 1[f][6] Drafting Guidance is Not Provided by the Patent Office

The *Manual of Patent Examining Procedure* is the cornerstone for information needed to pass the registration examination to become a patent attorney or agent. It supplies *no information* at all on *how to draft* a patent application to meet client business needs. The *Manual of Patent Examining Procedure* is essentially focused upon what it says in its title, it is a manual designed for *examination* of patent applications, and not as a manual teaching the practical ways to *draft* a patent application. Nowhere is there any indication of the importance that claims should be drafted first, before the supporting disclosure. Note that claim drafting does not even command its own *section* in the *Manual*, but instead is buried within subsections MPEP § 608.01(i) - § 608.01(o):

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MPEP§ 608 Disclosure
MPEP§ 608.01-Specification
MPEP§ 608.01(a)-Arrangement of Application
MPEP§ 608.01(b)-Abstract of the Disclosure
MPEP§ 608.01(c)-Background of the Invention
MPEP§ 608.01(d)-Brief Summary of Invention
MPEP§ 608.01(e)-Reservation Clauses Not Permitted
MPEP§ 608.01(f)-Brief Description of Drawings
MPEP§ 608.01(g)-Detailed Description of Invention
MPEP§ 608.01(h)-Mode of Operation of Invention
MPEP§ 608.01(i)-Claims
MPEP§ 608.01(j)-Numbering of Claims
MPEP§ 608.01(k)-Statutory Requirement of Claims
MPEP§ 608.01(l)-Claims Present on the Application Filing Date
MPEP§ 608.01(m)-Form of Claims
MPEP§ 608.01(n)-Dependent Claims
MPEP§ 608.01(o)-Basis for Claim Terminology in Description
MPEP§ 608.01(p)-Completeness of Specification
MPEP§ 608.01(q)-Substitute or Rewritten Specification
MPEP§ 608.01(r)-Derogatory Remarks About Prior Art in Specification
MPEP§ 608.01(s)-Restoration of Canceled Matter
MPEP§ 608.01(t)-Use in Subsequent Application
MPEP§ 608.01(u)-[Reserved]
MPEP§ 608.01(v)-Marks Used in Commerce and Trade Names
MPEP§ 608.01(w)-Copyright and Mask Work Notices

The *Manual of Patent Examining Procedure* teaches patent drafting without explaining that the *claim drafting* must proceed the specification text. It merely states that:

To obtain a valid patent, a patent application as filed must contain a full and clear disclosure of the invention in the manner prescribed by **35 U.S.C. 112(a)**. The requirement for an adequate disclosure ensures that the public receives something in return for the exclusionary rights that are granted to the inventor by a patent. ***

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The specification should include the following sections in order:

- (1) Title of the invention, which may be accompanied by an introductory portion stating the name, citizenship, and residence of the applicant (unless included in the application data sheet).
- (2) Cross-reference to related applications.
- (3) Statement regarding federally sponsored research or development.
- (4) The names of the parties to a joint research agreement.
- (5) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on a compact disc and an incorporation-by-reference of the material on the compact disc (see § 1.52(e)(5)). The total number of compact discs including duplicates and the files on each compact disc shall be specified.
- (6) Statement regarding prior disclosures by the inventor or a joint inventor.
- (7) Background of the invention.
- (8) Brief summary of the invention.
- (9) Brief description of the several views of the drawing.
- (10) Detailed description of the invention.
- (11) A claim or claims.
- (12) Abstract of the disclosure.
- (13) "Sequence Listing," if on paper (see §§ 1.821 through 1.825).

MPEP § 608.01(a), *Arrangement of Application* [R-07.2015](quoting *37 CFR 1.77(b) Arrangement of application elements*)(box included for emphasis).

§ 1[h] The Big Picture: A Simple Presentation

A central feature of this writer's procurement practice is to provide a patent application for examination that is clean, simple and easy to examine. Given that an Examiner has only about one day for his first action search and examination, it is best to provide the examiner with, say, five claims and five prior art references with a clean presentation in the *Summary of the Invention* containing definitions of claim elements at the point of novelty. The one day for examination of this application will be more than sufficient for a *complete* examination that will air all apparent weaknesses and permit the examiner the feeling that he has indeed gotten all the issues needed on the table.

Contrast this simple presentation with a definitions-free presentation with fifty claims and fifty prior art references. There is little chance that the Examiner in his one day of search and preparation of a first action will provide a work product where the Examiner will be comfortable with the feeling that he has

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covered all bases. When an Examiner has this negative feeling toward an application, that the job is incomplete, this lessens the chance that the application will be allowed: The Examiner after all does not want to allow claims that do not pass patentability muster.

While special situations may require more complex drafting techniques, as a general rule the simple, easy to examine application will best suit the applicant's interests. It's not *how many* claims the applicant can gain but, rather, the *coverage* that can be obtained by the applicant that is key. This is the theme of the holistic approach set forth at § 11, *A Holistic, Claims-Focused Presentation*, and ensuing sections.

Above all, simple claims presented in a straight-forward manner permit the examiner the *time* to thoroughly examine the application and identify any real or apparent flaws in the claims. The real issues can be dealt with by amendment while the apparent flaws can be explained in Remarks that strengthen the prosecution history. See § 11[a][1], *Simple Claims and Straight-Forward Supporting Disclosure*.

The point has been raised that the applicant has a *right* to present as many claims as he or she chooses to present provided the necessary fees are paid. This is true. But, the examiner is under a strict system that requires a constant stream of disposals of applications which are never compensated by higher claiming fees. See § 11[a][3], *A Simple, Easy to Examine Patent Application*.



§ 2. First-to-File *sub nom* First-Inventor-to-File

§ 2[a] Cold Reality of First-to-File

During the lengthy six years gestation of the bills which ultimately ended up as the *Leahy Smith America Invents Act* there was much discussion of a “unique” American system of “first inventor to file”.

The illusion was created that, somehow, the American system was unique, different from and better than a true first-to-file system. In fact, the American system *is* a first-to-file system whereby a senior inventor second-to-file who misses the race to the Patent Office by even one day has lost his patent rights against an independent inventor who has not derived the invention from the senior (but second-to-file) inventor. Or, the senior inventor loses his rights even if the junior inventor has not even entered the race to the Patent Office but simply *published* (or otherwise divulged) his invention in a manner to establish a prior art the day before the senior inventor files his patent application.

The *Leahy Smith America Invents Act* is indeed a major simplification and improvement over the prior law for many reasons, of which two complementary changes deserve special note.

First, winning the race to the Patent Office is now outcome determinative in the 99 % of cases that would have in any event been won in the “first inventor” system, simply because it was so difficult for a second inventor to establish priority under the old interference system. But, the new system is unlike the old system: Previously, a deep pockets second to file organization could wear down the first to file inventor and often gain a favorable settlement (or win); but now, the outcome is determined early on because there is no possibility to prove an earlier date of invention.

Second, there are now powerful post grant trial proceedings available under Inter Partes Review (IPR) and Post Grant Review (PGR). Patents will continue to slip through the *ex parte* examination cracks in the system either through the absence of the best prior art being cited or glitches in the procurement proceedings; now, however, these patents can be promptly and successfully weeded out through the IPR and PGR proceedings.

Make no mistake about this: The system was designed for overall efficiency and those wishing to continue to take advantage of loopholes such as the grace period were not at the center of the legislative process. While everyone was able

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to testify, the remarks of the Senate leaders on the eve of enactment showed that they placed the greatest trust in the major mainstream players of the patent community. Thus, Senator Jon Kyl gave special cognition to Michael K. Kirk, Robert A. Armitage, Philip Johnson and Gary Griswold who collectively played a vital role in shaping the legislation as part of Senator Kyl's "kitchen cabinet."

As explained by Senator Kyl as the patent legislation was on the cusp of enactment: "[A]llow me to acknowledge the key members of the 21st Century Coalition for Patent Reform, who have devoted countless hours to this bill, and stuck with it through thick and thin. They have also formed an important 'kitchen cabinet' that has been indispensable to the committee's drafting of this bill and to the resolution of difficult technical questions. I thus acknowledge and thank Phil Johnson, Gary Griswold, Bob Armitage, and Mike Kirk for their key role in the creation of the America Invents Act." *Patent Reform Act of 2011*, 157 Congressional Record S1360, S1394 (March 8, 2011)(Remarks of Senator Kyl)

Senator Kyl singled out for recognition "Hayden Gregory of the American Bar Association, Laurie Self and Rod McKelvie of Covington & Burling, and Hans Sauer, Mike Schiffer, Bruce Burton, Matt Rainey, David Korn, Carl Horton, Steve Miller, Doug Norman, and Stan Fendley [and thanked] Todd Dickinson and Vince Garlock of AIPLA, and Jim Crowne, who was willing to come to the Senate to double check the draft enrolled bill." *Patent Reform Act of 2011*, 157 Congressional Record S1360, S1394 (March 8, 2011)(Remarks of Senator Kyl). He also noted for special recognition the leadership of the Intellectual Property Owners, specifically noting contributions of its Executive Director, Herbert C. Wamsley as well as Dana Colaruilli. *Id.* The current Director of the Detroit branch of the U.S. Patent and Trademark Office, Professor Christal Sheppard, played an important role within the House of Representatives as a top Congressional staff member. Her contributions were recognized by one of the principal Senate-side players, Senator Jon Kyl, who noted that "[i]n the House of Representatives, key staff include Christal Sheppard of Mr. Conyers's staff." *Patent Reform Act of 2011*, 157 Congressional Record S1360, S1393 (March 8, 2011)(Remarks of Senator Kyl).

To be sure, there were countless officials in the Executive Branch and staff members on the Hill who were instrumental in the passage of the legislation, none more important than Joe Matal from the standpoint of his intimate knowledge of the legislation at every step of the way. As the bill reached the stage of final enactment, the Chairman of the Senate Judiciary Committee recognized the work of Joe Matal: "I commend * * * Senator Kyl for helping get this [legislation] done. * * * I also commend the hardworking * * * staffs of other Senators,

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including * * * Joe Matal * * * for their dedicated efforts.” *Patent Reform Act of 2011*, 157 Congressional Record S1360, S1361 (March 8, 2011)(Remarks of Senator Leahy).

§ 2[a][1] Prospective Reliance on the Grace Period is Untenable

The “first inventor” system as a *prospective* tool for patent management is dead because of the limited value of the grace period under the new law. The academic community – particularly through the Wisconsin Alumni Research Foundation, the “WARF”, put up a valiant fight to save the grace period as acknowledged by Senator Kyl: “The Wisconsin Alumni Research Foundation has played an important role [in the creation of the *Leahy Smith America Invents Act*], particularly with regard to the bill's enhanced grace period. I thank Carl Gulbrandsen, Howard Bremmer, Andy Cohn, and Mike Remington.” *Patent Reform Act of 2011*, 157 Congressional Record S1360, S1394 (March 8, 2011)(Remarks of Senator Kyl).

Bluntly stated, however, a lead instructor of the Practising Law Institute’s patent bar review course is not incorrect when he says that “anyone who relies on the existence of a grace period really is foolish in the extreme.” Eugene Quinn, *A Brave New Patent World – First to File Becomes Law*, IPWatchdog.com (March 16, 2013). (While the grace period *is* dead as a prospective filing strategy, the grace period *does* have limited but important advantages as explained in the following section.)

To be sure, there *is* a one year grace period that *does* provide certain safeguards for the inventor who has inadvertently (or otherwise) failed to file a patent application before divulging his invention in a manner to establish prior art.

But, the grace period should be relied upon only *retrospectively* where it is discovered that no patent application has been filed, and now an immediate filing is necessary with the *hope* that the grace period will save the applicant.

Among several scenarios that show the problematic nature of the grace period is the situation where the inventor explains his invention to an academic conference open to members skilled in the art. At the conference during the general open discussion, a close friend and colleague of the inventor proposes in a widely circulated email an *obvious variation* of the invention; the email publication is without secrecy to a large segment of those skilled in the art (and hence is prior art as a “printed publication”). Then, and only then, the inventor files a patent application on *his* invention: Under the literal wording of the statute, the friend’s

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e-mail publication of the *obvious variation* is “prior art”, and this prior art is *not* of the claimed invention, so that under the literal wording of the statute the grace period does not apply because the obvious variation is not “the claimed invention”:

“A disclosure *** of a claimed invention shall not be prior art to the claimed invention [as having been patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention] if *** the *subject matter disclosed* had, before such disclosure, been publicly disclosed by *** another who obtained the subject matter disclosed *** from the inventor ***.”

35 USC § 102(b)(1)(B)(integrating in brackets text from 35 USC § 102(a)(1))
(emphasis added).

To be sure, while the literal wording of the statute denies a grace period for the pre-filing disclosure by a third party of an obvious variant of the claimed invention, the matter is one of controversy where the opposing view is supported largely by “legislative history” arguments. Unless such opponents are successful in a test case yet to come, it is dangerous to *prospectively* rely upon the grace period.

§ 2[a][2] Academic Community Grace Period Support

The academic community has doggedly fought for a continuation of the grace period. The importance of the old grace period was perhaps best manifested by the extreme attempts several years ago to have the Patent Office make a *de facto* modification to extend the grace period to *two years*. The “two year provisional” was explained by the Director of the PTO. See David J. Kappos, Providing Inventors More Time and Options, U.S. Patent and Trademark Office publication “inventorseye” (November 2010), <http://www.uspto.gov/inventors/independent/eye/201011/cover.jsp> (herein: “inventorseye”). An excellent analysis of this proposal has been made by Courtenay Brinckerhoff, *USPTO Launches Extended Missing Parts Pilot Program*, PharmaPatents Blog (December 10, 2010), http://www.pharmapatentsblog.com/uspto-launches-extended-missing-parts-pilot-program/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+Pharmapatents+%28PharmaPatents%29. * * *

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In the initial *Federal Register* publication of the two year provisional proposal, the Patent Office touts the advantages:

“A ... benefit is added flexibility for applicants who may otherwise be forced to expend resources completing nonprovisional applications that may prove unnecessary given an additional year of commercialization efforts. Providing a longer time period ... would give applicants more time to ascertain the value of their inventions, thereby helping applicants to decide whether to incur the additional costs associated with pursuing patent rights.”

Request for Comments on Proposed Change To Missing Parts Practice, 75 Fed. Reg. 16750, 16751 (April 2, 2010), <http://edocket.access.gpo.gov/2010/2010-7520.htm>.

The PTO itself explains that applicants will be able to use the interval of pendency of the provisional up until the filing of the regular application for commercialization efforts:

[Another] benefit is better targeting of applicant resources to commercialization efforts at critical time periods, which efforts can ultimately result in creation of jobs as well as new products and services.” *Id.*

* * *

[W]ith the 24 month “provisional”, the applicant would simply file a provisional application with “at least one claim, and drawings, when necessary, to understand the invention”, *then* commence commercialization efforts and *then* at 24 months from the priority date, bring in the services of a patent attorney to draft a set of claims to cover the invention.

The driving force behind the “two year provisional” was the powerful lobby of research universities which see the change in practice to be of importance to provide additional time to decide whether to invest in the expensive services of patent counsel to pursue patent protection for innovations developed within their university systems.

Perhaps the most outspoken support for the two year provisional came from the University of California:

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“[The University of California] is comprised of ten research-intensive campuses, and is involved in the management of three national laboratories, each of which files patent applications on discoveries made in their laboratories. Strong and predictable patent protection can provide an incentive for industry partners to invest the effort and resources in developing a university invention into a useable product.

“Many university inventions, however, are very early stage, requiring additional research, time and resources before a company is interested in pursuing any of the myriad ways a technology can benefit the public. Until such time, the university must either tap into its limited resources to seek patent protection on promising, but early stage, inventions, or let the opportunity pass by. Any strategies that can help to limit or delay prosecution costs or provide greater flexibility in seeking patent protection for early stage, high-risk university inventions would be welcomed. Therefore, [the University of California] supports the proposed change to the missing parts practice. ...”

Testimony of William T. Tucker, Executive Director Innovation Alliances and Services of the University of California, available at the PTO website, *Comments on Proposed Change to Missing Parts Practice*, supra.

The federal lobbying arm of 182 major research-intensive universities strongly underscores support for the proposal to give 24 months of commercialization activities *before* entering normal patent procurement:

“The Council on Governmental Relations (COGR) is an association of 182 U.S. research-intensive universities, affiliated hospitals and research institutes... We strongly support the effective 12 months extension of the existing 12-month provisional application period..... The ability to file provisional patent applications has been highly beneficial to the university community, particularly given the early stage nature of technologies typical of university inventions. The ability to have additional time to assess market viability and find commercial partners for further development would be of particular benefit to universities, and also consistent with the Administration’s current emphasis on enhancing the commercialization of university research.

The added flexibility provided by extending the response period for a missing parts notice would not only give university applicants more time to assess commercial value but also allow better targeting of resources for this purpose, as stated in the Notice. University patent budgets are under great strain, and we fully support measures such as proposed that may lead to greater efficiencies.”

Testimony of Anthony DeCrappeo, Council on Governmental Relations (COGR) , available at the PTO website, *Comments on Proposed Change to Missing Parts Practice*, supra.

WARF went even further to propose what would require a statutory change:

“In fact, it would be better if the rule changes instituted a true 2-year provisional

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application process. While applicants would still need to act within 12 months for purposes of international filings, the opportunity to wait an additional year before filing a U.S. non-provisional application would be extremely valuable for applicants, as the additional time could advance the developmental stage of inventions appearing in the application (thereby advancing the value of the full disclosure and its public benefit), and ultimately improve the quality of both the applications and the resulting patents.”

Testimony of Carl E. Gulbrandsen, Managing Director, Wisconsin Alumni Research Foundation, available at the PTO website, *Comments on Proposed Change to Missing Parts Practice*, supra.

Texas A&M voiced strong support for the 24 month provisional:

“Given a relatively high cost to the [Texas A&M University System] for patent prosecution, decisions to pursue patent protection on a given technology are largely driven by the potential to secure a licensee. Any expansion of time available for determining the licensable potential of a given technology would be a benefit to university commercialization efforts and would be expected to reduce the numbers of applications that must be dropped for want of a licensee. ...

“[T]he proposed rule would permit university applicants two years of commercialization efforts for a (current) total filing fee cost of \$275 if the application is ultimately abandoned prior to the expiration of the two year term. Although filing fees are a relatively minor percentage of the total cost of preparing and filing a patent application, the deferral of fee payments during early commercialization efforts is certainly a benefit of the proposal.

“The [Texas A&M University System] is generally supportive of extended pendency periods for provisional applications. While believing that the proposed change could be accomplished in a more straightforward fashion by a change to the patent statute, the proposed rule change would be expected to confer a benefit to university commercialization efforts and is generally supported.”

Testimony of Dr. Marilyn M Huston, Ph.D., J.D., Managing Counsel, Business Law and IP, Office of General Counsel, Texas A&M University System, available at the PTO website, *Comments on Proposed Change to Missing Parts Practice*, supra.s

§ 2[a][3] Federal Circuit “Fudge Factor” Test Case

The cold reality of the narrow wording of the grace period has been a major blow to the academic patent community. While it is true that legislators have made comments seemingly supportive of a broader view of the grace period, the reality of the narrow scope of the grace period has been explained by Robert A. Armitage:

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Armitage has dubbed the academics' proposed interpretation of the grace period as adding a "fudge factor" not part of the law.

Armitage, undoubtedly the single most important part of the patent reform process, particularly when measured over the past generation, has provided a detailed rebuttal to the academic community critics who are labeled "fudge factor" proponents. *Eli Lilly and Company [] Supplemental Comments to the United States Patent and Trademark Office [] Notice of Proposed Examination Guidelines Entitled: Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act*, a supplemental submission to the *Request for Comments on the Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act*, 77 Fed. Reg. 43759-43773 (July 26, 2012), on behalf of Eli Lilly and Company by its Senior Vice President and General Counsel, Robert A. Armitage, to the Honorable David J. Kappos, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, October 22, 2012.

For anyone thinking of reliance upon the hope of a test case to overthrow the Patent Office interpretation, the Armitage submission should be a "must read", a sobering reality check that a test case ruling against his position and that of the literal wording of the statute is far, far from a slam dunk proposition. *Id.*

§ 2[a][4] "Plan B" Post-Publication Grace Period Usage

While the grace period should never be *prospectively* relied upon sometimes things go wrong: Through inadvertence (or otherwise) there is an inventor's prior art disclosure of the invention before any patent application is filed. Here, as long as there is no third party disclosure of an obvious variant, the grace period remains effective. But, to minimize the chance that a third party will make a prior art disclosure of such a variant that would instantly kill the grace period, it is imperative that the applicant *immediately* file a patent application to minimize the chance that there will be such an intervening third party publication.

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Another problem arises where the first priority application *does* precede publication but where a second priority application with new matter is filed after the publication. Here, the second application should be filed as soon as possible and in any event before a third party is able to publish on a variant not covered by the grace period:

Where claims are first fully supported only by a *second* sequential filing, it is imperative that secrecy be maintained for the invention until after the second filing, because otherwise a prior art disclosure before the second filing will be fatal to patentability unless the *first* filing fully supports the claims.

In the first instance, a provisional application is very easy to file, but *substantively* the right of priority based upon a provisional is judged under identical standards as in the case where the parent is a “regular” (non-provisional) application: “Claims enjoy the earlier filing date only if the provisional application provided adequate written description under 35 U.S.C. § 112, ¶ 1.” *Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340 (Fed. Cir. 2010)(Rader, J.)(quoting *New Railhead Mfg. v. Vermeer Mfg.*, 298 F.3d 1290, 1294 (Fed. Cir. 2002)(Michel, J.)).

Where a claim is presented after the priority filing, the applicant must show “that he or she ‘had invented each feature that is included as a claim *limitation*[.]’” *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1332 (Fed. Cir. 2009)(Dyk, J.)(quoting *New Railhead*, 298 F.3d at 1295)(emphasis added).

Finally, if the applicant needs to have generic coverage for his invention, it is important that the generic scope to be sought in a later application is fully supported in the first application: If a generic claim and corresponding generic disclosure are presented *after* the priority date – and where the priority application only discloses species – the generic claim is not entitled to priority based upon the species. *In re Ruscetta*, 255 F.2d 687 (CCPA 1958).

§ 2[a][5] Overseas Systems Operate without a Grace Period

The major patent systems of the world operate *without* a grace period to save the inventor who fails to file before there is a prior art, patent-defeating event. This means that if the United States first filing in the world is filed in a manner to rely upon the grace period, foreign patent rights are automatically forfeited because of the absence of an international grace period.

§ 2[a][6] An Evolving, More Difficult Body of Case Law

§ 2[a][6][A] Post- *Nautilus* Claiming Definiteness under 35 USC § 112(b)

For the first time in more than seventy years the Supreme Court in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), reviewed the issue of claiming definiteness under what is now 35 USC § 112(b). Until the Federal Circuit creates a new, *Nautilus*-consistent test – either via an *en banc* decision or a set of consistent panel opinions over the coming years – the law in this area must be considered fluid.

Some would say that *Nautilus* will not have a great impact on practice. A different – and more realistic view – is expressed by Professor Mueller:

“Prior to the Supreme Court’s 2014 *Nautilus* decision, Federal Circuit standards for claim definiteness were quite lenient. The appellate court’s decisions suggested that whether a PHOSITA would understand what was claimed for purposes of assessing definiteness essentially equated to determining whether the patent’s claims could be interpreted. Before *Nautilus*, the definiteness requirement of 35 U.S.C. §112, ¶2 (renamed 35 U.S.C. §112(b) by the America Invents Act of 2011) was considered unsatisfied only if the claim terms in question were “not amenable to construction or [we]re insolubly ambiguous” The Federal Circuit observed that claim terms were sufficiently definite if they could ‘be given any reasonable meaning.’ Even if the claim construction task was difficult, this did not necessarily render the claim language indefinite. Because reasonable persons could frequently disagree over patent claim construction, proof of *indefiniteness* had to “meet an exacting standard.” [*Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1366 (Fed. Cir. 2011) (quoting *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 783 (Fed. Cir. 2010)).] In sum, prior to the Supreme Court’s 2014 *Nautilus* decision, the standard of claim definiteness was not difficult to satisfy in many cases.

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“The Supreme Court in 2014 rejected the Federal Circuit’s lenient approach to satisfying the claim definiteness requirement. In *Nautilus, Inc. v. Biosig Instruments, Inc.*[, 134 S. Ct. 2120 (2014)] , the Court explained that the Circuit’s ‘not amenable to construction’ or ‘insolubly ambiguous’ standards ‘lack[ed] the precision that § 112, ¶ 2 demands,’ and had the potential to confuse the lower courts. ‘To tolerate imprecision just short of that rendering a claim ‘insolubly ambiguous’ would diminish the definiteness requirement’s public-notice function and foster the innovation-discouraging ‘zone of uncertainty’ . . . against which this Court has warned.’

“Rather, the Supreme Court in *Nautilus* ‘read § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, *inform those skilled in the art about the scope of the invention with reasonable certainty.*’ The Court’s ‘reasonable certainty’ test found its roots in precedent requiring a ‘reasonable’ degree of certainty in patent claims, recognizing that absolute precision in setting forth the boundaries of the patentee’s right to exclude is not attainable.

“The *Nautilus* Court’s ‘reasonable certainty’ test aimed to ‘reconcile concerns that tug in opposite directions.’ The Court realized, firstly, that the definiteness requirement ‘must take into account the inherent limitations of language.’ Contrariwise, patents must also be precise enough to afford clear notice to the public of what subject matter is encompassed by the claims and what subject matter remains open. The Court additionally observed that without a ‘meaningful definiteness check,’ patent applicants faced ‘powerful incentives to inject ambiguity into their claims.’ The *Nautilus* Court’s new test of ‘reasonable certainty’ about claim scope for those of skill in the art purported to reconcile these opposing policies in a manner that ‘mandates clarity, while recognizing that absolute precision is unattainable.’

* * *

“The Supreme Court ultimately adopted a new definiteness standard that sought to balance competing concerns. The Court recognized that patent claim drafters confront ‘inherent limitations of language,’ such that absolute precision is not feasible. On the other, the Court understood that patents must be ‘precise enough to afford clear notice of what is claimed. . . .’ Otherwise a “zone of uncertainty” would exist, creating the potential to ward off “enterprise and experimentation” due to risk of infringement liability. In order to reconcile these concerns ‘that tug[ged] in different directions,’ the *Nautilus* Court interpreted the mandate of 35 U.S.C. §112, ¶2 as ‘require[ing] that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention *with reasonable certainty.*’ Thus understood, the definiteness requirement ‘mandates clarity, while recognizing that absolute precision is unattainable.’”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § § 2.04[C]
(Wolters Kluwer 2016)(footnotes integrated into text or deleted)(original emphasis)

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There have now been several post-*Nautilus* opinions from the Federal Circuit, perhaps most importantly *Dow Chemical Co. v. Nova Chemicals Corp. (Canada)*, ___ F.3d ___ (Fed. Cir. 2015)(Dyk, J.). Other cases include *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364 (Fed. Cir. 2014)(Chen, J.); *DDR Holdings, LLC v. Hotels.Com, L.P.*, ___ F.3d ___ (Fed. Cir., 2014)(Chen, J.); and *Biosig Instruments, Inc. v. Nautilus, Inc.*, ___ F.3d ___ (Fed. Cir. 2015)(Wallach, J.).

Dow Chemical takes a very strict viewpoint that claims should clearly define the boundaries of protection:

[T]here can be no serious question that *Nautilus*, *Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014),] changed the law of indefiniteness. This was indeed the very purpose of the *Nautilus* decision. * * *

*** The Court explained [that] "[i]t cannot be sufficient that a court can ascribe *some* meaning to a patent's claim; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*." *Id.* at 2130. * * *

[Where there are different ways to measure a parameter in the claim, t]he patent and prosecution history must disclose a single known approach or establish that, where multiple known approaches exist, a person having ordinary skill in the art would know which approach to select. *See Teva [Pharm. USA, Inc. v. Sandoz, Inc.]*, 789 F.3d 1335, 1341, 1344-45 (Fed. Cir. 2015)] (holding claim indefinite where molecular weight could be measured three different ways and would yield different results and the patent and prosecution history did not provide guidance as to which measure to use). Particularly this is so where different approaches to measurement are involved. *See id.* at 1341, 1344-45. Thus, contrary to our earlier approach, under *Nautilus*, "[t]he claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art." *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Nautilus*, 134 S. Ct. at 2130 & n.8).

* * *

[Where there are plural methods to determine a claim parameter, t]he question is whether the existence of multiple methods leading to different results without guidance in the patent or the prosecution history as to which method should be used renders the claims indefinite. Before *Nautilus*, a claim was not indefinite if someone skilled in the art could arrive at a method and practice that method. *Exxon [Research & Engineering Co. v. United States]*, 265 F.3d 1371, 1379 (Fed. Cir. 2001)].

* * *

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Under *Nautilus* ... “a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable *certainty*, those skilled in the art about the scope of the invention.” 134 S. Ct. at 2124; *see also id.* at 2129 (“[W]e read § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.”). Here the required guidance is not provided by the claims, specification, and prosecution history.

The *Biosig* case is excerpted below, and gives a seemingly brighter picture of *Nautilus*. When reading *Biosig*, however, one must bear in mind that the decision is sharply different from *Dow Chemical*. As explained in *Dow Chemical* at footnote 10: “[*Dow Chemical*] is unlike *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377 (Fed. Cir. 2015). In *Biosig*, we held that the prosecution history, the language of the claims, and the knowledge of one skilled in the art demonstrated that ‘a skilled artisan would understand the inherent parameters of the invention as provided in the intrinsic evidence’ and that the claim term at issue ‘informs a skilled artisan with reasonable certainty of the scope of the claim.’ *Id.* at 1382-84.”

As long as one understands that there is a conflict between *Biosig* and *Dow Chemical*, one may continue to observe the “reasonable certainty” test of *Biosig*:

On the one hand, the [Supreme] Court [in *Nautilus, Inc. v. Biosig Instruments, Inc.* [], 134 S. Ct. 2120 (2014),] noted, the definiteness requirement must take into account the inherent limitations of language. “Some modicum of uncertainty,” the Court recognized, is the “price of ensuring the appropriate incentives for innovation.” *Id.*, 134 S. Ct. at 2028 (quoting *Festo Corp.*, 535 U.S. at 741). On the other hand, the Court explained, a patent must be precise enough to afford clear notice of what is claimed, thereby “appris[ing] the public of what is still open to them. Otherwise there would be a zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims.” *Id.* at 2129 []. The Court further explained the policy rationale: “absent a meaningful definiteness check . . . patent applicants face powerful incentives to inject ambiguity into their claims.” *Id.*

Balancing these competing interests, the Supreme Court held that “[t]o determine the proper office of the definiteness command, . . . we read § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Id.* (emphasis added [by the Federal Circuit]). “The standard adopted” by the Supreme Court “mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* at 2129. It also accords with opinions of the Court stating that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.” *Id.* (quoting *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916) (emphasis added [by the Federal Circuit])).

§ 2[a][6][B] Ambiguity Keyed to Multiple Interpretation Possibilities

The importance of providing a *specific definition* in the *Summary of the Invention* is particularly relevant where an established term used in the claims has plural meanings. See § 20[j], *Established Term with Plural Meanings*, focusing upon *O2 Micro Intern. Ltd. v. Beyond Innovation Technology Co., Ltd.*, 521 F.3d 1351, 1361-62 (Fed. Cir. 2008)(Prost, J.), showing the problems with plural meanings for an established term. See also *Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed.Cir.2005); *Unitherm Food Sys., Inc. v. Swift-Eckrich, Inc.*, 375 F.3d 1341, 1350 (Fed.Cir.2004) , *rev'd on other grounds*, 546 U.S. 394 (2006); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed.Cir.1999).

It is not uncommon for a particular claim element to be susceptible to both a broad and narrow interpretation. The Federal Circuit in earlier opinions had disposed of this issue by ruling that if a claim was open to both a broad and narrow interpretation, the narrower interpretation would govern.

The Patent Office has rejected this approach in the context of its own interpretation of patent claims under *Ex parte Miyazaki*, 89 USPQ2d 1207 (PTO Bd.App. & Int. 2008). Whether *Miyazaki* becomes established at the Federal Circuit or not will have to take into consideration the recent development of the case law from the Supreme Court in the *Nautilus* case. See § 2[a][6][A], *Post-Nautilus Claiming Definiteness under 35 USC § 112(b)* (discussing *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), and its interpretation in *Dow Chemical Co. v. Nova Chemicals Corp. (Canada)*, __ F.3d __ (Fed. Cir. 2015)(Dyk, J.))

Circuit Judge Plager, in particular, sees a special problem in the area of precision claiming. *Enzo Biochem, Inc. v. Applera Corp.*, 605 F.3d 1347, 1348 n.2 (Fed. Cir., 2010)(Plager, J., dissenting from den. of panel rehearing)(quoting David J. Dykeman and Joanna T. Brougher, *File, Protect, Update, Defend*, Corporate Counsel, May 1, 2010, [http:// www. law. com/ jsp/ cc/ Pub Article CC. jsp? id = 1202447671049](http://www.law.com/jsp/cc/PubArticleCC.jsp?id=1202447671049)); *In re Packard*, 751 F.3d 1307, 1316 (Fed. Cir., 2014)(Plager, J., concurring),quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942).

§ 2[a][6][C] State of the Art as of the Filing Date

A prime difference between the one year grace period under the 1952 Patent Act and the *Leahy Smith America Invents Act* is that the one year grace period in the 1952 law exempted all third party disclosures of the invention subsequent to the date of invention by the applicant *as part of the definition of prior art by excluding such third party disclosures*, whereas there is no general exclusion from the definition of prior art in the *Leahy Smith America Invents Act* but, instead, there is a separate grace period provision exempting only *certain* acts. Additionally, the wording of Section 103 of the *Leahy Smith America Invents Act* sets forth a definition for nonobviousness that is keyed to the “state of the art” as of the *filing date* and not the *invention date*. Both differences provide critical distinctions as to third party subject matter divulged during the one year grace period as to subject matter *different from* the claimed invention.

Under the 1952 Patent Act, otherwise prior art disclosures of third parties during the one year grace period were *excluded as prior art* under Section 102 and, as prior art for nonobviousness under Section 103 incorporates by reference the definition of prior art in Section 102, such otherwise prior art disclosures received a blanket prior art grace period exemption under Section 103.

Thus, under the 1952 Patent Act, third party prior art events within the one year grace period did not apply if they occurred after the applicant’s *date of invention*: “A person shall be entitled to a patent unless — the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, *before the invention thereof by the applicant for patent[.]*” 35 USC §102(a)(1952 Patent Act)(emphasis added)

But, under the *Leahy Smith America Invents Act*, the parallel provision to Section 102(a) of the 1952 Patent Act makes *no* grace period exemption: “A person shall be entitled to a patent unless —the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention[.]” 35 USC § 102(a)(1)(Leahy Smith America Invents Act).

The grace period in the *Leahy Smith America Invents Act* is found in 35 USC § 102(b)(1)(B):

“A *disclosure* made 1 year or less before the effective filing date *of a claimed invention* shall not be prior art to the claimed invention under [35 USC § 102](a)(1)] if — the subject matter disclosed had, before such disclosure,

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been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.” (emphasis added).

(A similar grace period exemption is provided in 35 USC § 102(b)(2) to exempt prior filed but later published disclosures in a third party’s patent application.)

Thus, one may question based upon the statutory wording whether there is any room for a “grace period” for subject matter *different from* the claimed invention which, as part of the state of the art, renders the claimed invention *obvious*.

Based upon the statutory wording of the *Leahy Smith America Invents Act*, there are two *independent* reasons to question whether the grace period applies to a third party disclosure of an *obvious variant* of the claimed invention between the inventor’s first prior art divulgation and his filing date.

First, under the PTO guidance, the literal wording of the grace period statute only applies to a disclosure of the *same invention* and not an obvious variant. *See* § 2[a][6][C][i], *Grace Period does not Literally Apply to Obvious Variants*.

Second, there is no indication in the legislative history that the “state of the art” to measure obviousness under 35 USC § 103 has anything to do with the grace period, given the statutory statement that obviousness is measured by the state of the art as of “the effective filing date of the claimed invention.” *See* § 2[a][6][C][ii], *Grace Period does not Apply to the “State of the Art”*.

A narrow interpretation of the grace period has been endorsed by the respected scholar, Professor Janice Mueller, in her treatise. § 2[a][6][C][iii], *Professor Mueller’s Interpretation of the New Law*.

To understand why the grace period should not be relied upon, consider the following situations:

In the first instance, the new grace period under its literal wording does *not* exempt a third party publication of an *obvious variant* of the invention in the interval between the first dissemination of the information by the inventor and the

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inventor's filing of his patent application. *See* § 2[a][6][C][i], *Grace Period does not Literally Apply to Obvious Variants*.

Secondly, but perhaps even more important, the state of the art is measured as of the *filing date*. The "state of the art" determination is critical to determine whether an invention is obvious under 35 USC § 103, as opposed to old law where the state of the art was measured as of the *invention date*. *See* § 2[a][6][C][ii], *Grace Period does Not Apply to the "State of the Art"*:

Consider, for example, the situation where the inventor files his patent application *after* a scientific conference where he explains his invention. Under the law prior to 2011, the invention may well be nonobvious based upon the state of the art as of the date of *invention* (the standard under the old law). After the scientific conference the knowledge of the state of the art may have increased dramatically because of the inventor's disclosure at the conference so that, *as of the subsequent filing date*, the state of the art now renders the invention obvious. *Id.*

The scholarship of Professor Janice Mueller supports the view that the *date* to measure state of the art may be critical to nonobviousness. *See* § 2[a][6][C][iii], *Professor Mueller's Interpretation of the New Law*.

§ 2[a][6][C][i] Grace Period does not Literally Apply to Obvious Variants

It is, of course, a given that under the *Leahy Smith America Invents Act* that the *identical* disclosure of the *same invention* before the applicant's filing date by the inventor or a third party subsequent to the inventor's publication may be excused as prior art under the limited grace period .

But, as advocated by Robert A. Armitage (and adopted in the PTO guidance) if there is a disclosure of *different* subject matter that is derived from the inventor, this *different* subject matter may *not* be excused under the grace period. This matter has yet to be resolved in any Federal Circuit test case.

The literal wording of the statute supports the Armitage view that the grace period does *not* apply to exempt a third party's disclosure of an *obvious variation* of the invention. The Patent Office says is that a third party publication of an *obvious variant* of the claimed invention is prior art against the subsequent filing of the first inventor's patent application: *The grace period does not apply to anything other than a disclosure of the same invention*: "A disclosure *** of a claimed invention shall not be prior art to the claimed invention [as having been patented,

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described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention] if *** the *subject matter disclosed* had, before such disclosure, been publicly disclosed by *** another who obtained the subject matter disclosed *** from the inventor ***.”
35 USC § 102(b)(1)(B)(integrating in brackets text from 35 USC § 102(a)(1))(emphasis added).

§ 2[a][6][C][ii] Grace Period does not Apply to the “State of the Art”

The grace period under the *Leahy Smith America Invents Act* does *not* apply to the grace period between the inventor’s first disclosure and the effective filing date of the application. Thus, for example, if the inventor makes the invention on Year (1), and publishes his invention at Year (2) and then under the one year grace period files his patent application at Year (3), obviousness is judged based upon the state of the art at Year (3), and neither the date of the invention at Year (1) nor the first publication of the invention at Year (2). The state of the art may have vastly changed at the filing date in Year (3) vis a vis either of the earlier dates of invention in Year (1) or the date of the grace period-exempt publication in Year (2). Indeed, given the publication of the invention in Year (2), it would be most surprising if the result is anything other than an enhanced knowledge of the state of the art which could render a once nonobvious invention obvious because of the higher level of knowledge of the state of the art.

Thus, as time passes, the state of the art may evolve to the point that later disclosures make an invention obvious which, prior to such later disclosures, would have been nonobvious. The date to determine the state of the art under the *Leahy Smith America Invents Act* has been move forward to the later *effective filing date* as opposed to the 1952 Patent Act which measures the state of the art as from the often much earlier date of invention. Thus, under the *new* standard of the *Leahy Smith America Invents Act* for determining nonobviousness of a claimed invention, the legal test under 35 USC § 103 is whether –

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“the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”

This replaces the original statutory test for nonobviousness introduced in the 1952 Patent Act which, under its most recent statement before the new law, was found in 35 USC § 103(a) that asks whether –

“the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

Under the new wording of Section 103, one may question whether there is any possibility or room for a grace period for such *different* subject matter, given that the state of the prior art is measured today as of the *filing date* and not the date of the applicant’s *invention*: Thus, is there any “grace period” that remains under the *Leahy Smith America Invents Act* as to the body of prior art literature available before the filing date which cumulatively establishes the “state of the art” for determining nonobviousness under 35 USC § 103?

§ 2[a][6][C][iii] Professor Mueller’s Interpretation of the New Law

Professor Janice Mueller points out the traditional view that “[c]ourts should interpret the meaning of terms in patent claims as those terms would have been understood by a hypothetical person of ordinary skill in the art as of the effective filing date of the patent in question.” Janice M. Mueller, *MUELLER ON PATENT LAW*, Vol. 2, § 15.04[I] (Wolters Kluwer 2016)(footnote omitted). In her footnote, the issue under the new law is stated:

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“The watershed *en banc Phillips* decision *** held that the temporal perspective for assessing the words in a patent claim is their ordinary and customary meaning to a person having ordinary skill in the art in question “at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*).

“This pre-America Invents Act of 2011 (AIA) statement apparently referred to the concept of a *prima facie* invention date based on construing the patent application's filing date as the invention's constructive reduction to practice date. [citation omitted]. The *Phillips en banc* decision did not explain the correct time frame for claim interpretation when the inventor could backdate her invention date from the filing date to her earlier conception date or actual reduction to practice date (assuming that the difference in dates would be material to the meaning of disputed claim terms).

“For post-AIA applications, the concept of “invention date” is largely irrelevant, so the application's ‘effective filing date’ controls.”

Id. § 15.04[I] n.170.1.

§ 2[a][6][C][iv] “Prior Art” versus “Level of Skill in the Art”

Under the law prior to the *Leahy Smith America Invents Act* one considered the level of ordinary skill in the art to be as of the date of *invention* so that the prior art that could be considered as part of the level of ordinary skill in the art was congruent with the state of the prior art as of the date of the *invention*. Now, however, the level of ordinary skill in the art is measured as of the *filing date* so that the inventor's publication of the invention in the one year grace period prior to the filing date is not “prior art” but may be considered as part of the knowledge of a person of ordinary skill in the art as of the *filing date*, a point yet to be decided in any test case at the Federal Circuit.

The argument that there is a difference between the “prior art” and the “level of ordinary skill in the art” can be based upon the case law where each of these two categories is a separate *Graham* factor:

“Obviousness is a question of law based on underlying facts, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *Graham* factors are (1) the scope and content of the prior art, (2) the difference between the prior art and the claimed invention, (3) the level of ordinary skill in the field of the invention, and (4) any relevant objective considerations.” *Soverain Software LLC v. Newegg Inc.*, 705 F.3d 1333, 1336 (Fed. Cir. 2013). *See also Daiichi Sankyo Co., Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir., 2007)(Archer, J.)(quoting *In re Dembiczak*, 175 F.3d 994, 998 (Fed.Cir.1999)) (“ The underlying factual inquiries in an

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obviousness analysis include: ‘(1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness.’ * * *’); *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed.Cir.1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381-82 (Fed.Cir. 1983))("Factors that may be considered in determining level of ordinary skill in the art include: (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field. ")

When the level of skill in the art is measured as of the *filing date* then the argument can be made that the knowledge of a worker of ordinary skill in the art certainly includes the grace period pre-filing publication by the inventor. “When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 402-03 (2007).

§ 2[b] Global “Public Use” and “On Sale” Prior Art

An extremely important aspect of the *Leahy Smith America Invents Act* of 2011 is that an offer of sale of the invention *anywhere in the world* constitutes “prior art” against the inventor. Similarly, any “public use” anywhere in the world also creates such “prior art”.

The statutory basis for this expanded prior art definition is found in 35 USC § 102(a)(1):

“A person shall be entitled to a patent unless... the claimed invention was patented, described in a printed publication, or in *public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention[.]*” 35 USC § 102(a)(1)

. Historically, the United States had excluded from the state of the prior art any *foreign* “public use” or “on sale” activity. This exemption has shielded the Asian or European patent applicant from the patent-defeating effect of its own commercialization activities following “home country” patent priority filings and prior to the actual United States filing date.

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To the extent that the patent applicant immediately after filing an Asian or European “home country” application has commenced holding presentations about the invention, admiring friends in the industry may well describe *obvious* variations of the invention. Such obvious modifications, either through “public use” or “on sale” activities are immediately prior art *without* a grace period, to the extent that the particular embodiment is *obvious* from the invention. Without Paris Convention priority to the “home country” application, the third party publication of the *obvious* modification constitutes a bar to patentability.

§ 2[b][1] Offer of Sale for an Invention “Ready for Patenting”

The “on sale” bar is created whenever there is an offer of sale of an invention that is “ready for patenting”, which can (and usually is) *even before an embodiment of the invention has been constructed*. This is based upon the Supreme Court *Pfaff* case and represents a major departure from historical practice; the new practice is explained in *Atlanta Attachment*:

“The Supreme Court in *Pfaff* introduced an explicit test for the on-sale bar. Specifically, it created the two prongs of commercial sale and ‘ready for patenting,’ and distinguished ‘ready for patenting’ from reduction to practice. *** [T]he Court stated, ‘one can prove that an invention is complete and ready for patenting before it has actually been reduced to practice.’”

Atlanta Attachment Co. v. Leggett & Platt, Inc., 516 F.3d 1361, 1368 (Fed. Cir. 2008)(quoting *Pfaff v. Wells Electronics, Inc.*, 525 U.S. 55, 66 (1998)).

Whether an offer of sale constitutes an “on sale” bar to patentability depends on two main factors. First, the invention must at the time of the offer of sale been “ready for patenting”, which means that there was sufficient information in the way of prophetic examples or engineering drawing to draft a patent application, *even if no embodiment of the invention had ever actually been made*. See 2[b][1][A], *Pfaff “Ready for Patenting” Prior to Reduction to Practice*. As an exception denying an “on sale” bar, the “on sale” bar does not exist if the offer for sale was primarily in connection with an experimental use to perfect the invention. See § 2[b][1][B], *Offer “Not Primarily for Purposes of Experimentation”*. Finally, the offer for sale must be one that is a “commercial offer” which, under the case law, has meant that the offer is decided by *United States* case law under *Linear Tech. Corp. v. Micrel, Inc.*, 275 F.3d 1040 1048 (Fed.Cir.2001). See § [2][b][1][C], *“Commercial Offer for Sale”*.

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The *Leahy Smith America Invents Act* makes no special definition of what *activity* constitutes an “on sale” bar to patentability, but *does* expand the geographical scope of the bar to include an “on sale” act *anywhere in the world*, whereas prior to the new law an “on sale” bar was restricted to an offer in the United States. Is the requirement of *Linear Tech. v. Micrel* to focus on United States legal principles to determine the existence of an “on sale” bar applicable to an “on sale” offer in Asia or Europe? See § 2[b][1][D], *Law to Determine Existence of a “Commercial Offer for Sale”*.

2[b][1][A] *Pfaff* “Ready for Patenting” Prior to Reduction to Practice

Since 1998 the Supreme Court has made it clear that “it is a condition upon the inventor's right to a patent that he shall not exploit his discovery competitively after it is *ready for patenting*; he must content himself with either secrecy or legal monopoly.” *Pfaff v. Wells Elecs. Inc.*, 525 U.S. 55, 68 (1998)(Stevens, J.); *see also Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149 (1989)(same); *see also Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 484 n.13 (1974)(citing, *inter alia*, *Metallizing Engineering, supra*)(“An invention may be placed 'in public use or on sale' within the meaning of 35 U.S.C. § 102(b) without losing its secret character.”).

This means that if there are sufficient engineering or schematic drawings for a mechanical or electrical invention or a “prophetic” example showing how to make and use a biological or chemical invention, the invention is “ready for patenting”, even before there has been any actual construction of the mechanical or electrical invention or any actual laboratory work for a chemical or biotechnology invention

§ 2[b][1][B] Offer “Not Primarily for Purposes of Experimentation”

An “on sale” offer also requires the “commercial offer for sale [is] *not primarily for purposes of experimentation.*” *Allen Engineering Corp. v. Bartell Industries*, 299 F.3d 1336, 1352 (Fed. Cir, 2002). As more fully stated in *Allen Engineering*:

“[T]o invalidate a claim of the [] patent, [the patent challenger] must show that *** the [specific embodiment offered for sale] was *** the subject of a commercial offer for sale *not primarily for purposes of experimentation* ***.” *Pfaff*, 525 U.S. at 67. *** [T]his test involves a determination of whether a commercial offer for sale has occurred, applying traditional contract law principles. *See Linear*

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Tech. Corp. v. Micrel, Inc., 275 F.3d 1040 1048 (Fed.Cir.2001) (citing *Group One, Ltd. v. Hallmark Cards, Inc.*, 254 F.3d 1041 1047 (Fed.Cir.2001)). It also involves an assessment of whether the circumstances surrounding the transaction show that *the transaction was not primarily for purposes of experimentation*. In assessing experimentation, this court has considered a number of factors, not all of which may apply in any particular case. These factors include:

“(1) the necessity for public testing, (2) the amount of control over the experiment retained by the inventor, (3) the nature of the invention, (4) the length of the test period, (5) whether payment was made, (6) whether there was a secrecy obligation, (7) whether records of the experiment were kept, (8) who conducted the experiment, ... (9) the degree of commercial exploitation during testing[,] ... (10) whether the invention reasonably requires evaluation under actual conditions of use, (11) whether testing was systematically performed, (12) whether the inventor continually monitored the invention during testing, and (13) the nature of contacts made with potential customers.”

Linear Tech Corp, v. Micrel, Inc, 275 F.3d at 1048-49.

§ 2[b][1][C] “Commercial Offer for Sale”

An “on sale” bar requires that there be a “commercial offer for sale”. *Hamilton Beach Brands, Inc. v. Sunbeam Prods., Inc.*, 726 F.3d 1370 (Fed. Cir., 2013)(citing *Pfaff*, 525 U.S. at 67)(“ The on-sale bar applies [requires that] the claimed invention must be the subject of a *commercial offer for sale*[.]”(emphasis added); *EZ Dock, Inc. v. Schafer Systems Inc.*, 276 F.3d 1347, 1351 (Fed. Cir. 2002) (citing *Pfaff*, 525 U.S. at 670) (“The [on sale] bar applies when an invention is both the subject of a *commercial offer for sale* and ready for patenting before the critical date.”)(emphasis added); *Linear Tech Corp, v. Micrel, Inc*, 275 F.3d 1040, 1048 Fed. Cir., 2001) (quoting *Group One, Ltd. v. Hallmark Cards, Inc.*, 254 F.3d 1041, 1048 (Fed. Cir. 2001))(“*Group One* held that ‘[o]nly an offer which rises to the level of a *commercial offer for sale*, one which the other party could make into a binding contract by simple acceptance (assuming consideration), constitutes an offer for sale under 102(b).’” (emphasis added)

§ 2[b][1][D] Law to Determine Existence of a “Commercial Offer for Sale”

From the discussion quoted in the preceding section from *Linear Tech. v. Micrel*, taken *in vacuo*, one might assume that a “commercial offer” should be judged under the law where the offer was made. Thus, e.g., if the offer is a commercial offer made in Japan, then the law of Japan should govern whether the offer is an “on sale” bar offer.

However, in the immediately following paragraph in *Linear Tech. v. Micrel*, the court indicates that only *national* law considerations should apply:

“Because the on-sale bar involves questions of patent law requiring national uniformity, Group One declined to rely on the law of the particular state in which the transaction occurred, instead holding that the existence of an offer for sale should be analyzed ‘under the law of contracts as generally understood.’ Group One, 254 F.3d at 1047. Group One further instructs that the Uniform Commercial Code (‘UCC’) should inform the analysis of the contractual issues. *Id.* (‘As a general proposition, we will look to the Uniform Commercial Code (‘UCC’) to define whether, as in this case, a communication or series of communications rises to the level of a commercial offer for sale.’). Of course, the UCC is a model code-it does not itself have the force of law and no body of case law has explored its provisions. Instead, it has been enacted with modifications in the several states. Thus, the body of case law from which we must draw guidance under Group One is that of the state and federal courts interpreting their individual versions of the UCC. From this body of state law, we will search for the common denominator for assistance in crafting the federal common law of contract that now governs the on-sale bar.?”

§ 2[b][1][E] Differences between American and Overseas Laws

In some countries in house *confidential* information may not constitute prior art. For example, in the European Patent Office in the *Toshiba* case it is explained that in house knowledge may not be considered part of the state of the art:

“[T]he board does not consider it appropriate either for itself or for the examining division to base assessment of substantive patentability (novelty and inventive step) upon subject matter not identified as within the state of the art within the meaning of Article 54(2) EPC. *** [T]he [relevant disclosure] of the patent application is in-house knowledge not published before the priority date of the patent ***, the board reached the conclusion that the arrangement concerned

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cannot be treated as state of the art within the meaning of Article 54(2) EPC. The board does not therefore consider this arrangement relevant to substantive patentability.”

The *Toshiba* case, T 1001/98, § 3, *State of the Art* (EPO Tech. Bd. App. 2013)(cited, Case Law of the Boards of Appeal of the European Patent Office, § 1.4, *In-house knowledge not published before the priority date* (7th ed. Sept. 2013).

Japanese patent law in Art. 29(1)(i) bars a patent to “inventions that were *publicly known* in Japan or a foreign country prior to the filing date of the patent application”; while Japan Patent Law Art. 29(1)(ii) bars a patent to “inventions that were *publicly worked* in Japan or a foreign country prior to the filing date of the patent application”. As explained in the Japan Patent Office Guidelines, “[t]he expression ‘inventions that were publicly known’ represents an invention whose content becomes known to unspecified persons as an art without an obligation of secrecy.” Japan Patent Office Guidelines, 1.2.2., Inventions that were Publicly Known.

§ 2[b][2] Secret Commercialization by the Inventor

Of course, a third party “public use” of an invention creates a statutory bar. But, additionally, the *secret* commercial use of an invention by the *inventor* also creates a statutory bar *against the inventor*: “[35 USC § 102(b)] preclude[s] attempts by the inventor or his assignee from commercially exploiting the invention more than a year before the application for patent is filed.” *Western Marine Elec., Inc. v. Furuno Elec. Co.*, 764 F.2d 840, 845 (Fed.Cir.1985)(citing *In re Caveney*, 761 F.2d 671,676 (Fed.Cir. 1985); *Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831, 836 (Fed. Cir. 1984); *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144 1147 (Fed.Cir.1983); *General Electric Co. v. United States*, 654 F.2d 55, 61 (Ct.Cl.1981)); *see also Woodland Trust v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1370-71 (Fed. Cir. 1998)(“[A]n inventor's own prior commercial use, albeit kept secret, may constitute a public use or sale under § 102(b), barring him from obtaining a patent.”)(citations omitted).

“Public use under 35 U.S.C. § 102(b) includes any use of the claimed invention by a person other than the inventor who is under no limitation, restriction or obligation of secrecy to the inventor.” *Bernhardt, L.L.C. v. Collezione Europa USA, Inc.*, 386 F.3d 1371, 1379(Fed. Cir. 2004)(Linn, J.)(quoting *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed.Cir.2002); and citing *In re Smith*, 714 F.2d 1127, 1134 (Fed.Cir.1983)).

§ 2[c] Provisional Application Mythology Created by the Patent Office

It was the government itself that took the lead in directly or indirectly establishing the idea that there are lower disclosure requirements for patents claiming priority based upon a provisional application.

The “conventional wisdom” of the time was that “[t]he requirements for filing a provisional application are more relaxed than those for non-provisional applications. * * * [T]hese applications are not evaluated by a PTO examiner. * * * The lack of PTO analysis makes provisional applications relatively inexpensive to file, with fees currently set at \$ 75 for small entities and \$ 150 for others.” James R. Barney, *An Overview of the Pros and Cons of Provisional Patent Applications*, 1 Yale Symp. L. & Tech. 2 (1999).

The U.S. Patent and Trademark Office (PTO) had taken the lead in announcing lower standards for priority based upon a provisional application. Even as of 2002, in its official website, the PTO reassured the public that a provisional application “provides simplified filing with a lower initial investment with one full year to assess the invention’s commercial potential before committing to the higher cost of filing and prosecuting a non-provisional application for patent[.]” <http://www.uspto.gov/web/offices/pac/provapp.htm> [August 2, 2002].

The PTO lists twelve “cautions” to the use of a provisional but nowhere cautions users that a claim-like disclosure is necessary. The closest suggestion is that “the disclosure of the invention in the provisional application [should be] be as complete as possible. In order to obtain the benefit of the filing date of a provisional application the claimed subject matter in the later filed non-provisional application must have support in the provisional application.” *Id.*

At the time the provisional system was created in 1994, a recently retired former PTO leader said that “[f]iling a provisional application provides a mechanism for protecting absolute novelty in Paris Convention countries worldwide. Consider, for example, the client who informs you on the day before he is to make a public presentation, complete with written handouts containing his name, about a new device that he would like to market.” Charles E. Van Horn, *Practicalities and Potential Pitfalls When Using Provisional Patent Applications*, 22 AIPLA Q.J. 259, 301 (1994). The provisional is given as the answer: “[I]t would be possible to protect absolute novelty worldwide by filing a copy of the written materials with a cover sheet that reads ‘Provisional Patent Application’ on

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the day before the public presentation.” *Id.* Provisional applications are described by a former Commissioner as being “low-cost and easily filed” that can be filed without professional representation. Gerald J. Mossinghoff, *The U.S. First-To-Invent System has Provided No Advantage to Small Entities*, 84 J. Pat. & Trademark Off. Soc’y 425, 426 (2002). *See also* Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20XX, A.D.* , 80 J. Pat. & Trademark Off. Soc’y 523, 543 (1998) (“[H]ere is where the United States provisional application comes into play.

By filing a complete technical disclosure of the invention, a small entity can readily secure priority rights in a first-to-file system without a major expenditure of resources. This then gives the small inventor a year in which to file a professionally prepared patent application.”) The authors continue: “[A]n inventor can achieve a one-year period in which to evaluate the commercial value of the invention and the desirability of filing a professionally prepared regular patent application.” *Id.* at 544.

Thus, the former leader of the Patent Office stated that:

“By filing a complete technical disclosure of the invention, a small entity can readily secure priority rights in a first-inventor-to-file system without a major expenditure of resources. *This then gives the small entity a year in which to file a professionally prepared patent application.*” *Id.* at p. 428; emphasis added. Congress more recently invited a patent law expert to appear who said that “[s]ometimes the provisional patent filing is little more than a draft paper, a long-winded e-mail, or informal notes.” *Id.* at p. 428; emphasis added.

This “long-winded E-mail” is stated to help the university community and provide a free year to create the patent application: “[E]ven universities with tiny budgets and without the availability of patent lawyers routinely protect their ideas well before they are communicated to outside collaborators. The filing of a provisional application allows the researcher up to a year to prepare and file a formal patent application, which will carry the filing date of the provisional application, as its effective date.” *Id.*

The conventional wisdom of the day was that standards for a provisional application “are more relaxed” than for a regular application: “The requirements for filing a provisional application are more relaxed than those for non-provisional applications. * * * [T]hese applications are not evaluated by a PTO examiner. * * * The lack of PTO analysis makes provisional applications relatively inexpensive to file, with fees currently set at \$ 75 for small entities and \$ 150 for others.” James

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R. Barney, *An Overview of the Pros and Cons of Provisional Patent Applications*, 1 Yale Symp. L. & Tech. 2 (1999).

In the context of biotechnology, the president of Celera told Congress that he had filed provisional applications on literally *thousands* of protein-encoding sequences. Testimony of J. Craig Venter, Ph.D. President and Chief Scientific Officer, Celera Genomics before the Joint Economic Committee, U.S. Congress, June 7, 2000, 2000 Westlaw 19304599 (“Celera announced last fall that the company had filed provisional patent applications covering 6,500 identified protein-encoding sequences”). Dr. Venter explained that “[a] provisional application serves to notify the Patent Office that a discovery has been made in the event that there are other patent applications for the same discovery. * * * During th[e] twelve-month period [to file a regular application], Celera will decide with its pharmaceutical partners which genes are medically important enough to file patent applications.” *Id.*

Typical advice which was given about last minute filings is explained in one publication:

“When patent rights can be lost if an application is not filed on time, it is better to file a hastily drafted application on time than a well prepared application after a critical bar date. In these circumstances, the initial draft should be filed as a provisional, since the fees are cheaper and the inventor does not want the patent office to examine this draft anyway. *The provisional application should then be replaced with a more carefully drafted regular application claiming benefit of the provisional application.*” Bitlaw, <http://www.bitlaw.com/patent/provisional.html> [August 2, 2002](emphasis added).

Another writer states that the provisional “application can be assembled and filed quickly. Frequently, the attorney files it the same or next day that the client contacts the attorney about the technology. Consequently, it is easy to obtain a U.S. filing date prior to any proposed publication, sale or offer for sale of technology embodying the invention.” D. Andrew Floam, *Provisional Patent Applications: Use Them Properly & You'll Get The Best Bangfor your Buck*, 6 NO. 9 Intell. Prop. Strategist 1 (2000).

Outside the mainstream of patent law, there has been a widespread mythology about the provisional as having a simpler standard that can be used in lieu of a regular application when time is tight. Certified public accountants are taught that “[t]he provisional application is especially beneficial in situations where the one-year grace period is almost expired and preparing and filing a formal application in time would be difficult.” Barry A Cooper, *Intellectual*

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property primer, The CPA Journal, 1/02 CPA J. 4047, 2002 WL 14217291 (2002). In the insurance field for E-commerce, the sentiment is echoed:

“A provisional patent application does not require the formality of a non-provisional (regular) patent application and, especially when a business method patent is involved, can usually be filed in a much shorter period of time.”

Tips for Protecting Business Method Patents in the United States, *E-Business Insurance Legal Report*, 1 No. 6 E-Bus. Ins. Legal Rep. 10 (2000).

In the context of internet technology, it is stated that “[m]any times, a provisional application is just a ‘document dump’, i.e., a shell or outline of a patentable idea, that can be filed inexpensively. However, a provisional application provides a ‘priority date’ for determining what is and is not ‘prior art’ for a later-filed utility application.” George H. Gates & Jason S. Feldmar, *Internet Patents*, 610 PLI/Pat 403, 419 (2000) (citing 35 USC § 119(e)).

The authors continue: “Provisional filing practice is beneficial in various circumstances, especially where there is insufficient time to prepare a complete “utility” patent application, and substantial documentation describing the invention is available. For example, if a paper describing an invention is about to be published, presented publicly, or shown to some third party, the paper can be filed with little or no modification as a provisional patent application.” See also Peter A. Jackman, *Adoption of a First-To-File Patent System: A Proposal*, 26 U. Balt. L. Rev. 67, 85-86 (1997) (footnotes omitted)(“Provisional applications provide a simple and relatively inexpensive method of establishing an early priority date. Their minimum requirements allow most inventors to file the application themselves, or with minimal assistance, and thus make the PTO more accessible.”

§ 2[c][1] Academic Community Reliance on the Provisional

For the past generation, provisional application mythology led to a system where many in the academic research community would file “one hour” provisional applications *before* making a decision whether to expend funds and energy on a “regular” application. See, e.g., Scott R. Carter, *Biotechnology Patents & Business Strategies in the New Millennium* in BIOTECHNOLOGY LAW, Carter 666 PLI/Pat 287 (2001)(explaining California Institute of Technology system of filing a “one hour” provisional application *before* deciding whether to file a regular application)(“In most cases, provisional applications are

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filed by universities with no claims and with a limited amount of review by an outside counsel, and typically less than an hour of review. A member of the OTT staff, most are patent attorneys or agents, reviews each disclosure prior to filing a provisional.”)

The premise to the “one hour” provisional usage is that a later, “regular” application would be entitled to priority based upon the provisional application because a lower *substantive* standard for priority exists for priority keyed to a provisional than if the first filing were a regular (non-provisional) application.

The idea is that after the “one hour” provisional is filed then the applicant would have one year for commercialization efforts that would involve explaining the invention and offering the invention for sale or license and then, *if successful* in finding a licensee, *then* a regular application would be filed dated back (under this theory) to the provisional application filing date.

§2[c][2] Former Grace Period Obviated “One Hour” Provisional Problems

Prior to the *Leahy Smith America Invents Act* the “one hour” provisional theory was not a major obstacle to obtaining *domestic* patent rights because even without priority to the provisional application, the one year grace period of the “first inventor” system often saved *domestic* patent rights.

§ 2[d] PGR Requires a Patent with Clean Claims

Patents granted based upon an application filed “today” will be subject to a Post Grant Review (PGR) which is a fair fight for the patentee who has *prepared* for this eventuality by the presentation of claims that will survive a patent challenger’s attack. This means that at least *some* of the claims in the patent should be defensible without further amendment. This also means that in response to a first action on the merits (which will often be two or more years after the filing date) the commercial situation should be reviewed to determine whether the application contains the best claims to both suit commercial purposes *and* sustain a PGR attack.

§ 2[d][1] “Public Use”, “On Sale” Challenges

An invention patented based upon the new law is open to a Post Grant Review (PGR) which, for the first time, permits a Patent Office challenge based upon a “public use” or “on sale” event. Thus, the *Leahy Smith America Invents Act* is open to a challenge within nine months from grant of the patent; the scope of a Post Grant Review under 35 USC § 321(b) is open to “any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).”

Under 35 USC §282(b), defenses to patent infringement are defined:

“The following shall be defenses in any action involving the validity *** of a patent ***:

“(2) Invalidity of the patent or any claim in suit on any ground specified in part II as a condition for patentability [which includes 35 USC §§102 and 103].

“(3) Invalidity of the patent or any claim in suit for failure to comply with—

“(A) any requirement of section 112 [other than “best mode contemplated”]; or

“(B) any requirement of section 251.”

A major change in the law is that for the first time since the 1980 start of Patent Office validity challenges, the *Leahy Smith America Invents Act* permits challenging a broad range of substantive patent law provisions including an “on sale” and “public use” bar to patentability.

This represents a huge change for Asian and European corporations who have heretofore been insulated from such challenges at the Patent Office and, more importantly, their “home country” on sale and “public use” activity was previously barred under the *domestic* limitation of such activities as prior art.

Now, *foreign* activities are basis for invalidity under the “on sale” and “public use” provisions *and* a procedural challenge through Post Grant Review is now available under these grounds in the nine month time window starting from the date of grant of the patent.

An Inter Partes Review is available throughout the life of the patent. But, the scope of an Inter Partes Review is expressly limited to “only [] a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.” In other words, there is no basis to

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challenge a patent *at the Patent Office* after nine months from the date of issuance of the patent based on a “public use” or “on sale” event.

§ 2[d][2] PGR Amendments are not Made as a Matter of Right

Amendments are theoretically and sometimes actually possible in a Post Grant Review or an Inter Partes Review. But, the practice has been to rarely grant amendments in such proceedings.

It is thus important after a first action on the merits in the original application to carefully scrutinize whether new or amended claims should be added to the application, precisely for the purpose of having such claims in any post-grant proceeding.

§ 2[d][3] A Continuation is *not* an Option to avoid a PGR Attack

In a typical patent prosecution where the applicant loses at the Board, it is possible to file a continuation application with slightly different claims or a slightly different issue and then take a “fresh” approach to prosecution, starting once again with a Patent Examiner. Even better for the applicant who sees a difficult road at the Board is to file the continuation *before* a decision by the Board.

The continuation option is not available in a post-grant proceeding.

The only theoretical possibility to appear before an examiner is to file a reissue application. But, long before the reissue has even proceeded very far, the post-grant proceeding will have been concluded.

§ 2[d][4] A Difficult Appellate Review Standard

It is very important for a party to win any Patent Office proceeding at the PTAB because fact-based determinations by the Board are generally affirmed at the Federal Circuit where the “substantial evidence” standard of review governs.

The patentee who loses at the PTAB in a post-grant proceeding faces an extremely difficult, uphill battle at the Federal Circuit where the issue in question is whether the PTAB made a correct *fact*-based ruling because of the “substantial evidence” standard of review. “Substantial evidence means ‘such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.’” *In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1148 (Fed. Cir. 2012)(Prost, J.)(quoting *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938)). *See also*, e.g., *Eli Lilly and Co. v. Aradigm Corp.*, 376 F.3d 1352 (Fed. Cir. 2004)

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(Clevenger, J.); *In re Kahn*, 441 F.3d 977 (Fed. Cir. 2006)(Linn, J.); and *In re Morsa*, 713 F.3d 104 (Fed. Cir. 2013)(O'Malley, J.).

As explained by Judge Clevenger in *Eli Lilly v. Aradigm*:

“*Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.*’ *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Substantial evidence is not a fixed quantum of evidence: What is or is not substantial may only be determined with respect to the burden of proof that the litigant bore in the trial court. ‘For example, in reviewing whether the evidence supports a finding of fact ... the decision might be affirmed if the standard of proof below were ‘weight of evidence’ and might be reversed on the same record if the standard of proof were ‘clear and convincing’ evidence.’ *SSIH Equip. S.A. v. U.S. Int’l Trade Comm’n*, 718 F.2d 365, 383 (Fed.Cir.1983) (Nies, J., additional comments)....”

Eli Lilly v. Aradigm., 376 F.3d at 1363 (emphasis added). As explained by Judge Linn in *Kahn*: “Substantial evidence is something less than the weight of the evidence but more than a mere scintilla of evidence.” *Kahn*, 441 F.3d at 985 (citing *In re Gartside*, 203 F.3d 1305, 1312 (Fed.Cir.2000), citing *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229-30 (1938)).

Substantial evidence “means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Id.* (citing *Consol. Edison*, 305 U.S. at 229-30).

What happens when the case presents a close situation where the fact-finder could reach *either* conclusion, for or against a party? Here, the fact-finder – the PTAB – must make a determination which will then be *affirmed* by the Federal Circuit: “We note that the possibility of drawing two inconsistent conclusions from the evidence does not prevent the Board’s findings from being supported by substantial evidence. [*Gartside*, 203 F.3d at 1312.] Indeed, if a reasonable mind might accept the evidence as adequate to support the factual conclusions drawn by the Board, then we must uphold the Board’s determination. *Id.*” *Kahn*, 441 F.3d at 985. As noted by Judge O’Malley in *Morsa*, “where two different, inconsistent conclusions may reasonably be drawn from the evidence in record, an agency’s decision to favor one conclusion over the other is the epitome of a decision that must be sustained upon review for substantial evidence.” *Morsa*, 713 F.3d at 109 (quoting *In re Jolley*, 308 F.3d 1317, 1329 (Fed.Cir.2002)).

The Great Dissenter, Circuit Judge Newman, quite clearly recognizes the difficult time a patent applicant has at the Federal Circuit under the “substantial evidence” standard of review. In her *dissent* in *Merck & Cie v. Gnosis S.P.A.*, __

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F.3d __, __ (Fed. Cir. 2015)(Newman, J., dissenting), she paints a realistic picture of the difficulties a patentee may face on appeal to the Federal Circuit:

The substantial evidence standard determines whether the decision could reasonably have been made, not whether it was correctly made. See 3 Steven Alan Childress & Martha S. Davis, *Federal Standards of Review* § 15.04 (4th ed. 2010). The substantial evidence standard originated with appeals of jury verdicts, in recognition of the role of credibility at trial. *Id.* “Substantial evidence” was incorporated into the Administrative Procedure Act in recognition of the expertise of specialized agencies. *Id.* Here, however, a new system was created to respond to the belief that the agency was making mistakes. See, e.g., 157 Cong. Rec. S1326 (daily ed. March 7, 2011) (statement of Sen. Sessions) (“This will allow invalid patents that were mistakenly issued by the PTO to be fixed early in their life, before they disrupt an entire industry or result in expensive litigation.”); 153 Cong. Rec. H10276(daily ed. Sept. 7, 2007) (statement of Rep. Goodlatte, commenting on a predecessor bill to the AIA) (“The PTO, like any other large government agency, makes mistakes.

H.R. 1908 creates a post-grant opposition procedure to allow the private sector to challenge a patent just after it is approved to provide an additional check on the issuance of bogus patents.”). This new system is directed at correcting mistakes. Deferential review by the Federal Circuit falls short of the legislative purpose of providing optimum determination of patent validity.

The Federal Circuit is the only review body for these new agency proceedings, for the America Invents Act displaced the alternative path of challenge to PTO decisions in the district court. Thus the PTAB’s adjudications must be reviewed for correct application of the standard of proof established by the America Invents Act. In 35 U.S.C. § 316(e):

“On appeal to the Federal Circuit, our assignment is to determine whether the PTAB ruling is correct in law and supported by a preponderance of the evidence. The panel majority errs in importing into these proceedings the Administrative Procedure Act standard that applies to initial patent examination decisions, [quoting majority opinion], citing *In re Gartside*, 203 F.3d 1305, 1313 (Fed. Cir. 2000) (PTO decisions sustained if supported by substantial evidence).”

Appellate review of agency rulings on the preponderance standard, accompanied by finality, is not the general APA rule, but has been adopted by statute in other special situations. For example, under the Service Contract Act, “[i]f supported by a preponderance of the evidence, the [agency’s] findings are conclusive in any court of the United States.” 41 U.S.C. § 6507(e) (formerly 41 U.S.C. § 39). The regional circuits have interpreted the preponderance standard to require review for “clear error” on appeal. See *Dantran, Inc. v. U.S. Dep’t of Labor*, 171 F.3d 58, 71 (1st Cir. 1999) (rejecting “substantial evidence” review standard); see also *Amcor, Inc. v. Brock*, 780 F.2d 897, 901 (11th Cir. 1986) (“determination by the administrator . . . must be affirmed unless it is not supported by a preponderance of the evidence.”).

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Such close appellate scrutiny is critical to the legislative balance of the America Invents Act, whose purpose is to reach an expeditious and reliable determination on which inventors and industry innovators and competitors can rely. The Federal Circuit's adoption of deferential "substantial evidence" review strays from this purpose. If Congress intended that deferential review would apply to PTAB determinations in which "substantial evidence" is "something less than the weight of the evidence," *Consolo v. Fed. Mar. Comm'n*, 383 U.S. 607, 620 (1966), explicit assignment of this standard would reasonably have been expected.

For example, the majority decides that "substantial evidence" supports the PTAB's finding of a motivation to combine the information in the [prior art]... The PTAB cited no source for this finding, other than "[t]he close similarity of purpose and disclosure between these references." PTAB Op. at 23. The panel majority, looking for "substantial evidence" supporting the PTAB, does not discuss the evidence weighing against this finding, such as the known side effects of the L-5-MTHF isomer, its instability, the equivocal clinical observations, and Merck's and the University's commercial success, as well as the long-felt need, failure of others, industry praise, licensing, and copying. Deferential review on a standard that looks at only one side of the evidence is less likely to uncover errors in the balance and burden of proof.

§ 2[d][5] A "Vogel Trailer" for Additional Claims

Given the difficulty of making amendments after a patent has been granted, it is sometimes useful to file a "Vogel trailer" continuation application at the end of prosecution of a regular application that is about to be patented. See § 11[a][4], *A Clearer Downstream Picture Later in Prosecution* (discussing the possibility at the end of prosecution of the original application filing a continuation, the "Vogel trailer", *In re Vogel*, 422 F.2d 438 (CCPA 1970), for the express purpose of leaving the door open to presentation of new claims at a later date).

§ 2[e] Primacy of the Claims, Importance of the Specification

At first blush, it is apparent to everyone with even a passing familiarity of the patent system that there is now a push to earliest possible filings under the first-to-file constraints of the *Leahy Smith America Invents Act* of 2011. Complementary thereto are the vigorous post-grant review proceedings under the Patent Trial and Appeal Board. Yet, the patent landscape has been radically restructured in the past generation so that many of the patent drafting practices of earlier days have been discarded, yet the mythology of their continuation lingers on even today.

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Thus, going beyond the manifest need for early filing dates and disclosures to withstand critical analysis before the Patent Trial and Appeal Board, several important features of the patent case law require special attention:

While the claims are undeniably the focus of the drafting process, and everything else in the drafting process must be complementary to the claims, the claims, standing alone, do not represent the complete story as to patent scope. Statements in the *specification* may very well impact the scope of protection, often with negative consequences to the patentee. It is thus important to always bear in mind that while the claims are drafted *first* and at that stage may provide the protection needed, it is important to recognize that the scope of protection is also to a great extent dependent upon the *specification* which could damage the *in vacuo* interpretation of the claims.

The primacy of the claims to define the invention is explained by Judge Bryson in the *Phillips* case:

“[The principle that the claims define the invention] has been recognized since at least 1836, when Congress first required that the specification include a portion in which the inventor ‘shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery.’ Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119. In the following years, the Supreme Court made clear that the claims are ‘of primary importance, in the effort to ascertain precisely what it is that is patented.’ *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876). Because the patentee is required to ‘define precisely what his invention is,’ the Court explained, it is ‘unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.’ *White v. Dunbar*, 119 U.S. 47, 52 (1886); see also *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) (‘the claims measure the invention’); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 358 (1895) (‘if we once begin to include elements not mentioned in the claim, in order to limit such claim ..., we should never know where to stop’); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) (‘the claims made in the patent are the sole measure of the grant’).”

Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)(Bryson, J.). Having noted the primacy of the claims to interpret the scope of protection, the court explains the subsidiary role of the specification as a complement to the claim wording:

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The role of the specification in claim construction has been an issue in patent law decisions in this country for nearly two centuries. We addressed the relationship between the specification and the claims at some length in our en banc opinion in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370 (1996). We again summarized the applicable principles in *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed.Cir.1996), and more recently in *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed.Cir.2004). What we said in those cases bears restating, for the basic principles of claim construction outlined there are still applicable, and we reaffirm them today. We have also previously considered the use of dictionaries in claim construction. What we have said in that regard requires clarification.

A

It is a "bedrock principle" of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Innova*, 381 F.3d at 1115; *see also Vitronics*, 90 F.3d at 1582 ("we look to the words of the claims themselves... to define the scope of the patented invention"); *Markman*, 52 F.3d at 980 ("The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims."). That principle has been recognized since at least 1836, when Congress first required that the specification include a portion in which the inventor "shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery." Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119. In the following years, the Supreme Court made clear that the claims are "of primary importance, in the effort to ascertain precisely what it is that is patented." *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876). Because the patentee is required to "define precisely what his invention is," the Court explained, it is "unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *White v. Dunbar*, 119 U.S. 47, 52 (1886); *see also Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) ("the claims measure the invention"); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 (1895) ("if we once begin to include elements not mentioned in the claim, in order to limit such claim ..., we should never know where to stop"); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) ("the claims made in the patent are the sole measure of the grant"). * * *

* * *

Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Innova*, 381 F.3d at 1116. Those sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of

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the art." *Id.*; see also *Gemstar-TV Guide Int'l, Inc. v. Int'l Trade Comm'n*, 383 F.3d 1352, 1364 (Fed.Cir.2004); *Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 979-80.

* * *

[C]laims "must be read in view of the specification, of which they are a part." *Id.* at 979. As we stated in *Vitronics*, the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." 90 F.3d at 1582.

This court and its predecessors have long emphasized the importance of the specification in claim construction. In *Autogiro Co. of America v. United States*, 384 F.2d 391, 397-98 (Ct. Cl. 1967), the Court of Claims characterized the specification as "a concordance for the claims," based on the statutory requirement that the specification "describe the manner and process of making and using" the patented invention. The Court of Customs and Patent Appeals made a similar point. See *In re Fout*, 675 F.2d 297, 300 (CCPA 1982) ("Claims must always be read in light of the specification. Here, the specification makes plain what the appellants did and did not invent . . .").

Shortly after the creation of this court, Judge Rich wrote that "[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). On numerous occasions since then, we have reaffirmed that point, stating that "[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history." *Multiform Desiccants*, 133 F.3d at 1478; *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed.Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."); see also, e.g., *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir.2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed.Cir.2003) ("[T]he best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.>").

That principle has a long pedigree in Supreme Court decisions as well. See *Hogg v. Emerson*, 47 U.S. (6 How.) 437, 482 (1848) (the specification is a "component part of the patent" and "is as much to be considered with the [letters patent] in construing them, as any paper referred to in a deed or other contract"); *Bates v. Coe*, 98 U.S. 31, 38 (1878) ("in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims"); *White v. Dunbar*, 119 U.S. 47, 51 (1886) (specification is appropriately resorted to "for the purpose of better understanding the meaning of the claim"); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217(1940) ("The claims of a patent are always to be read or interpreted in

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light of its specifications."); *United States v. Adams*, 383 U.S. 39, 49 (1966) ("[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.").

The importance of the specification in claim construction derives from its statutory role. The close kinship between the written description and the claims is enforced by the statutory requirement that the specification describe the claimed invention in "full, clear, concise, and exact terms." 35 U.S.C. § 112, para. 1; see *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed.Cir.2001) ("The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose."); see also *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996) ("[A claim] term can be defined only in a way that comports with the instrument as a whole."). In light of the statutory directive that the inventor provide a "full" and "exact" description of the claimed invention, the specification necessarily informs the proper construction of the claims. See *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed.Cir. 2003) ("A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.") (citations omitted). In *Renishaw*, this court summarized that point succinctly:

"Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction."

158 F.3d at 1250 (citations omitted).

*** [T]he specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the *inventor's intention, as expressed in the specification, is regarded as dispositive*. See *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed.Cir.2001).

§ 2[e][1] Drafting the Claims First, the Specification Second

For offensive patent protection, particularly for generic protection, the only realistic way to draft a patent application is to start with the claims. Yet, the point appears to be controversial within many organizations. As evidence of the variety of opinions on this subject, a lead instructor of the patent drafting course of the Practising Law Institute acknowledges that "[o]ften times a patent attorney *** will start with drafting a set of claims", but then says that "[t]here is nothing wrong with starting with the claims, and there is nothing wrong with starting with the written

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description, it is a matter of preference really. * * * I always start with the written description [] because I want to be able to have as thorough and complete a description of the invention in writing as possible. Then I go to work on the claims.” Gene Quinn, *Patent Application Costs: You Get What You Pay For*, IPWatchdog.com (January 7, 2011).

To be sure, if the applicant is only concerned with narrow protection – either offensive, defensive or both – to cover *only* a specifically disclosed embodiment, then there is often no damage done by a “specification first-claims second” approach. But, as stated by the late Giles Sutherland Rich, “the name of the game is the claim.” Giles S. Rich, *The Extent of the Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990).

The late Circuit Judge Giles S. Rich explained the purpose of patent claim construction as complementary and necessary to claim drafting:

“What do we construe claims for, anyway? To find out what the inventor(s) invented? Hardly! Claims are frequently a far cry from what the inventor invented. In a suit, claims are construed to find out what the patentee can exclude the defendant from doing. CLAIMS ARE CONSTRUED TO DETERMINE THE SCOPE OF THE RIGHT TO EXCLUDE, regardless of what the inventor invented. I submit that that is the sole function of patent claims. I think this truism ought to be promoted in every seminar on the subject of claims.... Tell [readers] to stop talking about claims defining the invention. It's a bad habit. And it seems to be almost universal.”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.01[C] (Wolters Kluwer 2016)(quoting Janice M. Mueller, *A Rich Legacy*, 81 J. PAT. & TRADEMARK OFF. SOC'Y 755, 758-759 (1999), quoting remarks of Judge Giles S. Rich).

Claims do *not* describe the invention but instead define the periphery of protection and, above all, the claims do not explain how an invention works. This fundamental understanding of the claims is not always appreciated by the courts.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.01[C] n.14 (Wolters Kluwer 2016)(quoting *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010) (‘[The c]laims *** explain the basic concept of hedging, or protecting against risk’).

Claim drafting is the first and most important task of the patent draftsman where the objective is to obtain a patent with offensive rights. This is true even where narrow protection is sought because although broad claims may not be important in such a case, the patent is valueless if the claims are invalid. (If the purpose of the patent application is entirely *defensive*, this is a different story: Here, it is a specific disclosure of the “cook book” example that is the starting point to create the defensive right, whereas claims are at best secondarily important for that *defensive* right.)

Once the inventor or patent liaison has provided a “cook book” example of the preferred embodiment, *see* § 9, “Cook Book” Text of the Preferred Embodiment, and the best prior art has been ascertained as best possible, *see* § 10, Prior Art, the first step for any *offensive* patent application is the drafting of the claims.

Clearly, whenever gaining an *offensive* patent right beyond the scope of the examples is the primary object of an application filing it is necessarily imperative to start the drafting process with the claims.

The “specification first-claims second” approach overlooks the fact that drafting claims to capture what is disclosed in the specification may lead to either invalidity of the generic claim based upon failure of “possession” of the generic invention or, more frequently, a narrowed claim construction because only one specific embodiment is exemplified. *See* § 19, *Simplicity, Key to Supporting the Claimed Invention* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315-16 (Fed. Cir. 2005)(en banc)(Bryson, J.)).

The issue with “possession” of a generic invention with only narrow exemplification may be called the “Ariad problem.” *See* §7[f], *Generic Support for an “Unpredictable” Ariad Invention* (discussing *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336 (Fed. Cir. 2010) (en banc)). “To satisfy the written description requirement, ‘the applicant must ‘convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention,’ and demonstrate that *by disclosure* in the specification of the patent.’ *Carnegie Mellon Univ. v. Hoffmann–La Roche Inc.*, 541 F.3d 1115, 1122 (Fed.Cir.2008) (quoting *Vas–Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64

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(Fed.Cir.1991)).” *Id.* (quoting *Novozymes v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013)(Schall, J.)(emphasis added). *See also Abbvie Deutschland GmbH & Co., KG v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1299 (Fed. Cir. 2014)(Lourie, J.); *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1190-91 (Fed. Cir. 2014)(Lourie, J.).

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

§ 2[e][1][A] Specification Complements Previously Drafted Claims

“[T]he claim requirement presupposes that a patent applicant defines his invention in the claims, not in the specification.” *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052 (Fed.Cir. 2002) (en banc).

The role of the specification is clearly *in support of* the claims and should always be drafted *after* the claims whenever offensive protection is sought that goes beyond the literally disclosed embodiments. *See* § 19, *Simplicity, Key to Supporting the Claimed Invention*, and particularly § 19[a], *Specification is a Critical Complement to Claim Drafting*.

§ 2[e][1][B] Specification Represents the “Inventor’s View”

Where the specification has been drafted first, there are bound to be inconsistencies between what the patent attorney says in the claims and what “the inventor” has said in the specification that he “actually invented”. Indeed, there is a rich body of case law where the Federal Circuit looks to the specification to see what the inventor “actually invented”. In an era of increased focus on claim definiteness in the wake of *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), any inconsistencies between the claims and the specification can only harm the scope of protection, even if the claims are sustained as valid.

In case of a conflict between the claims and the specification, the trend of the case law is to look to the “inventor’s” thoughts in the specification: “In [instances of an intentional disclaimer or disavowal stated in the specification], the

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inventor has dictated the correct claim scope, and *the inventor's intention*, as expressed in the specification, is regarded as dispositive.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed.Cir.2005) (en banc)(Bryson, J.)(citing *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed.Cir.2001))(emphasis added). *See also Retractable Technologies, Inc. v. Becton, Dickinson & Co.*, 659 F.3d 1369, 1305 (Fed. Cir. 2011)(Lourie, J.)(Claim construction here is “is required to tether the claims to what the specifications indicate the inventor *actually invented*.”)(emphasis added); *Markem–image Corp. v. Zipher Ltd.*, 657 F.3d 1293, 1301 (Fed. Cir. 2011)(Newman, J., dissenting)(“[T]he specification shows what the inventor actually invented. *See Bass Pro Trademarks v. Cabela's Inc.*, 485 F.3d 1364, 1369 (Fed.Cir.2007) (‘Claims are construed to implement the invention described in the specification.’)”).

§ 2[e][1][C] Narrowly or Broadly Drafted Exemplary Support

\The inventor or patent liaison or other person putting together exemplary disclosure to support future claims is in a lose-lose situation if he goes beyond drafting the best example to support whatever claims the patent attorney may draft. If he does *not* supplement the disclosure with alternative embodiments, the existence of only a single embodiment in the specification may lead to a narrowed interpretation or, even worse, invalidity under 35 USC § 112(a): “In order to meet the written description requirement of 35 U.S.C. § 112, the specification ‘must describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed.’” *Honeywell Intern., Inc. v. United States*, 596 F.3d 800, 816 (Fed. Cir. 2010)(Mayer, J., dissenting in part)(*quoting LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed.Cir.2005)). If he *does* provide plural embodiments to show a wide range of equivalency, then if the prior art is close to the invention, this added matter may help to establish that the invention *as broadly described* may be obvious.

Or, if the claims are limited to exclude what may well be equivalent embodiments, “unclaimed disclosures are dedicated to the public” so the doctrine of equivalents is unavailable to the patentee. *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1051 (Fed.Cir.2002) (en banc).” *Arlington Indus. Inc. v.*

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Bridgeport Fittings Inc., 632 F.3d 1246, 1255 n.2 (Fed. Cir. 2011)(Rader, C.J.), quoting *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1051 (Fed.Cir.2002) (en banc).

Thus, a “specification first-claims second” approach overlooks the fact that drafting claims to capture what is disclosed in the specification may lead to either invalidity of the generic claim based upon failure of “possession” of the generic invention or, more frequently, a narrowed claim construction because only one specific embodiment is exemplified. See § 19, *Simplicity, Key to Supporting the Claimed Invention* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315-16 (Fed. Cir. 2005)(en banc)(Bryson, J.)).

If there are inconsistencies between the claims and the remainder of the specification, this may result in an ambiguous scope of protection which, if not fatal as to validity of the claims, may be fatal in terms of a too narrow scope of protection.

Some opinions have paid lip service to the rule that it is the claims and not the examples that should determine the scope of an invention. In one case the opinion ostensibly adhered to the concept that the claims define the scope of protection but then narrowed the scope of protection because the limited scope of the exemplary support defined a narrower “essence” of the invention. See §8[d], “*Essence*” of the invention (quoting *Secure Web Conference Corp. v. Microsoft*, __ Fed App’x __ (Fed. Cir. 2016)(Stoll, J.)) (“We are mindful not to limit claims to preferred embodiments, but in this case, *** [the drawings with limited focus on one embodiment] depict the essence of the claimed invention rather than a preferred embodiment.”)

§ 2[e][2] Presenting Numerous Claims should not be a Goal

A central theme of this monograph is that the patent application should present a simple, easy to examine set of claims which is best facilitated by having as many claims as *necessary* to represent the business interests of the applicant. A simple approach gives the Examiner sufficient time to do a complete examination.

§ 2[e][2][A] Practical, Minimalist Claim Approach

It is obvious that one should file as many claims as *necessary* to meet the *business needs* of the applicant, which is a dominant theme of this monograph, but otherwise the number of claims should be kept to the minimum. These points are dealt with elsewhere. The greater the number of claims the greater the likelihood of difficulties one has in drafting claims that particularly point out and distinction claim the invention. See § 11[a][3], *A Simple, Easy to Examine Patent Application*; § 11[a][7], *Minimum Number of Claims*; § 13[e][3] *A Reasonable Number of Subclaims*.

§ 2[e][2][B] “Undue Multiplicity” as Basis for Rejection

Filing too many claims should be avoided.

There are many applicants who routinely file twenty claims in a patent application, simply because there is no fee penalty for filing as many claims as an applicant wants, up to twenty, without an additional filing fee. Recently the most popular patent blog trumpeted a “top ten” list of the best patent firms judged by how many independent claims were obtained in their patents versus the number of originally filed claims. See the IPWatchdog Claims Study”, James Cosgrove, *The Top 10 Patent Law Firms that Lose the Fewest Independent Claims*, IPWatchdog (October 20, 2015). Responsive to this study, IPWatchdog posted various comments echoing the *ex parte* practitioner viewpoint that focused upon the number of claims presented in an application : “Some clients have large budgets that support paying a whole lot of independent-claim fees. If they choose to start with many claims and then whittle them down during examination, that’s a valid client strategy. *** *Law firms* have nothing to do with the strategies, budgets, and priorities of different applicants. *** Chemical patents tend to involve a lot of independent claims for distinct species.” *Id.* (quoting comment of David Stein (October 20, 2015)). Earlier, a lead instructor of the Practising Law Institute’s patent drafting course explained that “investors love patents. Sophisticated investors know that if you have one patent you can get more from the disclosure by filing continuations and continuing to milk the disclosure for as many claims as you can eventually get the Patent Office to issue.” Gene Quinn, *Preparing for Future*

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Litigation Before Your Patent Issues, IPWatchdog.com (October 26, 2010). One commentator said that an “application should be “replete with as many claims as we think we might be able to get away with.” Stan E. Delo, *Comment on IPWatchdog* (January 8, 2011).

The Federal Circuit in *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, ___ F.3d ___ (Fed. Cir. Mar. 23, 2016)(Moore, J.), following *Hyatt v. U.S. Patent & Trademark Office*, 797 F.3d 1374, 1376 (Fed. Cir. 2015), has implicitly reiterated its support for the right of the Patent Office to limit the number of claims under consideration. There clearly should be no hard and fast numerical limit on the number of claims that the applicant may present to an invention. But, to the extent that there are, say, hundreds of claims, the Office has a right *and a duty* to police any evident abuse of the system with the tools at hand, particularly a rejection based upon “undue multiplicity”.

Historically, the Office has had the power to deny merits consideration to huge numbers of claims by rejection of *all* claims on the basis of indefiniteness under 35 USC § 112, ¶ 2, keyed to “undue multiplicity” where the “degree of repetition and multiplicity [] beclouds definition [of the invention] in a maze of confusion.” *In re Flint*, 411 F.2d 1353, 1357 (CCPA 1969)(Almond, J.)(*dictum*) (quoting *In re Chandler*, 319 F.2d 211, 225 (CCPA 1963)). See also *In re Clark*, 97 F.2d 628, 631 (CCPA 1938)(citing Robinson on Patents, Vol. 2, § 529; *In re McCullough*, 1927 C.D. 12)(describing the benefits of multiple claims with the proviso that “[i]f by [presenting multiple claims the inventor] more clearly defines his invention and *does not by undue multiplicity obscure the same*, he is acting within the rights granted and the duties required by the patent laws.”)(emphasis added).

Where the number of claims presented is *unreasonable*, the Office should issue an order demanding that the patentee provide a claim chart and explanation as to *why* each and every claim is necessary to protect its invention. Additionally, the Office should provisionally select the number of claims that it considers reasonable and require the patentee to nominate no more than that number of claims for further prosecution (if an undue multiplicity rejection is made).

If the applicant maintains more than the stated number of claims and if his answer as to the number of claims is unsatisfactory, then the Office should, without more, reject *all claims* beyond the elected claims on the basis of “undue multiplicity”.

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The “undue multiplicity” rejection has a long history at the Office, but by the late 1960’s this ground of rejection was being abused by some Examiners. Thus, more than forty year ago, the Patent Office denied merits examination to applications with a quite limited number of claims which led to a fact-based reversal of an undue multiplicity rejection in *In re Wakefield*, 422 F.2d 897 (CCPA 1970), where the few claims presented left a picture where the subject matter was understandable. Since *Wakefield*, it has been a general policy of the Office to refrain from making undue multiplicity rejections.

The Office should reconsider *Wakefield* and the possibility in cases of too many claims of making a *requirement* for a claims chart that points out precisely the patentable differences between the claims and why so many claims are necessary. Failure to comply with the requirement leads to a holding of abandonment of the application. The judicial standard of review at the District Court and thence on appeal to the Federal Circuit is “[u]nder the APA, [where] courts ‘hold unlawful and set aside agency action ... found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.’” *Star Fruits S.N.C. v. United States*, 393 F.3d 1277, 1282 (Fed. Cir. 2005).

Unlike the situation at the time of *Wakefield* where there was an essentially *de novo* review by the CCPA of all Patent Office rejections, today there is a substantial evidence test that would govern any appeal from an undue multiplicity rejection: The applicant would have to demonstrate that there was an absence of substantial evidence for the undue multiplicity rejection in order to prevail. Unlike a *rejection* of claims where the patent applicant can go back and forth with the examiner through a request for reconsideration to the examiner and then an appeal, in the case of a *requirement* of this nature, the only avenue for redress is through a petition to the Director.

Whether an “undue multiplicity” rejection is open to the Office is unclear as seen from *Tafas v. Doll*, 559 F.3d 1345 (Fed. Cir. 2009)(Prost, J.), *appeal dismissed*, *Tafas v. Kappos*, 586 F.3d 1369 (Fed. Cir. 2009). There, the Court said:

“Subject to the arguable requirement that an applicant cannot ‘obscure’ his invention by ‘undue multiplicity,’ our precedent does not suggest that there is a limit on the number of claims. *In re Clark*, 97 F.2d 628, 631 (CCPA 1938); see also *In re Wakefield*, 422 F.2d 897, 900 (CCPA 1970) (‘[A]n applicant should be allowed to determine the necessary number and scope of his claims....’); *In re Chandler*, 319 F.2d 211, 225 (CCPA 1963) (‘[A]pplicants should be allowed reasonable latitude in stating their claims in regard to number and phraseology

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employed. The right of applicants to freedom of choice in selecting phraseology which truly points out and defines their inventions should not be abridged.’). However, we need not decide whether the USPTO may impose a limit on the number of claims an applicant can pursue[.]”).

Tafas v. Doll, 559 F.3d at 1363.

Case law going beyond *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, ___ F.3d ___ (Fed. Cir. Mar. 23, 2016)(Moore, J.), and *Hyatt v. U.S. Patent & Trademark Office*, 797 F.3d 1374, 1376 (Fed. Cir. 2015), also supports the right of the Office to limit consideration of claims to a reasonable number.

While the predecessor Court of Customs and Patent Appeals at the time of *Wakefield* had a decidedly pro-applicant approach there is today a far more balanced judiciary which has itself tackled the problem of patents with too many claims. The “representative claims” approach in *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1312 (Fed. Cir. 2011), perhaps best manifests this attitudinal evolution at the Federal Circuit:

In the *Katz* case, the Federal Circuit approved a “Representative Claims” approach that puts the burden on the patentee to designate a limited number of claims for a litigation. The Patent Office certainly has the rulemaking power to use the *Katz* solution in Inter Partes Review, as long as it provides flexibility to consider additional claims that “present[] unique issues.” *Katz*, 639 F.3d at 1312.

As the Court noted in *Katz*:

“We reject [the patentee]’s due process argument. [The patentee] has not shown that the claim selection procedure the district court employed was inadequate to protect [the patentee]’s rights with respect to the unasserted claims. [We assume without deciding that [the patentee] has a separate property right in each claim of each asserted patent.] To make out a due process claim, [the patentee] must demonstrate that the district court’s claim selection procedure risked erroneously depriving it of its rights and that the risk outweighed the added costs associated with a substitute procedure. *See Mathews v. Eldridge*, 424 U.S. 319, 335 (1976).

“[The patentee] argues that it was improper for the district court to impose any burden on it to make a showing that any of the unselected claims raised issues of infringement or invalidity that were not duplicative of the issues raised by the selected claims. According to [the patentee], the court should have required the appellees to bear the burden to show that issues were duplicative; absent such a

showing, [the patentee] contends, the unasserted claims should have been expressly excluded from the judgments entered in this case.

“* * * Burden allocation... is a tool ‘intended progressively to sharpen the inquiry into the elusive factual question[s]’ in a case. *See Tex. Dep't of Cmty. Affairs v. Burdine*, 450 U.S. 248, 255 n. 8 (1981). When the claimant is in the best position to narrow the dispute, allocating the production burden to the claimant will benefit the decision-making process and therefore will not offend due process unless the burden allocation unfairly prejudices the claimant's opportunity to present its claim.”

§ 2[e][2][C] *Manual* Support for “Undue Multiplicity” as Basis for Rejection

Despite the apparent reluctance of the Patent Office to reject claims on the basis of “undue multiplicity”, the *Manual* sets forth the apparent viability of a such a rejection:

“Where, in view of the nature and scope of applicant’s invention, applicant presents an unreasonable number of claims which are repetitious and multiplied, the net result of which is to confuse rather than to clarify, a rejection on undue multiplicity based on 35 U.S.C. 112(b) ... may be appropriate. As noted by the court in *In re Chandler*, 319 F.2d 211, 225 (CCPA 1963), “applicants should be allowed reasonable latitude in stating their claims in regard to number and phraseology employed. The right of applicants to freedom of choice in selecting phraseology which truly points out and defines their inventions should not be abridged. Such latitude, however, should not be extended to sanction that degree of repetition and multiplicity which beclouds definition in a maze of confusion. The rule of reason should be practiced and applied on the basis of the relevant facts and circumstances in each individual case.” See also *In re Flint*, 411 F.2d 1353, 1357 (CCPA 1969). Undue multiplicity rejections based on 35 U.S.C. 112(b) ... should be applied judiciously and should be rare.

“* * *. If applicant [does not comply with a] telephone request, an undue multiplicity rejection of all the claims based on 35 U.S.C. 112(b) ... should be made in the next Office action. Applicant’s reply must include a selection of claims for purpose of examination, the number of which may not be greater than the number specified by the examiner. In response to applicant’s reply, if the examiner adheres to the undue multiplicity rejection, it should be repeated and the selected claims will be examined on the merits.”

MPEP § 2173.05(n), *Multiplicity* (R-11)(2013).

§ 2[e][3] Disclosure vs. Claims: The Defensive Patent Application

A great deal of mythology exists whether the disclosure or claiming is the priority in patent drafting. The answer depends on the business objective. Certainly, claiming is paramount where *offensive* patent rights are concerned. If, however, the patent right is to be entirely *defensive* in nature, under the *Leahy Smith America Invents Act* with its key first-to-file component, defensive rights depend in the first instance on creating a *specific* disclosure corresponding to the commercial embodiment that will anticipate any claim reading on that specific disclosure. See § 9, “Cook Book” *Text of the Preferred Embodiment*. For broad defensive protection a broad *claim* is not the primary answer; rather, presentation of fully disclosed plural embodiments is the better answer. See § 9[a], *Plural Embodiments for Broad Defensive Protection*. Some of the examples may well be “prophetic”. See § 9[c], *Prophetic, Patent-Defeating Examples*.

§ 2[e][4] “Clear Boundaries”, Emphasis of Modern Case Law

As explained by Justice Ginsburg in the *Nautilus* case, the patent law is “authorized by the Constitution ‘[t]o promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries,’ Art. I, §8, cl. 8, Congress has enacted patent laws rewarding inventors with a limited monopoly. ‘Th[at] monopoly is a property right,’ and ‘like any property right, its boundaries should be clear.’ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U. S. 722, 730 (2002). See also *Markman v. Westview Instruments, Inc.*, 517 U. S. 370, 373 (1996) (‘It has long been understood that a patent must describe the exact scope of an invention and its manufacture . . .’).” *Nautilus, Inc. v. Biosig Instruments, Inc.*, __ U.S. __, __ (2014).

§ 2[e][5] Early Allowance Best Helps the Inventor

The best patent application is one with the minimum number of claims (but as many claims as necessary to support the business interests of the applicant) *free from formal errors* and which can be allowed with the minimum amount of prosecution history. Provided all issues are dealt with in a clean prosecution, the earlier the allowance the better the prosecution history to support the scope of the claims and shield the patent from invalidity attacks.

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Even if a patent application has claims that are allowed *without* amendment, modern case law shows that if there is a contentious prosecution history where the applicant has to make arguments distinguishing his invention from the prior art this may narrow the effective scope of prosecution. The fact that claims are allowed without amendment does not necessarily mean that the claims are open to an interpretation beyond their literal wording. To the contrary, and as seen from *Festo*, prosecution history estoppel to bar broadening of the scope of protection beyond the literal wording of the claims is possible even *without* an amendment, based upon arguments to establish patentability of the invention:

“Arguments made voluntarily during prosecution may give rise to prosecution history estoppel if they evidence a surrender of subject matter. E.g., *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1359-60 (Fed. Cir. 2000) (concluding that ‘KCJ’s statements [during prosecution] reflect a clear and unmistakable surrender’ of subject matter that cannot be reclaimed through the doctrine of equivalents); *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1252-53 (Fed. Cir. 2000) (finding that ‘through [Bayer’s] statements to the PTO and the declarations it filed, Bayer made statements of clear and unmistakable surrender of subject matter’ which it could not recapture through the doctrine of equivalents); *Pharmacia & Upjohn [Co. v. Mylan Pharms., Inc.]*, 170 F.3d 1373, 1377 (Fed. Cir. 1999) (‘A number of activities during prosecution may give rise to prosecution history estoppel, . . . including arguments made to obtain allowance of the claims at issue.’ (citation omitted)); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995) (‘Clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may . . . create an estoppel.’); *Texas Instruments Inc. v. United States Int’l Trade Comm’n*, 988 F.2d 1165, 1174 (Fed. Cir. 1993) (holding that arguments made during prosecution that emphasized one feature of the invention estopped the patent holder from asserting that a device lacking that feature infringed the patent under the doctrine of equivalents).” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 598 (Fed. Cir. 2000)(en banc), *aff’d*, 535 U.S. 722 (2002).

Yet, it remains a common theme of discussion that somehow a complex prosecution history *favors* the invention. Thus, one participant in a discussion group on IPWatchdog.com said that “[a] hard fought prosecution is a much better determiner of end value to me than a clean one. Clean just means you started too narrow ***.” IPWatchdog Claims Study”, James Cosgrove, *The Top 10 Patent Law Firms that Lose the Fewest Independent Claims*, IPWatchdog (October 20, 2015) (comment of Michael Gulliford (October 22, 2016). Another participant in the discussion “agree[d] with Michael Guilford. It’s easy to write narrow claims that get allowed quickly, it’s just that they tend not to be of much value. So I’m not sure that

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his analysis provides a good metric of overall success for a patent firm.” *Id.*
(comment of Saul Zackson (October 24, 2015).

§ 2[e][6] When “Black” is “White”, Avoiding a Disclaimer

When is a “black” Widget element in a patent claim actually mean a “white” Widget, from the standpoint of scope of protection in the context of patent infringement? A good reason *not* to include in the specification a *Background of the Invention* or “objects” or other nonstatutory bells and whistles is that if these nonstatutory elements create a definition of the invention, terms that should have one meaning to a worker skilled in the art may be twisted to reach a contrary meaning.

Even in a perfectly drafted patent application including claims with clear wording supported by a specification that defines a Widget as being “black” can well be spoiled by a careless prosecution where there is an admission to avoid the prior art that the Widget is “white”: “The ordinary and customary meaning of a claim term may be narrowed in the scenario where statements made by the patent applicant, either in the specification when filed or thereafter during prosecution in the USPTO, amount to a disclaimer or disavowal of claim scope. The Federal Circuit requires that if they are to be effective in limiting claim scope, such disclaimers or disavowals must be clear. The clarity requirement ensures that the disavowal of claim scope was intentional on the part of the patent applicant.” Janice M. Mueller, *MUELLER ON PATENT LAW*, Vol. 2, § 15.05 (Wolters Kluwer 2016)

§ 3 The Late Stage Continuing Application

Years after the first filing when an impasse has been reached with the Examiner, now is a time for out of the box, fresh thinking to create claims – either original or new – that will pass patentability muster.

There are no fixed rules for such a late stage filing, but there are several factors that should be taken into consideration.

§ 3[a] Earliest Refiling to Possibly Avoid a Statutory Bar

It is a myth that a continuing application with new matter can be filed at any time. The filing should ideally take place as soon as possible, prior to the creation of an intervening statutory bar. For example, if an application is refiled more than thirty months from the priority date, the automatic publication of the patent

application 18 months from the priority date will automatically be prior art even prior to the *Leahy Smith America Invents Act* as a statutory bar publication under 35 USC § 102(b) against claims not entitled to priority to the earlier application.

Under the new law there are more situations of prior art such as an overseas public use that will be difficult to ascertain, but where caution must be exercised to avoid a statutory bar.

§ 3[b] Dealing with the Possibility of Intervening Prior Art

The first rule in filing a continuing application – whether labeled as a “continuation”, “continuation-in-part” or “divisional” – is to deal with the very real prospect that there is some intervening publication or other prior art event that will defeat a new claim, unless that new claim is entitled to priority to the original application.

In some instances, it is manifestly obvious that there *is* an intervening prior art event which will defeat a claim that is not entitled to priority: In virtually every case that is refiled more than thirty months from the priority date there *will* be an intervening statutory bar publication to bar claims not entitled to priority.

§ 3[c] New *and* Old Claims in a Continuing Application

Consider the hypothetical situation where the applicant has discovered a new Framoyl alloy which contains from 0.2 to 0.8 percent ferric oxide, and the applicant now wishes to claim instead a range of from 0.2 to 0.9 percent ferric oxide.

The *correct* way to refile the application is to have claims and matching disclosure in the continuing application as follows:

1. A Framoyl alloy containing from 0.2 to 0.9 percent ferric oxide.
2. A Framoyl alloy of claim 1 having from 0.2 to 0.8 percent ferric oxide.

With the above couplet of claims, in a worst case scenario where it is discovered that there *is* an intervening publication that is prior art, this means that claim 1 is invalid – but claim 2, fully supported in the original application – survives.

If, instead, the applicant had changed the range in his refiling to only show the range of from 0.2 to 0.9 percent ferric oxide, then that claim would be invalid and there would be no written description basis for the defense line claim of 0.2 to 0.8 percent ferric oxide.

§ 3[d] A Few, Finely Focused Claims

The patent draftsman should present a continuing case in a manner which could ultimately be presented on appeal to the Patent Trial and Appeal Board or, if necessary, to the Federal Circuit.

Appellate presentation necessarily means a focused issue where *one* claim presents the entire story for the patent applicant. (If, say, five claims are presented on appeal the applicant can elect to argue only for claim, and let the remaining claims stand or fall keyed to claim 1.)

If a great deal of time has past since the original filing date, now the commercial focus of the invention can be more precisely pinpointed. A large generic scope of protection may no longer be needed. If there is a specific commercial product that is the center of attention, consideration may well be given to claiming *only* that product, if supported. (Or, if the specific product is not supported by naming or an example, the narrowest supported generic claim should be presented which embraces the product.)

§ 3[e] Identical Supporting Disclosure should be Maintained

To minimize the consequences of the possibility that an intervening prior art publication will be found, *all* supporting disclosure from the original filing should be carried forward *verbatim* into the continuing application – together with any added material. Thus, while new material may be added, nothing from the original specification should be deleted.

It should be recognized that *any change* in the scope of protection could be problematic, even if the disclosure is *narrowed*. See § 11[d][1], *Narrowed Range Barred by Intervening Disclosure* (discussing the application of *In re Ruscetta*, 255 F.2d 687 (CCPA 1958), to narrowing in *In re Lukach*, 442 F.2d 967, 968-70 (CCPA 1971)(Lane, J.)).

§ 3[f] Clear Demarcation of New vs. Old Text

Particularly where there *is* an intervening prior art publication, a preferred method of presentation that draws a sharp line of demarcation is to use headings such as:

Summary of the Invention

Detailed Description of the Invention

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Where no new examples are added, all changed text should appear within the relatively short *Summary of the Invention* while the entire *Detailed Description of the Invention* should be a *verbatim* copy of the same text from the original application. The applicant can assure the Examiner in his Information Disclosure Statement that the only changed wording in the continuing application appears in the *Summary of the Invention* and the claims. This makes the task of examination much simpler than otherwise would be the case, so the examiner does not need to parse every word appearing in the *Detailed Description of the Invention*.

§ 3[g] A Tailored “Background of the Invention”

A *Background of the Invention* should rarely, if ever, be filed as part of an original application. This is in part due to the uncertainty as to the scope of coverage that ultimately will be needed and the uncertainty of the state of the art at this early date. Additionally, the *Background...* may be basis for a narrowed interpretation of patent claims or may even present an admission as to a “problem” that may be an admission of motivation to make the invention under *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

The situation is entirely changed where a continuing application is filed many years after the original filing. Here, a one or two paragraph *Background of the Invention* may very well provide the reader – the judge, for example – with a good introduction to the invention.

§ 3[h] Adding Disclosure to Support Nonobviousness

It is, of course, well settled that insufficient disclosure in a parent case in terms of 35 USC § 112(a) cannot be remedied by adding disclosure without loss of the parent filing date. It is yet another matter where the original disclosure *does* meet 35 USC § 112(a) requirements (and is maintained in the continuing application) but *additional* disclosure is added to support a showing of nonobviousness.

For example, if a claimed compound is distinguished over the prior art because it alone is an anti-cancer drug whereas the prior art does not have this utility, the anti-cancer utility can be included in the continuing application to show nonobviousness. (This assumes that the original disclosure, e.g., as an anti-fungal agent, is *maintained* as well. See *In re Kirchner*, 305 F.2d 897 (CCPA 1962)(Rich, J.); *In re Davies*, 475 F.2d 667, 672 (CCPA 1973).)



§ 4. Priority Keyed to a Parent Disclosure

The majority of all patents granted today are based upon one or more earlier priority applications which may be either a regular (non-provisional), provisional or foreign application. There is one common standard for priority based on all such applications.

The statutory scheme for priority is set forth in the Appendix: *The Leahy Smith America Invents Act Of 2011*, which includes the text of 35 USC § 119 (priority based upon a parent United States provisional application or a Paris Convention based foreign application) and § 120 (continuation, continuation-in-part and divisional priority)).

The statutory test for *priority* based upon an earlier application (whether it is a domestic provisional application, a parent of a continuation, continuation-in-part or divisional) is found in this section. Prior art statutory provisions are included at the end of § 1[a], *First-to-File Statutory Scheme*, which includes a complete definition of “prior art” that is found in 35 USC § 102, as well as the current statutory test for “inventiveness” or, to use the statutory wording, nonobviousness under 35 USC § 103.

One of the most difficult areas of patent law and practice involves new applications and crafting claims to benefit from the earlier disclosure of a parent case. In the first instance, this depends upon how the original, parent application is drafted. A skimpy provisional application often fails to provide basis for claims introduced for the first time in a later application. The *Steenbock* situation from the first half of the twentieth century remains a puzzle today: A parent application discloses a generic invention including species “A” and “B” but not “C”; a continuation-in-part application is filed claiming with a genus claiming the same species *also* reading on species “C”: How is it that a foreign counterpart of the parent filed a year before the continuation-in-part but *identical* to the parent disclosure constitutes a statutory bar against the new generic claim when the prior art relied upon (species “A” or “B” in the intervening publication) is identical to the species in the priority application? . While this book focuses upon *first filings* without many of the frills normally found in a patent application, different ground rules apply for late stage continuing applications.

As an introduction to consideration of priority based upon the Paris Convention, it is perhaps useful to look at the mythology relating to Paris Convention priority in the United States:

TOP TEN PARIS CONVENTION PRIORITY RIGHT MYTHS

Myth 1. “The Priority Right is acknowledged; thus, my priority is approved.”

A *claim* of priority is acknowledged on the face of the patent when there is a *claim* to priority and the necessary certified copy of the priority document. This does *not* mean that *substantive* priority has been granted; this only means that the *claim* of priority is acknowledged.

The only time that priority is *examined* is where priority is necessary, e.g., to overcome prior art with a date before the U.S. actual filing date but after the priority date. This is explained in the *Manual of Patent Examining Procedure*, MPEP § 216, *Entitlement to Priority* (R-07)(2015): “When the claim to priority and the certified copy of the foreign application are received while the application is pending before the examiner, *the examiner generally makes no examination of the papers* except to see that they contain no obvious formal defects ***.” (emphasis added). There normally is *no examination* of the priority right: “The subject matter of the application is not examined to determine whether the applicant is actually entitled to the benefit of the foreign filing date on the basis of the disclosure thereof. The only times during *ex parte* prosecution that the examiner considers the merits of an applicant’s claim of priority is when a reference is found with an effective date between the date of the foreign filing and the date of filing in the United States and when an interference situation is under consideration.” *Id.*; emphasis added.

Myth 2. “The Paris Convention is the proper test for grant of priority.”

The United States requirement for priority is granted only to claims that find “written description” support under 35 USC § 112(a) in the ‘home country’ priority application document.

Under *Kawai v. Metlesics*, 480 F.2d 880 (CCPA 1973), the priority rules for Paris Convention priority under 35 USC § 119 generally follow the priority rules for domestic priority under 35 USC § 120. “Under [35 USC §] 119, the claims set forth in a United States application are entitled to the benefit of a foreign priority date if the corresponding foreign application supports the claims in the manner required by section 112, ¶ 1.” *In re Gosteli*, 872 F.2d 1008, 1010 (Fed. Cir. 1989)(citations omitted).

Myth 3. “If my ‘home country’ application has a broad disclosure, I will have priority for any claim *within* that broad disclosure.”

A narrowed genus within a broader genus in the priority document is not basis for priority. *In re Lukach*, 442 F.2d 967 (CCPA 1971). “It is now well settled law that disclosure of a species is insufficient to provide descriptive support for a generic or sub-generic claim.” *In re Herschler*, 591 F.2d 693, 696 (CCPA 1979)(citing *In re Ruscetta*, 255 F.2d 687 (CCPA 1958); *Lukach, supra*; *In re Smith*, 458 F.2d 1389 (CCPA 1972)).

Myth 4. “Claim 1” of my U.S. application is *verbatim* identical to my “home country” generic claim, so I can have as many subclaims in the United States application and enjoy a priority right to the home country application.”

This is false. Each claim is judged on an individual basis for priority, so some claims may enjoy priority while other claims may not.

Myth 5. “The Examiner allowed my claims so I clearly do have priority.”

To the extent that the applicant files first in his home country before any “prior art” publication or other activity, and then files within one year in the United States, priority in the past has generally not been an issue: Thus, there is a one year grace period under former 35 USC § 102(b) that excuses intervening acts within this grace period so that *priority has generally not been necessary*. Under the Leahy Smith America Invents Act there is no longer the broad one year grace period: For example, consider the case where on Day (1) the inventor files his home country application in France; on Day (23) he publishes his invention; on Day (125) a third party publishes on an *obvious variation* of the invention; and on Day (365) the applicant files his United States patent application. To the extent that the Day (365) application is *not* entitled to priority as to any of the claims, the Day (125) third party publication to the *obvious variation* is prior art *without regard to any grace period*.

Myth 6. “If two separate foreign priority applications cumulatively support my claims, I am entitled to priority even if, each alone, does not support my claims.”

Priority is judged for each claim based upon whether that claim is supported in a *single priority application*.

Myth 7. “I can claim priority to an application filed by a different inventive entity.”

Where the inventive entity in the United States and in the foreign priority country differ, *even with common ownership*, the Patent Office may challenge priority. (Whether this is justified as a matter of law is a different question.) Thus, the *Manual* states:

“Pursuant to 35 U.S.C. 119(a), the foreign application must have been filed by the same applicant as the applicant in the United States, or by his or her legal representatives or assigns. Consistent with longstanding Office policy, this is interpreted to mean that *the U.S. and foreign applications must name the same inventor or have at least one joint inventor in common*. For example, a right of priority does not exist in the case of an application of sole inventor A in the foreign country and sole inventor B in the United States, even though the two applications may be owned by the same party. The application in the foreign country may have been filed by the assignee, or by the legal representative or agent of the inventor, rather than by the inventor, but in such cases the name of the inventor is usually given in the foreign application on a paper filed therein. Joint inventors A and B in a nonprovisional application filed in the United States Patent and Trademark Office may properly claim the benefit of an application filed in a foreign country by A and another application filed in a foreign country by B, i.e., A and B may each claim the benefit of their foreign filed applications. See MPEP § 602.09.”

MPEP § 213.02, *Formal Requirements Relating to Foreign Priority Application* (R-07)(2015), § II, *The Same Inventor or at Least One Common Joint Inventor* (emphasis added).

Myth 8. “I have a priority right when I file within 12 months of a foreign filing.”

This statement is true only if the U.S. filing is within 12 months of the *first* foreign filing:

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“The 12 months [Paris Convention priority period] is from earliest foreign filing except as provided in 35 U.S.C. 119(c). If an inventor has filed an application in France on October 4, 1981, and an identical application in the United Kingdom on March 3, 1982, and then files in the United States on February 2, 1983, the inventor is not entitled to the right of priority at all; the inventor would not be entitled to the benefit of the date of the French application since this application was filed more than twelve months before the U.S. application, and the inventor would not be entitled to the benefit of the date of the United Kingdom application since this application is not the first one filed. *Ahrens v. Gray*, 1931 C.D. 9 (Bd. App. 1929). If the first foreign application was filed in a country which is not recognized with respect to the right of priority, it is disregarded for this purpose. 35 U.S.C. 119(c) extends the right of priority to “subsequent” foreign applications if one earlier filed had been withdrawn, abandoned, or otherwise disposed of, under certain conditions.”

MPEP § 213.03, *Time for Filing U.S. Nonprovisional Application* (R-07)(2015), § II, *First Foreign Application*

Myth 9. “A second priority application resets the Paris Convention year.”

It is true *under certain circumstances* that if the applicant files a *second*, identical application he may reset the one year period to expire 365 days after the *second* filing. But, there are strict conditions set forth in the Paris Convention to reset the Paris Convention year. This is governed by the Paris Convention, Art. 4C(4):

“A subsequent application concerning the same subject [matter] as a previous first application *** filed in the same country of the Union shall be considered as the first application, of which the filing date shall be the starting point of the period of priority, *if, at the time of filing the subsequent application, the said previous application has been withdrawn, abandoned, or refused, without having been laid open to public inspection and without leaving any rights outstanding, and if it has not yet served as a basis for claiming a right of priority.* The previous application may not thereafter serve as a basis for claiming a right of priority.” (emphasis added).

The Paris Convention provision just quoted is domestically implemented into United States law as 35 USC § 119(c):

“[T]he [priority] right provided in this section may be based upon a subsequent regularly filed application in the same foreign country instead of the first filed foreign application, provided that any foreign application filed prior to such subsequent application has been withdrawn, abandoned, or otherwise disposed of, without having been laid open to public inspection and without leaving any rights outstanding, and has not served, nor thereafter shall serve, as a basis for claiming a right of priority.”

Myth 10. “I do not have to meet Paris Convention requirements to claim priority based upon a second application.”

This is a myth in practice because the Paris Convention is domestically implemented into United States law as 35 USC § 119(c). This domestic law provision conditions priority keyed to a second application “that any foreign application filed prior to such subsequent application has been withdrawn, abandoned, or otherwise disposed of, without having been laid open to public inspection and without leaving any rights outstanding, and has not served, nor thereafter shall serve, as a basis for claiming a right of priority.”

§ 4[a] Identical Substantive Standard for All Varieties of Parent Filings

The identical substantive standard is used to judge whether priority should be granted based upon any form of parent application, whether the parent is a regular (non-provisional) application; a Paris Convention priority application; or a provisional application. *See In re Gosteli*, 872 F.2d 1008 (Fed. Cir. 1989)(Paris Convention priority); *In re Ziegler*, 992 F.2d 1197 (Fed. Cir. 1993)(*id.*); *Kawai v. Metlesics*, 480 F.2d 880, 885-89 (CCPA 1973)(*id.*); *Anderson v. Natta*, 480 F.2d 1392, 1399 (CCPA 1973)(*id.*); *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002)(Michel, J.)(priority based on provisional application).

§ 4[b] Parent Disclosure Key to International Patent Regime Priority

In the international patent regime of the Paris Convention, there is no requirement for priority that the same invention claimed in the later application must also have been *claimed* in the earlier application. It is rather whether the same invention has been *disclosed* in the earlier application that is critical.

That claiming in the earlier application is not required is seen from the domestic statutory scheme that priority may be based on a provisional parent application while there is no requirement that the provisional application contain

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any claim. This is also consistent with the international patent regime where Paris Convention priority is based upon a common *disclosure* in the parent priority application: “Priority may not be refused on the ground that certain elements of the invention for which priority is claimed do not appear among the claims formulated in the [priority] application . . . , provided that the application documents as a whole specifically disclose such elements.” Paris Convention Art. 4H (1967 Stockholm Revision, carrying forward provision first introduced in the 1934 London Revision). As explained in the authoritative treatise penned by the head of BIRPI (the predecessor to WIPO), “[i]t will suffice for the claiming of the right of priority in a subsequent patent application if the elements of the invention for which priority is claimed are specifically disclosed in the documents of the previous application *as a whole* (including the description of the invention, drawings (if any), charts, etc.)” G.H.C. Bodenhausen, *Guide to the Application of the Paris Convention for the Protection of Industrial Property as Revised at Stockholm in 1967*, Art. 4H, note c (Geneva: BIRPI 1968).

§ 4[c] Literal “Word for Word” Support is *not* Required

It is axiomatic that while it is best to have literal support for a claim in the parent disclosure, priority may be based upon an earlier application without literal, word for word support in the parent for the claimed invention. “The invention claimed does not have to be described *in ipsius verbis* in order to satisfy the description requirement of § 112.” *In re Lukach*, 442 F.2d 967, 969 (CCPA 1971)(citing *Henry J. Kaiser Co. v. McLouth Steel Corp.*, 257 F.Supp. 372, 429 (E.D. Mich.1966), *aff’d*, *Kaiser Industries Corp. v. McLouth Steel Corp.*, 400 F.2d 36 (6th Cir. 1968)); *see also Fields v. Conover*, 443 F.2d 1386, 1391 (CCPA 1971)(Rich, J.)(quoting *Lukach*, 442 F.2d at 969)(“[T]he now-claimed subject matter ‘does not have to be described in ipsius verbis [in the original application] in order to satisfy the description requirement of § 112[.]’”).

That the patent challenger must go beyond showing a lack of literal support is explained in *In re Wertheim*, 541 F.2d 257 (CCPA 1976)(Rich, J.). In *Wertheim*, the court explained that “[t]he PTO has done nothing more than to argue lack of literal support, which is not enough. If lack of literal support alone were enough to support a rejection under § 112, then the statement of [*Lukach*, 442 F.2d at 969], that ‘the invention claimed does not have to be described *in ipsius verbis* in order to satisfy the description requirement of § 112,’ is empty verbiage.” *Wertheim*, 541 F.2d at 265.

§ 4[d] Claim by Claim Priority Determination

"To qualify for an earlier filing date, section 120 requires, inter alia, that the earlier-filed U.S. patent application contain a disclosure which complies with 35 U.S.C. § 112, p 1 (1994) for *each claim* in the newly filed application. Thus, this benefit only applies to claims that recite subject matter adequately described in an earlier application, and does not extend to claims with subject matter outside the description in the earlier application." *Studiengesellschaft Kohle, M.B.H. v. Shell Oil Co.*, 112 F.3d 1561, 1564 (Fed.Cir.1997)(emphasis added)(citing *Waldemar Link, GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558-59 (Fed.Cir.1994)).

As explained in *Waldemar Link*: "[a daughter application under 35 USC § 120] can be entitled to different priority dates for different claims. Claims containing any matter introduced in the [daughter application] are accorded the filing date of the [daughter] application. However, matter disclosed in the parent application is entitled to the benefit of the filing date of the parent application." *Waldemar Link*, 32 F.3d at 558 (citation omitted)

§ 4[e] Priority is keyed to a Single Priority Document

As explained in *Studiengesellschaft Kohle v. Shell Oil*, "an applicant cannot combine multiple prior applications to obtain an earlier filing date for an individual claim[.]" *Studiengesellschaft Kohle m.b.H v. Shell Oil Co.*, 112 F.3d 1561, 1562 (Fed. Cir. 1997)(Rader, J.). *See also* MPEP § 706.02(k)(R-11 (2013)), *Provisional Rejection (Obviousness) Under 35 U.S.C. 103 Using Provisional Prior Art Under Pre-AIA 35 U.S.C. 102(e)*(citing *Studiengesellschaft Kohle v. Shell Oil*)("[A] claim in a subsequently filed application that relies on a combination of prior applications may not be entitled to the benefit of an earlier filing date under 35 U.S.C. 120 if the earlier filed application does not contain a disclosure which complies with 35 U.S.C. 112 for the claim in the subsequently filed application.")

Thus, as stated in *Studiengesellschaft Kohle v. Shell Oil*:

[The patentee says] that the district court erred in concluding that the disclosures of two earlier filed applications cannot be combined to acquire an earlier filing date under 35 U.S.C. § 120***.

Section 120 sets forth the requirements for a patent application to receive the benefit of the earlier filing date from a prior application:

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“An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States ... which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application ... if it contains or is amended to contain a specific reference to the earlier filed application.”

35 U.S.C. § 120. To qualify for an earlier filing date, section 120 requires, inter alia, that the earlier-filed U.S. patent application contain a disclosure which complies with 35 U.S.C. § 112, ¶ 1 (1994) for each claim in the newly filed application. Thus, this benefit only applies to claims that recite subject matter adequately described in an earlier application, and does not extend to claims with subject matter outside the description in the earlier application. See *Waldemar Link, GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558-59 (Fed.Cir.1994). In other words, a claim complies with 35 U.S.C. § 120 and acquires an earlier filing date if, and only if, it could have been added to an earlier application without introducing new matter. See *Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557 1566 (Fed.Cir.1993).

Under 35 U.S.C. § 112, ¶ 1, and consequently under 35 U.S.C. § 120 as well, an applicant must "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed.Cir.1991). An applicant cannot show possession of an invention based upon a combination of several distinct previous applications unless he shows that one of the applications discloses the invention. See *In re Scheiber*, 587 F.2d 59 (CCPA 1978) (Baldwin, J., concurring). In other words, a claim that relies upon a combination of previously-filed applications is not to be entitled to an earlier filing date because the applicant has not demonstrated possession of the complete invention at the time of an earlier application. *Id.* 199 U.S.P.Q. at 785 ("[A]ppellant is asking [the court] to make the decision that various bits of his claimed invention are supported in the parent applications.... The majority opinion properly rejects this approach."). In sum, 35 U.S.C. § 120 requires an applicant to meet the disclosure requirement of § 112, ¶ 1 in a single parent application in order to obtain an earlier filing date for individual claims.

Studiengesellschaft Kohle v. Shell Oil, 112 F.3d at 1564.

To be sure, *Studiengesellschaft Kohle v. Shell Oil* was decided based upon domestic priority under 35 USC § 120 and not Paris Convention priority under 35 USC §119. However, under *Kawai v. Metlesics*, 480 F.2d 880 (CCPA 1973), the priority rules for Paris Convention priority under 35 USC § 119 generally follow the priority rules for domestic priority under 35 USC § 120. “Under [35 USC §] 119, the claims set forth in a United States application are entitled to the benefit of a foreign priority date if the corresponding foreign application supports the claims in the manner required by section 112, ¶ 1.” *In re Gosteli*, 872

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F.2d 1008, 1010 (Fed. Cir. 1989)(citing *In re Wertheim*, 541 F.2d 257, 261-62 (CCPA 1976)]; *Kawai v. Metlesics*, 480 F.2d at 887-89).

The Court in *Gosteli* concluded “that claims [] are entitled to the benefit of their foreign priority date under section 119 only if the foreign priority application properly supports them as required by section 112, ¶ 1. An application relying on the benefit of an earlier filing date in the United States would receive the same treatment under 35 U.S.C. Sec. 120.” *Gosteli*, 872 F.2d at 1011 (citing *Kawai*, 480 F.2d at 886).

§ 4[f] A Simple Test to Determine Priority Support

A simple test to determine whether a new claim in a daughter application is entitled to priority keyed to a parent disclosure under the “written description” requirement of 35 USC § 112(a) involves the following:

Consider the parent specification *as filed* and determine whether a presentation of the new claim of the daughter, if added to the parent case by amendment, would have been considered supported under 35 USC § 112(a) without addition of “new matter”.

If the answer is “yes”, then there *is* support for the priority claim.

If the answer is “no”, then there *is not* support for the priority claim.

§ 4[g] “Possession” of the Invention as a Priority Requirement

An application may be denied priority to an earlier application even if the *identical* invention is disclosed in the priority application, but the priority application does not manifest “possession” of the invention under *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F. 3d 1336 (Fed. Cir. 2010)(en banc) (Lourie, J.). . This is true both for a parent provisional application as well as a Paris Convention priority application. *New Railhead Mfg. L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002)(provisional parent application); *Kawai v. Metlesics*, 480 F.2d 880 (CCPA 1973)(Paris Convention priority application). See §7[f][9], *Parent Disclosure “Possession” is Required for Priority* (citing *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed.Cir.1997); *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565 (Fed. Cir. 1997); *Anascape, Ltd. v. Nintendo of America, Inc.*, 601 F.3d 1333 (Fed. Cir. 2010); *Goeddel v. Sugano*, 617 F.3d 1350 (Fed. Cir. 2010); *Bradford Co. v. Conteyor North Am., Inc.*, 603 F.3d 1262 (Fed.Cir.2010); *In re Gosteli*, 872 F.2d 1008 (Fed.Cir.1989); *Jepson v. Coleman*, 314 F.2d 533 (CCPA 1963); *Vas-Cath Inc. v. Mahurkar*, 935

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F.2d 1555, 1563-64 (Fed.Cir.1991); *Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed.Cir.1995); *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997)).

The *Ariad* case continues to create problems for the patent applicant both in the drafting stage as well as in the procurement stage. At the *drafting* stage, it is important for a claim to a biotechnology entity in an “unpredictable” field to establish possession of the genus through *disclosure* of representative examples which may be an actual “working” example complemented by prophetic examples (set forth in the present or future tense. In procurement, *dicta* in *Ariad* and some other cases may suggest to some that the inventor must have “working” examples, yet subsequent case law makes it clear that it is the *disclosure* of plural, representative examples avoids the holding in *Ariad*, and is, indeed, supported by such subsequent case law.

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

§4[h] Patentability as a Condition for Patent-Defeating Effect

Dynamic Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375 (Fed. Cir. 2015), has become a controversial case, a symbol of the complexity of the formalities of American patent law. See § 1[a][8] *The “Dynamic Drinkware Phenomenon”, Beware!*

It is seemingly well settled that the patent-defeating date of a *published* patent application for common disclosure in parent and daughter applications is the filing date of the parent application. In *Dynamic Drinkware*, a case involving the patent-defeating date of a *patent* (as opposed to published application), the court has denied the patent-defeating effect as of the parent filing date unless a *patentable invention* is disclosed in the parent and daughter applications. *Dynamic Drinkware* was decided under the pre-*Leahy Smith* provision of 35 USC § 102(e)(2) (relating to the patent-defeating date of a patent).

The holding was keyed to *In re Wertheim*, 646 F.2d 527, 537 (CCPA 1981), that it is a condition for reliance upon the parent date *of a patent* that the patent challenger establish that the *parent* have a disclosure supporting the *claimed* invention of the patent.

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Would the same conclusion have been reached if the patent challenger had relied upon the effective date of the *published application* which falls under 35 USC § 102(e)(1)? It remains an open question whether *Wertheim* applies in the event a patent challenge was based on the *published application* as opposed to the patent.

More importantly, the new statutory wording of the *Leahy Smith America Invents Act* raises the fundamental question whether the *Wertheim* condition survives under the new patent law, as seen from the statute itself :

35 U.S.C. 102 Conditions for patentability; novelty.

(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—

* * *

(2) the claimed invention was described in a patent issued under section 151 , or in an application for patent published or deemed published under section 122(b) , in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

* * *

(d) PATENTS AND PUBLISHED APPLICATIONS EFFECTIVE AS PRIOR ART.—For purposes of determining whether a patent or application for patent is prior art to a claimed invention under subsection (a)(2), such patent or application shall be considered to have been effectively filed, with respect to any subject matter described in the patent or application—

* * *

(2) if the patent or application for patent is entitled to claim a right of priority under section 119 , 365(a) , or 365(b) or to claim the benefit of an earlier filing date under section 120 , 121 , or 365(c) , based upon 1 or more prior filed applications for patent, as of the filing date of the earliest such application that describes the subject matter.



§ 5. Prophylactic Drafting to Mitigate Post Grant Challenges

§ 5[a] Creating an Environment for a Simple, Complete Prosecution

A “simple” best practices approach to patent drafting for a first application focuses upon *only* the matters *necessary* for the examination. This means presenting only claims *necessary* for protection (as opposed to filing twenty claims because there is no extra fee for that many claims). This also means citing the few – the three or four or so – most relevant prior art references (and not the eighty or ninety provided by the patent searcher). This also means the *absence* of nonstatutory features in the specification such as a *Background of the Invention*, “gist” of the invention and “problems” faced by the art.

With a “simple” presentation the Examiner will have *the time* to do a complete examination and expose any real or apparent weakness. The applicant can then amend to deal with real problems or beef up the prosecution history by explaining why a point is only an apparent weakness.

§5[b] Citation but not Characterization of the Prior Art

A patentee gets into trouble when he makes an incorrect characterization of the prior art during prosecution. At the stage of a voluntary citation of prior art there is *no* duty to *characterize* the prior art, but only a requirement to *cite* the most pertinent known prior art.

§ 5[c] “Claims First” Patent Draftsmanship

It is a simple axiom that every term used in the claims should find a *consistent* usage in the specification. The identical terms should be used in both the claims and the specification. The scope of the claims should be matched by a disclosure of corresponding scope.

While this axiomatic, fundamental principle is easy to understand, there are repeated cases where the specification has the appearance of having been drafted independently by a person other than the claim drafter. In reality, this is not likely the case. Rather, a considerable number of patent applications are drafted in a “convenient” manner by practitioners who want to keep their computers humming with the production of more words per hour. Thus, they may ignore the corollary that to provide consistent usage in the claims and the specification, *the claims must always be drafted first, always prior to picking up a figurative pen to draft the specification.* (Exceptionally, the specification may be drafted first where the *only*

purpose of the filing is defensive and particularly where the *only* objective is narrowly framed to defensively protect a disclosed embodiment.)

It is quite natural, particularly for an “upstream” stage invention where the commercial species is yet to be developed, that there is an urge on the part of the practitioner to produce *some* work product throughout the drafting process: It is far easier to write up the specification than to make a prophecy as to the scope of protection needed by the claims.

That the “claims first” rule is not always followed is manifested by the numerous cases that come to the Federal Circuit where claims have been given a narrowed interpretation because the specification has a tangential focus not keyed to the claims.

§ 5[d] Avoiding Sideshows to the Main Event

A “simple” presentation also means avoiding extraneous features in the patent application. This means avoiding inclusion of a *Background of the Invention*, “gist”, “problems” and other unnecessary and often argumentative features: The Examiner presented with an application containing such features will lead to a prosecution history that may focus on side issues, away from the essentials. The *Background of the Invention*, “gist”, “problems” and other unnecessary features may trigger a debate on issues having nothing directly to do with the questions of novelty nonobviousness.

§ 5[e] Withholding a Showing of Nonobviousness for the PTAB Trial

It is not uncommon to find the situation where the main issue in *ex parte* prosecution is whether the Examiner has made out a *prima facie* case of obviousness. Here, it is advantageous to *refrain* from emphasizing unexpected results under *In re Papesch*, 315 F.2d 381 (CCPA 1963), or showings of objective indicia of nonobvious under *Graham v. John Deere & Co.*, 383 U.S. 1 (1966). (Of course, if the unexpected result is that a particular drug product has, say, an unexpectedly superior level of low toxicity, then the specification *should* recite that “the compound has low toxicity”, as opposed to saying “the compound has remarkably better toxicity values than the prior art.”)

If the *ex parte* prosecution becomes difficult at the stage of establishing an absence of *prima facie* obviousness, then, of course, a comparative showing can be submitted to gain allowance of the patent. But, it may be far better to simply focus the *ex parte* prosecution on the absence of a case of *prima facie* obviousness: In a

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worst case scenario, a continuing application can be filed to present such evidence even after a loss at the PTAB in *ex parte* proceedings.

But, consider the advantage of saving the showing of unexpected results for a PTAB post-grant trial:

If the evidence *was* presented to gain the patent, the patent challenger – particularly for an Inter Partes Review – has *unlimited time* to pick apart the evidence used to gain the grant of the patent. In some areas such as pharmaceuticals it may take *months* to conduct comparative testing. New tests may be devised that show the data in a different light. A top academic in the field may be retained to tinker with the experimental conditions and come up with a fact-based declaration to minimize the value of the original showing. Even the smallest mistake in the *ex parte* presentation of the evidence can be picked apart and amplified in testimony.

If the evidence *was not* presented to gain the patent, the patent challenger faces none of these problems.

§ 5[f] Cabining the “Broadest Reasonable Interpretation”

At present, the Federal Circuit has taken the view “that the broadest reasonable interpretation standard in IPRs ‘was properly adopted by PTO regulation.’ *In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1282 (Fed. Cir.2015), but this view is now under challenge in *Cuozzo Speed* where certiorari was granted January 15, 2015, in *Cuozzo Speed Techs., LLC v. Lee*, Supreme Court No. 15-446, where petitioner in the first *Question Presented* asks “[w]hether the [Federal Circuit] erred in holding that, in [post-grant, Inter Partes Review] proceedings, the [PTAB] may construe claims in an issued patent according to their broadest reasonable interpretation rather than their plain and ordinary meaning.” *Cuozzo Speed* is expected to be argued not later than April 2016 with a final decision issued by the end of June 2016.

§ 5[f][1] Specification Limits to the “Broadest Reasonable Interpretation”

§ 5[f][1][A] Interpretation “In Light of [the] Specifications”

It is axiomatic that claims are not to be read *in vacuo* but “are always to be read or interpreted in light of its specifications.” *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940).

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As explained in the *Sneed* case, ‘[i]t is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation *consistent with the specification*, *In re Prater*, 415 F.2d 1393, 1404 (CCPA 1969), and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Johnson*, 558 F.2d 1008 1016 (CCPA 1977).’ *In re Sneed*, 710 F.2d 1544, 1548 (Fed.Cir.1983)(emphasis added); *see also In re Bond*, 910 F.2d 831, 833 (Fed.Cir.1990) (quoting *Sneed*).

Sneed underpins a more recent explanation in *Suitco Surface* of the rule that the scope of claims in Patent Office proceedings must be ‘consistent with the specification’: ‘ Although the PTO emphasizes that it was required to give all ‘claims their broadest reasonable construction’ ***, this court has instructed that any such construction be ‘consistent with the specification, . . . and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.’ *In re Bond*, 910 F.2d 831, 833 (Fed.Cir.1990) (quoting *In re Sneed*, 710 F.2d 1544, 1548 (Fed.Cir.1983)) (emphasis added [by the court]). ‘The PTO’s construction here, though certainly broad, is unreasonably broad. *** [C]laims should always be read in light of the specification and teachings in the underlying patent. *See Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940)(‘The claims of a patent are always to be read or interpreted in light of its specifications.’).’ *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010).

Sneed was a reiteration of basic principles of claim construction as being keyed to the specification. As explained by Circuit Judge Bryson in the *en banc Phillips* case:

“Shortly after the creation of this court, Judge Rich wrote that ‘[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims.’ *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). ***

“That principle has a long pedigree in Supreme Court decisions as well. *See Hogg v. Emerson*, 47 U.S. (6 How.) 437, 482 (1848) (the specification is a ‘component part of the patent’ and ‘is as much to be considered with the [letters

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patent] in construing them, as any paper referred to in a deed or other contract’); *Bates v. Coe*, 98 U.S. 31, 38 (1878) (‘in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims’); *White v. Dunbar*, 119 U.S. 47, 51 (1886) (specification is appropriately resorted to ‘for the purpose of better understanding the meaning of the claim’); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) (‘The claims of a patent are always to be read or interpreted in light of its specifications.’); *United States v. Adams*, 383 U.S. 39, 49 (1966) (‘[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.’).

Phillips v. AWH Corp., 415 F.3d 1303, 1315-16 (Fed. Cir. 2005)(en banc)(Bryson, J.).

§ 5[f][1][B] Definitions to Cabin the “Broadest Reasonable Interpretation”

On the one hand, a “glossary” or “definition” of every term in a patent should *not* be a part of the drafting strategy. But, for an element of the claim at the point of novelty to distinguish over the prior art, here, the *Summary of the Invention* immediately after the first reference to the element should contain a *specific definition* of that element. For example:

“As the ‘Framus’ of the invention is meant...”

Without the specific definition, the patent challenger at the PTAB will attempt to show that the “Framus” has a broader meaning beyond what the applicant has intended and, if “reasonable”, that definition should control in proceedings at the PTAB. If this broader definition moves the claim closer to the prior art, the equation is shifted in favor of the patent challenger.

While the PTAB operates under the “broadest reasonable interpretation” rule of claim construction, it is clear that a *specific definition* trumps this general rule of construction: “[P]atentees can act as their own lexicographers if they ‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d ___, ___ (Fed. Cir., 2015)(Linn, J.)(quoting *Thorner v. Sony Computer Entm’t Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

Thus, where an element is given a *specific definition* in the *Summary of the Invention* this should bar a Patent Office interpretation of that element broader than

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this definition. As explained in *Microsoft v. Proxyconn*:

“In *Cuozzo*,^[*] this court held that the broadest reasonable interpretation standard in IPRs ‘was properly adopted by PTO regulation.’ [*In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1282 (Fed. Cir.2015), *pet. for reh’g en banc den*, __ F.3d __ (Fed. Cir. 2015)]. * * *

“That is not to say, however, that the Board may construe claims during IPR so broadly that its constructions are *unreasonable* under general claim construction principles. *** Rather, ‘*claims should always be read in light of the specification and teachings in the underlying patent.*’ [*In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010)]. * * * Even under the broadest reasonable interpretation, *the Board’s construction ‘cannot be divorced from the specification and the record evidence,’ In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011), and ‘must be consistent with the one that those skilled in the art would reach,’ *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). A construction that is ‘unreasonably broad’ and which does not ‘reasonably reflect the plain language and disclosure’ will not pass muster. *Suitco*, 603 F.3d at 1260.”

Microsoft Corp. v. Proxyconn, Inc., __ F.3d __ (Fed. Cir. 2015)(Prost, C.J.)

§ 5[f][2] Critical Limitations Should not be in the Preamble (Alone)

A limitation at the point of novelty should be included in an *element* of the claim and not in the *preamble* (unless that element is *also* recited as part of an *element*). Heretofore, the case law has provided for a fact-dependent analysis whether a feature in the preamble is merely a statement of intended use (and hence not a limitation) or is a limitation to the scope of the claim, which is always the case if the feature is expressed as an element.

If a feature of the disclosed invention is necessary for patentability and validity it is the safe approach to include that feature as an element of the claims, and not merely in the preamble. As explained by Professor Mueller: “The general rule (subject to many exceptions) is that language in the preamble of a patent claim is *not* limiting. Where the body of the claim (i.e., the language following the transition) recites a structurally complete invention and the preamble language states only an intended purpose or use for that invention, the preamble language is generally not limiting. Language that appears only in the preamble of a claim, not repeated or referred to in the body of the claim, is less likely to be held a limitation

^[*]The case is now before the Supreme Court for a merits review in *Cuozzo Speed Techs., LLC v. Lee*, Supreme Court No. 15-446, as discussed in § 5[f], *Cabining the “Broadest Reasonable Interpretation”*.

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of the claim. A similar result obtains when preamble language is considered merely laudatory. The practical result is that such preamble language does not help preserve the validity of a claim (nor does it have to be met by an accused device in order to have infringement).” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 2, § 15.06[A] (Wolters Kluwer 2016)(footnotes omitted)

The appellate case law has been a muddled mix of fact-dependent decisions as to whether a preamble should be a limiting feature ever since the *Corning Glass* opinion boldly announced that there is no legal “litmus test” to make the determination:

“No litmus test can be given with respect to when the introductory words of a claim, the preamble, constitute a statement of purpose for a device or are, in themselves, additional structural limitations of a claim. To say that a preamble is a limitation if it gives ‘meaning to the claim’ may merely state the problem rather than lead one to the answer. The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.”

Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257 (Fed. Cir. 1989)(Nies, J.).

The *fact dependent* aspect represents a major reason why the Federal Circuit may be expected to give particular deference to Patent Office trial determinations that a preamble feature is *not* a limitation to the claims. *Novatek, Inc. v. Sollami Co.*, 559 Fed. Appx. 1011 (Fed. Cir. 2014)(Wallach, J.), is a typical example of the fact-dependent nature of the holdings in the *Corning Glass* line of case law:

“[A] preamble is generally construed to be limiting if it “recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.’ *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1305 (Fed. Cir. 2005) (quoting *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). * * *

“Whether a preamble is treated as a limitation is determined by the facts of each case and upon an understanding of what the inventors actually invented and intended to encompass by the claims. *Catalina Mktg.*, 289 F.3d at 808.”

Novatek v. Sollami, 559 Fed. Appx. at 1015. (The case is cited as merely exemplary of the line of recent case law and is NOT cited as precedent, as it, indeed, is *nonprecedential*.)

The case law at the District Court level involving infringement and validity determinations has provided mixed, fact-dependent answers to the question

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whether a particular feature in a preamble is or is not a limitation. In many cases, either interpretation would be considered “reasonable”.

But, whereas a “reasonable” interpretation in a District Court may result in the choice of the feature in the preamble being a limitation, a *broader* reasonable interpretation would *not* include this feature as a limitation.

Accordingly, in a patent trial at the Patent Trial and Appeal Board where the “broadest reasonable interpretation” rule is applied in either an Inter Partes Review (IPR) or Post Grant Review (PGR), this could result in a feature in the preamble *not* being considered a limitation. See *Microsoft Corp. v. Proxyconn, Inc.*, ___ F.3d ___ (Fed. Cir. 2015)(Prost, C.J.), citing *In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1282 (Fed. Cir.2015)).

Under the “broadest reasonable interpretation” rule, the patent trial is more likely than not to come out with the Board choosing to treat the feature in the preamble as *not* being a limitation to the scope of the claim. In such a case, the claim will be closer to the prior art and, if the particular feature is necessary to establish patentability, the claim that would be sustained in the District Court would, here, be invalid under the “broadest reasonable interpretation” rule.

The case law on patent interpretation in the IPR and PGR proceedings follows the ground rules for patent interpretation that were set forth in the leading reexamination case law, including the *en banc* opinion in the context of reexamination by Chief Judge Markey thirty years ago in *In re Etter*, 756 F.2d 852 (Fed. Cir. 1985)(*en banc*)(Markey, C.J.). As he explained, “[i]n *In re Yamamoto*, 740 F.2d 1569 (Fed.Cir.1984), this court said that claims subject to reexamination will ‘be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims.’ 740 F.2d at 1571. That standard is applied in considering rejections entered in the course of prosecution of original applications for patent. See *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969).” *Etter*, 756 F.2d at 858.

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Etter as *en banc* precedent confirmed the *Yamamoto* claim interpretation principle keyed to the “broadest reasonable interpretation” standard for patent trials at the Patent Trial and Appeal Board in major part due to the at least theoretical right of the patentee to amend claims in post-grant proceedings:

“An applicant's ability to amend his claims to avoid cited prior art distinguishes proceedings before the PTO from proceedings in federal district courts on issued patents. When an application is pending in the PTO, the applicant has the ability to correct errors in claim language and adjust the scope of claim protection as needed. This opportunity is not available in an infringement action in district court...” *Etter*, 756 F.2d at 858 (quoting *Yamamoto*, 740 F.2d at 1572). See also *American Med. Sys. Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1363-64 (Fed. Cir., 2010)(Dyk, J., dissenting)(“[W]e have not succeeded in articulating a clear and simple rule. Majority Op. at 1358; see also Patrick J. Flinn, *Claim Construction Trends in the Federal Circuit*, 572 PLI/PAT 317, 335-36 (1999) (characterizing the preamble limitations test as ‘opaque’ and without a set framework). As a result of the lack of clarity as to whether a preamble should be construed as limiting, our case law has become rife with inconsistency, both in result and in the articulation of the test. As the leading treatise on patent law observes, ‘the decisions are difficult to reconcile.’ 3 Donald S. Chisum, *Chisum on Patents* § 8.06[1][d] (2010).”(footnote omitted); *American Med. Sys. Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1363 n.2 (Fed. Cir., 2010)(Dyk, J., dissenting)(“See *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed.Cir.2006) (‘While it is true that preamble language is often treated as nonlimiting in nature, it is not unusual for this court to treat preamble language as limiting, as it is in this case.’); *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 831 (Fed.Cir.2003) (‘Whether to treat a preamble as a claim limitation is determined on the facts of each case in light of the claim as a whole and the invention described in the patent.’); *Catalina Mktg.*, 289 F.3d at 808 (Fed.Cir.2002) (‘No litmus test defines when a preamble limits claim scope.’). Compare *DeGeorge v. Bernier*, 768 F.2d 1318, 1322 n. 3 (Fed.Cir.1985) (stating that ‘[g]enerally, and in this case, the preamble does not limit the claims’), with *Bell Commc'ns*, 55 F.3d at 621 (noting that the observation in *DeGeorge* that the preamble does not generally limit the claims ‘can only have been descriptive, rather than prescriptive [O]ne cannot determine a preamble's effect except by reference to the specific claim of which it is a component’).”

§ 5[f][3] Avoiding *Flook* Claim Dissection

Patent eligibility case law, particularly *Parker v. Flook*, 437 U.S. 584 (1978), has permitted the dissection of a claim to a combination of elements to deny patent-eligibility under 35 USC § 101 because *one of the elements*, standing alone, is “abstract” or otherwise is excluded from the scope of patent-eligibility. This is despite the “all elements” rule whereby a claim to two or more elements *must* be considered as the combination of elements, without dissection.

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To be sure, *Flook* was distinguished in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), yet *Flook* continues to plague patent applicants.

Given that the applicant can be his own lexicographer and is free to *define* his invention as he chooses, it may be helpful in the case of a claim to a combination of elements where one of the elements, standing alone, lacks patent-eligibility, to *define* the invention as expressly limited to the combination stated in the claim.

§ 5[g] Species Claim Focused on the Commercial Embodiment

To protect a commercially practiced embodiment a species claim should always be focused on that embodiment. If only the species has unexpected properties a showing of such unexpected results will be relevant to the species claim but not necessarily to a broader claim. *In re Kao*, 639 F.3d 1057 (Fed. Cir. 2011). A species claim to the commercial embodiment eliminates any problem of “nexus” as to objective indicia under *Graham v. John Deere & Co.*, 383 U.S. 1 (1966), being tied to the *claimed* invention. Cf. the “cup case”, *In re Tiffin*, 448 F.2d 791 (CCPA 1971)(per curiam)(on reh’g).

With a species claim, the problems of “possession” or other support questions under Section 112(a) applicable to a generic claim are eliminated. Cf. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F. 3d 1336 (Fed. Cir. 2010)(en banc)(Lourie, J.).

A species claim drafted to clearly cover the commercial embodiment also minimizes issues of indefiniteness under Section 112(b).

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

§ 5[g][1] Early Stage Focus on the Species Claim

One strategic move open in a trial at the Patent Trial and Appeal Board where there is a species claim covering the commercial embodiment *along with* generic claims is to file a *disclaimer* of all claims other than the species claim, and to do so *early* in the trial, perhaps concurrently with the patentee's initial merits pleading.

§ 5[g][2] Late Appellate Stage Focus on the Species Claim

Even where the applicant expects to seek broad protection and to enforce the generic claims, the species claim leaves a fallback position. Even late in appellate proceedings at the PTAB the patentee can at any time file a disclaimer of the generic claims, leaving only the species claim in play on appeal. This can be accomplished either as appellant or appellee.

§ 5[h] Basis for a Second Application for Downstream Prosecution

At the end of prosecution for any important invention where a patent is about to be granted, it may be desirable to *also* file a *divisional* application to related subject matter that has been held patentably independent and distinct for restriction purposes under 35 USC § 121. This gives the applicant greater flexibility to make amendments or alter the course of prosecution to avoid a negative result at the Patent Trial and Appeal Board:

To keep the option open, in drafting the application one independent claim should be included in the original application to a second invention. For example, claims 1-7 may be directed to a product (which will be the elected invention) and claim 8 may an independent claim to the method of using the product of claim 1. At the time of the first action, a restriction requirement may be made, in which case “Group I” (claims 1-7) is elected without traverse, and the “Group II” (claim 8) invention remains pending until cancelled late in prosecution – and then concurrently made the subject of a divisional application.

Even without a restriction requirement, a second application may be filed to a “different” invention even with overlapping subject matter, *provided* a terminal disclaimer is filed. For example, a first patent to a method of treating “pork” is to a different invention than the identical method of treating “meat”. *In re Vogel*, 422 F.2d 438 (CCPA 1970)).

§ 5[i] Consistent and Correct English Usage

The *Summary of the Invention* should, following the first recitation of a term – particularly for an element at the point of novelty – include a definition of a term that is open to multiple interpretations.

Consistent use of language is important: An element set forth in the claims should have the same meaning in both the claims and specification, including the *Summary of the Invention*, the *Detailed Description* and the *Abstract of the Disclosure*. Using the same language over and over again may be boring to the novelist but use of synonyms to make the language more interesting must be avoided. Great care should also be taken to make sure that the *correct* English is used. For example, if the invention is a flash baking process at near incineration temperatures the claim should recite heating dough “at” the very high temperature and not heating dough “to” that temperature. See *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371 (Fed. Cir. 2004).

“It may seem merely a statement of the obvious to say that everything in the specification must be accurate and true, but it is an aspect of drafting that requires continual watchfulness.” E.W.E. Micklethwait, *Brushing Up Our Drafting*, Trans. CIPA LXV p. 72 (1946-1947), reproduced, Cole, Paul, ed., FUNDAMENTALS OF PATENT DRAFTING, 155, 163 (CIPA 2006).

§ 5[j] Chart Showing Specification Support for Claim Elements

It is axiomatic that the patent drafter should leave notes in the applicant’s file showing precisely where in the specification there is support for terms used in the claims which are *not* specifically defined in the *Summary of the Invention*. The chances are that by the time of the first action when an issue of claim support is raised in an Examiner’s first action, a *different* practitioner will be handling the prosecution than one who drafted the application. Or, memories may fade after two or three years.

In any event, if there is sufficient ambiguity for the Examiner to reject a claim as lacking support, this means that *the Examiner* couldn’t figure out the support: Will a fresh practitioner without prior participation in the drafting process have a better chance of doing so? (Or, even the same practitioner after several years since having drafted the application?)

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Where the practitioner provides an answer to the Examiner that is in fact inconsistent with the drafter's intention and support, this may be a sufficient basis for the Examiner to withdraw the rejection. But, downstream, the careful opponent in a post grant proceeding challenging the patent at the Patent Trial and Appeal Board may be able to demonstrate that, in fact, there is now an inconsistency in the prosecution history. This may be a basis to challenge the claim under Section 112(b) as indefinite.

§ 5[k] Applicant is Principally Responsible for Definition of His Invention

It is the sole responsibility of the patent applicant to define what he considers to be his invention which includes in the first instance the presentation of claims for examination but, in many cases just as importantly, the *definitions* that the applicant provides as part of his *Summary of the Invention*. See § 5[f][1][B] , *Definitions to Cabin the "Broadest Reasonable Interpretation."* It is the obligation of the patentee to shape the construction of his claims by appropriate definitions, particularly at the point of novelty: “[P]atentees can act as their own lexicographers if they ‘clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning.’” *Id.* (quoting *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d ___, ___ (Fed. Cir., 2015)(Linn, J.), quoting *Thorner v. Sony Computer Entm't Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

§ 5[k][1] PTO Proposal to Direct the Examiner to Define the Invention

Recently, the Under Secretary of Commerce in charge of the Patent Office has introduced a controversial proposal *without benefit of rulemaking* that the *Examiner* may introduce definitions of claim terminology, turning the examination process upside down. She has announced that “we are preparing to launch a *Clarity of the Record Pilot*, under which examiners will include as part of the prosecution record definitions of key terms, [and] important claim constructions * * *. Based on the information we learn from this pilot, we plan to develop best examiner and applicant practices for enhancing the clarity of the record.” *Blog by Under Secretary of Commerce for Intellectual Property and Director of the USPTO Michelle K. Lee, Director's Forum: A Blog from USPTO's Leadership, Enhanced Patent Quality Initiative: Moving Forward*, Nov, 6, 2015, available at <http://www.uspto.gov/blog/> (last visited November 9, 2015).

§ 5[k][2] PTO Guidance Turns Examination Upside Down

Definitions by *the examiner* turn the applicant process upside down:

“The examiner's approach to determining whether appellants' claims satisfy the requirements of § 112 appears to have been to study appellants' disclosure, to formulate a conclusion as to what he (the examiner) regards as the broadest invention supported by the disclosure, and then to determine whether appellants' claims are broader than the examiner's conception of what ‘the invention’ is. We cannot agree that § 112 permits of such an approach to claims. The first sentence of the second paragraph of § 112 is essentially a requirement for *precision and definiteness* of claim language. If the scope of subject matter embraced by a claim is clear, and if the applicant has not otherwise indicated that he intends that claim to be of a different scope, then the claim does particularly point out and distinctly claim the subject matter which the applicant regards as his invention.” *In re Borkowski*, 422 F.2d 904, 909 (CCPA 1970)(Rich, Act. C.J.)(footnote omitted).

It is thus the *applicant's* responsibility to define the invention: Under 35 USC § 112 ¶ 2, “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter *which applicant regards as his invention.*” *In re Borkowski*, 422 F.2d 904, 909 (CCPA 1970)(Rich, Act. C.J.)(emphasis added by Judge Rich). Thus, “[w]hile the examiner states the requirement to be claims which ‘particularly point out and distinctly claim *the invention*’ (emphasis added [by the court]), § 112 actually requires claims “particularly pointing out and distinctly claiming *the subject matter which applicant regards as his invention*” (emphasis added [by the court]). In reality, this means that applicant must particularly point out and distinctly claim the *subject matter sought to be patented.*” *Borkowski*, 422 F.2d at 909(emphasis added by Judge Rich).

Borkowski is followed by the *en banc* Court in *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046 (Fed.Cir. 2002) (en banc). There, the court stated that “the claim requirement presupposes that a *patent applicant defines his invention* in the claims, not in the specification.” *Johnson & Johnston*, 285 F.3d at 1052 (emphasis added).

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The idea that it is the applicant's responsibility to define his invention predates *Borkowski* and modern case law. "The claim is a statutory requirement, prescribed for the very purpose of *making the patentee define* precisely what his invention is[.]" *White v. Dunbar*, 119 U.S. 47, 52 (1886)(emphasis added).

Numerous Federal Circuit cases reinforce the importance of *White v. Dunbar*. See *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)(Clevenger, J.)("[T]he claims of the patent, not its specifications, measure the invention."); *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) ("*In making his claim* the inventor is at liberty to choose his own form of expression, and while the courts may construe the same in view of the specifications and the state of the art, they may not add to or detract from the claim." (citation omitted)); *White v. Dunbar*, 119 U.S. 47, 52 (1886)("The claim is a statutory requirement, prescribed for the very purpose of making *the patentee define* precisely what his invention is; and it is unjust to the public ... to construe it in a manner different from the plain import of its terms."); *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876) ("[The statutorily required] distinct and formal claim is, therefore, of primary importance, in the effort to ascertain precisely what it is that is patented to the appellant in this case.");*** .Attending this principle, a claim construction analysis must begin and remain centered on the claim language itself, for that is *the language the patentee has chosen* to "particularly point.[] out and distinctly claim[] the subject matter which the patentee regards as his invention." *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed.Cir.2001) (quoting 35 U.S.C. § 112 ¶ 2); see also *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989-90 (Fed.Cir.1999))"(emphasis added).

"The claim is a statutory requirement, prescribed for the very purpose of *making the patentee define precisely what his invention is[]*" *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949 (Fed. Cir. 1987)(en banc)(Nies, J., additional views)(emphasis added). See also *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1540 (Fed. Cir. 1995)(en banc)(Plager, J., joined by Archer, C.J., Rich, Lourie, JJ., dissenting)(emphasis added), *subsequent proceedings, Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997).)("The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is[.]")

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“The claim is a statutory requirement, prescribed for the very purpose of *making the patentee define* precisely what his invention is[.]” *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1458 (Fed. Cir. 1984)(Rich, J.)(quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886))(emphasis added); Same, *Cat Tech LLC v. Tubemaster, Inc.*, 528 F.3d 871, 885 (Fed. Cir., 2008)(Mayer, J.)(quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886)); same, *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1563 (Fed. Cir. 1991)(Lourie, J.); same, *University of Rochester v. G.D. Searle & Co., Inc.*, 375 F.3d 1303, 1326 (Fed. Cir., 2004)(Linn, J., joined by Rader, Gajarsa, JJ., dissenting from den. reh’g en banc); *see also id.*, quoting *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052 (Fed.Cir. 2002) (en banc)“Consistent with its scope definition and notice functions, the claim requirement presupposes that *a patent applicant defines his invention in the claims*, not in the specification.”)(emphasis added).

§ 5[k][3] The Examiner as Gate Keeper of the Scope of Protection

The role of the Examiner is hardly passive. Rather, the Examiner reins in a claim that is of indefinite scope by giving the claim its “broadest reasonable construction” so that if relevant prior art is found by the Examiner, the applicant will lose his claims that are indefinite at the point of novelty without a sharp definition of the scope of protection, either by an amendment pinpointing the invention, the provision of a definition in the specification, or both.

As explained in *Yamamoto*, “[t]he PTO broadly interprets claims during examination of a patent application since the applicant may ‘amend his claims to obtain protection commensurate with his actual contribution to the art.’ *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). This approach serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified. Applicants' interests are not impaired since they are not foreclosed from obtaining appropriate coverage for their invention with express claim language. *Id.* at 1405 n. 31.” *In re Yamamoto*, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)(Baldwin, J.).

Later the same year, the *en banc* Federal Circuit in *Etter* quoted *Yamamoto* with approval:

“An applicant's ability to amend his claims to avoid cited prior art distinguishes proceedings before the PTO from proceedings in federal district courts on issued patents. When an application is pending in the PTO, the applicant has the ability to correct errors in claim language and adjust the scope of claim protection as needed. This opportunity is not available in an infringement action in district court....

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“The same policies warranting the PTO's approach to claim interpretation when an original application is involved have been held applicable to reissue proceedings because the reissue provision, 35 U.S.C. Sec. 251, permits amendment of the claims to avoid prior art.”

In re Etter, 756 F.2d 852, (Fed. Cir. 1985)(en banc)(Markey, C.J.)(quoting *In re Yamamoto*, 740 F.2d 1569, 1572 (Fed. Cir. 1984)).

§ 5[k][4] An Examiner is not equipped to Define the Scope of Protection

There is good reason why, in the context of an *ex parte* patent examination, the Patent Examiner must give a claim its “broadest reasonable interpretation”. It is a relatively simple matter to broadly read a claim for the purpose of examination for novelty and nonobviousness, vis a vis the often daunting task of interpreting a claim for purposes of the scope of protection of a granted patent.

The typical Patent Examiner is *not* a lawyer, but rather an engineer or scientist without formal legal training, beyond whatever internal training is given within the Patent Office. Determination of the definition of the claimed invention depends upon how the claimed invention is viewed by a person of ordinary skill in the art, with the numerous complexities explained in the *en banc* opinion of the court in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005)(en banc)(Bryson, J.). As explained in *Phillips*:

“The role of the specification in claim construction has been an issue in patent law decisions in this country for nearly two centuries. We addressed the relationship between the specification and the claims at some length in our en banc opinion in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370 (1996). We again summarized the applicable principles in *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576 (Fed.Cir.1996), and more recently in *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed.Cir.2004). What we said in those cases bears restating, for the basic principles of claim construction outlined there are still applicable, and we reaffirm them today. ***

“A

“* * * Because the patentee is required to ‘define precisely what his invention is,’ the Court explained, it is ‘unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.’ *White v. Dunbar*, 119 U.S. 47, 52 (1886); see also *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) (‘the claims measure the invention’); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 (1895) (‘if we once begin to include elements not mentioned in the claim, in order to limit such claim ..., we should never know where to stop’); *Aro Mfg. Co. v.*

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Convertible Top Replacement Co., 365 U.S. 336, 339 (1961) ('the claims made in the patent are the sole measure of the grant').

"We have frequently stated that the words of a claim 'are generally given their ordinary and customary meaning.' *Vitronics*, 90 F.3d at 1582; see also *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed.Cir.1999); *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed.Cir.1998). We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. See *Innova*, 381 F.3d at 1116 ('A court construing a patent claim seeks to accord a claim the meaning it would have to a person of ordinary skill in the art at the time of the invention.');

Home Diagnostics, Inc. v. LifeScan, Inc., 381 F.3d 1352, 1358 (Fed.Cir.2004) ('customary meaning' refers to the 'customary meaning in [the] art field'); *Ferguson Beauregard/Logic Controls v. Mega Sys., LLC*, 350 F.3d 1327, 1338 (Fed.Cir.2003) (claim terms 'are examined through the viewing glass of a person skilled in the art'); see also *PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1363 (Fed.Cir.2005) (meaning of claim 'must be interpreted as of [the] effective filing date' of the patent application); *Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1353 (Fed. Cir.2000) (same).

The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. See *Innova*, 381 F.3d at 1116. That starting point is based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art. See *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1119 (Fed.Cir.2002) (patent documents are meant to be 'a concise statement for persons in the field'); *In re Nelson*, 280 F.2d 172, 181 (CCPA 1960) ('The descriptions in patents are not addressed to the public generally, to lawyers or to judges, but, as section 112 says, to those skilled in the art to which the invention pertains or with which it is most nearly connected.').

"Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. This court explained that point well in *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed.Cir.1998):

"It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field. The inventor's words that are used to describe the invention—the inventor's lexicography—must be understood and interpreted by the court as they would be understood and interpreted by a person in that field of technology. Thus the court starts the decisionmaking process by reviewing the same resources as would that person, viz., the patent specification and the prosecution history.'

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“See also *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed.Cir.2005) (‘We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.’); *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1310 (Fed.Cir.2005) (intrinsic record ‘usually provides the technological and temporal context to enable the court to ascertain the meaning of the claim to one of ordinary skill in the art at the time of the invention’); *Unitherm Food Sys., Inc. v. Swift-Eckrich, Inc.*, 375 F.3d 1341, 1351 (Fed.Cir.2004) (proper definition is the ‘definition that one of ordinary skill in the art could ascertain from the intrinsic evidence in the record’).

“B

“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. See *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir.2001) (holding that the claims did ‘not require elaborate interpretation’). In such circumstances, general purpose dictionaries may be helpful. In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to ‘those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.’ *Innova*, 381 F.3d at 1116. Those sources include ‘the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.’ *Id.*; see also *Gemstar-TV Guide Int’l, Inc. v. Int’l Trade Comm’n*, 383 F.3d 1352, 1364 (Fed.Cir.2004); *Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 979-80.

“1

“Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms. See *Vitronics*, 90 F.3d at 1582; see also *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed.Cir.2003) (‘the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms’).

“To begin with, the context in which a term is used in the asserted claim can be highly instructive. To take a simple example, the claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel. This court’s cases provide numerous similar examples in which the use of a term within the claim provides a firm basis for construing the term. See, e.g., *Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1374 (Fed.Cir.2004) (claim term ‘ingredients’ construed in light of the use of the term ‘mixture’ in the same claim phrase); *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356 (Fed.Cir.1999) (claim term

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'discharge rate' construed in light of the use of the same term in another limitation of the same claim).

"Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term. *Vitronics*, 90 F.3d at 1582. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. See *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed.Cir.2001); *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1159 (Fed.Cir.1997). Differences among claims can also be a useful guide in understanding the meaning of particular claim terms. See *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed.Cir.1991). For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed.Cir.2004).

"2

"The claims, of course, do not stand alone. Rather, they are part of 'a fully integrated written instrument,' *Markman*, 52 F.3d at 978, consisting principally of a specification that concludes with the claims. For that reason, claims 'must be read in view of the specification, of which they are a part.' *Id.* at 979. As we stated in *Vitronics*, the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' 90 F.3d at 1582.

"This court and its predecessors have long emphasized the importance of the specification in claim construction. In *Autogiro Co. of America v. United States*, 384 F.2d 391, 397-98 (Ct. Cl. 1967), the Court of Claims characterized the specification as 'a concordance for the claims,' based on the statutory requirement that the specification 'describe the manner and process of making and using' the patented invention. The Court of Customs and Patent Appeals made a similar point. See *In re Fout*, 675 F.2d 297, 300 (CCPA 1982) ('Claims must always be read in light of the specification. Here, the specification makes plain what the appellants did and did not invent . . .').

"Shortly after the creation of this court, Judge Rich wrote that '[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims.' *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). On numerous occasions since then, we have reaffirmed that point, stating that '[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.' *Multiform Desiccants*, 133 F.3d at 1478; *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed.Cir. 2004) ('In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention.');

see also, e.g., *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir.2004) ('The words of patent claims have the

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meaning and scope with which they are used in the specification and the prosecution history.’); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed.Cir.2003) (‘[T]he best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.’).

“That principle has a long pedigree in Supreme Court decisions as well. See *Hogg v. Emerson*, 47 U.S. (6 How.) 437, 482 (1848) (the specification is a ‘component part of the patent’ and ‘is as much to be considered with the [letters patent] in construing them, as any paper referred to in a deed or other contract’); *Bates v. Coe*, 98 U.S. 31, 38 (1878) (‘in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims’); *White v. Dunbar*, 119 U.S. 47, 51 (1886) (specification is appropriately resorted to ‘for the purpose of better understanding the meaning of the claim’); *Scriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) (‘The claims of a patent are always to be read or interpreted in light of its specifications.’); *United States v. Adams*, 383 U.S. 39, 49 (1966) (‘[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.’).

“The importance of the specification in claim construction derives from its statutory role. The close kinship between the written description and the claims is enforced by the statutory requirement that the specification describe the claimed invention in ‘full, clear, concise, and exact terms.’ 35 U.S.C. § 112, para. 1; see *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed.Cir.2001) (‘The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose.’); see also *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996) (‘[A claim] term can be defined only in a way that comports with the instrument as a whole.’). In light of the statutory directive that the inventor provide a ‘full’ and ‘exact’ description of the claimed invention, the specification necessarily informs the proper construction of the claims. See *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed.Cir. 2003) (‘A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.’) (citations omitted). In *Renishaw*, this court summarized that point succinctly:

“‘Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.’

“158 F.3d at 1250 (citations omitted).

“Consistent with that general principle, our cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the

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meaning it would otherwise possess. In such cases, the inventor's lexicography governs. See *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed.Cir.2002). In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor's intention, as expressed in the specification, is regarded as dispositive. See *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed.Cir.2001)."

Phillips v. AWH Corp., 415 F.3d at 1312-16.

§ 5[1] Backup Claims to Avoid Amendment in a Post Grant Review

Before the *Leahy Smith America Invents Act* a prudent patent applicant might have considered it unnecessary to present a series of backup scope under the theory that they would not be necessary in a District Court litigation and in the early years of reexamination it was possible to amend claims to avoid the prior art. Thus, for example, if a claim in an application was directed to subject matter that technically was not supported in a parent application, quite often such a defect would go without a rejection in an ex parte examination context. See, e.g., § 2[a][4], "*Plan B*" *Post-Publication Grace Period Usage* (discussing *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)). But, in a post grant review proceeding at the Patent Trial and Appeal Board, a technical defect such as *Ruscetta* will surely be problematic if a challenge is properly raised by the Requester.

What makes the failure to provide backup subgeneric claims an acute problem with a *Ruscetta* or other technical ground of invalidity is that there is no *right* to amend claims in a post grant review proceeding as establish in cases such as the *Proxyconn case*, *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292 (Fed. Cir. 2015), followed by *Prolitec, Inc. v. ScentAir Technologies, Inc.*, ___ F.3d ___ (Fed. Cir. Dec. 4, 2015)(Prost, J.)(majority opinion).

In the *Proxyconn* case the court supported the right of the Patent Trial and Appeal Board to deny entry of narrowing amendments to the claims in post grant proceedings where the patentee has not established that the thus narrowed claims are both novel and, more importantly, nonobvious under 35 USC § 103. Given the difficulties that a patentee has in amendment of claims in a post grant proceedings, it is all the more important that claims of varying scope be presented in the *ex parte* procurement phase. As explained in the *Proxycomm* case:

[The patent challenger] filed two separate IPR petitions on the [] patent, each challenging different claims. *** During g the proceedings, [the patentee] filed a motion to amend, seeking to substitute (among others) new claims 35 and 36 for claims 1 and

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3, respectively. In its final written decision, the Board determined that claims 1 [and] 3^{***} were unpatentable under § 102, that claims 1 [and] 3^{***} were additionally unpatentable under § 103^{***}.

The Board [] denied [the patentee]'s motion to amend, concluding, *inter alia*, that [the patentee] did not meet its burden of establishing that it was entitled to the amended claims, and rejecting [the patentee]'s argument that it did not need to establish patentability over a reference that was not part of the original bases of unpatentability for which review of [the claims when the post grant proceeding] was instituted.

* *

IV

^{***} [The patentee] challenges the Board's denial of its motion to amend claims 1 and 3. Before reaching the merits of [the patentee]'s arguments, we first discuss the legal framework governing amendments during IPRs.A

Through enactment of the America Invents Act ("AIA"), Congress created the new IPR proceeding for the purpose of "providing quick and cost effective alternatives to litigation." H.R. Rep. No. 112-98, pt. 1, at 48 (2011), 2011 U.S.C.C.A.N. 67, 78. The AIA conveys certain authority to the PTO to "prescribe regulations" "governing inter partes review" and to "set[] forth standards and procedures for allowing the patent owner to move to amend the patent." 35 U.S.C. § 316(a)(4), (a)(9). With respect to amendments in particular, the statute provides that "the patent owner may file 1 motion to amend the patent" and that such amendment "may not enlarge the scope of the claims of the patent or introduce new matter." *Id.* § 316(d)(1), (d)(3). The statute also provides that the Director shall, upon final determination, "incorporate[] in the patent . . . any new or amended claim determined to be patentable." *Id.* § 318(b).

Relying on the authority granted by the AIA, the PTO has promulgated two regulations that are relevant to this appeal. First is 37 C.F.R. § 42.20, which applies generally to motions practice. Section 42.20 requires that any "[r]elief, other than a petition requesting the institution of a trial, must be requested in the form of a motion" and that "[t]he moving party has the burden of proof to establish that it is entitled to the requested relief." § 42.20(a), (c). Second is 37 C.F.R. § 42.121, which imposes specific requirements on the amendment process. Section 42.121(a)(2) provides that: "A motion to amend may be denied where: (i) The amendment does not respond to a ground of unpatentability involved in the trial; or (ii) The amendment seeks to enlarge the scope of the claims of the patent or introduce new subject matter."

In addition to these two regulations, a six-member panel of the Board has also issued a decision called *Idle Free Systems, Inc. v. Bergstrom, Inc.*, IPR2012-00027, 2013 WL 5947697 (PTAB June 11, 2013). In *Idle Free*, the panel stated that it was providing "a general discussion of several important requirements for a patent owner's motion to amend claims." *Id.* at *1. Relying on § 42.20(c), the *Idle Free* decision requires that, in motions to amend during IPRs:

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“A patent owner should identify specifically the feature or features added to each substitute claim, as compared to the challenged claim it replaces, and come forward with technical facts and reasoning about those feature(s), including construction of new claim terms, sufficient to persuade the Board that the proposed substitute claim is patentable over the prior art of record, and over prior art not of record but known to the patent owner. The burden is not on the petitioner to show unpatentability, but on the patent owner to show patentable distinction over the prior art of record and also prior art known to the patent owner. Some representation should be made about the specific technical disclosure of the closest prior art known to the patent owner, and not just a conclusory remark that no prior art known to the patent owner renders obvious the proposed substitute claims.

“A showing of patentable distinction can rely on declaration testimony of a technical expert about the significance and usefulness of the feature(s) added by the proposed substitute claim, from the perspective of one with ordinary skill in the art, and also on the level of ordinary skill, in terms of ordinary creativity and the basic skill set. A mere conclusory statement by counsel, in the motion to amend, to the effect that one or more added features are not described in any prior art, and would not have been suggested or rendered obvious by prior art, is on its face inadequate.

Id. at ____.

The *Idle Free* decision has been designated as "informative." According to the Board's operating procedures, informative decisions are "not binding authority," but are designated as informative in order to provide "Board norms on recurring issues," "guidance on issues of first impression," and "guidance on Board rules and practices." See Patent Trial and Appeal Board, *Standard Operating Procedure 2 (Revision 9)*, at 3 (¶ IV.A-B), available at <http://www.uspto.gov/sites/default/files/documents/sop2-revision-9-dated-9-22-2014.pdf>.

The Board has frequently cited to *Idle Free* when denying motions to amend during IPRs. See, e.g., *The Scotts Co. v. Encap, LLC*, IPR2013-00110, 2014 WL 2886290, at *18-20 (PTAB June 24, 2014); *Ecowater Sys. LLC v. Culligan Int'l Co.*, IPR2013-0155, 2014 WL 2903758, at *18 (PTAB June 24, 2014); *Adidas AG v. Nike, Inc.*, IPR2013-00067, 2014 WL 1713368, at *17-18 (PTAB Apr. 28, 2014).

* *

B

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This appeal *** presents the question of whether the Board permissibly relied on the requirements of *Idle Free* [*Systems, Inc. v. Bergstrom, Inc.*, IPR2012-00027, 2013 WL 5947697 (PTAB June 11, 2013),] and the DRP [prior art] reference in denying [the

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patentee]'s motion to amend [claims 1 and 3]. We review Board decisions using the standards set forth in the Administrative Procedure Act, 5 U.S.C. § 706. *In re Sullivan*, 362 F.3d 1324, 1326 (Fed. Cir. 2004). "Under that statute, we set aside actions of the Board that are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, and set aside factual findings that are unsupported by substantial evidence." *Id.* "We accept the Board's interpretation of Patent and Trademark Office regulations unless that interpretation is 'plainly erroneous or inconsistent with the regulation.'" *Id.* (quoting *Eli Lilly Co. v. Bd. of Regents of the Univ. of Wash.*, 334 F.3d 1264, 1266 (Fed. Cir. 2003)); see also *Auer v. Robbins*, 519 U.S. 452, 461-62 (1997); *In re Garner*, 508 F.3d 1376, 1378 (Fed. Cir. 2007).

C

At the threshold, we agree with the Director that [37 CFR] § 42.121(a)(2) is not an exhaustive list of grounds upon which the Board can deny a motion to amend. In the AIA, Congress gave the PTO authority to "prescribe regulations" "governing inter partes review" and to "set[] forth standards and procedures for allowing the patent owner to move to amend the patent." § 316(a)(4), (a)(9). Congress also provided that, upon final decision, the Director should incorporate only those amended claims that are "determined to be patentable." § 318(b). Given these directives, the PTO promulgated both the general regulation setting forth the patentee's burden to establish it is entitled to its requested relief, § 42.20, as well as the more specific regulation setting forth particular requirements regarding the amendment process, § 42.121. Both regulations are plainly applicable to motions to amend filed during IPRs, and [the patentee] does not argue that the PTO acted outside its statutory authority in promulgating either one.

What [the patentee] does challenge is the Board's interpretation of those regulations as permitting it to deny [the patentee]'s motion to amend claims 1 and 3 for failure to establish patentability over [the prior art reference,] DRP—a reference that the Board did not rely on when instituting review of those particular claims. The Director responds that its authority to do so comes from § 42.20(c), as it has been interpreted in *Idle Free*—namely, as requiring the patentee "to show patentable distinction [of the substitute claims] over the prior art of record." *Idle Free*, 2013 WL 5947697, at *4. According to the Director, it is permissible for the PTO to use adjudicative Board decisions like *Idle Free*, rather than traditional notice and comment rule-making, to set forth all the conditions that a patentee must meet in order to satisfy its burden of amendment under § 42.20(c).

Some question the wisdom of the PTO's approach. Since IPRs were created, they have rapidly become a popular vehicle for challenging the validity of issued patents. See Patent Trial and Appeal Board AIA Progress, *available at* http://www.uspto.gov/sites/default/files/documents/aia_statistics_05-14-2015.pdf (reporting 2,894 IPR petitions received as of May 14, 2015). Patentees who wish to make use of the statutorily provided amendment process deserve certainty and clarity in the requirements that they are expected to meet. A fluid, case-based interpretation by

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the PTO of its own regulations risks leaving interested members of the public in a state of uncertainty, without ascertainable standards and adequate notice to comply.

Despite such concerns, we recognize that "the choice between rulemaking and adjudication lies in the first instance within the [agency's] discretion." *NLRB v. Bell Aerospace Co. Div. of Textron*, 416 U.S. 267, 294 (1974). The Director argues that adjudication is appropriate here because the PTO "has not 'had sufficient experience with [motions to amend] to warrant rigidifying its tentative judgment into a hard and fast rule'" and that the PTO "thus 'must retain power to deal with [such motions] on a case-by-case basis if the administrative process is to be effective.'" Intervenor's Resp. Letter 3, ECF No. 50 (alterations in original) (quoting *SEC v. Chenery Corp.*, 332 U.S. 194, 202-03 (1947)). Because there is merit to these arguments, we cannot say that the PTO has abused its discretion in choosing adjudication over rulemaking.

Nor can we say that the Board's interpretation of § 42.20(c) in *Idle Free*—requiring the patentee to "show patentable distinction [of the substitute claims] over the prior art of record," *Idle Free*, 2013 WL 5947697, at *4—is plainly erroneous or inconsistent with the regulation or governing statutes. The legal framework provides that a patentee must "move to amend the patent," § 316(a)(9), that the Director should incorporate only those amended claims that are "determined to be patentable," § 318(b), and that the patentee has the burden to "establish that it is entitled to the requested relief," § 42.20(c).

The Board has reasonably interpreted these provisions as requiring the patentee to show that its substitute claims are patentable over the prior art of record, at least in the circumstances in this case. First, nothing in the statute or regulations precludes the Board from rejecting a substitute claim on the basis of prior art that is of record, but was not cited against the original claim in the institution decision. Second, the very nature of IPRs makes the Board's interpretation appropriate. During IPRs, once the PTO grants a patentee's motion to amend, the substituted claims are not subject to further examination. Moreover, the petitioner may choose not to challenge the patentability of substitute claims if, for example, the amendments narrowed the claims such that the petitioner no longer faces a risk of infringement. If the patentee were not required to establish patentability of substitute claims over the prior art of record, an amended patent could issue despite the PTO having before it prior art that undermines patentability. Such a result would defeat Congress's purpose in creating IPR as part of "a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs." H.R. Rep. No. 112-98, pt. 1, at 40 (2011), 2011 U.S.C.C.A.N. 67, 69.

[The patentee] argues that the Board's actions are in conflict with § 42.121(a)(2)(i). But [the patentee] confuses requirements governing permissible reasons for seeking amendment versus those governing what must ultimately be shown of amended claims. Section 42.121(a)(2)(i) simply requires that a patentee's amendment be made in order to "respond to a ground of unpatentability involved in the trial," and not for some other reason. As the PTO explained, this rule is meant to "enhance efficiency of review proceedings [A]ny amendment that does not respond to a ground of unpatentability

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most likely would cause delay, increase the complexity of the review, and place additional burdens on the petitioner and the Board." *Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents*, 77 Fed. Reg. 48,680, 48,705 (Aug. 14, 2012). Assuming an amendment is appropriately responsive to the grounds of unpatentability involved in the trial, the patentee must still go on to show that it is entitled to its substitute claim. The PTO explained this as well, stating that a motion to amend "will be entered so long as it complies with the timing and procedural requirements" but "even if entered, will not result automatically in entry of the proposed amendment into the patent." *Id.* at 48,690. Requiring the patentee to establish that its substitute claims are patentable over the prior art of record does not run afoul of § 42.121(a)(2)(i).

[The patentee] also argues that the Board's interpretation and reliance on DRP was "fundamentally unfair" because [the patentee] was unable to defend substitute claims 35 and 36 against that reference. Cross-Appellant's Resp. Letter 2, ECF No. 51. We reject that argument. Although DRP was not one of the original references for which review of claims 1 and 3 was instituted, it was very much a part of the entire proceedings. In particular, it was relied on by the Board for instituting review of six closely related claims. And after [the patent challenger] filed an opposition brief arguing that substitute claims 35 and 36 were invalid over DRP, [the patentee] had the opportunity to distinguish those claims from DRP in its reply brief but simply chose not to do so. Lastly, at the oral hearing, the Board explained to [the patentee] that [the patentee] was required to demonstrate the patentability of substitute claims 35 and 36 over the DRP reference. This is not a case in which the patentee was taken by surprise by the Board's reliance on an entirely new reference or was not given adequate notice and opportunity to present arguments distinguishing that reference. Rather, this is a case where the prior art relied on by the Board was front and center throughout the course of the proceedings.

For all of these reasons, we conclude that the Board acted permissibly in requiring [the patentee] to establish the patentability of substitute claims 35 and 36 over the DRP reference. And based on [the patentee]'s failure to do so, we affirm the Board's denial of [the patentee]'s motion to amend claims 1 and 3.



§ 6 Role of the MPEP, the *Manual of Patent Examining Procedure*

This chapter is, if anything, a “how NOT to” chapter, instead of the general theme of this book which is “how to” draft a patent application.

Why, then, is this chapter a part of a “how to” book?

The reason for inclusion of this chapter is to demonstrate precisely *why* the *Manual of Patent Examining Procedure*, the MPEP, should be studied strictly for precise procedural rules and for guidance in prosecution of an application, but *never* for guidance in how to draft a patent application.

The problem of attempting to follow the MPEP has been greatly multiplied by the new first to file regime where time is of the essence, and many of the MPEP-mandated requirements and suggestions have no position value and serve, as a minimum to postpone the all important first to file filing date:

TOP TEN MPEP FAUX DRAFTING “REQUIREMENTS”

Of the numerous requirements in the “Rules”, the *Code of Federal Regulations*, and the “MPEP”, the *Manual of Patent Examining Procedure*, most of the requirements and recommendations *are* important and *should be* complied with to obtain proper patent protection. But, many relate to requirements that were required in the nineteenth century and have long been superseded by statutory changes or represent guidance that never had a statutory basis. The following ten requirements are discussed in more detail in this chapter. Each is a *negative* requirement or recommendation because it serves no statutory purpose but may have negative substantive implications for some but for all each represents added time to draft the patent application and delay that all important earliest possible filing date that is a feature of a first to file system (whether designated as such or given the euphemism “first inventor to file):

The question may be fairly asked: But, what *harm* is there in complying with the requirements and recommendations of the MPEP, if speed in filing is not of the essence? Here, there are some requirements that may be neutral in terms of “helping” or “hurting” the applicant. But, as will be seen in this chapter, while some of the requirements or recommendations do not help nor hurt either the applicant or the examiner, there are some that are actually negative to the goals of the applicant. For example, if the applicant recites a “problem” in the prior art that is solved by the invention (*see* point (4)), then the admission that there is such a “problem” in the prior art may very well provide the *motivation* for the worker

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skilled in the art to make the invention, thereby rendering what may otherwise have been a patentable invention obvious under *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

(1) “I must recite the field of the invention”

See § 6[c] *Background of the Invention* (quoting MPEP § 608.01(c), *Background of the Invention*, ¶ (1), *Field of the Invention*). See also § 6[c][1], “*Field of the Invention*”

(2) “I must “describ[e] *** the prior art’ in the specification”

See § 6[c] *Background of the Invention* (quoting MPEP § 608.01(c), *Background of the Invention*, ¶ (2), *Description of the related art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98*).

(3) “The CFR says I should include a ‘[b]ackground of the invention”

See § 6[c] *Background of the Invention* (quoting 37 CFR § 77(b)(5))

(4) “The MPEP says I should recite problems leading to the invention”

See § 6[c], *Background of the Invention* (quoting MPEP 608.01(c) *Background of the Invention*, ¶ 2 (“[T]he problems involved in the prior art or other information disclosed which are solved by the applicant’s invention should be indicated.”) Indication of “problems” may also be basis for substantive rejection of the claims. See § 6[c][3][B], *KSR-Related Problems with “Problems”*.

(5) “The MPEP says I should disclose the ‘gist’ of the invention”

See § 6[d], *Abstract of the Disclosure* (quoting *Guidelines*)(Abstract should permit upon cursory inspection “*the nature and gist of the technical disclosure*”).

(6) “I must disclose the best mode in the *original filing*”

See MPEP § 608.01(h), *Mode of Operation of Invention* (“If the best mode contemplated by the inventor at the time of filing the application is not disclosed, such defect cannot be cured ****.” But under the *Leahy Smith America Invents Act* (35 USC § 120) the best mode defect can be cured by filing continuation-in-part adding best mode.

(7) “I should cite prior art in the specification as filed.”

The MPEP encourages citation and discussion of prior art in the specification. There is no requirement to cite prior art in the specification *at any time* provided a parallel Information Disclosure Statement is filed within three months from the filing date. See MPEP § 609.04(b), *Timing Requirements for an Information Disclosure Statement*.

(8) “I should summarize the ‘nature and substance’ of the invention”

See MPEP § 608.01(d), *Brief Summary of the Invention* (quoting 37 CFR § 1.73, *Summary of the Invention*). The “nature” requirement is statutory, dating back to the 1830’s, but not a part of the patent law since January 1, 1953.

(9) “Any object recited should be that of the invention as claimed[.]”

This is a quotation from MPEP § 608.01(d), *Brief Summary of the Invention* (quoting 37 CFR § 1.73, *Summary of the Invention*). But, an “object” is not a statutory requirement.

(10) I must disclose “the exact nature, operation, and purpose ...”

See MPEP § 608.01(d), *Brief Summary of the Invention* (quoting 37 CFR § 1.73, *Summary of the Invention*). The “nature” requirement was introduced by statute in 1836 as a codification of case law dating to 1793. See § 6[b][4], “*Nature of the Invention*”: *1836 Statutory Basis*. By 1870, any reason to define the “nature” of the invention evaporated. See § 6[b][5], *1870 Law Mandating Claims to Define the Invention*.

§ 6[a] The *Manual* is the Examiner’s Procedural “Bible”

In theory it is understood by practitioners that the patent law, regulations and case law are the authoritative sources for the interpretation of patent law and practice, and that the *Manual of Patent Examining Procedure* stands subservient to all three sources. Clearly, the *Manual* is a tertiary resource that has no value as an authoritative source to the extent that it is inconsistent with either the patent law or the *Rules of Practice in Patent Cases*.

But, in fact, many – if not the majority – of practitioners in their early years leading up to practice and the start of their patent careers have never made a

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comprehensive study of any of these higher sources of authority. They have instead comprehensively focused their study of patent law on the *Manual of Patent Examining Procedure*.

Why?

The reason is quite simple: The Patent Office in its materials explaining how to take the patent registration examination focuses upon the *Manual of Patent Examining Procedure* as the primary examination study guide. Examination questions are announced as coming from the *Manual*. Even at the registration examination itself, persons sitting for the examination are provided an electronic copy of the *Manual*. It is thus little wonder that the typical newly minted practitioner has a knowledge of patent law focused upon what is taught in the *Manual*.

The *Manual* historically has been the “bible” for training prospective patent practitioners: The *Manual* is the *primary source* for questions on the patent registration examination, so it is natural that the prospective patent practitioner – after all concerned about *passing the examination* – will focus his study on the *Manual*.

This section explores precisely what the *Manual* teaches in its MPEP § 608 that deals with disclosure requirements:

§ 6[b] *Summary of the Invention, Prime Example of a Failed Teaching*

MPEP § 608.01(d) Brief Summary of Invention

“**37 C.F.R. 1.73 Summary of the invention.** A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.”

Since the purpose of the brief summary of invention is to apprise the public *** of the nature of the invention, the summary should be directed to the specific invention being claimed, in contradistinction to mere generalities which would be equally applicable to numerous preceding patents. That is, the subject matter of the invention should be described in one or more clear, concise sentences or paragraphs. Stereotyped general statements that would fit one application as well as another serve no useful purpose and may well be required to be canceled as surplusage, and, in the absence of any illuminating statement, replaced by statements that are directly on point as applicable exclusively to the case at hand.

The brief summary, if properly written to set out the exact nature, operation, and purpose of the invention, will be of material assistance in aiding ready understanding of the patent in future searches. The brief summary should be more than a mere statement of the objects of the invention, which statement is also permissible under 37 CFR 1.73.

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The brief summary of invention should be consistent with the subject matter of the claims. ***

As one example of the shortcomings of the *Manual* as a teaching tool, consider the contents of what *should* be in a *Summary of the Invention* versus what the *Manual* says should be in the *Summary of the Invention*.

If properly drafted, the *Summary* *should* recite the elements of the claimed invention and include definitions of otherwise ambiguous terms particularly at the point of novelty. For generic coverage, the *Summary* should also name plural embodiments for an element of the claimed invention where only one is set forth in the *Detailed Description of the Invention*. In the case of novel chemical or biotechnology entities, a statement of specific usefulness should be provided.

Instead, the *Manual* cites to the relevant rule for the *Summary of the Invention* which says *nothing* about any of the above “best practices” features that *should* be included in the *Summary of the Invention*. Instead, the rule says that the *Summary of the Invention* should recite the “nature” of the invention and recite “objects” of the invention.

Amazingly, the “nature” of the invention is required by the Rules of Practice: Nowhere is there any *definition* or even explanation in the *Manual* as to precisely what *is* the “nature” of an invention.

In fact, the “nature” of the invention disclosure requirement dates back all the way to the 1830’s as a statutory requirement but has not been that has not been a part of the patent law since January 1, 1953, more than sixty (60) years ago.

Recitation of an “object” of the invention has no statutory basis and its usage has long been discredited in the case law. Recitation of an “object” is far from a harmless mistake: An “object” can be basis for a narrowed scope of protection.

§ 6[b][1] Tracing the Origins to the 1949 First Edition

Before considering what the *Manual* should *not* say, it is important to note what the *Manual* itself *does not* say about the content of a *Summary of the Invention*. Each of the following points *should be* in the *Manual* to reflect case law decisions over the past several decades. The absence of these features manifests a failure to update the *Manual*:

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Thus, the Patent Office rule nowhere says that the *Summary of the Invention should contain* a verbatim recitation of claim language, *should contain* exemplification of alternate elements where an element in the claims has a limited disclosure, and *should contain* an express definition at the point of novelty, particularly as a way to cabin the “broadest reasonable interpretation” of the claims.

To the contrary, in the original 1949 First Edition the *Manual* says that the invention should be broken down into sentences that “paraphrase” the claim language: “[T]he purpose of the general statement of invention is to apprise the public *** of the nature of the invention [so that] the statement should be directed to the specific invention claimed ***. That is, the subject matter of the claims taken as a unit should be *paraphrased* in a few clear, concise sentences or paragraphs, according to the extent and nature of the invention. ****” MANUAL OF PATENT EXAMINING PROCEDURE (1st ed. 1949), § 8-9-5, General Statement of Invention (quoting Rule 10.2, Summary of the Invention) (Dept. of Commerce 1st ed. 1949)(emphasis added).

Why paraphrase the claim language? What possible positive purpose is achieved by deviating from the claim wording? Many years ago a leading English patent expert explained:

“[M]ost people agree that in normal cases it is desirable to include in the early part of the specification some broad statement of the invention. Some suggest that the statement should not adhere to the words of the claim but I think any departure is liable to be dangerous. If one has spent time and thought bringing the claim to the best wording one can think of, it seems illogical to employ a second best for the statement of the invention.”

E.W.E. Micklethwait, *Brushing Up Our Drafting*, Trans. CIPA LXV p. 72 (1946-1947), reproduced, Cole, Paul, ed., FUNDAMENTALS OF PATENT DRAFTING, 155, 162 (CIPA 2006).

None of these important elements for a *Summary of the Invention* is housed within Rule 73.

While the current, relevant *Manual* section is silent on confusing terminology the original 1949 First Edition included the mandate that “[a] term used in the claims may be given a special meaning in the description. No term may be given a meaning repugnant to the usual meaning of the term. *** *The use*

of a confusing variety of terms for the same thing should not be permitted.” MPEP § 608.01(o), *Basis for Claim, Terminology in Description* (1st ed. 1949)(emphasis added).

§ 6[b][2] What the Manual *Doesn't* but *Should* Require

§ 6[b][2][A] Verbatim Recitation of the Claim Language

As noted earlier, there are several key requirements for an optimum *Summary of the Invention*, including a verbatim restatement of the features of the *claimed* invention.

§ 6[b][2][B] Exemplification of Claim Elements

Where an element of a claim is performed with reference to only a single feature representing that element without setting forth plural features, case law has in some instances interpreted the element as limited to the single feature; here, the *Summary* should include *alternate* examples to ensure a broad scope of protection. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed.Cir.2005); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed.Cir.2001)).

§ 6[b][2][C] Definitions at the Point of Novelty

A term in the claim at the point of novelty may be expressly *defined* in the *Summary*...

§ 6[b][2][D] Cabining the “Broadest Reasonable Interpretation”

The Patent Office rule for claim construction at the Patent Trial and Appeal Board gives all terms their “broadest reasonable interpretation”. This can be mitigated by an express definition of a term in the *Summary of the Invention*.

§ 6[b][3] “Nature of the Invention”: No Current Statutory Basis

While there is no rule mandating a definitional section in the *Summary of the Invention*, there *is* a rule even today that mandates a disclosure of the “nature of the invention:

There is no better example of a provision in the first edition that was proper at the time that *remains* today – even in the Rules of Practice of Patent Cases – when long overruled either by statutory enactment or case law. The *Manual of*

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Patent Examining Procedure through its numerous revisions dating back to the original 1949 first edition provides a snapshot of the failure of the Office to update its guidance to keep in tune with statutory changes:

The original 1949 edition of the *Manual* includes a quotation from the Rules of Practice:

Summary of the Invention. A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.

§ 608.01(d), *General Statement of Invention* (quoting Rule 73)(Original 1949 edition).

By 1961, the *same Rule 73* is recited in the same section of the *Manual* (since retitled as *Brief Summary of the Invention*). In addition, the following statement has been added to the *Manual*:

“[T]he purpose of the brief summary of invention is to apprise the public ... of the nature of the invention[.]” ***

The brief summary, if properly written to set out the exact nature, operation and purpose of the invention will be of material assistance in aiding ready understanding of the invention in future searches. See [§] 905.04. ***

The brief summary of invention should be consistent with the subject matter of the claims. ***

MPEP § 608.01(d), *Brief Summary of the Invention* (Third edition 1961).

§ 6[b][4] “Nature of the Invention”: 1836 Statutory Basis

A “correct[]” indication of an invention’s “nature” and “design” was introduced as a statutory requirement of the 1836 patent law as a codification of the case law interpretation of the 1793 Patent Act as explained in *Hogg v. Emerson*, 47 U.S. (6 How.) 437 (1848)(Woodbury, J.).

As explained in the Curtis treatise, the 1836 patent law made it a statutory requirement that a patent “shall contain a short description * * * of the invention * * *, correctly indicating [the] nature and design [of the invention.]” George Ticknor Curtis, *A Treatise on the Law of Patents for Useful Inventions*, §221, p. 251 n.3 (Boston: Little, Brown, and Company 1873 (4th ed.))(citing *Hogg v.*

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Emerson, 47 U.S. (6 How.) at 482, and quoting from The act of Congress of July 4, 1836, c. 357, § 6: “[E]very patent shall contain a short description or title of the invention or discovery, correctly indicating its nature and design[.]”).

The page cited by *Curtis* from *Hogg v. Emerson* puts the 1836 statutory origin of the requirement for a disclosure of the “nature and design” of the invention in perspective as part of the evolution of the requirements to define the invention:

“[T]he revising act as to patents, in July 4th, 1836, changed the phraseology of the law in this respect, in order to conform to this long usage and construction under the act of 1793, and required not in terms any abstract of the petition in the patent, but rather 'a short description' or title of the invention or discovery, 'correctly indicating its *nature and design*,' and 'referring to the specification for the particulars thereof, a copy of which shall be annexed to the patent.' And it is that—the specification or schedule—which is fully to specify 'what the patentee claims as his invention or discovery.' Sec. 5. (5 Statutes at Large, 119.)

It was, therefore, from this long construction, in such various ways established or ratified, that, in the present patent, the schedule, or, in other words, the specification, was incorporated expressly and at length into the letters themselves, not by merely annexing them with wafer or tape, as is argued, but describing the invention as an 'improvement, a description whereof is given in the words of the said John B. Emerson himself, in the schedule hereto annexed, and is made a part of these presents.' Hence, too, wherever this form has been adopted, either before or since the act of 1836, it is as much to be considered with the letters,— *literae* patentees, — in construing them, as any paper referred to in a deed or other contract.

Most descriptions of lands are to be ascertained only by the other deeds and records expressly specified or referred to for guides; and so of schedules of personal property, annexed to bills of sale. *Foxcroft v. Mallett*, 4 How. 378; 21 Maine, 69; 20 Pick. 122; Phil. on Pat. 228; *Earle v. Sawyer*, 4 Mason, C. C. 9; *Ex parte Fox*, 1 Ves. & Beames, 67. The schedule, therefore, is in such case to be regarded as a component part of the patent. *Peters*, C. C. 394, and *Davis v. Palmer et al.*, 2 Brockenbrought, 301.

Hogg v. Emerson, 47 U.S. (6 How.) at 482 (emphasis added).

Prior to the reference in *Hogg v. Emerson* to the “nature of the invention” quoted above, the earlier history of the patent law and practice in both England and the United States is explained:

[T]he improvement referred to in the writ and in the letters-patent [in the current case], with the schedule or specification annexed, was in truth one and the same.

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Coupling the two last together, they constitute the very thing described in the writ. But whether they can properly be so united here, and the effect of it to remove the difficulty, have been questioned, and must therefore be further examined. We are apt to be misled, in this country, by the laws and forms bearing on this point in England being so different in some respects from what exist here.

[T]he patent [as] first issued... contains no reference to the specification, except a stipulation that one shall, in the required time, be filed, giving a more minute description of the matter patented. (Webster on Pat. 5, 88; Godson on Pat. 6, App.) It need not be filed under two to four months, in the discretion of the proper officer. (Godson on Pat. 176.)

Under these circumstances, it will be seen that the patent, going out alone there, must in its title or heading be fuller than here, where it goes out with the minute specification. But even there it may afterwards be aided, and its matter be made more clear, by what the specification contains. They are, says Godson on Pat. 108, 'connected together,' and 'one may be looked at to understand the other.' See also 2 Hen. Bl. 478; 1 Webst. Pat. R. 117; 8 D. & E. 95.

There, however, it will not answer to allow the specification, filed separately and long after, to be resorted to for supplying any entire omission in the patent; else something may be thus inserted afterwards which had never been previously examined by the proper officers, and which, if it had been submitted to them in the patent and examined, might have prevented the allowance of it, and which the world is not aware of, seeing only the letters-patent without the specification, and without any reference whatever to its contents. 3 Brod. & Bingh. 5.

The whole facts and law, however, are different here. This patent issued March 8th, 1834, and is therefore to be tested by the act of Congress then in force, which passed February 21st, 1793. (1 Statutes at Large, 318.)

In the third section of that act it is expressly provided, 'that every inventor, before he can receive a patent,' 'shall deliver a written description of his invention,' &c.;—thus giving priority very properly to the specification rather than the patent.

This change from the English practice existed in the first patent law, passed April 10th, 1790 (1 Statutes at Large, 109), and is retained in the last act of Congress on this subject, passed July 4th, 1836 (5 Statutes at Large, 119).

It was wisely introduced, in order that the officers of the government might at the outset have before them full means to examine and understand the claim to an invention better, and decide more judiciously whether to grant a patent or not, and might be able to give to the world fuller, more accurate, and early descriptions of it than would be possible under the laws and practice in England.

In this country, then, the specification being required to be prepared and filed before the patent issues, it can well be referred to therein in extenso, as containing the whole subject-matter of the claim or petition for a patent, and then not only be recorded for information, as the laws both in England and here require, but beyond what is

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practicable there, be united and go out with the letters-patent themselves, so as to be sure that these last thus contain the substance of what is designed to be regarded as a portion of the petition, and thus exhibit with accuracy all the claim by the inventor.

But before inquiring more particularly into the effect of this change, it may be useful to see if it is a compliance with the laws in respect to a petition which existed when this patent issued, but were altered in terms shortly after.

A petition always was, and still is, required to be presented by an inventor when he asks for a patent, and one is recited in this patent to have been presented here. It was also highly important in England, that the contents of the petition as to the description of the invention should be full, in order to include the material parts of them in the patent, no specification being so soon filed there, as here, to obtain such description from, or to be treated as a portion of the petition, and the whole of it sent out with the patent, and thus complying with the spirit of the law, and giving fuller and more accurate information as to the invention than any abstract of it could.

In this view, and under such laws and practice here, it will be seen that the contents of the petition, as well as the petition itself, became a very unimportant form, except as construed to adopt the specification, and the contents of the latter to be considered substantially as the contents of the former.

Accordingly, it is not a little curious, that, though the act of 1793, which is to govern this case, required, like that of 1790, a petition to be presented, and the patent when issued, as in the English form, to recite the 'allegations and suggestions of the petition,' (1 Statutes at Large, p. 321, sec. 1, and p. 110, sec. 3,) yet, on careful inquiry at the proper office, so far as its records are restored, it appears that, after the first act of 1790 passed, the petitions standing alone seldom contained anything as to the patent beyond a mere title; sometimes fuller, and again very imperfect and general, with no other allegations or suggestions, or descriptions whatever, except those in the schedule or specification. The only exception found is the case of *Evans v. Chambers*, 2 Wash. C. C. 125, in a petition filed December 18th, 1790.

Though the records of the patent-office before 1836 were consumed [by the fire in the Patent Office] in that year, many have been restored, and one as far back as August 10th, 1791, where the petition standing alone speaks of having invented only 'an easy method of propelling boats and other vessels through the water by the power of horses and cattle.' All the rest is left to the schedule. Other petitions, standing alone, are still more meagre; one, for instance, in 1804, asks a patent only of a 'new and useful improvement, being a composition or tablets to write or draw on'; another, only 'a new and useful improvement in the foot-stove'; and another, only 'a new and useful improvement for shoemaking'; and so through the great mass of them for nearly half a century. But the specification being filed at the same time, and often on the same paper, it seems to have been regarded, whether specially named in the petition or not, as a part of it, and as giving the particulars desired in it; and hence, to avoid mistakes as to the extent of the inventor's claim, and to comply with the law, by inserting in the patent at least the substance of the petition, the officers inserted, by express reference, the whole descriptive portion of it as contained in the schedule. This may have grown out of

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the decision of *Evans v. Chambers*, in order to remedy one difficulty there. Cases have been found as early as 1804, and with great uniformity since, explicitly making the schedule annexed a part of the letters-patent. Proofs of this exist, also, in our reports, as early as 1821, in *Grant et al. v. Raymond*, 6 Peters, 222; and one, 1st Oct., 1825, in *Gray et al. v. James et al.*, Peters, C. C. 394; and 27 Dec. 1828, *Wilson v. Rousseau*, 4 How. 649.

Indeed, it is the only form of a patent here known at the patent-office, and the only one given in American treatises on patents. Phillips on Pat. 523. Doubtless this use of the schedule was adopted, because it contained, according to common understanding and practice, matter accompanying the petition as a part of its substance, and all the description of the invention ever desired either in England or here in the petition. Hence it is apparent, if the schedule itself was made a part of the patent, and sent out to the world with it, all, and even more, was contained in it than could be in any abstract or digest of a petition, as in the English form.

Hogg v. Emerson, 47 U.S. (6 How.) at 478-81.

The importance of the specification to interpret the scope of the patent right was emphasized by Justice Woodbury:

[W]hen we are called upon to decide the meaning of the patent included in these letters, it seems our duty not only to look for aid to the specification as a specification, which is customary, (1 Gall. 437; 2 Story, R. 621; 1 Mason, C. C. 477,) but as a schedule, made here an integral portion of the letters themselves, and going out with them to the world, at first, as a part and parcel of them, and for this purpose united together for ever as identical.

It will thus be seen, that the effect of these changes in our patent laws and the long usage and construction under them is entirely to remove the objection, that the patent in this case was not as broad as the claim in the writ, and did not comply substantially with the requirements connected with the petition.

From want of full attention to the differences between the English laws and ours, on patents, the views thrown out in some of the early cases in this country do not entirely accord with those now offered. Paine, C. C. 441; *Pennock et al. v. Dialogue*, 2 Pet. 1. Some other diversity exists at times, in consequence of the act of 1793, and the usages under it in the patent-office, not being in all respects as the act of 1836. But it is not important, in this case, to go farther into these considerations.

Hogg v. Emerson, 47 U.S. (6 How.) at 478-81.

§ 6[b][5] 1870 Law Mandating Claims to Define the Invention

Perhaps the “nature” of the invention disclosure requirement made sense in the early to mid-nineteenth century when claims were not mandatory as the definition of the invention. But, in the 1870 law that made the patent claim the mandatory feature to define the invention, the now-anachronistic “nature of the

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invention” requirement was maintained: “[E]very patent shall contain a short title or description of the invention or discovery, correctly indicating its *nature and design*....” *Long v. Rockwood*, 277 U.S. 142, 146 (1928)(McReynolds, J.)(quoting Chapter 230, Act July 8, 1870, 16 Stat. 201 (Rev. Stat. § 4884; section 40, Title 35, U. S. Code (35 USCA § 43; Comp. St. § 9428)).

§ 6[b][6] Definition of Infringement in the 1952 Patent Act

As explained in the *Aro* case, the 1952 Patent Act provided an express statutory definition of infringement as 35 USC § 271(a). *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 350 n.5 (1961). Regarding prior law, the Court in *Aro* explained that:

Although there was no statutory provision defining infringement prior to [the 1952 Patent Act], the definition [of infringement] adopted is consonant with the long-standing statutory prescription of the terms of the patent grant, which was contained in § 4884 of the Revised Statutes as follows:

“Every patent shall contain a short title or description of the invention or discovery, *correctly indicating its nature and design*, and a grant to the patentee * * * of the exclusive right to make, use, and vend the invention or discovery throughout the United States * * *” (Emphasis supplied [by the Court].)

This provision is now contained without substantial change in 35 U.S.C. § 154, 35 U.S.C.A. § 154.

Aro, 365 U.S. at 350 n.5 (emphasis supplied in part by the Court and by this writer).

Quoting the words of the late Pasquale J. Federico, up through the eve of the effective date of the 1952 Patent Act, the statute required “a ... description of the invention ... correctly stating its nature and design.” P. J. Federico, *Commentary on the New Patent Act* [1954], reproduced at 75 J. Pat. And Trademark Off. Soc’y 161, 201-02 (1993). But, the statutory basis for the “nature” and “design” disclosure requirement ceased with the effective date of the 1952 Patent Act: “The old statute [before the 1952 Patent Act] required ‘a short title or description of the invention or discovery, correctly stating its nature and design’; this has been shortened to ‘a short title of the invention’ since the title is of no legal significance.” *Id.*

§ 6[b][7] “Nature”, a Term without Contemporary Meaning

The Federal Circuit has frequently spoken of the “nature of the invention” but has never defined what is meant by the terminology, even when this phrase was used by

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the late Giles Sutherland Rich in *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562 (Fed. Cir. 1991)(Rich, J.), and *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1326 (Fed. Cir. 1991)(Rich, J.). In the former case he stated that “[t]he CCPA's ‘written description’ cases often stressed the fact-specificity of the issue. See, e.g., *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976) (‘The primary consideration is factual and depends on *the nature of the invention* and the amount of knowledge imparted to those skilled in the art by the disclosure’)[]; ...[*In re DiLeone*, 436 F.2d 1404, 1405 (CCPA 1971)] (‘What is needed to meet the description requirement will necessarily vary depending on the nature of the invention claimed’).” *Vas-Cath*, 935 F.2d at 1562 (emphasis added).

In the latter case he said “[h]ow equivalency to a required limitation [to determine infringement] is met necessarily varies from case to case due to many variables such as ... *the nature of the invention* ...”. *Malta*, 952 F.2d at 1326 (emphasis added).

Other members of the Federal Circuit have cited the “nature of the invention” as significant but, again, without explaining what is meant by this terminology. *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1562 (Fed. Cir. 1995)(Nies, J., dissenting), *rev'd*, 520 U.S. 17 (1997)(“The question of scope [of protection] is whether one of skill in the art would understand that a specific element of the claim is not the only means that may be used in the claimed invention. The answer depends on the *nature of the invention* [and other factors].”)(emphasis added); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 962 (Fed. Cir. 1987)(en banc)(Newman, J., commentary)(“[Under the doctrine of equivalents t]he range of equivalents depends upon the extent and nature of the invention.”)(emphasis added); *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1322 (Fed. Cir. 2006); (Newman, J., dissenting)(“It is not the law that process limitations are ignored in construing claims, whatever the nature of the invention.”)(emphasis added); *Young Dental Mfg. Co., Inc. v. Q3 Special Products, Inc.*, 112 F.3d 1137, 1144 (Fed. Cir. 1997)(Clevenger, J.)(“The best mode requirement does not apply to ‘production details.’ ... [U]nder the rubric of production details, we have referred to what more properly are considered routine details. Routine details are details that are apparent to one of ordinary skill in the art. See *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528 1532 (Fed.Cir.1991). They are appropriately discussed separately from production details because routine details do relate to the *quality or nature of the invention*.”)(emphasis added); *EZ Dock Inc v. Schafer Systems Inc*, 276 F.3d 1347, 1351 (Fed. Cir. 2002)(Rader, J.)(quoting *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544 (Fed. Cir. 1997)) (“[A]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the

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invention and the *nature of the invention*, must be considered and weighed against the policies underlying section 102(b)")(emphasis added); *Lough v. Brunswick Corp.*, 103 F.3d 1517, 1518 (Fed. Cir. 1997)(Lourie, J., concurring in den. suggestion for reh'g en banc)("[Section 102(b) public use] encompasses underlying facts such as ... whether the nature of the invention was discernible by observation...")(emphasis added); *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1316 (Fed. Cir., 2005)(on reh'g)(Linn, J.)(quoting *Minton v. Nat'l Ass'n of Sec. Dealers, Inc.*, 336 F.3d 1373, 1378 (Fed.Cir.2003) ("It is not correct that nothing in § 102(b) compels different treatment between an invention that is a tangible item and an invention that describes a series of steps in a process. The very *nature of the invention* may compel a difference.")(emphasis added); *UMC Electronics Co. v. United States*, 816 F.2d 647, 656 (Fed. Cir. 1987)(Nies, J.)(“All of the circumstances surrounding the sale or offer to sell, including ...the *nature of the invention*, must be considered and weighed against the policies underlying section 102(b).”(emphasis added); *id.* 816 F.2d at 657 (“[W]e conclude from ... the *nature of the inventor's contribution to the art*, that the claimed invention was on sale within the meaning of section 102(b).”(emphasis added); *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)(Edward Smith, J.)(citing *Ansul Co. v. Uniroyal, Inc.*, 448 F.2d 872, 878-79 (2d Cir.1971))("The determination of what constitutes undue experimentation [in the context of enablement] in a given case requires the application of a standard of reasonableness, having due regard for the *nature of the invention* and the state of the art.")(emphasis added).

§ 6[c] Background of the Invention

MPEP § 608.01(c) Background of the Invention

The Background of the Invention may include the following parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions. The statement should be directed to the subject matter of the claimed invention.

(2) Description of the related art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A paragraph(s) describing to the extent practical the state of the prior art or other information disclosed known to the applicant, including references to specific prior art or other information where appropriate. Where applicable, the problems involved in the prior art or other information disclosed which are solved by the applicant's invention should be indicated. See also MPEP § 608.01(a), § 608.01(p) and § 707.05(b).

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There is no statutory basis for this section. A lead instructor of the Practising Law Institute's course on patent drafting recommends a *Background of the Invention*, but also says that the *Background of the Invention* should be one "that says little or nothing substantive." Eugene Quinn, *Beware Background Pitfalls When Preparing a Patent Application*, IPWatchdog.com (October 23, 2011).

Under Rule 77(b)(5), it is suggested that a patent applicant "should" include in the patent specification a "[b]ackground of the invention". 37 CFR § 1.77(b)(5).

The Patent Office as part of Rule 77(b)(5), while saying there "should" be a *Background of the Invention* never says *what the content should be*.

Thus, there is nothing in the Rules that specify *what* must or should be included in the *Background*.

§ 6[c][1] "Field of the Invention"

The first part of the suggested *Background* ... is that there should be a "field of the invention". This is an anachronistic provision that is designed to help the *classification* clerk or examiner determine the proper *classification* of the application for assignment to the appropriate examining division or group. Thus, under the *Manual*, the "field" portion of the *Background* section is of "[a] statement of the field of art to which the invention pertains. This statement may include a *paraphrasing of the applicable U.S. patent classification definitions*." *Id.*; emphasis supplied.

§ 6[c][2] Prior Art "Information"

The *second* part of the *Background* is to provide a "[d]escription of the related art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98". This should comprise at least one paragraph "describing to the extent practical the state of the prior art or other information disclosed known to the applicant, including references to specific prior art or other information where appropriate.

§ 6[c][3] Discussion of "Problems" of the Invention

The *Background* provides that "[w]here applicable, the problems involved in the prior art or other information disclosed which are solved by the applicant's invention should be indicated."

§ 6[c][3][A] Problems with a “Background” Section

Provided the “information” important to an Examiner and required by Rule 56 is supplied in some form, it is completely unnecessary to supply a Background section in the patent application.

First of all, creating a *Background* section at the time of filing is very dangerous in the sense that there may be a false characterization of the true state of the art. At the time the application is filed, there remain some unpublished but prior filed patent applications that are thus completely unknown to the patent applicant; yet, *after* filing the application, when these applications are *published*, they retroactively become “prior art” under 35 USC § 102(e)(1). Then, the state of the prior art may be discovered to be different. Now, the original statement may be a misrepresentation of the true state of the art. Must there be an amendment?

Second, even if there is no mistake in the characterization of the invention, the characterization may create a narrowed interpretation for the scope of protection under the rules of claim construction.

In the *Reading & Bates* case, the patentee initially got in trouble by describing *his own work* as part of the “Summary of the Prior Art”. *Riverwood Intern. Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1354-55 (Fed. Cir. 2003)(Linn, J.)(discussing *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645 (Fed.Cir.1984)). In the end, the patentee did win the case on the narrow basis that the work described was the patentee’s own work. *Riverwood*, 324 F.3d 1346 at 1355 (The court “held that the patentee’s discussion of his own patent in the specification section entitled ‘Summary of the Prior Art’ did not constitute an admission that the patent was prior art. In reaching its conclusion, the court reviewed our precedent and recognized the ‘policy behind requiring a statutory basis before one’s own work may be considered as prior art.’”)(citations omitted).

§ 6[c][3][B] KSR-Related Problems with “Problems”

The patent applicant who provides a “Background of the Invention” identifying a known problem in the art creates a problem under *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). Admission that there is a known problem in the art invites the Examiner of the application or a court evaluating patent validity to

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conclude that the admission of the known problem creates a motivation to combine references, thereby rendering a possibly unobvious invention obvious.

“Evidence of a motivation to combine prior art references may flow from “the nature of the problem to be solved.” *Dome Patent L.P. v. Lee*, ___ F.3d ___ (Fed. Cir. 2015)(Hughes, J.)(quoting *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1371 (Fed. Cir. 2011), quoting *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276 (Fed. Cir. 2004)).

As noted by the Chief Judge of the Federal Circuit, “[w]hen a claimed invention involves a combination of elements, however, any need or problem known in the relevant field of endeavor at the time of invention can provide a reason to combine. See *KSR* [550 U.S. at 420-21]. Moreover, the prior art need not address the exact problem that the patentee sought to resolve. *Id.*” *Tyco Healthcare Group LP v. Ethicon Endo-Surgery, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2014)(Prost, C.J.).

Institut Pasteur v. Focarino, 738 F.3d 1337 (Fed. Cir. 2013), points in the same direction:

“When there is a design need or market pressure to *solve a problem* and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *Institut Pasteur*, 738 F.3d at 1344(quoting *KSR*, 550 U.S. at 421 (2007)(emphasis added).

In yet another case, the Federal Circuit explained that “our cases emphasize that ‘where all of the limitations of the patent were present in the prior art references, and the invention was addressed to a ‘known problem,’ ‘*KSR* . . . compels [a determination of] obviousness.’” *Stone Strong, LLC v. Del Zotto Products of Florida*, 455 Fed. Appx. 964, 969 (Fed. Cir. 2011)(quoting *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1240 (Fed. Cir. 2010), citing *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009)).

In *Schwemberger* the admission in the specification of a known problem was a basis to reach a conclusion of unpatentability:

“The *specification* . . . *discloses a known problem* [M]odifying Pruitt’s staple line configuration in accordance with the configuration disclosed by Schulze is no more than ‘the combination of familiar elements according to known methods . . . [with] predictable results.’ See *KSR [Int’l Co. v. Teleflex Inc.]*, 550 U.S. 398, 416 (2007)]; see also *id.* at 421 (‘When there is a *design need or market pressure to solve a problem* and there are

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a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.’). Therefore, the Board correctly determined that claim 9 is obvious over the combination of Pruitt and Schulze.” *In re Schwemberger*, 410 Fed. Appx. 298, 304 (Fed. Cir. 2010)(emphasis added)

6[c][3][C] PTAB Equates “Background” as “Admitted Prior Art”

In at least one case invalidity proceeding at the Patent Trial and Appeal Board, the Board has used the “background” section of a patent *and also the text of the provisional priority application* as critical “prior art” without statutory basis but rather as “admitted” prior art as seen from *Nichia Corp. v. Emcore Corp.*, Case No. IPR2012-00005, paper no. 68 (PTAB 2014)(Chang, APJ).

In the *Nichia v. Emcore* case a critical basis for the combination of prior art references is the “glue” provided by the “background” section of both the patentee’s granted patent *and also its provisional priority application*; this “glue” ties together the combination of references to establish unpatentability of the invention.

The holding in *Nichia v. Emcore* is stated at the conclusion of its opinion: “[The patent challenger] has met its burden of proof ... in showing that claims 1-17 of the ’215 patent are unpatentable under 35 U.S.C. § 103(a) over Kidoguchi, Nakamura, Fujimoto, Shibata, *and the Admitted Prior Art.*” *Id.* at p. 64 (emphasis added)/

Earlier in a section Entitled “Admitted Prior Art” the Board explains:

The *Admitted Prior Art includes the background section* of the [] provisional application and the background section of the [] patent. In particular, the *background section* of the [] patent states that, in most semiconductor devices, the contacts **20** should exhibit low “ohmic” characteristics and low contact resistance. *** *According to the background section* of the [] patent, it was known at the time of the invention to form contacts for n-type GaN by annealing a Ti and Al structure. *The background section* of the [] provisional application states that “[t]ypical low work function metal/metal stack with yield low contact resistance to n-GaN on annealing is Al, Ti/Al.”

Id., at 20-21, § II-B-2-e, *Admitted Prior Art* (emphasis added, citations deleted).

§ 6[c][4] Most Applicants Include a *Background*

There is no *statutory* basis to require a *Background of the Invention* and providing a *Background of the Invention* does not help the examiner with his examination of the application in a *Background of the Invention* that is *well drafted* to avoid admissions or any statement that would create a negative inference as to patentability. (This also assumes, of course, that the best prior art known to the applicant *is* cited in an Information Disclosure Statement).

Yet, the general view in the patent profession is that there *should* be a *Background of the Invention*, as seen from the advice given by the highly regarded patent expert, Jeffrey A. Lindeman, a top Silicon Valley patent firm and by Eugene Quinn, a lead instructor of the Practising Law Institute’s patent drafting course.

For example, Lindeman states that:

“Typically, the specification begins with a background section that provides the context for the invention. The background section can set out [the] problem the invention solves and discuss prior attempts to address the same problem. *** The background of the invention is a description to the extent practical of the state of the prior art or other information disclosed known to the applicant ***. Where applicable, the problems involved in the prior art or other information disclosed that are solved by the applicant’s invention should be indicated [footnote omitted].”

Jeffrey A. Lindeman, *Patenting Amorphous Solid Dispersions of Pharmaceuticals*, § 13.4.1, *Describing Amorphous Solid Dispersions in a Patent*, in Ann Newman, ed., PHARMACEUTICAL AMORPHOUS SOLID DISPERSIONS, p. 422 (John Wiley & Sons, Inc. 2015).

The highly regarded Silicon Valley law firm referenced above explains that “[t]he *Background of the Invention* identifies and describes some of the problems solved by the invention. This section may also describe conventional solutions to the problems and the shortcomings of such solutions. It is not necessary for this section to provide an extensive overview and analysis of technical literature.” Fenwick & West LLP, *Instructions for Reviewing Your Patent Applications, Background of the Invention* (2008), available at https://otl.stanford.edu/documents/fw_patappreviewinstr.pdf (last visited May 11, 2015).

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Eugene Quinn, a lead lecturer for the Practising Law Institute's patent bar preparation course, elaborates on "some pitfalls to be on the lookout for when you are preparing the *Background of the Invention*." Eugene Quinn, *Beware Background Pitfalls When Preparing a Patent Application*, IPWatchdog.com (October 23, 2011). He counsels practitioners to "stay away from describing what the prior art is or does." *Id.* He warns that "[i]f you talk about what the prior art does *** you may find it exceptionally difficult to back away from positive, descriptive statements that have previously been made." *Id.* Even worse, "the more you explain about the prior art the more likely you will be making it easy for the patent examiner to issue an obviousness rejection. *** If you explain the prior art and the problems too well then your solution, and hence your invention, could seem obvious." *Id.*

Say nothing! Thus, Quinn says that "[t]he *Background* is supposed to be about the prior art *** but you won't [discuss the prior art] because of the pitfalls ***. You will only discuss in vague, cursory terms the prior art and only to the extent that it can be useful and NOT harmful. You must always remember the rampant problems inventors face when they lock themselves into a particular articulation of structural features and when they trivialize their own invention by making it seem obvious." *Id.*

§ 6[c][5] "Problems", "Objects" and "Advantages" for Japan Priority

In drafting a first United States application, it should be remembered that if the application is to serve as basis for a later Japanese convention application, it is helpful if the requirements of Japanese patent law are met as part of the United States priority application. Whether or not it is *necessary* that the Japanese substantive requirements are met as part of the priority filing, it is useful to include elements in the priority document that meet Japanese (and other overseas standards) because often the later Japanese or other overseas application are merely translated and neither revised nor tailored for Japanese or other differing standards.

Up until 1995 a point of great contention was the previous statutory requirement that the inventor must disclose in the specification an "object" of the invention, including a "problem that the invention is to solve". Until 1995, an applicant for patent in Japan under Art.36(iv) of the 1959 Patent Law *did*, as a matter of *statutory* law, have to state an "object" and "problem that the invention is to solve".

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In 1995 Japan abolished its *statutory* requirement that the inventor must disclose in the specification an “object” of the invention, including a “problem that the invention is to solve”. Before 1995, an applicant for patent in Japan under Art.36(iv) of the 1959 Patent Law *did* have to state an “object” and “problem that the invention is to solve”:

“[Art.36(iv) of the 1959 Patent Law] stipulates that the detailed explanation of the invention shall state the ‘objects’...of the invention in such a manner that it may easily be carried out by a person having ordinary skill in the art to which the invention pertains. Furthermore, under Examination Manual 25.01A, it is required that the ‘objects’ of the invention should be divided into three items proceeded by headings ‘Industrial Field of Utilization’, ‘Prior Art’, and ‘Problem that the Invention is to Solve’.

“Consequently, the inclusion of ‘objects’ in a patent application is essential to the prosecution of the application or later interpretation of the granted patent.”

Kenji Asai, Kanji Fujiyoshi, Fujihiko Kanda, Shuhei Katayama, Yoshihiko Kido, Shinichi Kimura, Hiroshi Kobayashi, Tomoya Kurokawa, Takao Matsui, Takanori Nakajima, Nobuyuki Nishikawa, Takeshi Nonaka, Toshiharu Ogawa, Makoto Onda, Yoko Sakuma, Takahisa Satoh, Yasumitsu Suzuki, Yukihiisa Tamakushi, Yoshikazu Tani, Hitoshi Wada, Masashi Yanagida and Tamaki Yoshida, *Questions and Answers Regarding Japanese Patent Practice*, Answer A7(1) to Question 7: “Missing ‘Object’: If you do not include ‘objects’ in a patent application, is such action detrimental to the prosecution of the application or later interpretation of the patent?”, Japan Patent Attorneys Association, International Activities Committee (3rd ed. 2007)(“Asai et al.”)

Art. 36(iv) was amended in 1995 to abolish the requirement for an “object” and “problem that the invention is to solve”:

“The revised [Art. 36(iv)] ... stipulates that the detailed explanation of the invention shall state the invention, as provided for an ordinance of the Ministry of International Trade and Industry, in a manner sufficiently clear and complete for the invention to be carried out by a person having ordinary skill in the art to which the invention pertains.

“Furthermore, Art.24-2 of Regulation [applicable since] July 1, 1995 stipulates that the description in accordance with the regulation as defined in the Patent Law Art.36(iv) shall be made by setting forth the features which are necessary for a person having ordinary skill in the art to recognize the technical significance of the invention, such as the problems to be solved by the invention and the solution therefore or the like.

Therefore, the statement of ‘object’, ‘constitution and advantage’ is not mandatory. The application is not rejected on the ground of mere ‘omission of object’. In other words, the requirement for disclosure can be met, as far as a person having ordinary skill in the art upon filing can clearly recognize the technical significance of the invention from the

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description of ‘The Detailed Explanation of the Invention’, and can carry out the invention based on the description of ‘The Detailed Explanation of the Invention’.”

Id., Answer A7(2).

A statement of “advantages” of the invention was at one time important for a Japanese patent application, but this is no longer the situation. Priority should be granted in Japan whether or not the American priority document discloses “advantages” of the invention. As explained by the Japan Patent Attorneys Association:

The 1959 Patent Law in Art.36(iv) had a requirement that the specification state an “object” and “advantageous effect”. Under the old 1959 law, it had been “recommended to state ‘objects’ of the invention as providing the alternative method in relation to the prior art. It [was] also advisable to state the ‘advantageous effect’ as being able to do something without using the conventional method.”

Asai *et al.*, Answer A9(1) to Question 9: “‘Problems’ and ‘Advantageous Effects’, With respect to the specification, and the requirement to state ‘problems’ and ‘advantageous effects’, how should ‘problems’ and ‘advantageous effects’ be stated if the invention is simply another or alternative way of doing something, but there is no problem with prior art and the invention does not provide any significantly better efficiency, cost or results?”, Japan Patent Attorneys Association, International Activities Committee (3rd ed. 2007).

However, although the *statute* was changed, the practice was not updated to correspond to this statutory reform. An analysis of the Japanese practice in 1995 up to the present time is that although the statute which changed the official guidance from the Japan Patent Office makes it still advisable to include the features of the pre-1995 law as part of patent applications drafted today. (Unpublished study by Shozo Uemura and his group including Fumio Inai, Hironobu Kashihara, Shozo Yamashita & Tamaki Yoshida.) To be sure, at least some industry groups adhere to the idea that the statutory change was more significant than under the actual practice:

“Under the revised provision of Art.24-2 of Regulation which applies to patent applications filed on or after July 1, 1995, it is required to state either (i) the problems to be solved by the invention and technical means used for solving the problems, or (ii) the features which are necessary for a person having ordinary skill in the art to recognize the technical significance of the invention. Accordingly, if a so-called ‘problem-solution approach’ is not appropriate, it is not necessary to state [a] ‘problem.’ In summary, *it is sufficient that explanation is made in such a manner that a person having ordinary skill in the art can recognize the technical significance of the invention.*”

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“Under the revised provision of the Patent Law Art.36(iv) which applies to patent applications filed on or after July 1, 1995, statement of ‘advantageous effect’ is not required.”

Id. Answer A9(2); emphasis added.

The guidance from the Uemura group is consistent with the general rule today which, however, has significant loopholes, as discussed at §8[b][2], *Japanese Requirement to State “Problem” and “Solution”*.

§ 6[d] Abstract of the Disclosure

In most cases, the wording of the claims best describes the invention for anyone – whether the public or a patent practitioner. The *Manual* provides guidance that makes absolutely no sense. While the guidance is more fully quoted at the end of this section, several snippets are cited, here, that tell the whole story:

The public is told that that it should *not* focus on the wording of the claims but instead should explain “the nature and gist of the technical disclosure[.]” What, precisely is the “nature” or “gist” of the invention? Why, precisely should the *Abstract...* teach the “nature” or “gist” of the invention?

Furthermore, that the emphasis of the *Abstract...* is *not* on the invention but rather the “technical disclosure”: Thus, the *Manual* states that “[a] patent abstract is a concise statement of the technical disclosure of the patent[.]”

The reader is told not to use “[t]he form and legal phraseology of ten used in patent claims” and, indeed, not to recite the claimed invention but, instead, “[t]he abstract should sufficiently describe the disclosure[.]”

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The *Manual* thus provides the following guidance:

I. GUIDELINES FOR THE PREPARATION OF PATENT ABSTRACTS

A. Background

The content of a patent abstract should be such as to enable the reader thereof, regardless of his or her degree of familiarity with patent documents, to determine quickly from a cursory inspection of *the nature and gist of the technical disclosure* and should include that which is new in the art to which the invention pertains.

B. Content

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains.

If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure.

If the patent is in the nature of an improvement in old apparatus, process, product, or composition, *the abstract should include the technical disclosure of the improvement.*

If the new technical disclosure involves modifications or alternatives, *the abstract should mention by way of example the preferred modification or alternative.*

With regard particularly to chemical patents, for compounds or compositions, *the general nature of the compound or composition should be given as well as the use thereof....*

C. Language and Format

The abstract should be in *narrative form* and generally limited to a single paragraph within the range of 50 to 150 words. *** *The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.* The abstract should sufficiently *describe the disclosure* to assist readers in deciding whether there is a need for consulting the full patent text for details.

D. Responsibility

Preparation of the abstract is the responsibility of the applicant. Background knowledge of the art and an appreciation of the applicant's contribution to the art are most important in the preparation of the abstract. ***

MPEP § 608.01(b), *Abstract of the Disclosure* (emphasis added).

§ 6[d][1] No Penalty for an Abstract that Defines the Invention

There is no penalty against an applicant who files a proper statement of the *claimed invention* as the *Abstract of the Disclosure*. At worst, the Examiner may require a new *Abstract*....

§ 6[d][2] Abstract-Created Judicially Narrowed Claim Interpretation

Where the patent applicant drafts an *Abstract*... in accordance with the *Manual* different language will be used to describe the invention which can be used to *narrow* the effective scope of the claimed invention. See *Hill-Rom Co. v. Kinetic Concepts, Inc.*, 209 F.3d 1337, 1341 n.* (Fed. Cir. 2000)(Bryson, J.); *Tate Access Floors, Inc. v. Maxcess Technologies, Inc.*, 222 F.3d 958, 965 n.2 (Fed. Cir. 2000).

§ 6[d][3] PCT Abstract Information

It is manifest that there is no close supervision of the *Manual* which in its nearly 3700 pages offers diametrically opposing viewpoints. This is no better illustrated than in the statements in one portion of the *Manual* that say that the “gist” of the invention must be disclosed, balanced by completely opposite statements elsewhere.

§ 6[d][3][A] “Pro-Gist” Requirements for PCT Applications

In the discussion of the Abstract for a PCT Application, MPEP § 1826, *The Abstract*, there is a section entitled *Summary of Abstract Requirements*, that states that the *Abstract*.

“Should contain:

- (A) Indication of field of invention.
- (B) Clear indication of the technical problem.
- (C) Gist of invention's solution of the problem. ...”

Thus the PCT requirement for an *Abstract* requires identification of a “gist of [a] solution,” “the technical field” of the invention, a “technical problem” and “the gist of the solution of that problem.” See MPEP § 1826 (quoting PCT Rule 8.1(a)(i)) (“The abstract shall [contain] a summary of the disclosure as contained in the description, the claims, and any drawings; the summary shall indicate the technical field to which the invention pertains and shall be drafted in a way which allows the clear understanding of the technical problem, the gist of the solution of that problem through the invention, and the principal use or uses of the invention[.]”).

§ 6[d][3][B] The “Anti-Gist” Reality Elsewhere in the *Manual*

Yet, in another portion of the *Manual* obviously written by a completely different team, inconsistent (but correct) advice is given in MPEP § 2141.02, *Differences Between Prior Art and Claimed Invention*, at § II, *Distilling the Invention down to a “Gist” or “Thrust” of an Invention Disregards “As a Whole” Requirement*: “Distilling an invention down to the ‘gist’ or ‘thrust’ of an invention disregards the requirement of analyzing the subject matter ‘as a whole.’ *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (restricting consideration of the claims to a 10 % per second rate of stretching of unsintered PTFE and disregarding other limitations resulted in treating claims as though they read differently than allowed). . . .”

§ 6[e] “Detailed Description of the Invention”

MPEP § 608.01(g) Detailed Description of Invention

A detailed description of the invention and drawings follows the general statement of invention and brief description of the drawings. This detailed description, required by 37 CFR 1.71, MPEP § 608.01, must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the invention without involving extensive experimentation. An applicant is ordinarily permitted to use his or her own terminology, as long as it can be understood. Necessary grammatical corrections, however, should be required by the examiner, but it must be remembered that an examination is not made for the purpose of securing grammatical perfection.

* * *

The description is a dictionary for the claims and should provide clear support or antecedent basis for all terms used in the claims. See 37 CFR 1.75, MPEP § 608.01(i), § 608.01(o), and § 1302.01, and § 2111.01.

For completeness of the specification, see MPEP § 608.01(p).

§ 6[f] “[Best] Mode of Operation of Invention”

The “best mode contemplated” requirement remains in the law but a violation of that requirement is *not* basis for invalidity of the claim. See § 19[g][2], *Violation is not a Direct Defense to Patent Infringement*. The *Manual of Patent Examining Procedure* contains the following statement:

MPEP § 608.01(h) Mode of Operation of Invention

The best mode contemplated by the inventor of carrying out his or her invention must be set forth in the description. See 35 U.S.C. 112. There is no statutory requirement for the disclosure of a specific example. A patent specification is not intended nor required to be a production specification. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1536 (Fed. Cir. 1987); *In re Gay*, 309 F.2d 769 (CCPA 1962). The absence of a specific working example is not necessarily evidence that the best mode has not been disclosed, nor is the presence of one evidence that it has. *In re Honn*, 364 F.2d 454 (CCPA 1966). In determining the adequacy of a best mode disclosure, only evidence of concealment (accidental or intentional) is to be considered. That evidence must tend to show that the quality of an applicant’s best mode disclosure is so poor as to effectively result in concealment. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1536 (Fed. Cir. 1987); *In re Sherwood*, 613 F.2d 809 (CCPA 1980).

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The question of whether an inventor has or has not disclosed what he or she feels is his or her best mode is a question separate and distinct from the question of sufficiency of the disclosure. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1532 (Fed. Cir. 1987); *In re Glass*, 492 F.2d 1228 (CCPA 1974); *In re Gay*, 309 F.2d 769 (CCPA 1962). See 35 U.S.C. 112 and 37 CFR 1.71(b).

If the best mode contemplated by the inventor at the time of filing the application is not disclosed, such defect cannot be cured by submitting an amendment seeking to put into the specification something required to be there when the application was originally filed. *In re Hay*, 534 F.2d 917 (CCPA 1976). Any proposed amendment of this type should be treated as new matter.

Nowhere in this section is there any recognition of the *Leahy Smith America Invents Act* which provides that a violation of the “best mode” requirement is not basis for invalidation of a patent, now that a defect in the “best mode” requirement may be overcome by filing a continuation-in-part that *adds* the best mode contemplated without loss of the right of priority.



PART II: DRAFTING THE APPLICATION

§ 7 First Application Elements in a First-to-File World

This discussion provides a guide for the prompt filing of a first application that will serve as the priority basis for what in most cases will be the application that will ultimately be granted as a patent: The majority of patents granted today claim priority to a first domestic or foreign filing – directly or through an intermediate parent. *See* § 7[a], *Unique Qualities of the First Priority Filing*. The first filing has unique qualities which must be taken into consideration in preparing the application. *Id.*

The state of the art is not fully known at the time of drafting the first application: The draftsman thus has a special challenge at the time of the first filing to determine the generic scope of protection. *See* § 7[b], *Scope of Disclosure for the First Priority Filing*.

There is little problem where the only objective is to protect an about to be disclosed embodiment and there is no interest in wider protection. *See* § 7[b][1], *Narrowly Defined Scope Known at the Filing Date*. The extreme other end of the spectrum occurs where only a prototype “upstream” product has been made, and the commercialized “downstream” embodiment is yet to have been made – or perhaps its structure has not even been identified. *See* § 7[b][2] “*Downstream*” *Protection at the “Upstream” Stage*. Where generic protection is to be sought defining the scope of protection may not be enough; there also may need to be a description of representative embodiments to establish “possession” of the genus. *See* § 7[b][3], *Establishing “Possession” in an Unpredictable Art*.

What greatly complicates the drafting process is first-to-file. Before the new law under the “first inventor” system if the applicant took, say, two months to prepare a patent application and in this interval a third party filed a patent application with interfering claims or disclosure, this was unfortunate but not necessarily fatal: The applicant could enter a patent interference and attempt to prove an earlier date of invention. Under first-to-file the delay may be fatal: Speed in filing the application is now a center stage criterion for drafting the first application. Such filing must focus on the *essential elements* necessary for priority of the specific embodiment. *See* § 7[c], *Earliest Possible Filing with Essential Elements*.

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The basic “essential element” is a “cook book” example. This example provides a detailed explanation of an embodiment starting from the prior art all the way through to an end use. *See* § 7[c][1], “Cook Book” *Example of the Preferred Embodiment*.

Providing basis for a generic “claim 1” is only the tip of the iceberg. Beyond “claim 1”, a narrowing, telescoping set of subgeneric fallback definitions should be provided to guard against the possibility that later encountered circumstances will mean that the broadest definition can no longer be sought. *See* § 7[c][2], *Best Possible Generic Disclosure*.

The importance of providing subgeneric definitions in the initial application is due to the fact that if one of the subgeneric definitions will ultimately be the broadest definition in the patent, that definition should find support in the original priority application. Failure to have such support could well leave the generic definition standing naked as of a later filing date because of lack of *Steenbock* priority. *See* § 7[d][1], *Steenbock Requirement for Generic Support* (discussing *See In re Steenbock*, 83 F.2d 912 (CCPA 1936)).

It is difficult to resolve the apparent conflict between the need for a *quality* first filing and a *fast* first filing. Reconciliation of these two opposing objectives is possible by a laser focus on the *essential* features of the patent application.

Another option is to file promptly with many but not all of the features ideally found in the specification. Here, the first filing should be a provisional while a *second* provisional is filed within, say, a few weeks with the remaining elements preferred for a first filing (while maintaining invention secrecy at least until such second provisional application is filed). *See* § 7[e], *Provisional Filing For Dual Priorities*.

Why are the filings made by following this book “better” than traditional filings? A lion’s share of the answer is the narrow focus on *essential* features that are helpful to a valid and enforceable patent to the *exclusion* of a whole variety of elements some of which are even stated in the *Rules of Practice in Patent Cases*, but where such elements may, if anything, damage the scope of valid protection.

Prior art information – whether in the application or a separate paper – should *not* be a part of any first filing. (Of course, if the application is a regular (non-provisional) application, an Information Disclosure Statement should be submitted within the three months from the filing date. *See* § 7[f][2], *Prior Art Information*.)

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Simple words should be used when they correctly express the intended meaning of the author: “There are certain words I have never heard used in conversation or in a book, but somehow they are always cropping up in patent specifications. Words like “*thereto, therefrom, thereafter or thereup,*” sound more pompous than “*to it, from it, after it or up it,*” but are they really any clearer? E.W.E. Micklethwait, *Brushing Up Our Drafting*, Trans. CIPA LXV p. 72 (1946-1947), reproduced, Cole, Paul, ed., FUNDAMENTALS OF PATENT DRAFTING, 155, 165 (CIPA 2006).

§ 7[a] Unique Qualities of the First Priority Filing

The typical patent today is *not* an original, first filing, but instead is a continuation, continuation-in-part or divisional of an earlier application or may claim priority to a provisional application or an overseas application under the Paris Convention. The original first filing has critical features that distinguish this filing from the later filing that ultimately results in the grant of a patent.

The original first filing should be *efficiently drafted*, containing a full disclosure of text *necessary* to establish priority for the ultimate application that will result in a granted patent. “Efficiency”, here, translates into a better work product and the earliest possible filing date which is so important in a first-to-file world.

The original application should be drafted with the *presumption* that not all prior art information is known to the applicant at this time. Indeed, full knowledge of the state of the art is in part impossible – as in the case of still secret patent applications that will be published 18 months from filing, and then *retroactively* have a prior art date as of the filing date.

Full knowledge of the state of some prior art is in part *theoretical* as in the case of the *millions* of foreign language documents that have never been or have not yet been translated into English, particularly the hundreds of thousands of recent Chinese, Japanese and Korean published patent applications initially available as native language texts.

Given the fact that the complete state of the prior art is not known at the time of the first filing, it is impossible to state with precision the precise scope of generic protection that can be granted. Based upon the *assumption* that the best prior art is known, “claim 1” can be crafted to the limits of patentability *keyed to this assumption*. But, subgeneric defense lines to cover the important areas of protection should also be drafted to take into account the possibility that there may be prior art to knock out “claim 1”. (If the first filing has *only* “claim 1” and

species claims, if claim 1 is knocked out, there will be no priority basis for a new generic claim.)

§ 7[b] Scope of Disclosure for the First Priority Filing

Whether plural embodiments should be disclosed in support of a generic claim depends upon a variety of factors as discussed below:

§ 7[b][1] Narrowly Defined Scope Already Known as of the Filing Date

The scope of needed necessary protection may well be fully known at the time of first filing, as in the situation where the *only* objective is defensive to protect a *specific* about to be commercialized embodiment, without thought for exclusion of other embodiments. Obviously, *any* claim can be filed for such a first application, as the necessary prior art effect is created 18 months after filing through the automatic publication of the application, creating a novelty- and obviousness-defeating prior art effect as of the filing date.

§ 7[b][2] “Downstream” Protection at the “Upstream” Stage

At the other extreme is the situation of the about to be published “upstream” research results where an prototype product has been created but where more research is needed to establish a commercially viable “downstream” embodiment. Here, it is critical to have a generic *disclosure* sufficiently broad to capture “downstream” embodiments.

§ 7[b][3] Establishing “Possession” in an Unpredictable Art

Where the generic claim is broad it is useful to have representative examples supporting the full scope of the genus. In areas of highly unpredictable technology it is sometimes *necessary* to provide such representative examples. See § 2[a][6][A], “*Possession*” as part of the “*Written Description*” Requirement (discussing *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F. 3d 1336 (Fed. Cir. 2010)(en banc)(Lourie, J.)).

The *Ariad* case is considered in detail at §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, including optimum drafting to define a complete generic structure (as opposed to defining only a portion of the complete structure with functional language) and the disclosure of plural species.

In an unpredictable technology such as biotechnology or pharmaceuticals, it may be necessary to craft prophetic disclosure of specific embodiments to establish “possession” of the generic invention. Failure to provide such “possession”

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disclosure may lead to invalidity of claims to a genus, even though the claim wording is taken *verbatim* from the priority application. It may not be enough in an *Ariad* situation that it may be obvious how to craft representative examples. See § 2[a][6][B], “*Possession*” *Obviousness not a Substitute for Original Disclosure*.

At the *drafting* stage to prospectively treat *Ariad*, it is important for a claim to a biotechnology entity in an “unpredictable” field to establish possession of the genus through *disclosure* of representative examples which may be an actual “working” example complemented by prophetic examples (set forth in the present or future tense). In procurement, *dicta* in *Ariad* and some other cases may suggest to some that the inventor must have “working” examples, yet subsequent case law makes it clear that it is the *disclosure* of plural, representative examples avoids the holding in *Ariad*, and is, indeed, supported by such subsequent case law. See § 7[f][6], *Distinguishing Ariad to Limit the Case to its Facts*.

§ 7[c] Earliest Possible Filing with Essential Elements

It has always been important that the *first*, priority filing have the best possible disclosure of the invention: A failure to provide such disclosure may be fatal against claims which are not able to successfully claim priority to the first filing. But, this does not mean that the filing cannot be accomplished efficiently, for at least most cases. (And, if an early filing is impossible for the full scope of disclosure needed, then an early provisional application should be filed, complemented shortly thereafter by a second application with all necessary features for full generic protection. Of course, secrecy must be maintained until the second application is filed.)

§ 7[d] Essential Elements for a First Filing

§ 7[d][1] “Cook Book” Example of the Preferred Embodiment

The first key features for a first filing is the “cook book” or “blue print” disclosure of the preferred embodiment. See § 9, “*Cook Book*” *Text of the Preferred Embodiment*.

§ 7[d][2] Best Possible Generic Disclosure

The first filing should contain at least one claim. This is because any application other than a provisional application must have at least one claim to gain filing date. (While a first case may be filed as a provisional without a claim, by doing so the risk is exposed that the case could be converted to a regular (nonprovisional) application and lose the filing date because of an absence of a claim.)

Most important is a *disclosure* that is the best approximation of the full scope of generic coverage needed, preferably with multiple, “layered” telescoping subgeneric scope disclosures (in the case of an offensive filing for broadest possible coverage).

§ 7[d][3] *Steenbock* Requirement for Generic Support

It is a serious mistake to file a first application with only a single, broad generic scope disclosure *and* species but *without* subgeneric layers of protection: If the generic scope falls by the wayside (such as through prior art that was not available at the time of the first filing), any subsequent application may not have *any* generic coverage. See § 4[b], *Steenbock Priority Keyed to the Same Invention* (discussing *See In re Steenbock*, 83 F.2d 912 (CCPA 1936); *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)(Rich, J.)).

The phenomenon where claims *beyond* claim 1 are neglected is not unique to American practitioners, as explained by the English expert Micklethwait:

“[W]e have arrived at our final wording for Claim 1. ... It may be that we have decided to risk a claim broad to the borderline of vagueness, and possibly in somewhat functional form. ... [O]f course, we cannot be certain that the claims initially filed will not be accepted as they stand.

“This leads on to the question of the second claim... which is often the weakest part of a shoddily-drafted specification. This is particularly apt to be the case where the first claim is a broad functional claim. It may be that the [applicant] has himself set out the purpose of the invention and the [practitioner] sees fit to claim in his first claim any structure achieving that purpose. Or it may be that the [practitioner] has himself dug out the matter for a broad first claim. Then he heaves a sigh of relief, like a man on the completion of an arduous and unpleasant task, and settles down lightheartedly to draft a series of constructional claims packed with arbitrary limitations and describing in more or less pictorial detail the specific constructions.

This is no good at all. If he sees fit to put in a broad functional first claim to anything fulfilling a given function, he must then analyse the specific constructions to see what in them represent the essential features for achieving that function.”

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E.W.E. Micklethwait, *Brushing Up Our Drafting*, Trans. CIPA LXV p. 72 (1946-1947), reproduced, Cole, Paul, ed., FUNDAMENTALS OF PATENT DRAFTING, 155, 161 (CIPA 2006).

§ 7[d][4] Disclosure of a Predictable Utility

It is important in drafting a patent application to a new chemical compound to include at least one “predictable” utility, in addition to any primary utility that will take a considerable effort in time to establish that utility, such as a chemotherapeutic agent.

It is thus a commonly stated myth that pharmaceutical patent applicants must unduly delay the filing of a patent application to a new chemical entity until utility is established. For example, one leading scholar has explained the challenge thusly: Pharmaceutical companies *** may be put between a rock and a hard place if they are forced to patent before engaging in clinical testing for fear of a statutory bar but denied an early patent on the grounds that they cannot yet show utility for their product.” Mark A. Lemley, *Does “Public Use” Mean the Same Thing it Did Last Year*, 93 Texas L. Rev. 1119, 1133 (2015)(emphasis added). Cf. *In re Kirk*, 376 F.2d 936, 959-63, § IX, *The Majority Decisions are an Incentive to the Contriving of Phony Utilities, Withholding of Information from Applications, and Delay in Disclosure of New Compounds* (CCPA 1967)(Rich, J., dissenting)(discussing the inclusion in a patent application of a *second*, easy to establish utility).

There are, to be sure, some pharmaceutical utilities that are difficult to substantiate without extensive laboratory work, particularly in the area of chemotherapy. But, the patent draftsman can disclose such utility *and a second utility* such as a fungicidal activity. This is explained in *In re Malachowski*, 530 F.2d 1402, 1405 (CCPA 1976):

In [*In re Gottlieb*, 328 F.2d 1016, 1018-19 (CCPA 1964)], we concluded that a disclosed utility, uncontested and established by evidence, in treating a variety of plant fungi was sufficient to satisfy the utility requirement of 35 U.S.C. § 101. In doing so, we held that ‘even if the proof of utility in human beings or animals is not adequate, there remains the alleged utility as a plant fungicide.’ Similarly, with regard to the present

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[*Malachowski*] appeal, even if proof of utility of the claimed invention as an anti-arthritis agent for human beings is lacking, there remains the proven utility as an anti-arthritis agent for lower animals. Having found that the claimed composition has utility as contemplated in the specification, § 101 is satisfied and it becomes unnecessary to decide whether it is in fact useful for the other purposes indicated in the specification as possibilities. See *In re Gottlieb*, 328 F.2d at 1019.

§ 7[e] Provisional Filing For Dual Priorities

While it is optimum to file the first application with a generic disclosure exactly matching what should be the ultimate generic claim, it is often difficult (and sometimes impossible) to “guess” the scope of necessary generic coverage at the time of the first filing.

Here, it may be desirable to make the first filing a provisional application, followed by intensive study of what disclosure is needed (coupled with continued secrecy) and then providing the earliest possible *second* filing with the added disclosure.

Why not simply *wait* an added two months to file a single application as opposed to sequentially filing as opposed to filing twice? The answer is straightforward: If one files an application disclosing even a single embodiment *before* a third party files to the same invention, then the filing with the single embodiment creates a statutory bar against the third party’s claim reading on that species; on the other hand, if one waits two months to file a single application and that occurs *after* the third party application, then the entire generic invention is forfeited by the bar created by the third party’s published application. The added cost of a second provisional is minimal with the usage of the provisional filing system: The second provisional application is a *verbatim* copy of the first application *plus* the new generic definition. In essence, the only added cost is the filing fee for the second provisional application.



§7[f] *Ariad* Generic Support to Establish “Possession” of an Invention

In *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F. 3d 1336 (Fed. Cir. 2010)(en banc)(Lourie, J.), the Federal Circuit invented a brand new doctrine of “possession” of a generic invention, adopting the pioneer panel precedent, *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed. Cir. 1997)(Lourie, J.). Under the “possession” case law the patent applicant must *disclose* representative embodiments of a genus as an additional patentability requirement going beyond the “enablement” requirement of what is today 35 USC § 112(a). In other word, if the patent applicant has a broad generic claim, he should show “possession” – that he “actually invented” the genus – through *disclosure* of representative examples.

The new law of *Ariad* for “actual[]” disclosure of embodiments of a generic invention runs counter to precedent as explained in detail by Circuit Judge Linn. See § 7[f][5], *The Uncertain Future of Ariad as Precedent* (quoting *Ariad*, 598 F.3d at 1370-72 (Linn, J., joined by Rader, J., dissenting-in-part and concurring-in-part)). The idea that the applicant must *disclose* representative examples to show that he “actually invented” the genus runs counter to classic case law that the claim measures the invention so that one “could not properly[] suggest that anything that [the patentee] *actually invented* he did not disclose when the limitations of the claims are imputed to the description in the specifications.” See § 7[f][4], *Conflict with Learned Hand and Giles Sutherland Rich* (quoting *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 531 (2nd Cir. 1955)(L. Hand, J.)(emphasis added)).

To be sure, the *facts* of *Ariad* cry out for a statutory basis to deny patentability. But, indeed, the District Court as a principal reason to deny patentability as a primary reason gave classic reasoning under what is now Section 112(a), which the majority in *Ariad* refused to consider in order to judicially legislate the new requirement for “possession”.

While it is unlikely that the Supreme Court will ever grant *certiorari* to challenge the “possession” rationale of *Ariad*, an understanding of the limitations and frailties of the majority opinion are important to understand as a basis for a narrow interpretation of *Ariad* as part of daily practice.

More importantly, *Ariad* and the subsequent panel opinions which have issued in the years since *Ariad* show that there are ways to deal with this case short of the abandonment of the “possession” reasoning. There are two points that the patent draftsman must consider in meeting *Ariad* head on.

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First, it is important to have a structural definition of the generic invention, and not a mere *functional* definition of the complete invention. See § 7[f][1], *Non-Functional Disclosure of the Complete Invention*. Typically, one specific moiety is responsible for a particular pharmaceutical result which can be introduced into a wide variety of basic structural units. One way of emphasizing the specific moiety without burying this inventive feature in a column-long definition of the basic structural units is to provide an “Ochiai claim” which has a short description in the claim of the basic structural units but where there is an *express definition* of the basic structural units in the specification in the *Summary of the Invention*. See *id.* (discussing the “Ochiai claiming” practice patterned after the generic claim in *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995)).

Second, it should be understood that a primary basis for denying patentability of generic claims under *Ariad* is the absence of *disclosure* of representative embodiments. Yet, there is nothing in *Ariad* that says that the representative embodiments must be *actual* working examples. Both in *Ariad* itself as well as subsequent panel opinions it is made clear that *prophetic* disclosures are suitable to show possession of a generic invention. See §§ 7[f][2], *Prophetic Examples to Flesh out Generic Coverage*. To be sure, it is important that a prophetic example be set forth in the present tense. See § 7[f][3], *Prophetic Example should be drafted in the Present Tense*.

It is also important to remember that while it is unlikely that *Ariad* will be overturned at any time in the near future, it should also be seen that the shaky legal footing for *Ariad* gives basis for arguing a narrow interpretation of the case. See § 7[f][6], *Distinguishing Ariad to Limit the Case to its Facts*. If one couples this approach together with the provision of generic claims defined by structure and not function *and* representative examples, the future remains open for upstream generic protection of basic biotechnology (and other) innovations.

As a serious note, it is important that the *original* application provide the structural (non-functional) definition of the genus and representative examples. To the extent that a provisional or other first filing is deficient to show “possession”, a later application may well be denied priority, leaving the patent applicant vulnerable to intervening prior art activity. See § 7[f][7], *Discrete but Limited Value of a Provisional Application*.

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Ariad discriminates against “upstream” research of academic institutions, an unfairness which, if part of a test case at the Supreme Court, would be a factor favoring grant of *certiorari*. See § 7[f][8], *Judicial Discrimination Against “Upstream” Research*. In the end, the “possession” line of Federal Circuit case law runs head into Supreme Court precedent. See § 7[f][9], *Collision Course Running into Supreme Court Precedent*.

As a final caveat, it must be remembered that it is dangerous to file a provisional or other first filing without a complete disclosure showing “possession”, as this puts into peril any right to priority of the first filing. See §7[f][10], *Parent Disclosure “Possession” is Required for Priority*.

§ 7[f][1] Non-Functional Disclosure of the Complete Invention

To avoid *Ariad* it is important that a genus of chemical or biochemical entities be described by *structure* and not merely by a single moiety of the entity coupled with a functional statement of the usefulness of the overall, incompletely defined structure.

As explained in *Ariad*:

The written description requirement ... ensures that when a patent claims a genus by its function or result, the specification recites sufficient materials to accomplish that function—a problem that is particularly acute in the biological arts. * * * We reasoned [in *University of Rochester v. G.D. Searle & Co., Inc.*, 358 F.3d 916 (Fed.Cir.2004),] that because the specification did not describe any specific compound capable of performing the claimed method and the skilled artisan would not be able to identify any such compound based on the specification's function description, the specification did not provide an adequate written description of the claimed invention. *Id.* at 927-28. Such claims merely recite a description of the problem to be solved while claiming all solutions to it and, as in ...*Ariad's* claims, cover any compound later actually invented and determined to fall within the claim's functional boundaries—leaving it to the pharmaceutical industry to complete an unfinished invention.

Ariad, 598 F.3d at 1352-53 (footnote omitted)

One of the challenges is to define a complete generic molecule where there are numerous alternatives for the “known” portion of the invention whereas there is one novel and inventive feature which can be defined. How does one craft a “claim 1” without having a definition of the “known” portion that extends for many paragraphs?

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An answer is an “Ochiai claim” which is patterned after what became claim 1 of the patent (and was claim 6 of the appeal to the Federal Circuit). *See In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995). The definition of the product in claim 1 is extremely short because the “known” portion of the compound is *specifically defined* in the specification where there is a very long statement of the alternative substituents. (In contrast, consider claim 1 of the ultimate parent application where the claim goes on for several paragraphs.)

§ 7[f][2] Prophetic Examples to Flesh out Generic Coverage

In *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336 (Fed.Cir.2010) (en banc)(Lourie, J.), generic claims to a biotechnology entity were held deficient under 35 USC § 112, ¶ 1, because the single example was said not to establish “possession” of the entire genus on the basis of a failure to *disclose* representative examples in an unpredictable area of technology. Lacking *disclosure* of representative examples, the *Ariad* line of case law gave the rationale that the inventor’s lack of *disclosure* of such representative examples gave the result that the inventor had not shown he had “actually invented” the full scope of the generic claim.

It is helpful to provide alternative embodiments in support of an element of a claim, particularly where the actual examples are only focused on one particular embodiment. Without a disclosure of alternate embodiments, some members of the Federal Circuit view the subject matter as “actually invented” to be with the one disclosed embodiment.

Prophetic examples that accurately predict a correct teaching of how to make or use an invention have long been accepted, with the caveat that they are not written in the past tense (as discussed in § 7[f][3], ***Prophetic Example should be drafted in the Present Tense***, quoting *Hoffmann-La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354 (Fed. Cir. 2003)(Bryson, J.)). The use of “prophetic” or “paper” examples is otherwise an accepted practice, as explained by Circuit Judge Newman in her dissent in *Hoffmann-La Roche v. Promega*”

[“Paper examples”] examples have long been accepted in patent documents, unlike their prohibition in scientific articles. Paper examples meet the practical need of compliance with the requirement for specific embodiments of every invention, as well as with aspects of patent law such as the need to provide a full range of variables or to describe and enable alternatives or equivalents. To fulfill their legal purpose, such examples must be enabling of specific embodiments. For some inventions the detailed

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embodiments can be described and enabled by the inventor without conducting full laboratory experiments or building entire machines. The patent law authorizes that an invention may be constructively reduced to practice by filing a patent application, whether the embodiments were actually made or are constructed in the patent application.

'Constructive reduction to practice' is a legal status unique to the patent art. Unlike the rules for scientific publications, which require actual performance of every experimental detail, patent law and practice are directed to teaching the invention so that it can be practiced. The inclusion of constructed examples in a patent application is an established method of providing the technical content needed to support the conceived scope of the invention. The Manual of Patent Examining Procedure implements this legal status and purpose, in its explicit recognition that 'simulated or predicted test results and prophetic examples (paper examples) are permitted.' MPEP § 608.01(p). Although the MPEP states that the present tense should be used for such examples ..., patentability does not depend on whether the example was actually conducted. The presentation of accurate 'constructive' descriptive and enabling information in the specification, whether or not marked as 'prophetic,' is not material misrepresentation with culpable intent. ***

It is not scientifically improper to gather knowledge from separate experiments and to draw scientific conclusions based thereon; that is the methodology of science. It is not a legal misrepresentation to fuse knowledge from various sources, drawing on one's skill and experience. *** It is not inequitable conduct to have superior knowledge and experience, and to use them to successfully predict the scientific result. Precedent recognizes that whether an example was performed precisely as written does not establish materiality or deceptive intent. In *Regents v. Eli Lilly* the court considered specific examples (written in the past tense) that differed from the experiments actually performed, but found no inequitable conduct despite the applicant's modification of the experimental details. 119 F.3d at 1570 ('There is no reason to believe that a reasonable examiner would have made any different decision if UC had framed Examples 4 and 5 as constructive examples.') In *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1578 (Fed.Cir.1984) the entire text of the patent is in the present tense (including all examples), the court holding that when 'all but one of the examples were based on actual experiments and only slightly modified to reflect the inventor's notion of the most effective formulation,' the inventor's 'failing to tell the examiner that the examples were 'prophetic'' is not inequitable conduct. ***

Hoffmann-La Roche, Inc. v. Promega Corp., 323 F.3d 1354, 1377-78 (Fed. Cir. 2003)(Newman, J., dissenting).

Support for the view that the specification should be used to interpret the claims where there is a paucity of alternate embodiments, the *en banc* Court in the *Phillips* case stated that:

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“In light of the statutory directive that the inventor provide a ‘full’ and ‘exact’ description of the claimed invention, the specification necessarily informs the proper construction of the claims. See *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed.Cir. 2003) (‘A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.’) (citations omitted).”

Phillips v. AWH Corp., 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc)(Bryson, J.)

Thus, “[u]ltimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.” *Phillips*, 415 F.3d at 1316 (quoting with approval *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed.Cir.1998)). See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 896 (Fed. Cir., 2004)(Michel, J., concurring)(“The majority's claim constructions expand the scope of the [] patent far beyond what the named inventors say they *actually invented* in their application, and what it describes and enables.”)(emphasis added).

As explained in *Novozymes A/S v. Dupont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013)(Schall, J.):

“To satisfy the written description requirement, ‘the applicant must ‘convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention,’ and demonstrate that by disclosure in the specification of the patent.’ *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991)). Accordingly, claims added during prosecution must find support sufficient to satisfy § 112 in the written description of the original priority application. See, e.g., *Anascape, Ltd. v. Nintendo of Am., Inc.*, 601 F.3d 1333, 1335 (Fed. Cir. 2010). Assessing ‘possession as shown in the disclosure’ requires ‘an objective inquiry into the four corners of the specification.’ *Ariad*, 598 F.3d at 1351. Ultimately, ‘the specification must describe an invention understandable to [a] skilled artisan and show that the inventor actually invented the invention claimed.’ *Id.* A ‘mere wish or plan’ for obtaining the claimed invention does not satisfy the written description requirement. *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997).”

See also § 7[f], *Generic Support for an “Unpredictable” Ariad Invention* (citing *Allergan, Inc. v. Sandoz Inc.*, ___ F.3d ___ (Fed. Cir. 2015)(Lourie, J.); *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002)

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To be sure, the issue is clouded with uncertainty at the Federal Circuit as seen from several dissents including *Retractable Technologies Inc. v. Becton Dickinson*, 659 F.3d 1369 (Fed. Cir., 2011)(den. reh'g en banc), and *Free Motion Fitness, Inc. v. Cybex Intern., Inc.*, 423 F.3d 1343 (Fed. Cir., 2005).

As explained in *Retractable Technologies*:

“The error [at the panel level] is the majority's attempt to rewrite the claims to better conform to what it discerns is the ‘invention’ of the patent instead of construing the language of the claim. Indeed, the majority candidly explained that its construction... ‘is required to tether the claims to what the specifications indicate the inventor *actually invented*.’ [*Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed.Cir.2011)]. The majority reaches this conclusion based on the examples disclosed in the specification that have a ‘one piece’ body, an indication in the specification that the invention ‘features a one piece’ body, and the disclosure that the syringe ‘can be molded as one piece.’ Id. Yet none of these statements in the specification suggest that ‘body’ actually means ‘one-piece body’; to the contrary, the use of the modifier ‘one piece’ strongly implies that the term ‘body’ does not inherently mean objects made solely of one piece. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc)(Bryson, J.]. Regardless of what ‘the inventor *actually invented*,’ it is clear that the only construction of the term ‘body’ that comports with the patent as a whole, as well as the plain meaning of the term, includes both single and multi-piece bodies.

Retractable Technologies, 659 F.3d at 1372 Moore, J., joined by Rader, C.J., dissenting from den. reh'g en banc).

In *Free Motion* the dissent stated:

“The majority's approach... does not attempt to determine what the inventor *actually invented*, but rather takes the broadest available abstract meaning of a claim term that is not explicitly rejected by the specification. This approach allows the claim scope to extend beyond what the inventor's written description and claims show to be his actual invention. [The] inventor came up with a specific structure that he described and claimed. By deviating from the meaning of ‘adjacent’ that is most closely aligned with all the examples in the specification, the majority awards him more than he *actually invented* and claimed.”

Free Motion, 423 F.3d at 1355 (Prost, J., dissenting)(emphasis added).

Particularly in areas of an invention in the “upstream” phase where there have been few species reduced to practice, it is necessary to project the scope of the generic invention and – particularly where the technology is “unpredictable” – representative species should be disclosed to avoid denial of the generic claim for lack of “possession” of the genus.

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A careful reading of *Ariad* shows that for an unpredictable area of technology it is important that a generic claim be supported by *disclosure* of representative embodiments, even if such representative embodiments, alone, are prophetic but which would be obvious to a worker skilled in the art. As explained by Circuit Judge Schall, “[t]o satisfy the written description requirement, ‘the applicant must ‘convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention,’ and demonstrate that *by disclosure* in the specification of the patent.’ *Carnegie Mellon Univ. v. Hoffmann–La Roche Inc.*, 541 F.3d 1115, 1122 (Fed.Cir.2008) (quoting *Vas–Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed.Cir.1991)).” *Novozymes v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013)(Schall, J.)(emphasis added).

The court makes it clear in *Ariad* that it is the *disclosure* of specific compounds that is necessary, and that this disclosure may be by way of prophetic examples:

We have made clear that the written description requirement does not demand either examples or an actual reduction to practice; a constructive reduction to practice that in a definite way identifies the claimed invention can satisfy the written description requirement. *Falko-Gunter Falkner v. Inglis*, 448 F.3d 1357, 1366-67 (Fed.Cir.2006). Conversely, we have repeatedly stated that actual ‘possession’ or reduction to practice outside of the specification is not enough. Rather, as stated above, it is the specification itself that must demonstrate possession. And while the description requirement does not demand any particular form of disclosure, *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed.Cir. 2008), or that the specification recite the claimed invention in haec verba, a description that merely renders the invention obvious does not satisfy the requirement, *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1571-72 (Fed.Cir.1997).

* * * The [written description] doctrine never created a heightened requirement to provide a nucleotide-by-nucleotide recitation of the entire genus of claimed genetic material; it has always expressly permitted the disclosure of structural features common to the members of the genus. *Eli Lilly*, 119 F.3d at 1569; *see also Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1073 (Fed.Cir. 2005) (holding the written description requirement satisfied by a representative number of sequences of the claimed genus of enzymes). * * *

[R]equiring a written description of the invention plays a vital role in curtailing claims that do not require undue experimentation to make and use, and thus satisfy enablement, but that have not been invented, and thus cannot be described. For example, a propyl or butyl compound may be made by a process analogous to a disclosed methyl compound, but, in the absence of a statement that the inventor invented propyl and

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butyl compounds, such compounds have not been described and are not entitled to a patent. See *In re DiLeone*, 436 F.2d 1404, 1405 n. 1 (CCPA 1971) (“[Consider the case where the specification discusses only compound A and contains no broadening language of any kind. This might very well enable one skilled in the art to make and use compounds B and C; yet the class consisting of A, B and C has not been described.]”).

Ariad, 598 F.3d at 1352.

Features recited in the claims – whether or not at the point of novelty – should have support from plural features. This can conveniently be accomplished after the first appearance of a term in the *Summary of the Invention*. For example, if the claim calls for a “signal” and the only exemplification in the specification is of a horn, it is useful to include a statement along the following lines:

“As the “signal” which is part of the claimed invention may be mentioned a horn, a strobe light or a vibrator.”

Particularly if one feature of the claimed invention is supported by only one example, case law at the Federal Circuit has treated patentees unkindly in two ways.

First, under *LizardTech* if there is only one feature disclosed for an element in a claimed combination one may face a challenge under what is today 35 USC § 112(a): “In order to meet the written description requirement of 35 U.S.C. § 112, the specification ‘must describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed.’” *Honeywell Intern., Inc. v. United States*, 596 F.3d 800, 816 (Fed. Cir. 2010)(Mayer, J., dissenting in part)(quoting *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed.Cir.2005).

Second, there is a line of case law that – rightly or wrongly – will read the narrowly *supported* feature as a limitation to the claims:

“To avoid importing limitations from the specification into the claims, it is important to keep in mind that the purposes of the specification are to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so. See *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1533 (Fed.Cir.1987). One of the best ways to teach a person of ordinary skill in the art how to make and use the invention is to provide an example of how to practice the invention in a particular case. Much of the time, upon reading the specification in that context, it will

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become clear whether the patentee is setting out specific examples of the invention to accomplish those goals, or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive. See *SciMed Life [Sys., Inc. v. Advanced Cardiovascular Sys., Inc.]*, 242 F.3d 1337, 1341 (Fed.Cir.2001)]. The manner in which the patentee uses a term within the specification and claims usually will make the distinction apparent. See *Snow v. Lake Shore & M.S. Ry. Co.*, 121 U.S. 617, 630 (1887) (it was clear from the specification that there was ‘nothing in the context to indicate that the patentee contemplated any alternative” embodiment to the one presented).” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005)(en banc)(Bryson, J.).

In *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed.Cir.2001)(Bryson, J.), the author of *Phillips* provides a further explanation of the role of a narrowly drafted specification:

“Citing *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998), and *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 989-90 (Fed. Cir. 1999), *SciMed* argues that the only way in which statements in the written description can restrict the scope of a claim is by setting forth a specific, narrowing definition for a particular claim term. *SciMed's* characterization of the role of the written description is too narrow. While it is true, of course, that ‘the claims define the scope of the right to exclude’ and that ‘the claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim,’ *Renishaw PLC*, 158 F.3d at 1248, the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format. See, e. g., *Phonometrics, Inc. v. Northern Telecom Inc.*, 133 F.3d 1459, 1466 (Fed. Cir. 1998); *Gen. Am. Transp. Corp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 769-70 (Fed. Cir. 1996); *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1577-78 (Fed. Cir. 1993); *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1566, 1567 (Fed. Cir. 1992).”

SciMed Life, 242 F.3d at 1344.

Chief Judge Prost has more recently explained that even in the face of a definition the specification, if not carefully drafted, can produce a narrower interpretation than may have been the intention of the applicant. In *SkinMedica* the author of *SciMed* further elaborated:

Disclaiming the ordinary meaning of a claim term—and thus, in effect, redefining it—can be affected through “repeated and definitive remarks in the written description.” *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed.Cir.2008) (citing *Watts v. XL Sys.*, 232 F.3d 877, 882 (Fed.Cir.2000)); see *SafeTCare Mfg., Inc. v. Tele-Made, Inc.*, 497 F.3d 1262, 1270 (Fed.Cir.2007) (finding disclaimer of “pulling force” where “the written description repeatedly emphasized that the motor of the patented invention applied a pushing force”); *SciMed*, 242 F.3d at 1344 (“[T]he written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in

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explicit definitional format.”); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed.Cir.2001) (“[A] claim term may be clearly redefined without an explicit statement of redefinition.... In other words, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.” (citations omitted) (internal quotation marks omitted)); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996) (“The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.”).

We do, though, “recognize that the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice.” *Phillips*, 415 F.3d at 1323. However, we can rely on the specification “to understand what the patentee has claimed and disclaimed.” *SafeTCare Mfg.*, 497 F.3d at 1270.

Skinmedica, Inc. v. Histogen Inc., 727 F.3d 1187, 1196 (Fed. Cir. 2013)

The jurist who authored *Ariad* reiterated the same point in *Allergan, Inc. v. Sandoz Inc.*, ___ F.3d ___ (Fed. Cir. 2015)(Lourie, J.). Citing *Ariad* he stated that:

“The written description requirement is met when the disclosure ‘allow[s] one skilled in the art to visualize or recognize the identity of the subject matter purportedly described.’ *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002). There is no rigid requirement that the disclosure contain ‘either examples or an actual reduction to practice’; the proper inquiry is whether the patentee has provided an adequate description that ‘in a definite way identifies the claimed invention’ in sufficient detail such that a person of ordinary skill would understand that the inventor had made the invention at the time of filing (citing *Ariad [Pharm., Inc. v. Eli Lilly & Co.]*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (en banc)). That assessment ‘requires an objective inquiry into the four corners of the specification,’ as ‘the hallmark of written description is disclosure.’ *Id.* at 1351.”

Allergan. v. Sandoz, , ___ F.3d at ___ .

Earlier, that same jurist had made the same point in *Abbvie Deutschland GmbH & Co., KG v. Janssen Biotech, Inc.*, 759 F.3d 1285 (Fed. Cir. 2014)(Lourie, J.). He emphasizes the importance of an original *disclosure* to support a genus in an unpredictable areas of technology:

“[R]equiring a written description of the invention plays a vital role in curtailing claims ... that have not been invented, and thus cannot be described.’ *Ariad*, 598 F.3d at 1352. ‘[T]he purpose of the written description requirement is to ‘ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent specification.’ ‘ *Id.* at 1353–54 (quoting *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920 (Fed.Cir.2004)). *** [T]he written description requirement with respect to particularly claimed subject matter is met if *the specification* shows that the stated inventor has in

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fact invented what is claimed, that he had possession of it. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed.Cir.1991). We have stated that possession is shown by *disclosure in the patent*. *Ariad*, 598 F.3d at 1351 (“[T]he hallmark of written description is disclosure ... the test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.’).”

Abbvie Deutschland, 759 F.3d at 1299 (emphasis added). This same jurist gives a further explanation in *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180 (Fed. Cir., 2014)(Lourie, J.). He states:

We agree with [the patentee] that *the specifications* provide an adequate written description of the claimed invention. “[T]he hallmark of written description is *disclosure*.” *Ariad*, 598 F.3d at 1351. The standard for satisfying the written description requirement is whether *the disclosure* ‘allow[s] one skilled in the art to visualize or recognize the identity of the subject matter purportedly described.’ *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed.Cir.2002). There is no requirement that *the disclosure* contain ‘either examples or an actual reduction to practice’; rather, the critical inquiry is whether the patentee has provided a description that ‘in a definite way identifies the claimed invention’ in sufficient detail that a person of ordinary skill would understand that the inventor was in possession of it at the time of filing. *Ariad*, 598 F.3d at 1350, 1352; *Koito Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1154 (Fed.Cir.2004). That assessment ‘requires an objective inquiry into the four corners of the specification.’ *Ariad*, 598 F.3d at 1351.

Alcon Research, 745 F.3d at 1190-91 (emphasis added).

The point is not whether a representative example of the invention has actually been made in the laboratory but rather that the specification *discloses* that embodiment. As explained by Judge O’Malley in *Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269 (Fed. Cir. 2012), where the patent challenger questioned the absence of an actual reduction to practice of the invention:

[The patentee] is not required to prove an actual reduction to practice as to all disclosures. See *Ariad*, 598 F.3d at 1352. Instead, to satisfy written description, [the patentee] need only show that the specification itself demonstrates “a constructive reduction to practice that in a definite way identifies the claimed invention.” See *id.* at 1352. The relevant inquiry, therefore, is whether a person of ordinary skill in the art would reasonably find that the patent sufficiently described the invention using [the disclosed features].

Streck, 665 F.3d at 1286.

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Thus, it is *disclosure* of representative species – and not proof of their operability – that is key to providing a disclosure to meet the *Ariad* standard. This point is emphasized by Judge Prost in *Centocor Ortho Biotech Inc. v. Laboratories*, 636 F.3d 1341 (Fed. Cir. 2011)(Prost, J.). She notes that:

[W]e have repeatedly indicated that the written description requirement does not demand either examples or an actual reduction to practice. *Ariad*, 598 F.3d at 1352. What it does demand is that one of skill in the art can “visualize or recognize” the claimed antibodies based on the specification's disclosure. [*Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1568 (Fed.Cir.1997)]. In other words, the specification must demonstrate constructive possession, and the [] patent's specification fails to do so. *Ariad*, 598 F.3d at 1352. [The patentee]’s asserted claims to fully-human antibodies “merely recite a description of the problem to be solved while claiming all solutions to it.” *Ariad*, 598 F.3d at 1353. The actual inventive work of producing a human variable region was left for subsequent inventors to complete.

Centocor, 636 F.3d at 1353.

Since it is not necessary to prove an actual reduction to practice of the representative species, a constructive reduction to practice through a complete disclosure of such species should be sufficient. But, in view of case law it is important that prophetic experiments be recited in the present or future tense so there is no implicit representation that the experimentation has actually been carried out. This view of the law is exemplified in *Hoffmann-La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354 (Fed. Cir. 2003)(Bryson, J.), where some of the experimental work in support of the claimed invention was blended together with actual laboratory work, yet the prophetic experimentation was stated in the past tense:

Example VI [which involved prophetic disclosure] is written in the past tense. *** Each step of the example, over more than two columns of the patent, is described in the same fashion, using the past tense. ***

* * *

Misrepresentations by themselves are not enough to render a patent unenforceable; the misrepresentations must be intentional and they must be material to patentability. With regard to the element of intent, [the patentee] has not demonstrated clear error in the district court's finding [of misrepresentation through use of the past tense to describe prophetic examples]. The inventors attested that all statements made in the [] application were true. There was no suggestion by [the patentee] that the use of the past tense in Example VI was an oversight[.] ***

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[The patentee] attaches great significance to the fact that the district court found that the inventors had a good faith belief that they had discovered a different enzyme than that described in the prior art, arguing that "[b]ecause one cannot intentionally deceive by representing what one honestly believes, the district court's judgment cannot stand." [The patentee] misapprehends the import of that finding by the district court. The inventors may indeed have believed they had discovered a novel enzyme, but that belief does not permit them to make misrepresentations in seeking to persuade the examiner to issue a patent for that enzyme. Thus, the district court's finding that the inventors had a good faith belief in the novelty of their invention is not incompatible with a finding of deceptive intent.

Hoffmann-La Roche v. Promega, 323 F.3d at 1363-67. The case was followed three years later in *Purdue Pharma L.P. v. Endo Pharmaceuticals Inc.*, 438 F.3d 1123 (Fed. Cir. 2006)(Plager, J.):

[T]he case is similar to *Hoffmann-La Roche*. In that case, the patentees had erroneously stated in the written description that a procedure had been performed and presented "results" of that procedure. *Hoffmann-La Roche*, 323 F.3d at 1363. This court affirmed the trial court's finding of materiality, not on the ground that experimental results were required for patentability, but on the ground that the patentees misrepresented the results and made reference to them during prosecution in responding to a PTO office action. *Id.* at 1367-68. Similarly, the trial court's finding in this case was not based on Purdue's failure to provide scientific proof of its "surprising discovery," but on its failure to tell the PTO that the discovery was based only on the inventor's insight after suggesting during prosecution that the discovery was based on the results of clinical studies.

Purdue Pharma v. Endo Pharmaceuticals, 438 F.3d at 1133.

§ 7[f][3] Prophetic Example should be drafted in the Present Tense

An example is included in a patent to *teach* how to carry out the invention. Nevertheless, if the example is based upon "prophetic chemistry" where the example does not reflect the results of actual experimentation, the proper treatment of the example is to describe the technology in the *present tense* as in the case of *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569 (Fed.Cir.1984).

Use of the past tense for a prophetic example is to be avoided, as seen from this usage playing a major role for holding a patent unenforceable in *Hoffmann-La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354 (Fed. Cir. 2003)(Bryson, J.).

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The Court in *Hoffmann-La Roche v. Promega* distinguished *Atlas Powder*, noting that “the examples [in *Atlas Powder*] were written in the present tense to conform with the PTO requirements on prophetic examples, and the appellant's claim was that the patentee should have informed the patent examiner that the examples written in the present tense were prophetic. We held that it was not clear error for the district court to find no materiality or intent to deceive under those circumstances.” *Hoffmann-La Roche*, 323 F.3d at 1368 n.1.

The determination of unenforceability in *Hoffmann-La Roche v. Promega* placed heavy emphasis on the use of the past tense to describe a prophetic example:

Example VI is written in the past tense. The inventors state, for example, that a certain quantity of cells "were resuspended in 75 ml of a buffer," that the cells "were lysed in a French press," ... after which 300 ml of Tris-EDTA "were added." Each step of the example, over more than two columns of the patent, is described in the same fashion, using the past tense. Indeed, the past tense is used to describe the steps of Example VI on more than 75 occasions. ***

[A] reader of the patent would conclude that the protocol was performed and that the following results were actually achieved: (1) the refined enzyme possessed "single-band purity"; (2) the purified enzyme was free from nuclease activity; (3) the enzyme had a specific activity of approximately 250,000 units/mg; and (4) the specific activity of the enzyme was at least ten times that of the prior art enzyme. ***

[The patentee's witness] admitted that Example VI was never performed.

*** Misrepresentations by themselves are not enough to render a patent unenforceable; the misrepresentations must be intentional and they must be material to patentability. With regard to the element of intent, [the patentee] has not demonstrated clear error in the district court's finding. The inventors attested that all statements made in the '509 application were true. There was no suggestion by [the patentee] that the use of the past tense in Example VI was an oversight — [the patentee's] Dr. Gelfand admitted he understood that, at least in a scientific publication, the use of the past tense means that an experiment was actually performed. He provided no reasonable explanation as to why a different principle would apply in a patent application. Nor did [the patentee] introduce any other evidence to explain why the past tense was used to describe an experiment that was not performed. Accordingly, the district court did not clearly err in determining that the inventors' use of the past tense in Example VI was knowingly false.

3. Materiality

* * * Materiality ... is not limited to matters reflected in the claims of a patent. See *PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*, 225 F.3d 1315, 1322 (Fed. Cir. 2000). Rather, information is material when there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue. *Id.* at 1321. Moreover, the information at issue with respect to Example VI consisted of affirmative misrepresentations, not omissions.... This court has held that affirmative misrepresentations by the patentee, in contrast to misleading omissions, are more likely to be regarded as material. *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed.Cir.1983).

Simplicity in claiming through avoidance of challenging (and unproductive) drafting choices is manifested most notably by the need to avoid “means”-defined elements in claims. Just as important various features that can be included in the specification should also be avoided.

§ 7[f][4] Conflict with Learned Hand and Giles Sutherland Rich

The *holding* in *Ariad* revolves around the failure of the patentee to have *disclosed* representative examples. The past generation has seen a case law focus on determining what the inventor “actually invented” keyed to what is disclosed in the specification – as if the specification is a blueprint focused upon the actual reduction to practice of embodiments of the invention, when prophetic disclosures teaching how to make and use the invention are perfectly sound. This preoccupation with reading the specification to see what the inventor “actually invented” by looking to the specification and its examples is a sharp departure from the views of two of the great patent jurists of the twentieth century, Learned Hand and Giles Sutherland Rich.

Each expressed the superior role of the claims versus the disclosure for the interpretation of a patent, yet both saw the claims as the primary point of focus for determination of the scope of protection. Learned Hand puts the role of the claims and the specification in terms of what is “actually invented” in proper perspective in *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530 (2nd Cir. 1955). In that case, he explains that “[t]he claims *always* measure and limit the scope of the monopoly; and the [accused infringer] does not, and could not properly, suggest that anything that [the patentee] *actually invented* he did not disclose when *the*

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limitations of the claims are imputed to the description in the specifications.” Lyon v. Bausch & Lomb, 224 F.2d at 531(emphasis added).

Judge Rich explained that “[t]o coin a phrase, the name of the game is the claim.... the function of claims is to enable everyone to know, without going through a lawsuit, what infringes the patent and what does not.” *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1539 (Fed. Cir. 1995)(en banc)(Plager, J., joined by Archer, C.J., Rich, Lourie, JJ., dissenting)(quoting Giles S. Rich, *The Extent of the Protection and Interpretation of Claims – American Perspectives*, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. 497, 499, 501 (1990)), *subsequent proceedings, Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997). In terms of the superior relationship of the claims to the specification, the quoted jurist stated that “[t]he invention disclosed in [the patent applicant]’s written description may be outstanding in its field, but the name of the game is the claim.” *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)(citing Rich, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. at 499).

§ 7[f][5] The Uncertain Future of *Ariad* as Precedent

To be sure, *Ariad* is the *en banc* precedent of the Federal Circuit, yet its long range future as precedent is uncertain. *Ariad* broke new judicial ground without benefit of Supreme Court precedent. If an appropriate vehicle comes along it is conceivable that the Supreme Court would determine whether the judicial legislation embodied in *Ariad* should or should not stand. As explained by Circuit Judge Linn in his separate opinion in *Ariad*:

The statutory arguments that the majority today enshrines fail to justify establishing a separate written description requirement apart from enablement and beyond the priority context, and fail to tether that written description requirement to a workable legal standard. * * * I * * * believe the appeal should have been returned to the panel for resolution of the enablement question. I take no position on the merits of *Ariad*’s compliance with 35 U.S.C. § 112, paragraph 1 * * *.

A. The Statutory Language

* * *

While the parties offer vigorous arguments about the grammar of § 112, paragraph 1, the only reasonable interpretation is the one offered by *Ariad*, both because it conforms to the long-recognized purpose of the statute in policing new matter violations and because it tethers the ‘written description of the invention’ to an

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understood standard: 'such full, clear, concise, and exact terms so as to enable.' Lilly remarks that statutes do not necessarily specify their own tests, and that 'the legal standards for applying them are developed by courts over time.' Lilly's Br. 28. Although this might be true generally, Congress did provide such a legal standard in this statute, and the majority's creation of a separate, additional requirement—with a poorly defined standard—is unnecessary and ill advised. In my view, there is no justification for reading the statute, beyond the priority context suggested by 35 U.S.C. § 120, as requiring anything other than a written description sufficient to enable a skilled artisan to make and use the invention particularly pointed out and distinctly recited in the claims.

The enablement requirement provides an established standard for the propriety of the written description offered to support a set of claims. See *In re Wands*, 858 F.2d 731, 737 (Fed.Cir.1988) ('The term 'undue experimentation' does not appear in the statute, but it is well established that enablement requires that the specification teach those in the art to make and use the invention without undue experimentation.'). The enablement requirement also ensures that the full extent of claims asserted by an applicant have utility, such that the public can make and use the invention recited therein. See *In re '318 Patent Infringement Litig.*, 583 F.3d 1317, 1323-24 (Fed.Cir.2009) ('Enablement is closely related to the requirement for utility.... The utility requirement prevents mere ideas from being patented.').

B. The Majority's Proposed Written Description Test

I credit the majority for acknowledging that the 'possession' test 'has never been very enlightening' and for attempting to clarify that 'possession as shown in the disclosure' should be an 'objective inquiry into the four-corners of the specification.' *Maj. Op.* at 1351. Yet, given the court's concern for public notice, the opinion fails to set the boundaries for compliance with its separate written description test. Commentators have noted our use of variable and confusing vocabulary to delineate the test: that the specification demonstrate 'possession, ' that the inventor 'invented what is claimed, ' or that a person of ordinary skill be able to 'visualize or recognize' the claimed subject matter. Donald S. Chisum, 3 *Chisum on Patents* § 7.04[1][e] (2009). Today, the majority confirms the notion that the specification must show that the inventor 'actually invented the invention claimed, ' *Maj. Op.* at 1351, but then says that 'actual 'possession' or reduction to practice outside of the specification is not enough, ' *id.* at 1352. If the specification's four corners control— not the inventor's subjective beliefs or activities— then an 'actually invented' standard should be irrelevant. Moreover, § 112, paragraph 2 already requires separately that the claims, once issued, objectively claim 'the subject matter which the applicant regards as his invention.' See *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379-80 (Fed.Cir.2000).

The language that the majority uses to explain 'possession as shown in the disclosure' not only fails to justify a separate test, it also fails to distinguish the test for written description from the requirements for enablement. '[T]he level of detail required to satisfy the written description requirement, ' according to the majority, 'varies depending on the nature and scope of the claims and on the complexity and

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predictability of the relevant technology.’ *Maj. Op.* at 1351. These considerations, however, mirror the *Wands* factors for enablement, which include ‘the nature of the invention,’ ‘the breadth of the claims,’ and ‘the predictability or unpredictability of the art.’ 858 F.2d at 737. The court attempts to distinguish enablement by observing that ‘although written description and enablement often rise and fall together, requiring a written description of the invention plays a vital role in curtailing claims that do not require undue experimentation to make and use, and thus satisfy enablement, but that *have not been invented*, and thus cannot be described.’ *Maj. Op.* at 1352 (emphasis added). Yet, if a person of ordinary skill is enabled to make and use a novel and nonobvious invention clearly recited in the claims, I fail to see how that invention can be said to ‘have not been invented’ or be in need of some undefined level of additional description.

C. Stare Decisis

[T]he history of the Patent Acts does not reveal a separate written description requirement for original claims. Before 1836, the patent statutes did not require patents to contain claims. At that time, a patent's written description satisfied two requirements: (1) ‘to distinguish the same [the invention] from all other things before known,’ and (2) ‘to enable any person skilled in the art or science... to make, compound, and use the same.’ Act of Feb. 27, 1793, 1 Stat. 318, 321-22, ch. 11, § 3. Accordingly, the Supreme Court recognized in *Evans v. Eaton* that a patent's written description performed the ‘two objects’ to ‘make known the manner of constructing the machine... so as to enable,’ and to ‘put the public in possession of what the party claims as his own invention.’ 20 U.S. (7 Wheat.) 356, 433-34 (1822). Subsequently, the 1836 Act introduced claims to patents by requiring an applicant to ‘particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery,’ and simultaneously removed the need for the written description to ‘distinguish’ the invention from ‘all other things before known.’ Act of July 4, 1836, 5 Stat. 117, 119, ch. 357, § 6. Lilly argues that, prior to the 1836 Act, *Evans* equated ‘distinguishing’ the invention to a modern-day written description requirement. Lilly's Br. 5. However, Ariad correctly points out that Lilly mistakenly cites the reported attorney argument for that proposition, not the Court's opinion. Ariad's Reply Br. 8. More importantly, even if Lilly were correct that the Supreme Court previously enforced a quasi-written description requirement, with the advent of patent claims after *Evans*, a patent's written description no longer served to ‘distinguish’ the invention from the prior art.

Despite this statutory background, the majority accepts Lilly's characterization of post-1836 precedent to conclude that ‘after the 1836 Act added the requirement for claims, the Supreme Court applied this description requirement separate from enablement.’ *Maj. Op.* at 11. For example, the majority and Lilly rely on *Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47 (1938), which dealt with two patents to Gulick and Maynard for pistons in internal combustion engines. Gulick described ‘extremely rigid’ web elements in the pistons in his original application, but later amended the application to include ‘flexible’ webs. *Id.* at 56. While Maynard did not amend his application, flexible webs were ‘neither described in Maynard's specifications

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nor mentioned in his claims.’ *Id.* at 60. The Court held that neither patent could claim flexible web elements because neither disclosed that feature.

The majority claims: ‘Although the [*Schriber*] Court did not expressly state that it was applying a description of the invention requirement separate from enablement, that is exactly what the Court did.’ *Maj. Op.* at 1346; see also Lilly’s Br. 11-14. But the Court rejected Gulick’s amended claims because they expanded his original disclosure to encompass ‘new matter beyond the scope of the device described in the application as filed.’ *Schriber*, 305 U.S. at 58 (emphasis added). The Court also stressed that ‘the application for a patent cannot be broadened by amendment so as to embrace an invention not described in the application as filed.’ *Id.* at 57. Thus, *Schriber* required that the invention be ‘described and explained,’ *id.*, but did so to establish priority.

The majority also rests on *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 120, where the Supreme Court invalidated one of Samuel Morse’s telegraphy-related claims for claiming ‘what he has not described.’ *Maj. Op.* at 1346 n.4. Lilly cites passages from *Morse* and highlights every instance of the words ‘description’ or ‘described.’ Lilly’s Br. 8. However, this places too much stock in these words and assumes that ‘describes’ meant in 1854 what the majority would like it to mean today. Morse’s description was deficient because it did not enable the full scope of his broadest claim (to all possible electrical telegraphs), not because it failed the equivalent of a present-day ‘possession’ test for written description.

The majority also suggests that the Supreme Court ratified our current written description doctrine in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). But that decision addressed the scope of prosecution history estoppel under the doctrine of equivalents. The extent of the Court’s allusion to written description is a recitation that applications must ‘describe, enable, and set forth the best mode,’ and that ‘exclusive patent rights are given in exchange for disclosing the invention to the public.’ *Id.* at 736. Neither of these statements is a holding that written description applies to originally filed claims, or even that enablement is not the sole measure of disclosure. With all due respect, characterizing *Festo* as an endorsement of modern written description is at best misplaced.

Until our 1997 decision in [the *Lilly* case, *Regents of the University of California, v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed.Cir.1997)], we applied a written description doctrine from § 112, paragraph 1 to control patent applicants’ claims to priority, but not to invalidate originally filed claims, and without any perceived inconsistency with the statute. *E.g.*, *In re Rasmussen*, 650 F.2d 1212, 1214 (CCPA 1981) (‘The proper basis for rejection of a claim amended to recite elements thought to be without support in the original disclosure, therefore, is 8 112, first paragraph...’). Only since *Lilly* have we forced original claims over a description hurdle extending beyond enablement.

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D. Original Claims

In addition to rejecting the majority's precedent-based arguments, I part ways with the majority's policy justifications for applying written description to original claims. The majority accepts Lilly's argument that, 'while an original claim is part of the specification, this fact does not mean that original claims must always be an adequate written description of the invention.' Lilly's Br. 35. This debate is not new. See *Univ. of Rochester v. G.D. Searle & Co.*, 375 F.3d 1303, 1307 (Fed.Cir. 2004) (Lourie, J., concurring) ('Thus, the fact that a statement of an invention is in an original claim does not necessarily end all inquiry as to the satisfaction of the written description requirement.'). However, the policy reasons for applying such a requirement to original claims remain unconvincing.

It is beyond dispute that original claims are part of a patent's disclosure. See *id.* (Lourie, J., concurring) ('As for the proposition that an original claim is part of the written description, that is clear.'). And our predecessor court repeatedly held that, as part of the disclosure, 'original claims constitute their own description.' *In re Roller*, 613 F.2d 819, 823 (CCPA 1980); see also *In re Smith*, 481 F.2d 910, 914 (CCPA 1973) ('Where the claim is an original claim, the underlying concept of insuring disclosure as of the filing date is satisfied, and the description requirement has likewise been held to be satisfied.'). *In re Gardner*, 475 F.2d 1389, 1391 (CCPA 1973) (holding that an original claim sufficiently described itself, and that '[n]othing more is necessary for compliance with the description requirement of the first paragraph of 35 U.S.C. § 112'), *reh'g denied*, 480 F.2d 879, 879-80 (CCPA 1973) ('Under these circumstances, we consider the original claim in itself adequate 'written description' of the claimed invention.'). Thus, as I have said before, '[f]or original claims,... the claim itself evidences] possession of the invention as of the filing date.' *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 988 (Fed.Cir.2002) (Linn, J., dissenting).

It is inconsistent to say that on its filing date, a patent does not show that the inventor 'possessed' subject matter that the claims actually encompass and the specification fully enables. Doing so perpetuates an unnecessary tension between the claims and the written description as the definition of a patented invention. See 35 U.S.C. § 112, para. 2 (requiring claims 'particularly pointing out and distinctly claiming the subject matter'); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) (observing that 'the claims made in the patent are the sole measure of the grant'). Indeed, the majority reinforces the confusing notion that the primary purpose of claims is 'to provide notice of the boundaries of the right to exclude... not to describe the invention.' *Maj. Op.* at 1347; *cf.* Br. of Amicus Oskar Liivak 15 ('The claims are not the invention as a logical, conceptual and practical matter.'). Again, since the 1836 Patent Act, claims have served the purpose of 'distinguishing' the invention, while the specification as a whole must 'enable.'

The fear that even original claims might 'claim[] the invention by what it does rather than what it is, ' Lilly's Br. 35, is unfounded because all claims must satisfy enablement and other requirements for patentability. The majority agrees that 'many

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original claims will satisfy the written description requirement, ‘but expresses concern that applicants may use ‘functional language to define the boundaries of a claimed genus, ‘without disclosing ‘species sufficient to support a claim.’ *Maj. Op.* at 1349. I agree that such claims should be invalid—but enablement polices those claims effectively. Any claim that uses purely functional language, or covers a broad genus without sufficient supporting examples, will not be enabled. *E. g., In re Vaeck*, 947 F.2d 488, 495-96 (Fed.Cir. 1991) (affirming enablement rejection of genus claims).

Lilly and several amici caution that the written description doctrine protects the public by requiring patentees to provide specific notice of the scope of their inventions. See, e.g., *Br. of Amicus Medtronic, Inc.* 11-12. This concern is also misplaced. Generally, under 35 U.S.C. § 122(b), patent applications publish eighteen months ‘from the earliest filing date for which a benefit is sought.’ Therefore, the public receives notice of original claims within a specified time. See *Br. of Amicus Monsanto Co.* 8 (‘Regardless of its breadth, the language of an original claim puts skilled artisans on notice that the inventor is claiming such subject matter as the inventor’s own invention.’). Even if the application does not publish before the patent issues, the original claims remain part of the public prosecution history and notify the public of the invention’s scope.

The government submitted an amicus brief in which it asserted that the written description doctrine is ‘necessary to permit USPTO to perform its basic examination function’ and claimed that the Patent Office applies § 112, paragraph 1 to over ‘400,000 patent applications each year.’ *Br. of Amicus United States* 19-20. However, at oral argument the government could not cite the number of applications that the PTO annually rejects on written description grounds and cannot reject on another basis. See *Oral Arg.* at 22:42-

24:50. The government also agreed that ‘enablement is available to address a large number of these problems.’ *Id.* at 28:0132. Indeed, a study released after argument that reviewed over 2800 appeals to the Board of Patent Appeals and Interferences (‘BPAI’) during 2009 found that only 4.3% of those cases decided written description issues, and that none of those outcomes would change if the PTO could continue to issue new matter rejections under 35 U.S.C. § 132. Dennis D. Crouch, *An Empirical Study of the Role of the Written Description Requirement in Patent Prosecution 2* (Univ. of Mo. Sch. of Law Legal Studies Research Paper No.2010-06, 2010), available at <http://ssrn.com/abstract=1554949>. The study concludes that, ‘in the context of patent applications appealed to the BPAI, the impact of the separate written description requirement is negligible apart from its role in policing the addition of new matter.’ *Id.* at 3. While this research only addressed a small sample of applications and did not consider written description rejections that applicants overcome or do not appeal, these results and the government’s lack of empirical evidence undermine the government’s hypothesis that our patent examination system would grind to a halt if written description no longer applies to originally filed claims. The Patent Office survived well enough before 1997, when it was understood that written description was a basis

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for rejecting broadening amendments to claims or specifications, not original claims. See *Rasmussen*, 650 F.2d at 1214.

* * *

The court granted the petition for rehearing in this case to address whether § 112, paragraph 1 contains a written description requirement separate from an enablement requirement and, if so, the scope and purpose of such a requirement. In affirming such requirement, the majority leaves unanswered once again the critical question first presented to the panel of whether the asserted claims of the '516 patent meet the enablement requirement. In my view, the question before the en banc court should have been answered in the negative and the appeal returned to the panel for resolution of the enablement question and Lilly's remaining invalidity and noninfringement defenses. I concur, however, in the majority's reinstatement of the panel's affirmance of no inequitable conduct. For these reasons, I respectfully dissent from Part I of the majority opinion, concur in the ruling of no inequitable conduct, and take no position on the merits of Ariad's compliance with 35 U.S.C. § 112, paragraph 1.

Ariad, 598 F.3d at 1370-72 (Linn, J., joined by Rader, J., dissenting-in-part and concurring-in-part)

§ 7[f][6] Distinguishing *Ariad* to Limit the Case to its Facts

Circuit Judge Linn does not stand alone in his critique of the logic of *Ariad*. The Federal Circuit has departed from what has been taught by Hand and Rich. In two *en banc* opinions of the Federal Circuit the court has pointed to the need to focus upon what “*the inventor actually invented*”, which necessarily means a focus upon the specification which assumes that the specification represents the intention of the inventor and not the patent attorney who drafted the application. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed.Cir.2005) (en banc)(Bryson, J.); *Ariad*, 598 F.3d at 1351.

Judge Bryson explained that “[in instances of an intentional disclaimer or disavowal stated in the specification], the inventor has dictated the correct claim scope, and *the inventor's intention*, as expressed in the specification, is regarded as dispositive.”) *Phillips v. AWH Corp.*, 415 F.3d at 1316 (citing *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed.Cir.2001)) (emphasis added). Judge Lourie explained in a nutshell that “the specification must describe an invention understandable to that skilled artisan and *show that the inventor actually invented the invention claimed.*” *Ariad*, 598 F.3d at 1351(emphasis added). The notion that the principles of *Ariad* apply only to biotechnology is dispelled by case law in far more “predictable” areas of

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technology such as in *Crown Packaging Tech. Inc. v. Ball Metal Beverage Container Corp.*, 635 F.3d 1373, 1380 (Fed. Cir. 2011).

Phillips and *Ariad* did not originate the idea of looking to the specification to see what the inventor “actually invented” nor were they the last opinions to take this view. Furthermore, the Supreme Court much earlier had pointed to the need to restrict claims to what was “actually invented”, but this was prior to the 1952 Patent Act in the context of “invention”, i.e., the claim should be limited to what is today nonobvious subject matter. See, e.g., *Topliff v. Topliff*, 145 U.S. 156, 171 (1892)(“The object of the patent law is to secure to inventors a monopoly of what they have *actually invented* or discovered[.]”)(emphasis added); *Halliburton Oil Well Cementing Co v. Walker*, 329 U.S. 1 (1946)(Black, J.)(citing *Lincoln Engineering Co. of Illinois v. Stewart Warner Corporation*, 303 U.S. 545, 549-51 (1938))(“[T]o prevent extension of a patent's scope beyond what was *actually invented*, courts have viewed claims to combinations and improvements or additions to them with very close scrutiny.”)(emphasis added).

Numerous other Federal Circuit opinions have focused on an inquiry as to what the inventors “actually invented”. See, e.g., *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)(Clevenger, J.)(“Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors *actually invented* and intended to envelop with the claim. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996).”)(emphasis added); *Superguide Corp. v. Directv Enterprises, Inc.*, 358 F.3d 870, 896, 898 (Fed. Cir. 2004)(Michel, J., concurring in the result)(“The majority's claim constructions expand the scope of the [] patent far beyond what the named inventors say they *actually invented* in their application, and what it describes and enables.” *** “The [panel decision] provid[es] the broadest possible scope to claim terms *** regardless of what the *inventors actually invented.*”)(emphasis added); *Free Motion Fitness, Inc. v. Cybex Intern., Inc.*, 423 F.3d 1343, 1355 (Fed. Cir., 2005)(Prost, J.) “The majority's approach *** does not attempt to determine what the inventor *actually invented* ***. This approach allows the claim scope to extend beyond what *the inventor's written description* and claims show to be his actual invention. [The] inventor came up with a specific structure that he described and claimed. By deviating from the meaning of [terminology] that is most closely aligned with all the examples in the specification, the majority awards him more than he actually invented and claimed.”)(emphasis added); *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1344 (Fed. Cir. 2005)(Bryson, J.), order denying rehearing en banc, ___ F.3d ___ (Fed.Cir. 2006)(en banc)(Lourie, J., concurring, joined by Michel, C.J.,

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and Newman, J.) (“The trouble with allowing [the] claim ... to cover all ways of performing DWT-based compression processes that lead to a seamless DWT is that there is no support for such a broad claim in the specification. The specification provides only a single way of creating a seamless DWT ***. There is no evidence that the specification contemplates a more generic way of creating a seamless array of DWT coefficients.”); *Markem–imaje Corp. v. Zipher Ltd.*, 657 F.3d 1293, 1301 (Fed. Cir. 2011)(Newman, J., dissenting)(“[T]he specification shows what *the inventor actually invented*. See *Bass Pro Trademarks v. Cabela's Inc.*, 485 F.3d 1364, 1369 (Fed.Cir.2007) (‘Claims are construed to implement the invention described in the specification.’”)(emphasis added); *Retractable Technologies, Inc. v. Becton, Dickinson & Co.*, 659 F.3d 1369, 1305 (Fed. Cir. 2011)(den. reh’g en banc)(Lourie, J.)(Claim construction here is “is required to tether the claims to what the specifications indicate the inventor *actually invented*.”)(emphasis added); *Retractable Technologies*, 659 F.3d at 1372 (Moore, J., joined by Rader, C.J., dissenting from the denial of the petition for rehearing en banc)(“The majority uses the specification to discern ‘the scope of the actual invention,’ and then limits the claim terms accordingly. The concurrence is even clearer on what it views as the proper approach, explaining that ‘the claims cannot go beyond the actual invention,’ and suggesting an ‘obligation to make full disclosure of what is *actually invented*, and to claim that and nothing more.’”); *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013)(Schall, J.)(citing *Ariad*, 598 F.3d at 1351)(“ Ultimately, ‘the specification must describe an invention understandable to [a] skilled artisan and show that the inventor *actually invented the invention claimed*.”)(emphasis added).

§ 7[f][7] Discrete but Limited Value of a Provisional Application

The question may be asked: Is there value to a *provisional* application filing as a way to defer providing proper claims and supporting disclosure to avoid the *Ariad* basis to deny patentability? In terms of gaining an *offensive* generic claim to cover “downstream” innovations, the answer is “no”. If the provisional (or other first) filing does not meet the requirements of what is today 35 USC § 112(a), then priority is denied. See § 4[a], *Identical Substantive Standard for All Varieties of Parent Filings* (discussing denial of priority in such situations, citing *In re Gosteli*, 872 F.2d 1008 (Fed. Cir. 1989)(Paris Convention priority); *In re Ziegler*, 992 F.2d 1197 (Fed. Cir. 1993)(*id.*); *Kawai v. Metlesics*, 480 F.2d 880, 885-89 (CCPA 1973)(*id.*); *Anderson v. Natta*, 480 F.2d 1392, 1399 (CCPA 1973)(*id.*); *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002)(Michel, J.)(priority based on provisional application)). If the purpose is *defensive* to block a third party from gaining generic protection, there is a conditional affirmative answer.

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To the extent that a provisional *is* filed first and the purpose is to obtain generic, offensive protection, every precaution must be taken to maintain secrecy of the invention until a second application is filed that meets the standards to avoid *Ariad*.

§ 7[f][8] Judicial Discrimination Against “Upstream” Research

§ 7[f][8][A] A Balanced Statutory Patent System

The Constitution provides a basis for Congressional enactment of a federal patent law. The objective of providing an *incentive* for conducting research has been recognized since the earliest days of the country.

As explained in the *Chakrabarty* case, the patent system creates a powerful incentive to innovate which is fostered by the Constitutional provision authorizing patent laws: “The Constitution grants Congress broad power to legislate to ‘the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.’” *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980)(quoting the Constitution, Art. I, § 8, cl. 8.)

The promise of a patent grant is indeed a powerful incentive to both inventiveness and pursuing further research efforts: “The patent laws promote this progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts.” *Chakrabarty*, 447 U.S. at 307 (citing *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974); *Universal Oil Co. v. Globe Co.*, 322 U.S. 471, 484 (1944)). Thus, “[t]he authority of Congress is exercised in the hope that ‘[t]he productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.’ *Id.* (quoting *Kewanee*, 416 U.S. at 480).

The patent system and the recognition of the incentive to innovate afforded by patent protection is not a new recognition but echoes the views of the Judiciary from the earliest days of the Republic. Chief Justice Marshall explained the history of the American patent system. Speaking more than 180 years ago he explained the eighteenth century introduction of the patent system

To promote the progress of useful arts, is the interest and policy of every enlightened government. It entered into the views of the framers of our constitution, and the power 'to promote the progress of science and useful arts, by securing for limited times to

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authors and inventors, the exclusive right to their respective writings and discoveries,' is among those expressly given to congress. This subject was among the first which followed the organization of our government. It was taken up by the first congress at its second session, and an act was passed authorising a patent to be issued to the inventor of any useful art, &c. on his petition, 'granting to such petitioner, his heirs, administrators or assigns, for any term not exceeding fourteen years, the sole and exclusive right and liberty of making, using, and vending to others to be used, the said invention or discovery.' The law farther declares that the patent 'shall be good and available to the grantee or grantees by force of this act, to all and every intent and purpose herein contained.' The emendatory act of 1793 contains the same language, and it cannot be doubted that the settled purpose of the United States has ever been, and continues to be, to confer on the authors of useful inventions an exclusive right in their inventions for the time mentioned in their patent.

Grant v. Raymond, 31 U.S.(6 Pet.) 218, 241-42 (1832)(Marshall, C.J.). *See also Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974)("The stated objective of the Constitution in granting the power to Congress to legislate in the area of intellectual property is to 'promote the Progress of Science and useful Arts.' The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens."); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989)("Article I, § 8, cl. 8, of the Constitution gives Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." The Patent Clause itself reflects a balance between the need to encourage innovation and the avoidance of monopolies which stifle competition without any concomitant advance in the "Progress of Science and useful Arts.").

In its implementation of a statutory scheme Congress did not discriminate against any particular industry segment until the "possession" doctrine of the *Ariad* case that to a great extent has eviscerated the patent value of "upstream" pioneer research. It is the individuals at the major academic institutions who create breakthrough innovations of general applicability but where it remains for the thousands of "downstream" Ph.D.'s in industry to make specific embodiments within the scope of the "upstream" disclosure. To be sure, it *is* important that the thousands of Ph.D.'s work to create a specific molecule within the scope of the upstream research. But, to deny the full use of the patent system to reward the upstream innovator through the novel "possession" doctrine trivializes the value of

upstream research. Remarkably, the *Ariad* majority trivializes the pioneer upstream work in favor of the more routine downstream creation of specific molecules: The majority speaks of *Ariad*'s upstream research which “cover[s] any compound later actually invented and determined to fall within the claim's functional boundaries—leaving it to the pharmaceutical industry to complete an unfinished invention.” *Ariad*, 598 F.3d at 1353.

§ 7[f][8][B] Judicial Discrimination Against “Upstream” Research

The *Ariad* decision creates a powerful incentive to shift the emphasis of academic research *away* from “upstream” breakthrough innovations in the pharmaceutical area because under *Ariad* a patent limited to specific “upstream” coverage generally may not dominate the “downstream” production of specific embodiments that prove to be both therapeutic and safe. There is no study whatsoever cited by the *Ariad* majority to justify a judicial legislative discrimination against upstream academics who – with *Ariad* – are deprived of the opportunity to be rewarded for their contributions.

To be sure, academicians will continue to publish their research, with or without *Ariad*. But, this misses the cardinal point: Tenured research professors have great latitude in selecting their research areas. Given an “*Ariad*”, such academics are less likely to invest their time in breakthrough studies that provide grist for the research organizations which feed off of such breakthrough “upstream” research.

Precisely what public policy studies are made by the *Ariad* court? The main policy argument merely speaks to the inconvenience of “upstream” patents. The majority gives on consideration to supporting the upstream innovators, but instead speaks of “*Ariad*'s claims [which] cover any compound later actually invented and determined to fall within the claim's functional boundaries—leaving it to the pharmaceutical industry to complete an unfinished invention.” *Ariad*, 598 F.3d at 1352-53 (footnote omitted).

To be sure, Congress is free to establish an *Ariad*-like “possession” requirement, but has not chosen to do so. While either the current system or one with a “possession” requirement – both fit within the ambit of the Constitutional mandate – it is Congress that can redraft the patent law when it chooses to do so. Given that the *Ariad* decision is a *sub silentio* repudiation of the patent incentive for “upstream” research, at some point the Supreme Court will have an opportunity to rethink *Ariad*.

§ 7[f][9] Collision Course Running into Supreme Court Precedent

In the end, unless the Federal Circuit retreats from its “possession” requirement judicially engrafted onto what is today 35 USC § 112(a), it is inevitable that the Supreme Court at some point will accept review of the unique “possession” doctrine of *Ariad*. It remains problematic, however, that there will be grant of *certiorari* due to the arcane nature of the “possession” requirement. Indeed, it may be many years before the Court will grant review, and then perhaps only with the most equitable factual patterned for the petitioner.

As explained by Circuit Judge Linn in the *Rochester* case:

The panel opinion in this case perpetuates the confusion our precedent in [the *Lilly* case, *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed.Cir.1997),] and *Enzo [Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956 (Fed.Cir.2002),] has engendered in establishing "written description" as a separate requirement of 35 U.S.C. § 112, paragraph 1, on which a patent may be held invalid. That precedent should be overturned. Accordingly, I respectfully dissent from the court's decision not to hear this case en banc.

Section 112 of Title 35 of the United States Code requires a written description of the invention, but the measure of the sufficiency of that written description in meeting the conditions of patentability in paragraph 1 of that statute depends solely on whether it enables any person skilled in the art to which the invention pertains to make and use the claimed invention and sets forth the best mode of carrying out the invention. The question presented by 35 U.S.C. § 112, paragraph 1, is not, "Does the written description disclose what the invention is?" The question is, "Does the written description describe the invention recited in the claims — themselves part of the specification — in terms that are sufficient to enable one of skill in the art to make and use the claimed invention and practice the best mode contemplated by the inventor?" That is the mandate of the statute and is all our precedent demanded prior to *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed.Cir.1997).

Reading into paragraph 1 of section 112 an independent written description requirement, divorced from enablement, sets up an inevitable clash between the claims and the written description as the focus of the scope of coverage. This is ill-advised. Surely there is no principle more firmly established in patent law than the primacy of the claims in establishing the bounds of the right to exclude. See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) ("[T]he claims made in the patent are the sole measure of the grant."); *McClain v. Ortmyer*, 141 U.S. 419, 424 (1891) ("The rights of the plaintiff depend upon the claim in his patent, according to its proper construction." (quoting *Masury v. Anderson*, 16 F. Cas. 1087, 1088 (C.C.S.D.N.Y.1873))); *White v. Dunbar*, 119 U.S. 47, 52 (1886)("The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely

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what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms."); *Burns v. Meyer*, 100 U.S. 671, 672 (1879) ("[T]he terms of the claim in letters-patent ... define[] what the office, after a full examination of previous inventions and the state of the art, determines the applicant is entitled to."); *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876) ("This distinct and formal claim is, therefore, of primary importance, in the effort to ascertain precisely what it is that is patented."); *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052 (Fed.Cir. 2002) (en banc) ("Consistent with its scope definition and notice functions, the claim requirement presupposes that a patent applicant defines his invention in the claims, not in the specification. After all, the claims, not the specification, provide the measure of the patentee's right to exclude."); *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 n. 14 (Fed.Cir.1985) ("Specifications teach. Claims claim."). The statute itself makes clear that Congress intended the claims to define the scope of coverage. 35 U.S.C. § 112, ¶ 2 (2000) ("The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.").

The primary role of the written description is to support the claims, assuring that persons skilled in the art can make and use the claimed invention. *Id.* ¶ 1 ("The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same."); *see also Kennecott Corp. v. Kyocera Int'l, Inc.*, 835 F.2d 1419, 1421 (Fed. Cir.1987) ("The purpose of the [written] description requirement ... is to state what is needed to fulfil the enablement criteria."); *cf. In re Barker*, 559 F.2d 588, 594 (CCPA 1977) (Markey, C.J., dissenting) ("The attempt to create historical and current statutory support for a separate description requirement, which was solely a judicial (and unnecessary) response to chemical cases in which appellants were arguing that those skilled in the art might make and use a claimed invention, is mistaken.").

Construing section 112 to contain a separate written description requirement beyond enablement and best mode creates confusion as to where the public and the courts should look to determine the scope of the patentee's right to exclude. Under the panel's analysis, a court looks to the written description to determine the parameters of the patentee's invention — under guidelines yet to be articulated — and then determines if the claims, as properly construed, exceed those parameters. *See Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 922-23 (Fed.Cir.2004) ("While it is true that this court and its predecessor have repeatedly held that claimed subject matter `need not be described in haec verba' in the specification to satisfy the written description requirement, it is also true that the requirement must still be met in some way so as to `describe the claimed invention so that one skilled in the art can recognize what is claimed.'" (citations omitted)). There is simply no reason to interpret section 112 to require applicants for patent to set forth the metes and bounds of the claimed invention in two separate places in the application. That is the exclusive function of the claims.

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The burden of *Lilly* and *Enzo* has fallen on the biotech industry disproportionately, but, as this decision makes clear, the new-found written description requirement will affect all fields of emerging technology. *Univ. of Rochester*, 358 F.3d at 925 (rejecting a limitation of the *Lilly* written description doctrine to genetic inventions on the ground that "the statute applies to all types of inventions"). When patent attorneys set out to write patent applications, they do so for an educated audience — those skilled in the art — and attempt to describe the invention in a way that enables those of ordinary skill to make and use the invention as claimed. Before the decision in *Lilly*, the practicing bar had accepted and found workable the notion elucidated in our precedent that § 112 requires a written description sufficient to enable one of ordinary skill in the art to make and use the claimed invention — i.e., enablement. *Lilly* changed the landscape and set in motion the debate the panel opinion in this case perpetuates.

As I commented in my dissent from the court's decision not to hear the *Enzo* case en banc, "Some have praised *Lilly* for maintaining the integrity of patent disclosures and for curbing patent filings for inventions that have not yet been made but are just nascent ideas. Others have been sharply critical of *Lilly*." *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 989 (Fed.Cir.2002) (Linn, J., dissenting). That debate continues to leave uncertain how inventions are protected, how the United States Patent and Trademark Office discharges its responsibilities, and how business is conducted in emerging fields of law. These uncertainties will remain unless resolved by this court en banc or by the Supreme Court. The issue is important, is ripe for consideration, and deserves to be clarified, one way or the other. For these reasons, I respectfully dissent from the court's refusal to consider this case en banc.

University of Rochester v. G.D. Searle & Co., Inc., 375 F.3d 1303, 1325-27 (Fed. Cir. 2004)(Linn, J., joined by Rader, Gajarsa, JJ., dissenting from den. reh'g en banc).

§ 7[f][10] Parent Disclosure “Possession” is Required for Priority

Should Paris Convention priority be granted where the invention in the United States application is *identical* to the invention disclosed in either an earlier provisional application or a Paris Convention priority document, where the *details* of the invention are not fully disclosed in the earlier application but which are *obvious* from the disclosure of the earlier application? The issue is yet one further example of a recurring theme set forth in *New Railhead Mfg. L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002)(denial of priority to a provisional application); and *Kawai v. Metlesics*, 480 F.2d 880 (CCPA 1973)(denial of priority to a Paris Convention parent application).

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Here, because it was merely obvious how to make the invention that was not fully disclosed in the earlier application, priority is denied under *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F. 3d 1336 (Fed. Cir. 2010)(en banc) (Lourie, J.), which represents a relatively new trend in the law in the United States. *Ariad* builds upon earlier precedent including *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed.Cir.1997), and the even earlier *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565 (Fed. Cir. 1997). As explained in *Ariad*, “a description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement of that invention.” *Ariad*, 598 F. 3d at1356 (quoting *Regents of the University of California, v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed.Cir.1997)). As *Ariad* is an *en banc* precedent of the Federal Circuit, all panels of the Court are bound to follow this decision (unless and until overturned by the Supreme Court or by the Federal Circuit *en banc*).

For a regular (non-provisional) application to be entitled to priority based upon an earlier provisional or Paris Convention priority application, the priority application must *disclose* the invention. It is insufficient in the case of a generic invention that a specific embodiment *is* disclosed in the parent, and *other* embodiments are “obvious” in view of the specific embodiment. *See Anascape, Ltd. v. Nintendo of America, Inc.*, 601 F.3d 1333 (Fed. Cir. 2010); *Goeddel v. Sugano*, 617 F.3d 1350 (Fed. Cir. 2010), interpreting *Ariad*).

As explained in *Anascape*:

“To obtain the benefit of the filing date of a parent application, the claims of the later-filed application must be supported by the written description in the parent "in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.”

Anascape, 601 F.3d at1335 (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997); and citing *Ariad*).

In *Goeddel v. Sugano* Sugano’s Japan Paris Convention application was denied as basis for priority under the same rationale:

“Section 112 *** requires that the subject matter of [interference] counts be described sufficiently to show that the applicant was in possession of the invention. That a modified gene encoding the 166 amino acid protein could have been ‘envisioned’ does not establish constructive reduction to practice of the modified gene.

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“The question is not whether one skilled in this field of science might have been able to produce mature [human fibroblast interferon] by building upon the teachings of the Japanese Application, but rather whether that application ‘convey[ed] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.’ *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed.Cir.2010) (en banc); see also *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed.Cir.1997) (in claiming priority under § 120, ‘[a] description which renders obvious the invention for which an earlier filing date is sought is not sufficient’); *Bradford Co. v. Conteyor North Am., Inc.*, 603 F.3d 1262, 1269 (Fed.Cir.2010) (same).”

Goeddel v. Sugano, 617 F.3d at 1356.

California v. Eli Lilly case, *Regents of the University of California v. Eli Lilly* provides an explanation:

“To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that ‘the inventor invented the claimed invention.’ *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997); *In re Gosteli*, 872 F.2d 1008, 1012 (Fed.Cir.1989) (‘[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.’). Thus, an applicant complies with the written description requirement ‘by describing the invention, with all its claimed limitations, not that which makes it obvious,’ and by using ‘such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention.’ *Lockwood*, 107 F.3d at 1572.”

California v. Eli Lilly, 119 F.3d at 1566. In turn, the even earlier *Lockwood* case has a further explanation:

“Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed. While the meaning of terms, phrases, or diagrams in a disclosure is to be explained or interpreted from the vantage point of one skilled in the art, all the limitations must appear in the specification. The question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought. See *Martin v. Mayer*, 823 F.2d 500, 504 (Fed.Cir.1987) (stating that it is ‘not a question of whether one skilled in the art might be able to construct the patentee’s device from the teachings of the disclosure.... Rather, it is a question whether the application necessarily discloses that particular device.’) (quoting *Jepson v. Coleman*, 314 F.2d 533, 536 (CCPA 1963)). [The patentee] argues that all that is necessary to satisfy the description requirement is to show that one is ‘in possession’ of the invention. [The patentee] accurately states the test, see *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed.Cir.1991), but fails to state how it is satisfied. One shows that one

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is 'in possession' of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious. *Id.* ('[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed.'). One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention. Although the exact terms need not be used *in haec verba*, see *Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed.Cir.1995) ('[T]he prior application need not describe the claimed subject matter in exactly the same terms as used in the claims'), the specification must contain an equivalent description of the claimed subject matter. A description which renders obvious the invention for which an earlier filing date is sought is not sufficient."

Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1571-72 (Fed. Cir. 1997).

The problem of "possession" and the priority right in an unpredictable technology may be met through appropriate prophetic examples. Thus, when the only choice is between filing an application in an unpredictable area such as biotechnology with a single working example, versus filing with that example complemented by prophetic, representative examples, the latter approach is the better route to take. Thus, at the *drafting* stage, it is important for a claim to a biotechnology entity in an "unpredictable" field to establish possession of the genus through *disclosure* of representative examples which may be an actual "working" example complemented by prophetic examples (set forth in the present or future tense).

§ 7[f][11] Does *Ariad* Stifle Future, Basic Innovation?

As great strides are made, for example, in chemotherapy, for each stride taken it becomes more and more clear that we are in search of basic innovations upon which to build future success in tackling cancers and a great deal of other life-threatening ailments. We have a long way to go as new diseases take center stage, and each requires a specific therapy.

Key to combatting new areas of disease is critical "upstream" basic research. From whence does the basic research come?

Of course, much of the research comes from academic institutions, but within the framework of such centers of higher learning, will the academicians choose to conduct research in a way that will lead to innovations relevant to treating cancer and other life-threatening diseases? The answer is surely not black and white, but

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to the extent that *Ariad* deters academicians from focusing their research in the critical areas, does this impede the progress of science in developing life-saving therapies?

The question is thus whether as a societal good, does *Ariad* make public policy sense?

There are two faces to the creation of new pharmaceuticals. In the first instance there is the “upstream” research of the academics that, for example, establish the existence of a particular chemical moiety or ring structure with promising pharmaceutical properties. This “upstream” research by an isolated but brilliant academic from within the walls of academia then opens the door to “me too” research by literally *thousands* of Ph.D’s harbored in the major pharmaceutical house laboratories of the world, each seeking to find and perfect a specific embodiment of the “upstream” research. In the end, specific embodiments are discovered that end up as commercial embodiments.

To the extent that the upstream academics’ pioneer innovations are promptly published but without broad and valid generic claims, neither the academics nor their academic research institutions are given any patent-based reward, a clear *disincentive* to pursue lines of research that will lead to commercial rewards.

To what extent are post-doctorate associates of pioneer researchers turned away from research of the type in *Ariad* as opposed to more purely theoretical endeavors?

What studies were conducted cited by the Federal Circuit that support or deny the research incentives to do pioneer work? The only viewpoint expressed in the majority opinion in *Ariad* on public policy was stated by the author of the opinion from his personal experience as the former Vice-President of one of the world’s largest pharmaceutical research houses: He sees the picture solely from the viewpoint of the downstream research houses when he says that claims such as in *Ariad* “merely recite a description of the problem to be solved while claiming all solutions to it and, as in [*Regents of the University of California, v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed.Cir.1997),] and *Ariad*’s claims, cover any compound later actually invented and determined to fall within the claim’s functional boundaries—*leaving it to the pharmaceutical industry to complete an unfinished invention.*” *Ariad*, 598 F.3d at 1353 (emphasis added).

To be sure, when basic research *is* published – as in *Ariad* – there is every incentive – as pejoratively stated by the majority –for the downstream research

houses in “the pharmaceutical industry to complete an unfinished invention.” *Id.* But, the more important question is whether the “unfinished invention[s]” would have been made in the first place, absent a patent incentive for a reward to upstream researchers. Would the tenured academicians and their post-doctoral associates have directed their research in the commercial direction taken in *Ariad* or would they have turned their basic research to areas outside pharmaceuticals?

§ 8 Elements that Should NOT be in a First Filing

A casual observer may think that the “safe” approach to filing a patent application is to make sure that every feature recommended or required by the *Manual of Patent Examining Procedure* is included in a best practices-drafted patent application.

Unfortunately, this is not true.

A variety of suggested or required features set forth in the *Manual of Patent Examining Procedure* do not have basis in the statute or, if found in the *Rules of Practice in Patent Cases* may be tied to once-statutory requirements that are no longer a part of the patent law. Others are remnants of practice that sometimes appear in applications but add nothing to the patent drafting effort.

One may ask, what risk is there in the inclusion of elements in the specification which, even though not required by statute, are consistent with the preference for inclusion of such elements in the specification? The answer is that inclusion of such elements may provide no positive advantage, while at the same time there are negative consequences for inclusion of such elements such as a narrowed scope of protection that would not happen but for inclusion of such elements. See § 2[e], *Primacy of the Claims, Importance of the Specification* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1314, 1315-16 (Fed. Cir. 2005) (en banc)(Bryson, J.).

§ 8[a] Differently Worded “Abstract of the Disclosure”

The *Abstract* should not follow *Manual* guidance. Rather, the *Abstract* should strictly mirror, verbatim, the wording used to describe the invention that is found in the claims.

Manual advice should *not* be followed as to abstract draftsmanship as this may lead to a narrowed scope of protection. It is dangerous to rely upon *Manual* because the Federal Circuit may disregard the *Manual* in its interpretation of the regulations and Patent Office Policies. For example, original Rule 72(b) had

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encouraged applicants to draft an abstract that differed in text from the claims. The rule provided that an abstract “shall not be used for interpreting the scope of the claims[.]”

Yet, the Court in *Hill-Rom* expressly denied this provision:

“Citing 37 C.F.R. § 1.72(b), which provides that the abstract of the patent ‘shall not be used for interpreting the scope of the claims,’ Hill-Rom argues that it would be improper for us to consider the abstract in determining whether the district court correctly construed the claims of the '346 patent. Section 1.72(b), however, is a rule of the Patent and Trademark Office that governs the conduct of patent examiners in examining patent applications; it does not address the process by which courts construe claims in infringement actions. We have frequently looked to the abstract to determine the scope of the invention, See, E.g., *United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1560 (Fed. Cir. 1997); *Stryker Corp. v. Intermedics Orthopedics, Inc.*, 96 F.3d 1409, 1412 (Fed. Cir. 1996); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1269 (Fed. Cir. 1986), and we are aware of no legal principle that would require us to disregard that potentially helpful source of intrinsic evidence as to the meaning of claims.”

Hill-Rom Co. v. Kinetic Concepts, Inc., 209 F.3d 1337, 1341 n.* (Fed. Cir. 2000)(Bryson, J.); see also *Tate Access Floors, Inc. v. Maxcess Technologies, Inc.*, 222 F.3d 958, 965 n.2 (Fed. Cir. 2000)(citing *Hill-Rom Co. v. Kinetic Concepts, Inc.*, 209 F.3d 1337, 1341 n.* (Fed. Cir. 2000)) (“[I]n determining the scope of a claim, the abstract of a patent is a potentially useful source of intrinsic evidence as to the meaning of a disputed claim term.”)

If the *Abstract* gives a different meaning to claim terminology it may be used to interpret the claims against the interests of the applicant.

§8[b] Background of the Invention

This section is *not* required by statute and should *not* appear in a routine first filing, while there may be basis for *careful* usage of an *Abstract* in a downstream, continuing application. Under Rule 77(b)(5), a patent applicant “should” include in the patent specification a “[b]ackground of the invention”. 37 CFR § 1.77(b)(5).

The Patent Office as part of Rule 77(b)(5), while saying there “should” be a *Background of the Invention* never says *what the content should be*.

Thus, there is nothing in the Rules that specify *what* must or should be included in the *Background*. Some guidance is provided in the *Manual of Patent Examining Procedure* which provides for a three part “Background of the Invention”. It provides separate areas that should be included.

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Per the *Manual*, the Background of the Invention ordinarily comprises two parts:

“(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions. The statement should be directed to the subject matter of the claimed invention.

“(2) Description of the related art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A paragraph(s) describing to the extent practical the state of the prior art or other information disclosed known to the applicant, including references to specific prior art or other information where appropriate. Where applicable, the problems involved in the prior art or other information disclosed which are solved by the applicant's invention should be indicated. See also MPEP § 608.01(a), § 608.01(p) and § 707.05(b).”

MPEP § 608.01(c), *Background of the Invention* [MPEP 8th ed. 2004].

§8[b][1] European View of the Background of the Invention

It is well understood by domestic practitioners that a *Background of the Invention* may create patent validity problems for the patentee. See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), and *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharms. Inc.*, 748 F.3d 1354 (Fed. Cir. 2014), discussing the patentability problem created by identifying a “known problem”). In Europe, to the contrary, a *Background of the Invention* section is recommended under the local laws. Paul Cole, a leading comparative writer based in England, contrasts the European and American approaches to *Background of the Invention* draftsmanship:

Many influential U.S. attorneys, but not all U.S. attorneys, now recommend an anecdotal approach in which the *Background* is of a general nature only, identifies to starting point in the prior art, and identifies no object or technical problem. * * *

On the European view, one of the most important tasks in the *Background* section is to identify and discuss the closest prior art that provides a starting point for comparison with the subject-matter claimed, and possibly the earlier developments in the field of endeavor of the inventor that led up to that starting point. The selected starting point should be identified by a specific patent number, literature reference or other well-defined disclosure, so that the features that are clearly and unambiguously disclosed in that prior art, expressly or implicitly, can be identified.

Paul Cole, FUNDAMENTALS OF PATENT DRAFTING, *The Background Section and the Closest Prior Art* 193, 200-201 (CIPA 2006).

§8[b][2] Japanese Requirement to State “Problem” and “Solution”

Under the September 2015 English version of the Japan Patent Office *Examination Guidelines*, at least one technical “problem” should be solved by the invention which problem should be stated in the application. As noted below, however, there are loopholes to this requirement, particularly for chemical inventions.

This subject is dealt with in more detail at § 6[c][5] “*Problems*”, “*Objects*” and “*Advantages*” for *Japan Priority*, based in part on an analysis by the “Uemura group” comprising Shozo Uemura and his colleagues Fumio Inai, Hironobu Kashihara, Shozo Yamashita & Tamaki Yoshida.

The general requirement for a statement of a technical “problem” is stated as follows:

“It is required in normal cases that at least one technical problem that the claimed invention aims to solve be stated as “the problem to be solved by the invention” in the detailed description of the invention.”

EXAMINATION GUIDELINES FOR PATENT AND UTILITY MODEL IN JAPAN, Part II, Chapter 1, Section 2, Ministerial Ordinance Requirement, § b(a), ¶ 1, Problem to be solved by the invention and its *solution*, p. 2 (Provisional Translation)(Japan Patent Office Sept. 2015).

Additionally, “[it is also] required in normal cases that how the problem has been solved by the claimed invention be explained as ‘its solution’ in the detailed description of the invention.” *Id.* ¶ 2.

However, if the “problem to be solved” can be understood by persons skilled in the art, given the overall specification and drawings, then it is unnecessary to state the “problem”:

“[But], the ‘problem to be solved by the invention’ is not required to be explicitly stated in a case where a person skilled in the art can understand it without such an explicit statement, when taking into account the statements of the description and drawings, which include statements of prior art or advantageous effects of the invention, as well as the common general knowledge as of the filing (including a case where a person skilled in the art could comprehend the problem when considering prior art which falls within the common general knowledge). Also, the statement of the solution of the problem to be solved by the invention does not need to be provided in cases where a person skilled in the art would understand how the problem has been solved by a claimed invention by

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identifying technical problem in the absence of the explicit statement (for example, in a case where how the invention solved the technical problem can be understood by identifying the claimed invention in view of the statements of the embodiment, etc.).”

Id. §b(b), pp. 2-3.

There is a further set of loopholes to excuse the absence of a statement of the “problem”, the last mentioned one excusing the absence of a “problem” for claims to a new chemical compound:

“Further, the technical problem does not need to be explicitly stated in a case where a technical problem is by nature not conceived for the invention such as the following item (i), (ii), etc.

“In addition, when the technical problem is not conceived as mentioned above, how the problem has been solved by the invention (i.e., its solution) is not necessary, either. This is because ‘its solution’ is only meaningful in connection with the technical problem, and how the technical problem was solved by the invention cannot be identified as long as the very technical problem remains unidentified.”

“(i) An invention based on an entirely new conception which is completely different from prior art.

“(ii) An invention which is based on a discovery resulting from trials and errors (e.g., inventions of chemical compounds).”

Id., § b(c), p. 3.

§8[c] Field of the Invention

As noted in the previous section, the first part of the *Manual*-proposed *Background of the Invention* is a discussion of the “field of the invention”. This is an anachronistic provision that is designed to help the *classification* clerk or examiner determine the proper *classification* of the application for assignment to the appropriate examining division or group. Thus, under the *Manual*, the “field” portion of the *Background* section is “[a] statement of the field of art to which the invention pertains. This statement may include *a paraphrasing of the applicable U.S. patent classification definitions.*” *Id.*; emphasis supplied.

To the extent that the field of the invention identified in an application is “rocket science” does this mean that a worker skilled in the art is someone skilled in “rocket science”? Should this be an *admission* that the invention for *KSR* nonobviousness considerations is in the field of a “rocket scientist”? Assume, *arguendo*, that the patent includes a claim for an invention in both “rocket science”

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and “hybridomas”. If “hybridomas” appear higher in the classification manual than “rocket science”, then the “field of the invention” for classification purposes is “hybridomas”.

Thus, the “field of the invention” is an annoying feature unique to the *American Rules of Practice in Patent Cases* that has everything to do with arbitrary classification rules and nothing to do with the relevant field of the worker skilled in the art. If anything, beyond creating *KSR* problems, the field of the invention creates another, finite time and expense problem for the applicant. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). (To the extent that it is *helpful* for the Office in classifying patent applications it would be better to *eliminate* the Field of the Invention section and, instead, provide an *optional* box on the application filing cover sheet noted as: “Proposed official classification” (if known)).

The writer acknowledges that there are other views on whether the field of the invention should be recited in the application. Professor Joshua Sarnoff explains a contrary view:

[He] emphasize[s] the need for the applicant to explicitly consider what the field of his technology is — as the perspective of the [person having ordinary skill in the art] is supposed to govern construction, the applicant needs to identify and (if helpful) shape the choice of field of technology for construction in the specification (including by providing the equivalent of a definition — an explicit statement of what the applicant thinks the field is). This goes against some views of good prosecution, based on identifying art for the analogous arts test or otherwise making more admissions than needed. [I]t is increasingly important and good drafting practice. [See Edward Manzo & Joshua Sarnoff, in Edward Manzo, PATENT CLAIM CONSTRUCTION IN THE FEDERAL CIRCUIT § 0:2 (2015 ed.), (discussing importance of the PHOSITA’s (objective) perspective)].

Joshua Sarnoff, Private Communication (May 18, 2015).

§ 8[c][1] Japan Identification of “Technical Field”

It is an explicit regulatory requirement in Japan that the “technical field” of the invention be stated: “It is required in normal cases that at least one technical field to which a claimed invention pertains be stated in the detailed description of the invention as a technical field to which an invention pertains.” EXAMINATION GUIDELINES FOR PATENT AND UTILITY MODEL IN JAPAN, Part II, Chapter 1, Section 2, Ministerial Ordinance Requirement, § a, *Technical field to which an invention pertains*, p. 2 (Provisional Translation)(Japan Patent Office Sept. 2015).

There are two exceptions to this requirement.

First, if the technical field is understood without an explicit statement of technical field, then the technical field need not be set forth. *Id.* (“[T]he ‘technical field to which an invention pertains’ is not required to be explicitly stated if *a person skilled in the art can understand it* without such explicit statements when taking into account the statements of the description and drawings, as well as the common general knowledge as of the filing.”)(emphasis added).

Second, the technical field need not be stated in the case of “an entirely new conception[.]” *Id.* (“[But], ...in cases where the invention does not pertain to existing technical fields such as an invention developed based on an entirely new conception which is completely different from prior art, it suffices [insofar as the requirement for the technical field to which an invention pertains] that the statement[] of the new technical field developed by the invention be provided and an application for such an invention does not need to state the existing technical fields.”)

§8[d] “Essence” of the invention

Prior to 1870 the United States did not require formal claims to define the scope of protection, although earlier in 1836 a system of claims had been introduced. During this earlier period, instead of speaking of the “claimed invention” as today, one spoke of “the essence of the invention”. In other words, the definition of the invention was originally defined as “the essence of the invention” prior to the requirement for claims, whereas since 1870 “the essence of the invention” is an anachronism as the claims define the scope of protection. As stated by the late Giles Sutherland Rich, “ the name of the game is the claim.” Giles S. Rich, *The Extent of the Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990). Thus, it makes no sense, for example, for a court to say that it does not “limit claims to preferred embodiments, but in this case, *** [the drawings] depict the essence of the claimed invention rather than a preferred embodiment.” *Secure Web Conference Corp. v. Microsoft*, __ Fed App'x __ (Fed. Cir. 2016)(Stoll, J.).

The Federal Circuit in its first decade of existence emphasized the fact that the “essence” of an invention is an anachronism that should no longer be used. *See SRI Intern. v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1128 n.7 (Fed. Cir. 1985)(en banc)(Markey, C.J., joined by P. Newman, J., additional views); *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1533 n.8 (Fed.

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Cir. 1987)(Markey, C.J.); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949 (Fed. Cir. 1987)(en banc)(Nies, J., additional views). Yet, even today, confusion (and improper usage) of the “essence of the invention” continues to exist both in the *Manual of Patent Examining Procedure* and recent Federal Circuit case law.

§ 8[d][1] Early Nineteenth Century “Essence” Definition of the Invention

Citing an opinion from over two hundred years ago penned by Supreme Court Justice Joseph Story, riding circuit, Circuit Judge Nies traces usage of the term “essence of the invention” as the methodology to identify the invention in the early nineteenth century before formal claims were required. See *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1563 (Fed. Cir. 1995)(Nies, J., dissenting, joined in part by Archer, C.J.), *subsequent proceedings sub nom Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 39 n.8 (1997)) (“One who used the ‘essence’ of the invention was an infringer.”)

References to the “essence” of the invention were made in cases long pre-dating the system of patent claims to define the invention and may be traced back to 1814 in *Odiorne v. Winkley*, (No. 10,432) 18 F.Cas. 581 (C.C.Mass. 1814)(Story, J.), that “[o]ne who used the ‘essence’ of the invention was an infringer.” *Hilton Davis, supra*, 62 F.3d at 1563 (Nies, J., dissenting, joined in part by Archer, C.J.)(citing *Odiorne v. Winkley*).

Determining the “essence” of an invention has been superseded since the nineteenth century creation of a system of patent claims to define an invention.

Early in the history of the Federal Circuit the Chief Judge in three opinions explained that it was no longer proper to refer to the “essence” of the invention. *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1526 (Fed. Cir. 1995), *subsequent proceedings, Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997)

§ 8[d][2] “Essence” Determination is an Anachronism Since 1870

It is now 180 years since the Patent Act of 1836 which introduced claims in patents and approaching 150 years since the primacy of claiming was firmly established in the Patent Act of 1870. See *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1526 (Fed. Cir. 1995), *subsequent proceedings*, *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997) (“The claiming requirement ... was contained in the Patent Act of 1870 ([B]efore any inventor or discoverer shall receive a patent ... he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery...’); see also Patent Act of 1836 (requiring inventor to ‘particularly specify and point out the part ... which he claims’).” (citations omitted).

Professor Mueller explains the historical origins of patent claiming in the United States as follows:

“Claims were first mentioned in the U.S. Patent Act of 1836, but not mandated by statute until 1870. Before these enactments, patent applicants disclosed their invention to the world primarily by means of a written description. This description provided a narrative explanation of how to make and use the invention, as well as a statement of how the invention differed from what had come before. If a claim was included in the patent at all, it was something of an afterthought and had no more legal significance than the written description.

“In the U.S. Patent Act of 1870, the inclusion of claims became mandatory. From that time on, claiming practice evolved to the peripheral claiming regime we have today in the United States. Peripheral claiming means that claims are drafted to stake out a precise boundary or periphery of the patentee's property right, which is the patentee's time-limited right to exclude others. In accordance with peripheral claiming principles, ‘[t]he basic concept of U.S. claims is that the inventor owes the public a duty to define the forbidden territory of the patent in words as precise as the circumstances permit.’”

Janice M. Mueller, *MUELLER ON PATENT LAW*, Vol. 1, § 2.01[E] n.14 (Wolters Kluwer 2016)(footnotes deleted).

Once there was a well established regime of claims to define the scope of protection, there was no longer room to speak of the “essence” of an invention. Thus, it is wrong to define the invention in terms of an “essence” of the invention. The invention is what is *claimed*: There is no room to refer to some “essence” based upon the specification.

§ 8[d][3] Continued Use of Outdated Terminology

From 1870 onward, the “essence of the invention” has been an anachronism. The confusion that still exists today is seen in the *Manual of Patent Examining Procedure* which in successive sentences first correctly states that the claims define the invention but then in the immediately following sentence refers to the “essence of the invention” in the context of disclosure. In the context of identifying the best mode contemplated, the *Manual* states that one should “[d]etermine what the invention is — the invention is defined in the claims. The specification need not set forth details not relating to the essence of the invention.” MPEP § 2165.01, *Considerations Relevant to Best Mode* (Rev. 11)(2013), § I, *Determine What is the Invention* (emphasis added; citations omitted). Equally unhelpful are current cases which perpetuate this misunderstanding. See also *Secure Web; supra; Flexiteek Americas, Inc. v. Plasteak, Inc.*, __ Fed. App’x __, __, slip op. at 6 (Fed. Cir. 2015)(Prost, C.J.)(quoting trial court)(Certain characterization “is necessary for the term’s construction to embody the ‘essence of the invention.’”).

Thus, there are still references to definition of an invention in terms of its “essence” such as where claims are narrowed within their literal scope based upon a determination that the “essence” is what is disclosed in the specification even though not a stated limitation to the claims.

Earlier cases include *Skelly Oil Co. v. Universal Oil Products Co.*, 31 F.2d 427, 431 (3rd Cir., 1929)(“Since the form and size of the heating element of the invention are not claimed by the patent as novel and as they have nothing to do with the *essence of the invention*, the defendant’s substitution of one kind of heater for that preferably or incidentally disclosed by the patent falls out of the issue of infringement.”)(emphasis added); *McKays Co. v. Penn Electric Switch Co.*, 60 F.2d 762, 766 (8th Cir. 1932)(“Except where form is of the essence of the invention, it has little weight in the decision [on infringement.]”); *Mercoid Corp. v. Minneapolis-Honeywell Reg. Co.*, 133 F.2d 811, 814 (7th Cir. 1943), *subsequent proceedings*, 320 U.S. 680 (1944) (“[Mercoid’s M-80] provides for the sequence of operations which is the precise essence of Freeman’s advance in the art.”); *In re West*, 166 F.2d 582, 584 (CCPA 1948)(“Neither of the secondary references teaches [the particular feature] which is the essence of the present invention.”).

“Reliance on a finding that a ‘novel element’, or ‘essence’ (or ‘gist’, or ‘key’) of a structural invention lies in the operation of a specification-described embodiment of the claimed structure would render meaningless the statutory requirement for claiming, 35 U.S.C. Sec. 112[.]” *SRI Intern. v. Matsushita Elec.*

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Corp. of America, 775 F.2d 1107, 1128 n.7 (Fed. Cir. 1985)(en banc)(Markey, C.J., joined by P. Newman, J., additional views); *see also* the “additional views” of Circuit Judge Nies in *Pennwalt, supra* (“It is axiomatic under our precedent that one cannot obtain patent protection for an *inventive concept* or for the *heart* or ‘*essence*’ of an invention or for an achieved result. ...”).

Two years after Chief Judge Markey dealt with the “essence of the invention” in the *en banc SRI* case, he once again emphasized the fact that it is improper to refer to the “essence of the invention” in *Perkin-Elmer, supra*:

“In determining priority of invention, consideration of the ‘gist’ or ‘essence’ of the invention may be appropriate. *See, e.g., Stansbury v. Bond*, 482 F.2d 968, 974 (CCPA 1973); *McCutchen v. Oliver*, 367 F.2d 609, 611 (CCPA 1966); *Hall v. Taylor*, 332 F.2d 844, 848 (CCPA 1964). We are aware of dicta that state consideration of the ‘essence’, ‘gist’, or ‘heart’ of the invention may be helpful in determining infringement under the doctrine of equivalents. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861 (Fed.Cir.1985); *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569, 1582 (Fed.Cir.1984) (both citing *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567 (Fed.Cir.1983). That dicta may not be read as implying that specific claim limitations can be ignored as insignificant or immaterial in determining infringement. It must be read as shorthand for the considerations set forth in *Graver Tank*, i.e., that the infringer should not appropriate the invention by making substitutions for those limitations, when the substitutions do not substantially change the function performed, or the way it is performed, by the invention.”

Shortly after *Perkin-Elmer* Chief Judge Markey again pointed out in his “additional views” in *Pennwalt* that “one cannot obtain patent protection for ... the ... ‘essence’ of an invention”, *Pennwalt, supra*, 833 F.2d at 949.

Even one member on the Federal Circuit with literally fifty (50) plus years involvement in patent law has difficulty understanding that “essence of the invention” effectively died nearly 150 years ago with the Patent Act of 1870. *Ventana Medical Systems v. Biogenex Laboratories*, 473 F.3d 1173, 1185 (Fed. Cir. 2006)(Lourie, J., dissenting)(“Those statements *** describe the essence of the invention[.]”); *Lexington Luminance LLC v. Amazon.com Inc.*, __ Fed. App’x __, __, slip op. at 10 (Fed. Cir. 2015)(Lourie, J.)(“[T]he substrate that is described in the contested language is not the essence of the invention that is being claimed.”).

The author of *Ventana Medical Systems* and *Lexington Luminance* does not stand alone. *See, e.g., Invitrogen Corp. v. Clontech Laboratories, Inc.*, 429 F.3d 1052, 1064 (Fed. Cir. 2005)(Gajarsa, J.) (quoting *Heard v. Burton*, 333 F.2d 239, 240 (CCPA 1964))(“The ‘essence of the invention’ was ‘using eta-aluminum, a specific type of hydrated aluminum oxide, as support material for platinum’ in a

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reforming process in which the platinum-alumina combination served as a catalyst.”); *Boehringer Ingelheim v. Schering-Plough Corp.*, 320 F.3d 1339, 1343 (Fed. Cir. 2003)(Clevenger, J.) (“[A]s we explained in *Griffin v. Bertina*, 285 F.3d 1029 (Fed.Cir.2002), preamble language will limit the claim if it recites not merely a context in which the invention may be used, but *the essence of the invention* without which performance of the recited steps is nothing but an academic exercise. *Id.* at 1033.”)(emphasis added);

In *Coleman v. Dines*, 754 F.2d 353, 354 (Fed. Cir. 1985)(Davis, J.), the court had said that “it is the selection and discovery of compounds having the necessary combination of volatility and vibrational sensitivities which is the ‘essence of the invention.’”.

§ 8[d][4] Claim Limitations Trump the “Essence of the Invention”

Whether an accused infringing embodiment fully copies the “essence of the invention” – perhaps the patentable feature of the invention – there is infringement *only* if the accused infringing embodiment falls within the four corners of the wording of the patent claims (subject to broadening under the doctrine of equivalents). In other words, in the claims-based system that has been in operation for the nearly 150 years since the Patent Act of 1870, it is critical whether the claims *read on* the accused infringing embodiment: This trumps the point that the accused infringing embodiment may very well practice the “essence of the invention”.

Prior to the institution of a mandatory claiming system in 1870, it was necessary to look to the specification to determine the “inventive feature” or, “the essence of the invention”. Under a system of peripheral claiming that the United States has today (and has had for many years), the claim wording provides the outer bounds of protection, subject only to the possibility of a broader enforcement under the doctrine of equivalents or a narrower scope of protection due to estoppels or other conduct during procurement. The essential nature of the claims is seen from the fact that if the “essence of the invention” is narrower (or mutually distinct from) the scope defined by the claims, the different scope of the claims trumps whatever the “essence of the invention may be. In some cases, even where the “essence of the invention” is stated in the claims, the claims may have a *second*, totally uncritical and optional feature from the standpoint of commercial realities. But, even though the claim *does* include “the essence of the invention”, the fact that there is a *second*, uncritical element in the claim, a third party may practice the patented combination with impunity without regard to the “essence of the invention.” See § 13, *Pennwalt “All Elements” Claim Drafting Rule*.

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The “all elements” rule has historical roots that predate the modern requirement for claiming. In a case from nearly 200 years ago, Justice Joseph Story pointed out in the case of an invention setting forth a combination of elements that “it is no infringement of the patent to use any of the [elements] separately, if the whole combination be not used; for in such a case the thing patented is not the separate [elements], but the combination[.]” *Barrett v. Hall*, 2 F.Cas. 914, 924 (No. 1047)(D. Mass. 1818)(Story, J.). Nearly a quarter century later, Justice Story again reiterated the “all elements” principles in *Prouty v. Draper*, 20 F.Cas. 11, 12 (No. 11,446) (D. Mass. 1841)(Story, J.), *aff’d*, 41 U.S. (16 Pet.) 336 (1842)(Taney, C.J.) (“The plaintiffs' patent is for an entire combination of all the three things, and not for a combination of any two of them. A patent for a combination of A, B and C, cannot be technically or legally deemed at once a combination of A, B and C, and of A and B alone.”

What happened to the “essence of the invention” in 1870 when for the first time claims became the mandatory feature to determine the scope of protection? There was no magic switch to turn on the “all elements” rule in 1870 when the statutory requirement for patent claims came into being. Indeed, the “all elements” rule has Supreme Court roots dating back to prior to 1870. See § 13, *Pennwalt “All Elements” Claim Drafting Rule* (citing *Prouty v. Draper*, 41 U.S. (16 Pet.) 335 (1842); *Brooks v. Fiske*, 56 U.S. (15 How.) 211, —219 (1853); *Vance v. Campbell*, 66 U.S. (1 Black) 427, 429 (1861); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79 (1864)).

§8[e] “Essential” Feature of the Invention

“In determining obviousness, there is ‘no legally recognizable or protected ‘essential’ [feature]... of the invention” *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345 (1961).

§8[f] “Exact Nature” of the Invention

The “nature” or “exact nature” of the invention is *not* a statutory requirement and should never be included in the patent specification nor arguments in pleadings before the Patent Office. Yet, there remains a persistent usage of this terminology because of the long-standing statutory basis to set forth the “nature” of the invention. The statutory requirement for setting forth the “nature of the invention” is dated back to the Patent Act of 1836. See § 6[b][4], “*Nature of the Invention*”: *1836 Statutory Basis*. However, as from the Patent Act of 1952, there has been no statutory basis for this former requirement. See § 6[b][3], “*Nature of the*

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Invention”: No Current Statutory Basis. Thus, today, “nature of the invention” is a requirement without any contemporary meaning.

Even today, more than sixty years since a relevant statutory change, the official *Manual* guidance on how to draft a *Summary of the Invention* quotes the *Rules of Practice in Patent Cases* for the proposition that the “summary of the invention [should indicate] its nature ***, which may include a statement of the object of the invention[.]” MPEP 608.01(d), *Brief Summary of Invention* (quoting 37 C.F.R. 1.73, *Summary of the invention*)(emphasis added).

Despite the fact that there has been no statutory requirement to set forth the “nature” of the invention since the advent of the 1952 Patent Act – *more than sixty (60) years ago* – there is continued usage of the “nature of the invention” requirement in the judicial vocabulary. See § 6[b][7], “Nature”, a Term without Contemporary Meaning (quoting *The Manual of Patent Examining Procedure* says that “the purpose of the brief summary of invention is to apprise the public *** of the nature of the invention[.]” MPEP § 608.01(d), *Brief Summary of Invention* The “nature of the invention” requirement is an anachronism without place in the American patent law since the Patent Act of 1952. Repeatedly, the Federal Circuit, however, has still spoken of the “nature of the invention”. See § 6[b][7], “Nature”, a Term without Contemporary Meaning (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562 (Fed. Cir. 1991)(Rich, J.); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1326 (Fed. Cir. 1991)(Rich, J.); *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976); *In re DiLeone*, 436 F.2d 1404, 1405 (CCPA 1971); *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1562 (Fed. Cir. 1995)(Nies, J., dissenting), *rev’d*, 520 U.S. 17 (1997); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 962 (Fed. Cir. 1987)(en banc)(Newman, J., commentary); *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1322 (Fed. Cir. 2006) (Newman, J., dissenting); *Young Dental Mfg. Co., Inc. v. Q3 Special Products, Inc.*, 112 F.3d 1137, 1144 (Fed. Cir. 1997)(Clevenger, J.); *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528 1532 (Fed.Cir.1991); *EZ Dock Inc v. Schafer Systems Inc*, 276 F.3d 1347, 1351 (Fed. Cir. 2002)(Rader, J.)(quoting *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544 (Fed. Cir. 1997)); *Lough v. Brunswick Corp.*, 103 F.3d 1517, 1518 (Fed. Cir. 1997)(Lourie, J., concurring in den. suggestion for reh’g en banc); *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1316 (Fed. Cir., 2005)(on reh’g)(Linn, J.)(quoting *Minton v. Nat’l Ass’n of Sec. Dealers, Inc.*, 336 F.3d 1373, 1378 (Fed.Cir.2003); *UMC Electronics Co. v. United States*, 816 F.2d 647, 656 (Fed. Cir. 1987)(Nies, J.); *id.* 816 F.2d at 657; *In re Wands*, 858 F.2d 731, 737

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(Fed. Cir. 1988)(E. Smith, J.)(citing *Ansul Co. v. Uniroyal, Inc.*, 448 F.2d 872, 878-79 (2d Cir.1971)).

§8[g] “Gist” of the Invention

“In determining obviousness, there is ‘no legally recognizable or protected ... ‘gist’ ... of the invention.” *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345 (1961); *see also CLS Bank International v. Alice Corp. Pty. Ltd.*, 717 F. 3d 1269 (Fed. Cir. 2013)(en banc)(Rader, C.J., joined by Linn, Moore, O’Malley, JJ., concurring in part and dissenting in part), *aff’d sub nom Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014)(“It would be improper for the court to ignore [claim] limitations and instead attempt to identify some ‘gist’ ... of the invention. *See [Diamond v. Diehr, 450 U.S. 175, 188 (1981)]* (it is improper to dissect the claims; they must be considered as a whole)”). *See also* the suggestion of 37 CFR § 1.73 that the specification should indicate the “gist” of the invention, which implemented a nineteenth century statutory requirement that was not carried forward in the 1952 Patent Act..

§8[h] “Heart” Feature of the Invention

“In determining obviousness, there is ‘no legally recognizable or protected ... ‘heart’ of the invention”. *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345 (1961); *see also Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983)(Markey, C.J.)(“[The trial court]’s reference to ‘the heart of invention’ was here a harmless fall-back to the fruitless search for an inherently amorphous concept that was rendered unnecessary by the statute, 35 U.S.C.”); *CLS Bank International v. Alice Corp. Pty. Ltd.*, 717 F. 3d 1269 (Fed. Cir. 2013)(en banc)(Rader, C.J., joined by Linn, Moore, O’Malley, JJ., concurring in part and dissenting in part), *aff’d sub nom Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014)(“It would be improper for the court to ignore [claim] limitations and instead attempt to identify some ... ‘heart’ of the invention. *See [Diamond v. Diehr, 450 U.S. 175, 188 (1981)]* (it is improper to dissect the claims; they must be considered as a whole)”).

In the context of patent infringement, reference is sometimes made to a particular feature of a combination invention representing the “heart” of the invention. But, where the *combination* is not infringed, that ends the matter. As explained in *Mercoïd*:

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“That result may not be obviated in the present case by calling the combustion stoker switch the 'heart of the invention' or the 'advance in the art'. The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly. *Leeds & Catlin v. Victor Talking Machine Co. (No. 1)*, 213 U.S. 301, 318 (1909). Whether the parts are new or old, the combination is the invention and it is distinct from any of them. See *Schumacher v. Cornell*, 96 U.S. 549, 554 (1877); *Rowell v. Lindsay*, 113 U.S. 97, 101 (1885).”

Mercoïd Corp. v. Mid-Continent Investment. Co., 320 U.S. 661, 667-68 (1944)(Douglas, J.)

§ 8[i] “Inventive Concept”

The concept of patentability as keyed to the presence of “invention” or an “inventive concept” that developed in the nineteenth century was *codified* in the 1952 Patent Act as 35 USC §103. As explained by the late Giles Sutherland Rich, “[t]erms like ‘inventive application’ and ‘inventive concept’ no longer have any useful place in deciding questions under the 1952 Act[.]” *In re Bergy*, 596 F.2d 952, 961 (CCPA 1979)(Rich, J.). Nevertheless, the Supreme Court has resuscitated the term “inventive concept” as a condition for patent-eligibility under 35 USC § 101 in a series of cases, particularly beginning with *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), and subsequent case law. See § 15[a][2], *Patent Eligibility and Patentability Conflated*.

“[Reference is made] to ‘the inventive concept’[.] ... That facile focus[] resulted in treating the claims at many points as though they read differently from those actually allowed and in suit.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1547 (Fed. Cir. 1983)(Markey, C.J.); *see also; Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949 (Fed. Cir. 1987)(en banc)(Nies, J., additional views)(“It is axiomatic under our precedent that one cannot obtain patent protection for an *inventive concept* or for the *heart* or ‘*essence*’ of an invention or for an achieved result. ...”)

§ 8[j] “Novel Element” of the Invention

“Reliance on a finding that a ‘novel element’, or ‘essence’ (or ‘gist’, or ‘key’) of a structural invention lies in the operation of a specification-described embodiment of the claimed structure would render meaningless the statutory requirement for claiming, 35 U.S.C. Sec. 112[.]”. *SRI Intern. v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1128 n.7 (Fed. Cir. 1985)(en banc)(Markey, C.J., joined by P. Newman, J., additional views).

§ 8[k] “Object” of the Invention

§ 8[k][1] The Modern Practice Regarding an “Object”

Recitation of an “object” should be *avoided* as it is *unnecessary* and can lead to a narrowed interpretation of the patent.

Particularly because there is no statutory requirement for an “object” to be stated, it is curious why so many applicants continue to recite “objects” of their invention. The negative impact for claim interpretation is seen from *Netcraft Corp. v. Ebay, Inc.*, 549 F.3d 1394 (Fed. Cir. 2008)(Prost, J.) where the Court gave claims a narrow interpretation based upon a narrow definition of the invention that could be gleaned from the “objects” of the invention. The Court quoted from the specification:

The *main object of the present invention* is to create a new business opportunity for telephone companies, cable television companies, existing Internet access providers, and companies offering financial services by creating a way for them to offer to their subscribers a method of securely buying and selling goods and services of any value over the Internet.

Another object of the present invention is an Internet billing method which is cost effective for transactions having transaction amounts ranging from pennies to a few dollars.

Still another object of the present invention is to provide a secure method of billing commercial transactions over the Internet.

A further object of the present invention is an Internet billing method which is simple to use from both the customer’s point of view and that of vendors on the Internet.

Yet another object of the present invention is a billing method which can be used by a large number of existing Internet users without requiring major changes in how the users customarily behave and conduct commercial transactions.

These and other objects of the present invention are achieved by an Internet billing method in accordance with the present invention.

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Netcraft v. Ebay, 549 F.3d at 1397-98 (emphasis added).

Particularly damaging from the standpoint of interpretation of the claims is the final paragraph quoted above that states that the “objects of the present invention *are achieved by an Internet billing method in accordance with the present invention.*” In other words, under an extreme interpretation (which occurred in this case) if an embodiment seemingly within the scope of “claim 1” does not achieve all of the objectives stated in the specification, it is not part of the claimed invention.

It can be agreed that “an applicant may want to consider avoiding any characterizations or disparagements of the prior art in the specification and, more importantly, refrain from ‘selling’ the invention by overly emphasizing objects, advantages, or purposes of the invention in the specification.” Bryan C. Diner, C. Gregory Gramenopoulos & Anthony C. Tridico, *Festo: The Tip of the Iceberg*, LES Benelux Newsletter (December 2002).

§ 8[k][2] Nineteenth Century Roots of the Practice

The “object of the invention” is a nineteenth century practice dating back to the days before the 1870 *requirement* for claims to define the invention. The distinction is pointed out by the Court in a post-1870 opinion: “It is true that the object of the invention is stated to be ‘to prevent the article to be preserved from coming in direct contact with the surface of the can.’ But the object of an invention is a very different thing from the invention itself.” *White v. Dunbar*, 119 U.S. 47, 50 (1886). The often general statements of an “object” were given little weight in proceedings. *See Parker & Whipple Co v. Yale Clock Co.*, 123 U.S. 87, 104 (1887)(“[T]his statement in the original specification of the object of the invention, in such general terms, cannot have the effect of making the reissue one for the same invention as that of the original, when it otherwise would not be. Such a general statement contained no intimation that the invention consisted in the matters covered by the first eight claims of the reissue.”).

Even after 1870 when the patent claim became the mandatory definition of the scope of the invention reference to the “object of the invention” continued throughout the nineteenth century. *See Mitchell v. Tilghman*, 86 U.S. (19 Wall.) 287, 379-80 (1873)(“What the patentee claims as his invention is the process of manufacturing fat-acids and glycerin from fatty or oily substances by the action of water at a high temperature and pressure, which *** is the true object of the invention ***.”); *Hailes v. Van Wormer*, 87 U.S. (20 Wall.) 353, 373 (1873) (“[T]he peculiar structure of the chamber *** prevents the passage of the flame

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and other products of combustion up, around, and over the supply reservoir, which is a leading avowed object of the invention, precisely the improvement patented.”); *Mason v. Graham*, 90 U.S. (23 Wall.) 261, 275 (1874)(“[T]he object sought to be accomplished by the *** invention was the prevention of wobbling of the picker-staff, and compelling it to move steadily[.]”); *The Wood-Paper Patent*, 90 U.S. (22 Wall.) 566, 606 (1874)(“[T]he specification avows the object of the invention to be a process for treating straw *and other vegetable fibrous materials requiring like treatment preparatory to the use of such fibres in the manufacture of paper.*”(original emphasis); *Birdsall v. Coolidge*, 93 U.S. 64, 66 (1876)(“ the object of the invention *** is to obtain a device of simple construction, which will cause a thorough incorporation of the quicksilver with the pulp containing the metal, so as to insure a perfect amalgamation of the latter.”); *Schumacher v. Cornell*, 96 U.S. 549, 554 (1877)(quoting section of the patent captioned “Nature and Object of the Invention”); *Elizabeth v. Pavement Company*, 97 U.S. 126, 127 (1877)(“[The specification] declared that the nature and object of the invention consists in providing a process or mode of constructing wooden block pavements upon a foundation along a street or roadway with facility, cheapness, and accuracy, and also in the creation and construction of such a wooden pavement as shall be comparatively permanent and durable, by so uniting and combining all its parts, both superstructure and foundation, as to provide against the slipping of the horses' feet, against noise, against unequal wear, and against rot and consequent sinking away from below.”); *Loom Company v. Higgins*, 105 U.S. 580, 581 (1881)(“the nature and object of the invention are set forth in the specification[.]”); *Wing v. Anthony*, 106 U.S. 142, 143 (1882)(“The object of the invention *** was to provide efficient means by which several correct pictures could be taken on different parts of the same plate.”); *Fay v. Cordesman*, 109 U.S. 408, 415 (1883)(“The object of the invention here illustrated is to obviate these several difficulties, and give important advantages in operating saws of this kind.”); *Torrent Arms & Lumber Co v. Rodgers*, 112 U.S. 659, 667 (1884)(“[I]f this were done, it would defeat the object of the invention by moving the log off the carriage and away from the saw.”); *Sargent v. Hall Safe & Lock Co.*, 114 U.S. 63, 73-74 (1885)(“The object of the invention is stated to be to have a time-movement guard, and operate in conjunction with a combination -lock, to prevent the action of the combination-lock until a time previously appointed by the setting of the time-movement shall have arrived...”); *Eachus v. Broomall*, 115 U.S. 429, 439 (1885)(“The object of the invention is to trim and cut heavy paper used in the manufacture of books and boxes.”); *Cantrell v. Wallick*, 117 U.S. 689, 690 (1886)(“The specification stated the object of the invention to be 'a rapid and economical production of enameled mouldings.’”); *New Process Fermentation Co. v. Maus*, 122 U.S. 413, 422 (1887)([T]he object of the invention of the patentees

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was to overcome the difficulties [named in the patent.]”); *McCormick v. Whitmer*, 129 U.S. 1, 6 (1889)(“The specification ... stated that one object of the invention was the free passage of the finger-bar over the ground, and the perfect moving of it to adjust itself to the inequalities of surface over which it might pass, and that another object of the invention was the cutting in a proper manner of lodged grass or grain.”); *Burt v. Ivory*, 133 U.S. 349, 355 (1890)(“In the patent of 1860 some minor changes were made in the shape of several of the parts composing the boot or shoe, but the object of the invention remained the same, namely, to make the boots and shoes to which it related water-tight and capable of excluding dirt, etc.”); *Phoenix Caster Co v. Spiegel*, 133 U.S. 360, 361 (1890)(“The first object is attained by the use of two floor-wheels, whose axes are coincident, in connection with devices which insure the contact of both wheels with the floor, regardless of ordinary irregularities of floor surface. The second object of the invention is a natural result of the suppression of floor friction.”); *McClain v. Ortmyer*, 141 U.S. 419, 420 (1891) (quoting the patent)(“[T]he object of the invention [is] 'to produce a sweat-pad for a horse-collar which can be easily and readily attached to or taken from the collar, and which can be fitted to collars varying in size.”); *Pope Mfg. Co. v. Gormully*, 144 U. S. 254, 255 (1892)(“The object of the invention seems to have been the construction of a ball bearing in two parts in such manner as to admit of the wear of the balls being taken up gradually, as the wear progresses, in order to keep the bearings tight.”); *Miller v. Eagle Manufacturing Co.*, 151 U.S. 186, 194 (1894)(quoting the patent)(“[T]he object of the invention is to render the operations of the machine easier and less laborious to the attendants by applying springs thereto in such manner that they will assist the operator in raising the beams and shovels attached thereto from their operative to their inoperative positions; and this, without having the springs exert any objectionable lifting strain upon the beams when the latter are in action.”); *Dunham v. Dennison Manuf. Co.*, 154 U.S. 103, 104 (1894)(“The inventor says: 'The object of the invention is to....'”); *Wright v. Yuengling*, 155 U.S. 47, 49 (1894)(“The object of the invention in question was to add both lightness and strength to the construction of frames for horizontal, single crank engines.”)

§ 8[l] “Operation” of the Invention

There is absolutely no statutory basis for the Patent Office statement that the “operation” of the invention should be indicated. *Patent Office Rule 73 and MPEP 608.01(d)*, quoting MPEP 608.01(d), *Brief Summary of Invention* (“The brief summary, if properly written [] set[s] out the ... operation... of the invention[.]”)

§8[m] “Problems” Faced by the Inventor

Recitation of “problems” faced by the inventor should be avoided.

The patent applicant who provides a “Background of the Invention” identifying a known problem in the art creates a problem under *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). Admission that there is a known problem in the art invites the Examiner of the application or a court evaluating patent validity to conclude that the admission of the known problem creates a motivation to combine references, thereby rendering a possibly unobvious invention obvious.

As explained in *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharms. Inc.*, 748 F.3d 1354 (Fed. Cir. 2014), if there is a “known problem” this may be the thread to lead to a conclusion of obviousness under *KSR*. Thus, “[i]n *KSR*[, 550 U.S. at 421] , the Court explained that ‘obvious to try’ [to defeat patentability] may apply when ‘there are a finite number of identified, predictable solutions’ to a *known problem*. The Court explained that when the path has been identified and ‘leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.’ *Id.*” *Sanofi-Aventis Deutschland*, 748 F.3d at 1360 (emphasis added).

As noted by the Chief Judge of the Federal Circuit, “[w]hen a claimed invention involves a combination of elements, however, any need or problem known in *the relevant field of endeavor* at the time of invention can provide a reason to combine. See *KSR* [550 U.S. at 420-21]. Moreover, the prior art need not address the exact problem that the patentee sought to resolve. *Id.*” *Tyco Healthcare Group LP v. Ethicon Endo-Surgery, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2014)(Prost, C.J.)(emphasis added). The “field of endeavor” is explained in *Apple v. Samsung*: “A reference qualifies as analogous prior art if it is ‘from the same field of endeavor, regardless of the problem addressed’ or ‘if the reference is not within the field of the inventor’s endeavor, . . . the reference still is reasonably pertinent to the particular problem with which the inventor is involved.’ *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1237 (Fed. Cir. 2010) (quoting *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1351 (Fed. Cir. 2010)). *** The field of endeavor is determined ‘by reference to explanations of the invention’s subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.’ *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); see also *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986) (finding that if a prior art reference discloses essentially the same structure and function as the invention, it is likely in the same field of endeavor).” *Apple, Inc. v. Samsung Electronics, Inc.*, ___ F.3d ___, slip op. at 21(Fed. Cir. Feb.

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26, 2016)(Dyk, J.)(footnote omitted).

Institut Pasteur v. Focarino, 738 F.3d 1337 (Fed. Cir. 2013), points in the same direction:

“When there is a design need or market pressure to *solve a problem* and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *Institut Pasteur*, 738 F.3d at 1344(quoted *KSR*, 550 U.S. at 421 (2007)(emphasis added).

In yet another case, the Federal Circuit explained that “our cases emphasize that ‘where all of the limitations of the patent were present in the prior art references, and the invention was addressed to a ‘known problem,’ ‘*KSR* . . . compels [a determination of] obviousness.’” *Stone Strong, LLC v. Del Zotto Products of Florida.*, 455 Fed. Appx. 964, 969 (Fed. Cir. 2011)(quoting *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1240 (Fed. Cir. 2010), citing *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009)).

In *Schwemberger* the admission in the specification of a known problem was a basis to reach a conclusion of unpatentability:

“The *specification* ... *discloses a known problem* [M]odifying Pruitt's staple line configuration in accordance with the configuration disclosed by Schulze is no more than ‘the combination of familiar elements according to known methods . . . [with] predictable results.’ See *KSR [Int'l Co. v. Teleflex Inc.]*, 550 U.S. 398, 416 (2007)]; see also *id.* at 421 (‘When there is a *design need or market pressure to solve a problem* and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.’). Therefore, the Board correctly determined that claim 9 is obvious over the combination of Pruitt and Schulze.” *In re Schwemberger*, 410 Fed. Appx. 298, 304 (Fed. Cir. 2010)(emphasis added)

Japan for many years had a statutory provision that suggested that problems should be recited in the specification. This provision, however, was abolished from the Japanese patent law in 1995.

§8[n] “Purpose” of the Invention

There is no requirement to recite the “purpose” of the invention. Cf. *Patent Office Rule 73 and MPEP 608.01(d)*, quoting MPEP 608.01(d), *Brief Summary of Invention* (“The brief summary, if properly written [] set[s] out the ... purpose of the invention[.]”)

§8[o] “Shorn claims”

“[The brief refers] to the claims ‘shorn of their extraneous limitations’. That facile focus[] resulted in treating the claims at many points as though they read differently from those actually allowed and in suit.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1547 (Fed. Cir. 1983)(Markey, C.J.).

§8[p] “Substance” of the Invention

In conflict with the advice in § 510, “*Summary of the Invention*”, a *Definitional Section*, the Patent Office says that the “substance” of the invention should be indicated. See § 831, *Patent Office Rule 73 and MPEP 608.01(d)*, quoting MPEP 608.01(d), *Brief Summary of Invention* (“[T]he application should include [a] brief summary of the invention indicating its ... substance”)

§8[q] “Thrust” of the Invention

“[W]e note [the patentee’s focus on one feature] which it called the ‘thrust of the invention’. That approach is repeated throughout [it’s] briefs, which refer repeatedly to the ‘thrust of the invention’.... That facile focus[] resulted in treating the claims at many points as though they read differently from those actually allowed and in suit.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1547 (Fed. Cir. 1983)(Markey, C.J.).

§ 8[r] “Advance in the Art”

A particular feature within a combination claim may be characterized as an “advance in the art”, but unless the combination is practiced, there is no infringement of that “advance in the art”. See *Mercoïd Corp. v. Mid-Continent Investment. Co.*, 320 U.S. 661, 667-68 (1944)(Douglas, J.).

§ 8[s] Overstated “Advantages”

A careless statement of the “advantages” of the invention over the prior art is unwise, particularly where the advantages are not shared by all embodiments within the scope of the claim wording. An *overstatement* of “advantages” of the invention is thus dangerous to the extent that the “advantages” set forth in the specification may not be shared by all of the subject matter within the literal scope of the claim. In such a case, the scope of the claim may be judicially limited to only those embodiments *within* the scope of the claim that share the stated “advantages”. As stated in *Bamberg v. Dalvey*, ___ F.3d ___ (Fed. Cir. March 9, 2016)(Hughes, J.), following *Tronzo v. Biomet, Inc.*, 156 F.3d 1154 (Fed. Cir. 1998), the court narrowed the scope of the claims in a *parent* application which was then basis to deny priority to that parent application (and lead to invalidity based upon an intervening prior art reference):

“In *Tronzo* [] this court determined that the asserted claims ... which described a generic-shaped cup hip implant, were invalid because these claims could not claim priority to the parent patent....” [T]he asserted claims could not claim priority to the parent patent because it did not provide written description support where it described only a conically shaped cup and specifically distinguished the prior art (i.e., other shapes) as “inferior” by detailing the advantages of the conically shaped cup. [*Tronzo*,, 156 F.3d at 1158–59]. Because the specification detailed why the prior art was inferior, the court determined that the patent ‘discloses *only* conical shaped cups and nothing broader.’ *Id.* at 1159.” (original emphasis).



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At the start of the drafting process, the sophisticated applicant should be able to provide much if not all of predicate information to the practitioner necessary to draft the patent application. Whether the purpose of the application is offensive or defensive, it is important to have a detailed example of the invention for the *Detailed Description of the Invention*. The inventor stands in the best position to provide either a “cook book” recipe with all the details of the invention or a “blue print” disclosure of the preferred embodiment including reference numerals to a code identifying the elements.

For the exceptional case in the area of unpredictable technologies where an “upstream” application is drafted to generically cover yet to be created “downstream” embodiments, the inventor once again is in the best position to provide a set of plural, representative prophetic embodiments to support generic protection. It is not enough that it is “obvious” how to make the various embodiments; the important point is that they are *disclosed* in the application.

Prior art information should be provided by the inventor for the practitioner. As a bare minimum, the inventor should identify his “starting off” point:

What is the point of departure from the prior art that led to his invention?

A useful starting point for the patenting process is for the inventor to provide the patent attorney with an electronic (Word) copy of the best example in the form of a “cook book” recipe.

This information provides a critical component to understanding the invention before conducting a search or before preparing the patent application is a complete understanding of the various aspects of the invention. Only when the concrete embodiment of the invention is known to the patent attorney then and only then can the full parameters be known of what *can* be patented.

The “cook book” example also provides the “guts” of the patent application and will find its way into “Example 1” of the patent application.

If, on the one hand, the only business objective is a purely *defensive* right to block a junior inventor from obtaining a patent right to dominate a specific, commercial embodiment, then the answer may be “yes” – an applicant should be able to file a provisional application as long as the applicant understands that the provisional application should

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Just as a kitchen recipe has the most minute details as to how to prepare a dish the patent “cook book” example should go into the same excruciating detail, leaving no stone unturned. The “cook book” example should show the complete construction of the commercial embodiment with every detail.

§ 9[a] Plural Embodiments for Broad Defensive Protection

It is helpful but not absolutely always unnecessary for the purposes of drafting a first application to have plural embodiments provided by the inventor. For example, if the only concern of the applicant is *defensive* and that concern extends only to a specific product, then a disclosure of that specific product will be sufficient to create defensive rights against junior applicants.

However, this is a simple case that does not usually comport with the real world. Even for a defensive patenting situation, the applicant may wish to keep the door open to obvious or even further remote variations of his current embodiment. To best accomplish this, specific examples to cover such obvious or even further removed subject matter should be prepared, *but not at the expense of holding up the filing date*. (If plural embodiments are important, then one option is to immediately file a provisional application with the one embodiment, and then as soon as possible file a *second* application covering the plural embodiments.)

At first blush, one may think that having broad claims would suffice to provide the necessary breadth of defensive protection. However, gaining a broad claim only provides the applicant with broad coverage but does not necessarily provide a basis for anticipation of a competitor’s claim reading on the new embodiment.

§ 9[b] Specific (versus Generic) Defensive Disclosure

If the applicant’s specific working example is in a large generic field that specific working example is unlikely to block a *subgeneric* claim to a fairly large group of embodiments *unless* there is a *specific disclosure* in the prior art of a member of the subgeneric claim. A set of plural *specific* embodiments should be set forth in the specification so that each subgeneric area of interest is anticipated by a specific disclosure. A mere generic disclosure will not necessarily shut the door on a competitor gaining a patent on a species within that disclosure. Thus, “[i]t is well-settled that a narrow species can be non-obvious and patent eligible despite a patent on its genus.’ *AbbVie [Inc. v. Mathilda & Terence Kennedy Inst. of Rheumatology Tr.*, 764 F.3d 1366, 1379 (Fed. Cir. 2014)]. An ‘earlier disclosure of a genus does not necessarily prevent patenting a species member of the genus.’ *Eli Lilly & Co. v. Bd. of Regents of Univ. of Wash.*, 334 F.3d 1264, 1270 (Fed. Cir.

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2003).” *Prometheus Laboratories, Inc. v. Roxane Laboratories, Inc.*, __ F.3d __, __ (Fed. Cir. 2015)(Dyk, J.)(dicta).

There is a school of thought that a broad *claim* or disclosure provides optimum patent-defeating effect against a junior claim within the scope of that disclosure. This is not generally the situation. Thus, it is whether the prior art *describes* a claimed invention that is critical to patentability of the claimed invention and not whether the claimed invention is within the scope of the generic disclosure. Indeed, if the claim is very broad it merely defines the periphery of the scope of protection and does not describe the embodiments within its scope: “[C]laims are not technical descriptions of the disclosed inventions but are legal documents like the descriptions of lands by metes and bounds in a deed which define the area conveyed but *do not describe the land.*” *In re Vamco Machine and Tool, Inc.*, 752 F.2d 1564, 1577 n.5 (Fed. Cir. 1985)(Rich, J.)(emphasis added).

In other words, “a patent may be thought of as a form of deed which sets out the metes and bounds of the property the inventor owns for the term and puts the world on notice to avoid trespass or to enable one to purchase all or part of the property right it represents.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 997 (Fed. Cir. 1995)(Mayer, J., concurring), *aff’d*, 517 U.S. 370 (1996). “The legal effect of the patent claim is to establish the metes and bounds of the patent right to exclude[.]” *Markman*, 52 F.3d at 1000(Newman, J., the Great Dissenter, dissenting).

To be sure, there has been some leniency in reaching a conclusion of anticipation where there is only a general description of the embodiment. As explained by Circuit Judge Linn in *Kennametal* the test for anticipation with only a generic recitation of the ingredients – not showing the specific combination to anticipate – is satisfied if the worker skilled in the art, given the generic recitation, “would ‘at once envisage’ the claimed arrangement[.]” *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, __ F.3d __, __ (Fed. Cir. 2015)(Linn, J.)(quoting *In re Petering*, 301 F.2d 676, 681 (C.C.P.A. 1962)(“[A] reference can anticipate a claim even if it ‘d[oes] not expressly spell out’ all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would ‘at once envisage’ the claimed arrangement or combination.”

§ 9[c] Prophetic, Patent-Defeating Examples

The case law makes it clear that a reference that has an enabling disclosure may constitute an anticipation of a claim even where the reference disclosure had not been actually carried out, i.e., there was no “actual performance” of the invention in the prior art. As explained by Circuit Judge Linn: “Though it is true that there is no evidence in [the prior art reference] of ‘actual performance’ of [the invention], this is not required.” *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Linn, J.)(quoting *Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005), quoting *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1379 (Fed. Cir. 2001)).

As explained in *Kennametal*, for a prophetic example in the prior art to constitute anticipation, “anticipation only requires that [the disclosure] be enabled to one of skill in the art.” *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Linn, J.)(quoting *Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005), quoting *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1379 (Fed. Cir. 2001)).

§ 9[d] Prophetic Examples should be Stated in the Present Tense

Prophetic examples which include aspects of the example which have not been worked out in the laboratory should be stated in the *present tense* so that there is no representation that experiments have been carried out.

§ 9[e] “How to Use” (for Biotech and Chemical Inventions)

If the invention involves a new chemical or biotechnology entity in an unpredictable art area of pharmaceuticals it is important to include with the “cook book” example the method of use. Even if the invention is a pharmaceutical candidate where there has been no human testing, if there is *in vivo* data available it is useful to include this information as an adjunct to the “cook book” example. .

§ 9[f] Inventor Guidance to Draft the “Cook Book” Example

Inventors are generally given *theoretical* advice on the disclosure needed for an application, whether as a “cook book” example or otherwise. As a practical matter, the instructions are largely theoretical and of little practical guidance because they lack real world reality for the technology involved.

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It is suggested that for specific areas of research that the effort be made to identify, say, five recent patents drafted by quality corporate patent departments or law firms *in the exact area of technology of the specific area of research*. Then, the enabled embodiment should be highlighted in yellow, as should the generic claims. This will provide the inventors with *practical* guidance as to how to draft an enabled embodiment.

§10. Prior Art

§ 10[a] Prior Art Information as a Predicate to Claim Drafting

Prior art information is important for offensive patent purposes where claims of appropriate scope are to be obtained.

In limited situations where offensive protection is to be sought, a search may well be postponed. For example, some practitioners are ready to draft an application based merely upon the disclosure of the inventor's best embodiment. For example, in a corporate environment where a particular practitioner as part of his daily work covers a very narrow area of technology with the same set of inventors, here, it is possible that the practitioner will have a good feel for the state of the art – or can update his understanding with his own brief electronic search – so that he may proceed with the drafting of the original application even without a patentability search.

Usually, however, the practitioner needs the cooperation and help of the inventor to determine the state of the art as a predicate to drafting the patent claims.

§ 10[a][1] An Informed Patentability Search

Is a “patent search” necessary before filing? What is meant, more precisely, is the question whether a *patentability* search is needed. *See* § 233, *The Various Traditional Searches* (discussing the several different types of searches for patent purposes). If the first filing is a provisional application, there is never a need to cite prior art to the Examiner during the pendency of the provisional application.

The search should be an “informed” search where the searcher is given the inventor's information about his “starting off” point.

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If the invention is an improvement in an existing product it may be enough to identify this “starting off” point for the purpose of filing a provisional application. If the *only* purpose of the filing is defensive then certainly no further patent search is required: The patent-defeating effect sought for the defensive patent right is *automatically* achieved 18 months from the effective filing date when the application is published, thereby creating a patent-defeating effect against both novelty under 35 USC § 102 and nonobviousness under 35 USC § 103 which is retroactive to the filing date.

Even for an offensive patent right, it may be sufficient for purposes of a provisional application to rely upon the “starting off” point information so that the earliest filing date can be achieved that is so essential in a first-to-file world. Then, the invention should be kept secret while any patent search that is necessary is conducted – and there is time for a second filing to take this information into account.

A “patentability search” to determine whether an invention is patentable is useful but should not hold up the initial filing of a provisional application, if the inventor has given the patent attorney “starting off” point for his invention. The goal of the first filing is to *promptly* file an application.

A major reason to have a full knowledge of the state of the art is to be able to pinpoint the feature of the invention that most readily distinguishes the invention from the prior art. In this way, claims can be focused upon a single inventive feature: Claims can then be crafted so that all other elements are optional, providing the broadest possible protection.

More traditional thinking – that may indeed represent the majority view – is that a patent search should always be done so that resources are not put into an invention where no patent will be granted. A lead instructor for the Practicing Law Institute’s patent bar review course explains that:

Doing a patent search is absolutely essential. Until you understand what is already known in the prior art you have absolutely no way of knowing whether a patent is likely to be obtained. Furthermore, without a thorough and complete picture of the prior art you are unable to focus the description of your invention on those aspects that will most likely contribute to patentability. Without a patent search you will invariably describe all aspects of the invention with equal importance, although ... there will always be certain features that deserve greater attention because they will contribute more to patentability. While it is helpful to identify any difference between an invention in the prior art, it is critical to spend the greatest amount of time discussing the features and variations that that will contribute to a patent being issued; that is where the patentable

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invention resides. This uniqueness will allow you to build a patent application that can lead not only to a patent, but a patent that meaningfully protects the core of what makes the invention unique compared with the prior art.

Gene Quinn, *Patent Drafting: Identifying the Patentable Feature*, IPWatchdog.com (January 17, 2015).

§ 10[a][2] Inventor's "Starting Off" Point, the State of the Art

The inventor should inform the patent attorney of the closest prior art, usually the "starting off" point for the invention.

Generally, the applicant has such a starting off point for his invention, some commercial or other prior art disclosure that is basis for his improvement. The searcher should be armed with the best prior art known to the applicant which forms the starting off point for the search:

Here, the searcher will then *skip* at first seemingly relevant prior art but which is *less relevant* than the applicant's own starting point knowledge. Thus, whereas a searcher starting from scratch may pull, say, thirty or forty references as seemingly pertinent, if the searcher starts with a truly pertinent prior art reference supplied by the applicant, then it is possible that he will find *nothing* as or more pertinent than the starting point prior art. But, at most, the total number of prior art references will be far, far less than the situation where the searcher has no starting off point for his search.

There are plural benefits to providing the searcher with the applicant's best known prior art:

First of all, the search will be *better* because now the searcher can focus on finding only those references as or more pertinent than what the applicant has provided.

Second, the search results will be far more manageable than where the searcher starts from scratch. If the searcher armed with the applicant's best prior art comes up with, say, only five prior art references, then all five references (plus the applicant's own citation) will be manageable and easily useful to the Examiner. But, if there are, say, fifty prior art references where the searcher did not have a starting off point, citation of all fifty references will at best obfuscate the search results and be far less valuable to the examiner.

§ 10[a][3] Avoiding a “Willfully Blind” Search

Any prior art search should start with the inventor’s own starting off point or other close prior art known by the inventor.

Some may wish to have a search conducted *without* the starting off point of the closest known prior art: If no starting off point is given to the searcher, then maybe the searcher *won’t find the best prior art* and the application may be allowed because the best prior art was not cited. This is a totally flawed strategy: First of all, the duty of disclosure runs to what the applicant knows: Hiding the ball from the searcher doesn’t change this fact.

Secondly, hiding the prior art from the searcher so he doesn’t find the best prior art on his own will hardly help the applicant. By analogy consider the situation where knowledge of a competitor’s patent is a predicate to active inducement under 35 USC § 271(b). In the *T-Fal Fryer* case, *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360 (Fed. Cir. 2010)(Rader, J.), an overseas competitor bought the commercially popular kitchen utensil which it copied without actual knowledge of the existence of the patent. In order to establish good faith, the competitor commissioned an infringement search where he gave the searcher a description of the utensil *but failed to inform the searcher of the identity or existence of the commercial product*. The Courts conceded that the competitor lacked actual knowledge, but considered the failure to provide the searcher with the knowledge of the existence of the copied product equivalent to actual knowledge, either under a theory of “deliberate indifference” as found by the Federal Circuit in *SEB v. Montgomery Ward*, or -- as modified by the Supreme Court on appeal – “willful blindness”, *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011).

The obfuscation was unsuccessful:

“[A] claim for inducement is viable even where the patentee has not produced direct evidence that the accused infringer actually knew of the patent-in-suit. This case shows such an instance. The record contains adequate evidence to support a conclusion that [the accused infringer] deliberately disregarded a known risk that SEB had a protective patent. The jury heard evidence that that [the accused infringer] purchased an SEB deep fryer in Hong Kong and copied all but the cosmetics. The owner of a company related to that [the accused infringer] testified that that [the accused infringer]’s engineer took a T-Fal deep fryer and used ‘the same ring that separates . . . the wall making it a cool touch unit and the construction, basically everything the same; thermostat, it was the same; the timer was the same, just a little bit different on the cosmetics of the outside appearance for the deep fryer.’ Again, the record shows that [the accused

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infringer] hired an attorney to conduct a right-to-use study, but did not tell him that it had based its product on SEB's product.

A failure to inform one's counsel of copying would be highly suggestive of deliberate indifference in most circumstances. Here, the jury also heard testimony that indicated that that [the accused infringer]'s president, John Sham, was well versed in the U.S. patent system and understood SEB to be cognizant of patent rights as well. Sham testified that he was the named inventor on 29 U.S. patents and that that [the accused infringer] and SEB had an earlier business relationship that involved one of that [the accused infringer]'s patented steamer products. The record thus contains considerable evidence of deliberate indifference [as the equivalent of actual knowledge of the patent].

SEB v. Montgomery Ward, 594 F.3d at 1377.

§ 10[a][4] The Various Traditional Searches

For purposes of patent drafting, the traditional search is the “patentability search” where the sole object is to determine whether an invention is new and nonobvious.

Other searches include the “infringement search” and the “validity search”.

The infringement search determine whether the invention may be practiced without infringing a third party's patent. There is no issue, *here*, whether the invention itself is patentable.

The “validity search” determines patentability issues but in the context as to whether a current patent is valid. Based upon the amount of money at stake and whether the accused infringer may face an injunction shutting down his business the scope of the validity search may be quite extensive and have a virtually unlimited budget to cover searching far beyond classified patents.

§ 10[b] Citation of Prior Art

In a first filing, it is important to *cite* the prior art but not to *characterize* that prior art or otherwise argue patentability at this early stage of the process. Prior art should as a default never be cited in a first filing, but prior art should be *identified* in a separate Information Disclosure Statement.

§ 10[b][1] Citation, not Characterization, of the Prior Art

It is best to *cite* but not characterize the prior art both from the standpoint of the initial review of the case by the Examiner as well as for the long range consequences of how the claims will be interpreted in a post grant proceeding or litigation.

The last thing that an applicant should want for the initial first impression of the Examiner is an *argument* between applicant and Examiner. But, this is *precisely* what is invited where the citation of prior art includes the applicant's *characterization* of the prior art – whether that occurs in an Information Disclosure Statement, a specification discussion of the prior art – or both. Instead, the Examiner will surely *welcome* the simple citation of the closest prior art as part of two or three citations: The Examiner then has the opportunity to conduct his *own* search to see whether he finds anything better, and, if not, to objectively view the prior art from his own perspective *without argumentation*.

§ 10[b][2] Citation distinguished from Characterization

There clearly is no requirement to make an argument against the prior art: It is the task of the Examiner at the outset to make a determination whether the claimed invention is patentable versus the cited prior art.

PTO regulations make it clear that there is no such duty to *characterize* the prior art: For English language prior art, all that is required is “[a] list” of the prior art; foreign language prior art requires “[a] concise explanation of the relevance.”:

37 CFR § 1.98 Content of information disclosure statement.

“(a) Any information disclosure statement filed under § 1.97 shall include the items listed in paragraphs (a)(1), (a)(2) and (a)(3) of this section.

“(1) A list of all patents, publications, applications, or other information submitted for consideration by the Office. U.S. patents and U.S. patent application publications must be listed in a section separately from citations of other documents. Each page of the list must include:

“(i) The application number of the application in which the information disclosure statement is being submitted;

“(ii) A column that provides a space, next to each document to be considered, for the examiner's initials; and

“(iii) A heading that clearly indicates that the list is an information disclosure statement.

“(2) A legible copy of:

“(i) Each foreign patent;

“(ii) Each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office;

“(iii) For each cited pending unpublished U.S. application, the application specification including the claims, and any drawing of the application, or that portion of the

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application which caused it to be listed including any claims directed to that portion; and
“(iv) All other information or that portion which caused it to be listed.

“(3)(i) A concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, of each patent, publication, or other information listed that is not in the English language. The concise explanation may be either separate from applicant's specification or incorporated therein.

“(ii) A copy of the translation if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in § 1.56(c).

“(b)(1) Each U.S. patent listed in an information disclosure statement must be identified by inventor, patent number, and issue date.

“(2) Each U.S. patent application publication listed in an information disclosure statement shall be identified by applicant, patent application publication number, and publication date.

“(3) Each U.S. application listed in an information disclosure statement must be identified by the inventor, application number, and filing date.

“(4) Each foreign patent or published foreign patent application listed in an information disclosure statement must be identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application.

“(5) Each publication listed in an information disclosure statement must be identified by publisher, author (if any), title, relevant pages of the publication, date, and place of publication.

“(c) When the disclosures of two or more patents or publications listed in an information disclosure statement are substantively cumulative, a copy of one of the patents or publications as specified in paragraph (a) of this section may be submitted without copies of the other patents or publications, provided that it is stated that these other patents or publications are cumulative.

“(d) A copy of any patent, publication, pending U.S. application or other information, as specified in paragraph (a) of this section, listed in an information disclosure statement is required to be provided, even if the patent, publication, pending U.S. application or other information was previously submitted to, or cited by, the Office in an earlier application, unless:

“(1) The earlier application is properly identified in the information disclosure statement and is relied on for an earlier effective filing date under 35 U.S.C. 120; and

“(2) The information disclosure statement submitted in the earlier application complies with paragraphs (a) through (c) of this section.”

§ 10[b][3] Avoiding any *admission* of Prior Art Status

If there is any doubt whatsoever whether a reference is or is not “prior art”, then such a reference *should* as a matter of best practices be cited to the PTO in an Information Disclosure Statement. But, it is best to cite the reference *without* an

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admission that the reference is prior art; the facts as known to the applicant should be provided to the Examiner to permit him or her to make the necessary determination.

Even *if* a mistake is made and an *admission* of prior art status is erroneously made, it may be possible to correct this situation and revoke the admission, particularly if the work described was the applicant's own work: "One's own work may not be considered prior art in the absence of a statutory basis, and a patentee should not be 'punished' for being as inclusive as possible and referencing his own work in an IDS." *Riverwood Intern. Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1355 (Fed. Cir. 2003)(Linn, J.).

Citing *Riverwood*, it was held in *Abbott v. Baxter* that the "mere submission of an IDS to the USPTO does not constitute the patent applicant's admission that any reference in the IDS is material prior art." *Riverwood Intern. Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1355 (Fed. Cir. 2003)(Linn, J.).

Yet, in the context of a less sympathetic appellate panel, it is possible that a prior art admission would stick and be basis for an affirmance as happened in *Tyler Refrigeration v. Kysor Indus. Corp.*, 777 F.2d 687 (Fed. Cir. 1985)(Davis, J.). In that case the Court stated:

"We *** have before us the issue of whether the Aokage patent was prior art within the meaning of 35 U.S.C. § 102. The district court decided on two separate and independent grounds that the Aokage patent was such prior art. One basis was Tyler's admission of the Aokage reference as prior art before the PTO during the prosecution of the [] Subera patent. The court found that, in a wrap-up amendment, the Tyler attorney admitted in his discussion as to 'all the claims' of the three Subera applications, that '[t]he most pertinent available *prior art* known to the Applicants and their representatives is the Aokage U.S. Patent 4,026,121 cited by the Examiner' (emphasis added [by the court]). In view of this explicit admission, the district court's decision was proper and was sufficiently based on clear and convincing evidence.

The controlling case law in this court recognizes this principle. See *Aktiebolaget Karlstads Mekanisk Werstad v. ITC*, 705 F.2d 1565, 1574 (Fed.Cir.1983); *In re Fout*, 675 F.2d 297, 300 (CCPA 1982), and *In re Nomiya*, 509 F.2d 566, 571 (CCPA 1975). Thus, we must affirm the court's decision that the Aokage patent was prior art and as such binding on Tyler."

Tyler Refrigeration , 777 F.2d at 690.

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Assuming that the claims are eventually allowed where there *has* been argumentation in the Information Disclosure Statement or the prosecution history, this argumentation could come back to haunt the patentee to the extent that the argument points to a different claim construction than stated in the claims, *or* the prosecution history establishes a basis for motivation to make the invention under *KSR* – or both.

§ 10[b][4] Information Disclosure Statement (IDS)

§ 10[b][4][A] The Duty to Disclose under Rule 56

The applicant *must* cite the best prior art known to the applicant at the time of filing (supplemented by later updated information as long as the patent application remains pending).

§ 10[b][4][B] “Information” Important to the Examiner

§ 10[b][4][C] Content of an Information Disclosure Statement

Patent applicants have “a duty to disclose to the Office all *information* known to that individual to be *material* to patentability ***.” 37 CFR §. 1.56(a), Duty to disclose information material to patentability (emphasis added).

The full subsection (a) states that:

“A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) prior art cited in search reports of a foreign patent office in a counterpart application,

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and

(2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.”

“Information” is deemed “material” if it is not already known to the PTO and if it either “establishes ***a prima facie case of unpatentability of a claim” or “refutes, or is inconsistent with, a position the applicant takes” in an argument against the PTO or in making a positive argument of patentability. 37 CFR § 1.56(b)(“Under [37 CFR § 1.56(a)], information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.”)

A case of “prima facie [] unpatentability is deemed to be “established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.” 37 CFR §. 1.56(b).

§ 10[b][4][D] Form of Submission

There is no requirement to cite the prior art in the specification. Rather, it may be filed as part of an Information Disclosure Statement under 37 CFR § 1.97 :

“37 CFR § 1.97 Filing of information disclosure statement.

“(a) In order for an applicant for a patent or for a reissue of a patent to have an information disclosure statement in compliance with § 1.98 considered by the Office during the pendency of the application, the information disclosure statement must satisfy one of paragraphs (b), (c), or (d) of this section.

“(b) An information disclosure statement shall be considered by the Office if filed by the applicant within any one of the following time periods:

“(1) Within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d);

“(2) Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application;

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“(3) Before the mailing of a first Office action on the merits; or

“(4) Before the mailing of a first Office action after the filing of a request for continued examination under § 1.114.

“(c) An information disclosure statement shall be considered by the Office if filed after the period specified in paragraph (b) of this section, provided that the information disclosure statement is filed before the mailing date of any of a final action under § 1.113, a notice of allowance under § 1.311, or an action that otherwise closes prosecution in the application, and it is accompanied by one of:

“(1) The statement specified in paragraph (e) of this section; or

“(2) The fee set forth in § 1.17(p).

“(d) An information disclosure statement shall be considered by the Office if filed by the applicant after the period specified in paragraph (c) of this section, provided that the information disclosure statement is filed on or before payment of the issue fee and is accompanied by:

“(1) The statement specified in paragraph (e) of this section; and

“(2) The fee set forth in § 1.17(p).

“(e) A statement under this section must state either:

“(1) That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement; or

“(2) That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

“(f) No extensions of time for filing an information disclosure statement are permitted under § 1.136. If a bona fide attempt is made to comply with § 1.98, but part of the required content is inadvertently omitted, additional time may be given to enable full compliance.

“(g) An information disclosure statement filed in accordance with this section shall not be construed as a representation that a search has been made.

“(h) The filing of an information disclosure statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in § 1.56(b).

“(i) If an information disclosure statement does not comply with either this section or § 1.98, it will be placed in the file but will not be considered by the Office.”

The Patent Office is helped when there is a focused citation of the most relevant prior art. The Patent Office has made it clear that the citation of “cumulative” or “marginally relevant documents” is *not* helpful.

§ 10[b][5] “[M]arginally relevant documents” should not be Cited

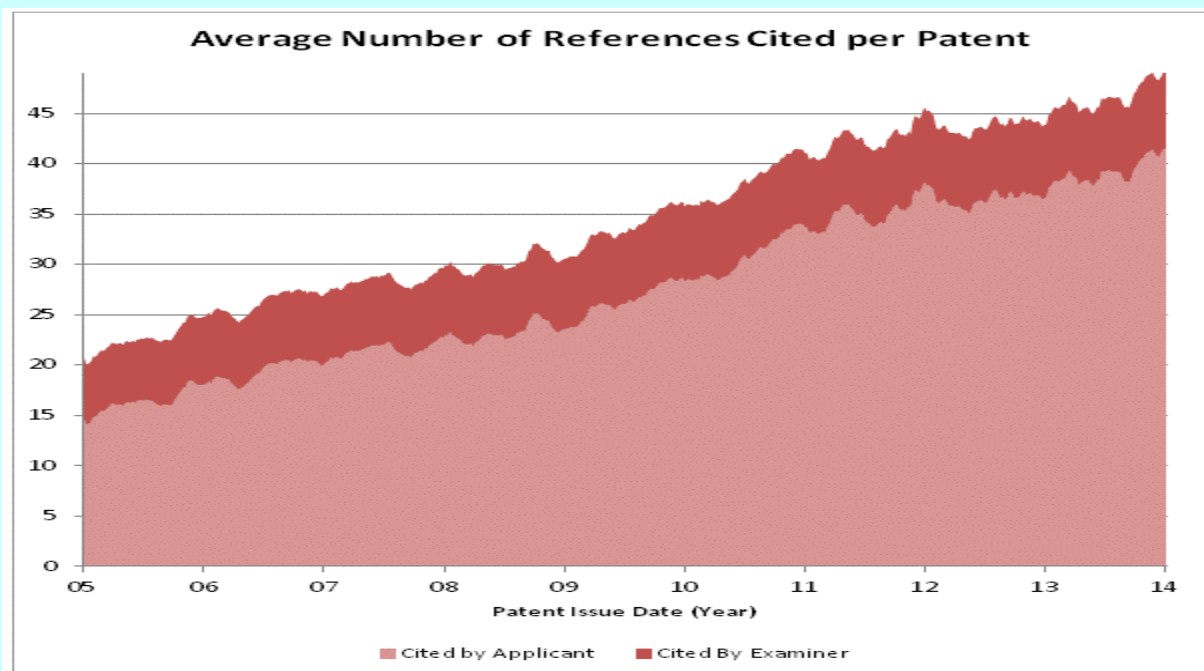
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“[A]pplicants and practitioners mistakenly believe that [they] must submit questionably or marginally relevant documents in order to ensure compliance with the § 1.56 duty of disclosure. A limited amount of time is available for an examiner's initial examination of the application.... *[T]he situation is worsened when a large number of the documents are irrelevant, marginally relevant, or cumulative.*” *Changes to Information Disclosure Statement Requirements and Other Related Matters* (Proposed Rulemaking), 71 FR 38808, 38809 (2006)(emphasis added)

§ 10[b][6] “Cumulative” Prior Art Should not be cited

Prior art that is merely cumulative to, or less relevant than, information already of record should not be cited: “[I]nformation is material to patentability when *it is not cumulative* to information already of record or being made of record in the application...” 37 CFR § 1.56(b)(1) (emphasis added) “*A cumulative reference... is not material*” under the duty of disclosure. *Taltech Ltd. v. Esquel Enters.*, 604 F.3d 1324, 1329 (Fed. Cir. 2010)(dictum)(citing 37 C.F.R. § 1.56(b))(emphasis added).

§ 10[b][7] Citation of Too Many Prior Art References



Dennis Crouch, References Cited Per Patent, PATENTLY 0 (Jan. 23, 2014)

Top Ten Patents based on Most Claims 276 Claims Per Patent (2013)*			
Rank	Patent No.	. Claims	Assignee
1	8,401,902	404	Function Media LLC
2	8,404,693	372	Adolor Corporation
3	8,437,669	322	Canon
4	8,562,424	319	IGT
5	8,585,593	243	University of Virginia
6	8,389,958	223	Immunolight
7	8,599,764	222	Qualcomm
8	8,598,516	220	Individuals (Kazakhstan)
9	8,355,982	220	VeriFone
10	8,538,123	213	Cummins-Allison
* Dennis Crouch, <i>Jumbo Patents of 2013</i> , PATENTLY-O (Jan. 20, 2014)			

§ 10[b][8] Admission as to the “Field of Endeavor”

Whether prior art is from an “analogous” field is relevant in some cases as to whether a combination of prior art references is proper to defeat patentability. A key feature in the determination as to whether prior art is “analogous” to the invention is whether there is a common “field of endeavor”.

Here, citation of too many prior art references in an Information Disclosure Statement runs the risk that at least some of the references will have disclosure of similar technology, even though not “material” to patentability: “[T]he nature of the prior art listed in an information disclosure statement can be informative as to the field of endeavor.” *Apple, Inc. v. Samsung Electronics, Inc.*, ___ F.3d ___, slip op. at 22 n.8(Fed. Cir. Feb. 26, 2016)(Dyk, J.).



PART III: THE CLAIMS, THE CENTRAL FOCUS

§ 11. A Holistic, Claims-Focused Presentation for Offensive Protection

In the usual situation, the business goal of the patent applicant is to obtain *offensive* patent protection, either as such or together with defensive patent protection. Whenever offensive protection is a goal of the patent process, then a “claims first” strategy is called for.

To maximize chances for an early and clean allowance of claims, *all* ten steps should be taken: The goal is to provide the Examiner with all information needed for examination *consistent with his time constraints*:

- (1) Few but Necessary Claims
- (2) Argument Focused *Only* on “Claim 1”
- (3) Elimination of Alternate Issues
- (4) Combination Claims to Establish Patentability
- (5) A Concise *Summary*
- (6) *Detailed Description*
- (7) *No Background*
- (8) Neutral Statement of the Invention
- (9) An Information Disclosure Statement
- (10) Minimalist Citation of Prior Art

This monograph is focused upon a patent application drafted with a *simple presentation* of issues so that they can be readily understood at every level, whether the consideration is by an Assistant Examiner, a Supervisory Primary Examiner, the Patent Trial and Appeal Board or the Federal Circuit.

Given the anti-patentee hostility of the Administration of the Hon. Michelle K. Lee, and given the general view in the Office to deny patentability in close cases, the default for an Examiner is to *reject* the claims. At every level, presentation of a clean and easy to understand case is imperative for full and fair consideration.

The starting point is the examiner level: Each examiner has at most several hours for the first action, which includes a study of the claims, a prior art search and then a complete Office Action. If the applicant presents, say, sixty claims with complex “means”-defined elements and cites, say, forty prior art references, there is little likelihood that the examination can be conducted within the allotted time

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frame: Surely, the claims will be simply rejected, perhaps with a prior art rejection which is a mosaic combination of several references, with a formal rejection or two thrown in for good measure.

If an overly complex presentation will not pass muster with the Patent Examiner, there is, *a fortiori*, essentially no chance that a Supervisory Primary Examiner will intervene to overturn the Examiner in an interview or otherwise, given the fact that the issues are too complex for a quick review.

Finally, at the level of the Patent Trial and Appeal Board, given that the record is quite complex, the PTAB is more likely to affirm the Examiner, secure in the knowledge that the record is so complex that if there *were* to be an appeal to the Federal Circuit a decision denying patentability would be affirmed.

There are ten steps the applicant should take:

(1) Few but Necessary Claims: A tightly focused set of claims should be presented, say, five or six, and not fifty or sixty claims. *See* § 11[a][8], *Minimum Number of Prior Art Citations*.

If several “inventions” are recited, then additional claims may be included, but should be presented in a fashion to permit an easy restriction requirement to be made so that these additional claims are withdrawn from consideration. No argument should be included in the application critical of the prior art. *See* § 10[b][2], *Citation distinguished from Characterization*.

(2) Argument Focused Only on “Claim 1”: If there are, say, one independent claim and eleven dependent claims and the only key issue is patent-eligibility of claim 1, consideration should be given to *limitation* of the issues to “claim 1”.

For example, a Preliminary Amendment could include the following statement: “For purposes of the ex parte prosecution of this application, *only*, the applicant relies solely on the patentability of claim 1.”

By making a concession of this type, then the Examiner need only focus his or her attention on claim 1, greatly simplifying the search and examination by eliminating the need to examine claims 2-12 for patentability.

(3) Elimination of Alternate Issues: For a close case on patentability, it is imperative that there is only the *one* issue present. Where there are several issues presented on appeal, the PTAB only needs to affirm on one of the issues and the case is lost. If there are claims with issues under 35 USC § 112, the issues should be clarified or, possibly, the case should proceed only on the claims without such other issues.

(4) Combination Claims to Establish Patentability: Where nonobviousness is a close issue, consider the possibility of a *combination* claim where the case for patentability is stronger than for an element or subcombination. For example, an invention may comprise elements (A+B+C+D+E) and be defined either as the complete combination (A+B+C+D+E) or one of several subcombination levels, e.g., (B+C+D+E) and (A+B).

Here, it may be worthwhile to present three sets of claims to the combination and the two subcombinations for purposes of a restriction requirement, and then to elect the claims to the complete combination (A+B+C+D+E) as the basis to establish patentability and obtain a first patent. Then, claims to the nonelected subcombinations could be the subject of divisional applications.

(5) A Concise Summary: A specification may be, say, 200 pages long, but this is all right for simple examination if there is, say, a two page *Summary of the Invention*. Everything the examiner needs to know in the specification for his examination should be comprised in a tightly worded *Summary of the Invention* which includes a recitation of each of the features of the claim coupled with *definitions* of terms, particularly at the point of novelty.

(6) Detailed Description: The application should be segregated between the very brief *Summary of the Invention* which the Examiner *should* study, versus the lengthy main portion with examples and other exemplifications of the invention found in a *Detailed Description of the Invention*. This latter, possibly very lengthy section is included but is unnecessary for the examiner's consideration, given the separate *Summary of the Invention* which contains all the information needed for n examination.

(7) No Background: There is no statutory basis for a *Background of the Invention* section which traditionally includes a discussion of the prior art. This section should be entirely *omitted* for the typical case.

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There may be a temptation, given a piece of prior art that “teaches away” from the claimed invention, to create a story as to why an invention is nonobvious because of the teachings of that single reference. The likely result of such an approach is that this *challenges* the Examiner to divert his search away from finding the closest prior art to find a *second* prior art references that refutes the reference said to “teach away” from the invention. This then turns the examination process into a sideshow focusing on the “teaching away” reference that robs the examination process of time needed for the primary search and examination on the merits.

(8) Neutral Statement of the Invention: The specification should provide a “neutral” representation of the invention *without* citation of prior art, *without* argumentation over the prior art and *without* a *Background of the Invention*. See § 11[a][9], *Neutral, Non-Argumentative Specification*.

(9) An Information Disclosure Statement : The IDS is filed consisting of a *list* of the several, say, three or four, most pertinent prior art references (as opposed to thirty or forty references). If the patent searcher starts his task, given the best prior art known to the applicant, his search will cull out all the prior art that is less relevant, leaving a much smaller pool of prior art to consider. This is distinguished from conducting a “blind” prior art search without benefit of the applicant’s knowledge of the state of the art. See § 10[a][3], *Avoiding a “Willfully Blind” Search* (citing *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011)).

(10) Minimalist Citation of Prior Art: The applicant who dumps forty references into the Patent Office via an Information Disclosure Statement is implicitly saying, “I don’t have to find the most pertinent reference. That’s your job, Mr. Examiner.” Furthermore, there is an implicit thought on the part of some Examiners that where, say, forty references are cited, the applicant is hiding the best of the forty in such a bulk citation of references. In either case, the inference is negative and a surefire way to make sure that the first Office Action is a rejection of claims.

It would be expected since the Examiner will have the best prior art available through his search and with the minimal number of claims, a carefully thought out merits examination can be made as to the prior art, resulting in a minimal number of references being cited, *and* a careful exposition of real and apparent formal defects under 35 USC §112.

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Any prior art rejection will likely be the best case scenario for a rejection, but with a minimal number of references cited, permitting a direct exchange on the issues.

As to the real or apparent defects uncovered by the Examiner on formal issues under 35 USC §112, the *real* defects can be dealt with through amendment while the *apparent* defects can be explained as apparent but not real, thereby strengthening the prosecution history. (*text continues on next page*)

The applicant is able to freely choose a claim that he thinks best defines the subject matter he wishes to patent. As explained by the Acting Chief Judge, “[w]hile the examiner states the requirement to be claims which ‘particularly point out and distinctly claim *the invention*’ [], § 112 actually requires claims ‘particularly pointing out and distinctly claiming *the subject matter which applicant regards as his invention*’ []. In reality, this means that applicant must particularly point out and distinctly claim the subject matter sought to be patented.” *In re Borkowski*, 422 F.2d 904, 909 (CCPA 1970)(Rich, Act’g C.J.)(emphasis added by the Court).

§ 11[a] Simplicity as a Necessary Strategy Component

The drafting goal should be to present an application that is simple easy to read – for the Examiner, a prospective licensee or the judge in an infringement proceeding. It is in the first instance of extreme importance that the applicant present a simple set of claims and supporting specification that is easy to examine so that there will be a complete examination in short order without RCE’s or other refilings – and without the accompanying baggage of extensive prosecution history.

Where the patent application reaches the desk of the Examiner that is muddled with too many claims, too many references and insufficient, focused argumentation, the application is unlikely to receive favorable consideration. Furthermore, while some applications receive a supervisory review as in the case of issues of patent-eligibility under Section 101 in light of cases such as *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), if the case is muddled the review may be delayed for months... many months. The current Vice-Chair of the Patent Public Advisory Committee has expressed this common complaint of the patent community:

“[E]xaminers are expressing to [patent practitioners] ... that they don’t have proper guidance [on Section 101 patent-eligibility issues] because they do not have proper

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direction within their art unit. From their directors and among other examiners there is conflict. So when I hear [the Office leadership] say ... is that you're going to spend [supervisory time] reviewing them, looking at them, but then that sends client's applications months and months down the pike of having nothing done on them. And then considering whether to suspend prosecution just because we can't get a good answer out of the Office, this is a large concern for clients."

Patent Public Advisory Committee Meeting, Alexandria, Va., August 14, 2014, pp. 24-25 (Remarks of the PPAC Member, Marylee Jenkins), available at http://www.uspto.gov/about/advisory/ppac/ppac_transcript_20140814.pdf (last visited May 18, 2015).

§ 11[a][1] Simple Claims and Straight-Forward Supporting Disclosure

While an applicant has the right to submit an unlimited number of claims, a right to submit a seemingly infinite number of prior art references and a right to include numerous non-statutory sections such as "objects", "problems", *Background of the Invention* and so forth, when the applicant takes advantage of each "right", collectively consider the contrasting picture of a "simple" application versus one where the "rights" are used in the extreme:

The "simple" application is filed with seven or eight claims, a voluntary citation of five or six references and the specification is broken down into (a) a Summary of the Invention (including all definitions necessary to define the invention over the prior art, a statement of utility (for biotechnology and chemical cases); (b) Brief Description of the Drawings; and (c) a Detailed Description of the Invention (a "thick" section important for interpretation of and support of the claims but unnecessary for the examination). (And, of course, there is an Abstract of the Disclosure).

The "right" application is filed with seventy or eighty claims (instead of the seven or eight claims in the "simple" application, fifty or sixty prior art references (instead of the five or six citations in a "simple" application) and lengthy specification including a Background of the Invention, "problems", "advantages" and "objects" without segregation of elements necessary for examination (in contrast to the "simple" application with all information necessary for examination segregated into a Summary of the Invention and without the non-statutory elements).

The "simple" application presents a compact picture of the invention and the prior art and, with few claims, permits the examiner to make a thorough examination on the merits of all formal issues under Section 112 as well as a

complete examination for novelty and nonobviousness. The Examiner in the limited time for examination of each case does not have enough time to find and point out all apparent issues under both Section 112 as well as the classic patentability issues. The applicant thus has a chance to either amend the claims to overcome real defects or, if the defect is only apparent and not real, point out why the claims present a clear and supported picture of the invention, creating a solid prosecution history best suited to defend the patent in a Post Grant Review.

The “rights” application cannot possibly lead to a quick resolution because there are simply too many claims and too many potential issues with so much prior art. The chance for contradictory positions by the applicant looms large where it is difficult to square the “problems” and “objects” with the literal scope of the claims. The likely first action by the Examiner will be a rejection under Section 103 based upon a combination of several references presenting a sufficient basis to deny allowance of an application where there simply has not been enough time for a complete examination on the merits. Refiling as an RCE or otherwise is inevitable. A messy prosecution history will be the result, a perfect formalities piñata for a Post Grant Review attack.

§ 11[a][2] A Simple Presentation Easy for the Examiner to Digest

This book proposes a simple presentation of an invention with a minimum number of claims, a focus on a complementary disclosure in support of such claims without nonstatutory elements such as a Background of the Invention or “problems” that obfuscate the invention and citation of only the most relevant prior art. Simple presentation is the best guarantee that the Examiner will quickly be able to conduct a thorough examination on the merits – an implicit condition precedent to allowing the application at an early stage (as opposed to kicking the can down the road by maintaining a rejection based upon a sometimes incomprehensible combination of many references that will then provoke an RCE or other refiling).

The extreme dislike by the examining corps as to examination of cases with too many claims has been dealt with elsewhere. *See* § 11[a][5], *A Simple, Easy to Examine Patent Application*; § 11[a][7], *Minimum Number of Claims*; § 13[e][3], *A Reasonable Number of Subclaims*. This dislike is manifested by the “undue multiplicity” rejection that formerly was made, but may be coming back. *See* § 2[e][2][B], *“Undue Multiplicity” as Basis for Rejection*.

§ 11[a][3] A Simple, Easy to Examine Patent Application

A primary goal of the patent drafting process is to create a neat, clean set of patent claims as part of an easy to examine application, one that the Examiner will be predisposed to allow if there is patentable subject matter in the case.

Put oneself in the shoes of the Examiner when he or she first picks up the case for examination: The application should be simple for examination first in terms of the layout of the specification, for example, with headings for the Summary of the Invention which should have self-contained definitions of all claim terms and (particularly for chemical cases) state the utility of the invention; the application have a minimum number of claims, a minimum number of prior art references and a citation of prior art but without an discussion, and an Abstract of the Disclosure closely tracking the language of “claim 1”.

The extreme dislike by the examining corps as to examination of cases with too many claims has been dealt with elsewhere. *See* § 11[a][2], *Avoiding Undue Multiplicity of Claims*; § 11[a][7], *Minimum Number of Claims*; § 13[e][3], *A Reasonable Number of Subclaims*. This dislike is manifested by the “undue multiplicity” rejection that formerly was made, but may be coming back. *See* § 2[e][2][B], *“Undue Multiplicity” as Basis for Rejection*.

While one focus is on presentation of a minimal set of claims, all necessary claims must be included. But, to properly decide what is necessary, one must precede the drafting process with an analysis of the business objectives of the applicant. In some situations, offensive coverage is irrelevant so that any set of claims will suffice. At the opposite extreme, a carefully layered set of claims of diminishing scope will be needed to best safeguard offensive rights.

It should also be noted that a minimalist claiming approach does not necessarily mean narrow protection. To the contrary, a claim to the minimum number of elements where elements at the point of novelty are generalized with inclusion of equivalents will provide far broader protection than where an invention with ten elements or steps results in several dozen claims covering every combination and permutation of subcombinations but without the point of novelty approach for generic protection.

Part of the task of the patent draftsman is to make examination easy for the Examiner. Complementing the presentation of a minimal number of claims, the “meat” of the specification necessary for examination should be bundled in a

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relatively brief Summary of the Invention, an opening section containing all information needed by the examiner including a verbatim recitation of the elements of the invention corresponding to the claims, a definitional section for key terms that need interpretation and little else.

Of particular importance is that the Summary of the Invention be focused upon a repetition of the statement of the invention keyed to verbatim wording usage in the claims, coupled with definitions. What should not be included are nonstatutory elements of no help to sustaining validity but which, at best, are argumentative and at worst are basis for arguments for invalidity or for a narrow construction. Above all, no Background of the Invention, “objects”, “problems” or “advantages” need nor generally should be included.

Following the Summary of the Invention should follow a much thicker Detailed Description of the Invention which contains as many examples as possible: This information is useful in court to construe granted claims, but (apart from chemistry and biotechnology) unnecessary for consideration by the Examiner.

This book is focused upon the first filing of the patent application in a normal situation where an invention is of very recent vintage and where there are many unknowns: What is the complete state of the prior art, given particularly that there are up to eighteen months of previously filed patent applications yet to be published but which upon publication are retroactively prior art as of the effective filing date? What is the true scope of protection that is needed? Is the full generic scope of “claim 1” required? The answers may be available only years after filing. What unobvious properties are possessed by the invention? In some instances as in pharmaceuticals comparative test results with the prior art may not be known for some time.

Finally, no prior art should be cited in the specification. To be sure, within three months of filing, the applicant should submit an Information Disclosure Statement (the IDS) that identifies the best known prior art. The IDS should cite the two or three most relevant prior art references and not the eighty or ninety references found in a search. Obfuscation with irrelevant prior art only adds an unnecessary burden on the examiner’s time which is hardly in the interests of the applicant. (If the two or three best references cannot be pinpointed out of the eighty or ninety references found in the search, surely all but five or ten can be culled out as less relevant references.)

§ 11[a][4] A Clearer Downstream Picture Later in Prosecution

The proposal for a simple presentation is of course subject to modification as time goes by. For example, an immediate need for grant of a specific claim may be needed for licensing or litigation. Here, the applicant may negotiate with the examiner to narrow the claim coverage to any degree as long as the commercial species is included in the grant.

Or, if necessary, the applicant may wish to take a patent only on the specific embodiment, while filing a “Vogel trailer” continuing application to cover the remaining subject matter. (A “Vogel Trailer” is a continuation patent with a generic claim overlapping that of a first patent. *See* Panel discussion, *The End of Equivalents? Examining the Fallout From Festo*, 13 Fordham Intell. Prop. Media & Ent. L.J. 727, 742 (2003) (discussing the “Vogel Trailer” and implications of *In re Vogel*, 422 F.2d 438 (CCPA 1970), where the prior patent was to a method of treating “pork” whereas the later case was to the same method for treating “meat”.) Or, a new attorney may come fresh to take over a bogged down procurement with multiple RCE’s and a history of more than five years of filing.

The obvious solution for a fresh approach is a continuation application (as opposed to an RCE), as the continuation application will have a brand new, fresh electronic file wrapper devoid of the perhaps dozens of papers in the earlier prosecution. Here, at this time, the business objectives are more finely honed and the state of the prior art is also more fully developed. In such a case, one may wish to consider adding a section explaining the prior art. Additional disclosure bolstering the nonobviousness case may also be included.

While care should be taken to avoid new matter that would deny reliance upon the parent filing date, some additions can be made, including a second utility that distinguishes over the prior art: Even though that utility is not disclosed in the parent, such a “second utility” is not needed for priority.

Application drafting should be simple and straightforward. The best application will have as many claims as necessary to cover business interests but with no further claims. That an applicant can file up to twenty claims for the minimum claims fee should not be an invitation to file twenty (or more) claims: If five or six claims satisfy the business interests that is sufficient.

A minimum number of prior art references should be cited. If the searcher provides, say, eighty references and all but five can be ruled out as secondary or merely cumulative, then just the five references should be cited.

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Above all, applicants must simplify prosecution with few claims, citation of few references and a clean prosecution based upon careful notes about claims support. In theory, a patent to a combination of, say, seven elements that has eighty claims directed to every combination, subcombination and permutation of may provide better protection than a patent with nine claims.

But, if a carefully drafted patent has just three or four generic and subgeneric claims focused on critical elements and subcombinations at the point of novelty such claims will provide broader protection than the eighty claims that have not focused on the point of novelty. The carefully drafted application with few claims is more likely to be free from ambiguities while any apparent ambiguities will be found by the Examiner – permitting a clean prosecution history to explain why an apparent ambiguity is just that or letting the applicant correct the ambiguity.

§ 11[a][5] Focus on the Three Critical Application Elements

The claims, Summary of the Invention and the Detailed Description represent the three most critical elements of any patent application.

Except in the case of a purely defensive patent position, the claims represent the focal point of the drafting exercise throughout as the claims are drafted first and then the remaining pieces of the puzzle are put together to complement the claims.

The Summary of the Invention is the next most important section of the application that should be titled as such and precede the “guts” of the specification, the Detailed Description. The positioning of the Summary of the Invention is explained in the 1949 first edition of the Manual of Patent Examining Procedure: “A brief summary of the invention ... should precede the detailed description.” MPEP § 608.01(d), *General Statement of Invention* (1949 first edition), quoting Rule 73).

The Summary of the Invention may play a valuable role in providing the type of coverage the applicant needs:

An element in the claims may need a more precise definition. The element (in quotation marks) can be defined after its first usage in the Summary of the Invention.

To cabin the “broadest reasonable interpretation” of a term in the claim during a post grant trial at the Patent Trial and Appeal Board the term can be defined in the Summary of the Invention.

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To provide a broad interpretation for an element which is exemplified by only one embodiment in the Detailed Description the recitation of that element in the Summary of the Invention can be followed by a list of representative examples of suitable embodiments.

The Detailed Description is the final separately titled section (often with an intermediate Brief Description of the Drawings). Whereas concise statements are important for the Summary of the Invention, the Detailed Description should not, for most cases, be necessary for the Examiner's understanding of the invention. Except in biotechnology and other unpredictable areas of technology, everything the Examiner needs for tasks should be found in the claims and the Summary of the Invention. Hence, as many examples as available may be included in the Detailed Description which will help bolster the patentee's position in litigation – or in defense of a post grant proceeding at the Patent Trial and Appeal Board.

§ 11[a][6] Critical First Impression by the Patent Examiner

The patent draftsman must appreciate that the Examiner's first impression of an application which is cleanly and sharply presented will predispose the Examiner toward reaching a favorable conclusion unless the Examiner finds unexpected prior art that was not found by the applicant. Thus, the claims in an ideal situation will be relatively few in number – certainly less than twenty and preferably not more than seven or eight; a Summary of the Invention section will have a verbatim recitation of the claimed invention but with definitions of all otherwise ambiguous terms and a statement of use:

The best prior art will be cited – limited to the closest prior art (or, if there are two or three references that are about equally remote from the claims, then all two or three such references); and no argumentation about the prior art will be present (but if the most relevant passage is buried in a long reference, then that passage is cited by page number). All of the information needed to examine the applications are thus fairly and directly presented in what has become an easy-to-examine application. (The Detailed Description of the invention which discloses multiple embodiments of the invention is segregated by the title "Detailed Description"; all the information needed for examination precedes this often lengthy section which therefore does not need careful study.)

§ 11[a][7] Minimum Number of Claims

One of the biggest mistakes that is routinely made is where the applicant files too many claims. Rather, the goal of patent drafting should be to focus on a minimum number of claims. The application with seven or eight claims is almost always better than the application with seventy or eighty claims.

Must one limit oneself to seven or eight claims?

Of course not.

The extreme dislike by the examining corps as to examination of cases with too many claims has been dealt with elsewhere. See § 11[a][2], *Avoiding Undue Multiplicity of Claims*; § 11[a][3], *A Simple, Easy to Examine Patent Application*. This dislike is manifested by the “undue multiplicity” rejection that formerly was made, but may be coming back. See § 2[e][2][B], *“Undue Multiplicity” as Basis for Rejection*.

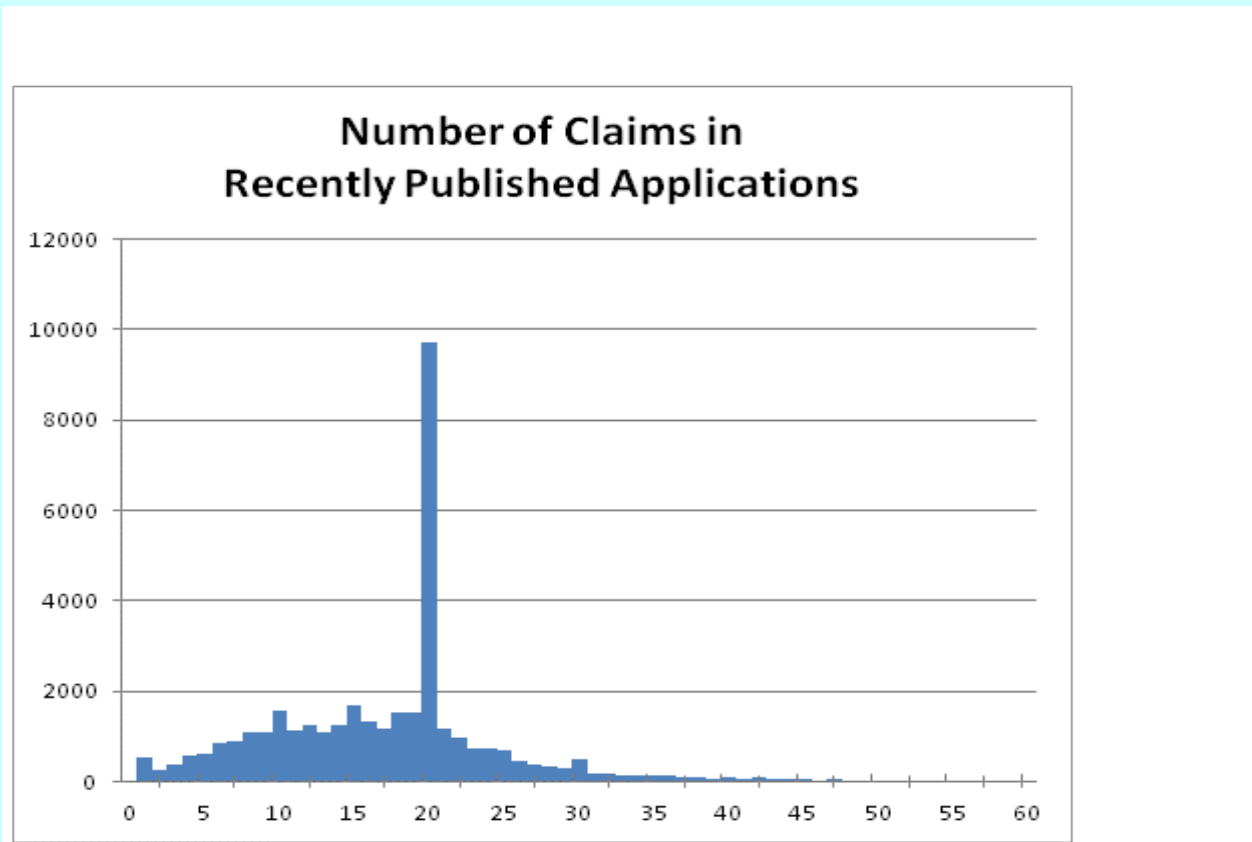
There is no statutory limit to the number of claims that an applicant presents. He may, for example, choose to present, say, 150 claims. Must one limit oneself to citation of, say, two or three prior art references? Of course not. One may cite, for example, forty or more references.

But, what is the impact on the Examiner who picks up a case for first action with 150 claims and 40 prior art references? Hostility comes to mind. The Examiner perceives an application that was written by an inexperienced practitioner where it is likely that there are numerous formal and other issues present in a case that will be difficult to examine – and one where there is almost no likelihood of a conclusion without a refiling by the RCE or continuation route. Given that there is almost no likelihood of an allowance in the near term, the Examiner is pushed into an adversarial role. The claims will be nitpicked for formalities. Large numbers of prior art references are likely to be cited with multiple rejections.

Clearly, the practitioner who files 150 claims is following a strategy that is not designed to secure prompt allowance of an application. There also is every likelihood that the claims have multiple defects as it is clearly more difficult to craft an integrated patent document with 150 claims than seven or eight claims. And, the proper drafting of a set of seven or eight claims may very well in the end provide better protection than the application with 150 claims.

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Because a patent application pays a minimum fee for up to twenty claims. Clearly, many patent applicants file the maximum number of claims:



Dennis Crouch, Claims Per Application, PATENTLY 0 (May 18, 2014)

§ 11[a][8] Minimum Number of Prior Art Citations

Even more to the point in terms of relations with the Examiner, the applicant who merely dumps forty references into the Patent Office via an Information Disclosure Statement is implicitly saying, “I don’t have to find the most pertinent reference. That’s your job, Mr. Examiner.” Furthermore, there is an implicit thought on the part of some Examiners that where, say, forty references are cited, the applicant is hiding the best of the forty in such a bulk citation of references.

§ 11[a][9] Neutral, Non-Argumentative Specification

The problem of too many claims and too many prior art references is further compounded when the specification (or Information Disclosure Statement) contains an argument of patentability over the prior art. In the first instance, given

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the prior art, it is the Examiner's task to determine whether there is or is not a prima facie case of obviousness. By providing pre-examination arguments in favor of patentability, this creates an adversarial atmosphere that is bound to trigger a first action rejection.

One of the consequences of overloading an application with too many claims and too many prior art references is that both the patent applicant and the examiner may miss potentially valid issues of indefiniteness under 35 USC § 112(b). The Examiner clearly does not have enough time allotted to go through all the formal issues that may be involved with a 150 claim – 40 reference case: It will be all that the Examiner can do to examine a case for patentability under 35 USC § 103. Issues will be missed by both the patent attorney and the Examiner.

If there were only a handful of claims and a handful of prior art references, then it is highly probably that issues under 35 USC § 112(b) would be caught by the Examiner: The applicant would then have a chance to either present arguments explaining the clarity of the claims (thus presenting a cleaner prosecution history) or if the rejection is valid, have a chance to amend the ambiguous phrase to obtain a patent clear from problems under 35 USC § 112{b}.

§ 11[a][10] Avoiding Need for Amendments in Post Grant Proceedings

It is particularly important to present claims of varying scope before grant so that the patentee in a post-grant proceeding is not faced with the discretion of the PTAB whether to admit amended claims. In the context of a remand to the PTAB in an inter partes review, the court explained the wide discretion that the PTAB has in setting forth procedures that, standing alone, may appear to arbitrarily limit the rights of the parties. The deference to the PTAB is explained in *Ariosa Diagnostics v. Verinata Health, Inc.*, __ F.3d __ (Fed. Cir. 2015)(Taranto, J.):

“[On remand, w]e do not direct the Board to take new evidence or, even, to accept new briefing. The Board may control its own proceedings, consistent with its governing statutes, regulations, and practice. 37 C.F.R. § 42.5(a). Those statutes, regulations, and practices embody expedition-and efficiency-based policies that the Board must consider in determining the scope of the remand proceedings.

“Congress generally directed that inter partes review proceedings be completed within one year of institution.35 U.S.C. § 316(a)(11). Reflecting that timing constraint, and the statutory goal of providing a relatively quick and low-cost alternative to litigation over validity, the PTO has established rules that, while necessarily respecting constitutional and statutory guarantees of procedural fairness, are designed generally to require that

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the parties make their cases in a very small number of filings—with the challenger obliged to make an adequate case in its Petition and the Reply limited to a true rebuttal role.37 C.F.R. §§ 42.104(b)(5), 42.23(b). Within this structure, even while providing for an estoppel effect on the challenger, 35 U.S.C. § 315(e), Congress assigned to the challenger the burden of persuasion in the dispute, *id.* § 316(e). That burden, together with the procedural rules impartially applied, means that, in some cases, a challenge can fail even if different evidence and arguments might have led to success. We leave to the Board the determination of what remand proceedings are appropriate given the governing policies.”

§ 11[b] Specific Reasons Should Exist to Present Each Claim

§ 11[b][1] “Claim Differentiation”

“Claim differentiation” means that where there is an independent and dependent claim and a particular feature is defined in the dependent claim, the independent claim must be given *at least as broad* an interpretation as the dependent claim. It was thus thought that to emphasize the breadth of a particular claim, a dependent claim should be included in the patent that would force a broad construction of the claim of interest.

In recent years, however, “claim differentiation” is not a hard and fast rule. It is no longer necessary to provide a second claim to establish breadth of the first claim through claim differentiation: “The doctrine of claim differentiation creates a presumption that distinct claims, particularly an independent claim and its dependent claim, have different scopes.” *World Class Tech. Corp. v. Ormco Corp.*, 769 F.3d 1120, 1125 (Fed. Cir. 2014)(citing *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000)).

“[C]laim differentiation is a rule of thumb that does not trump the clear import of the specification[.]” *Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1323 (Fed. Cir. 2011)(Lourie, J.)(quoting *Edwards Lifesciences, LLC v. Cook Inc.*, 582 F.3d 1322, 1331 (Fed. Cir. 2009)). Thus, “[w]hile claim differentiation may be helpful in some cases, it is just one of many tools used by courts in the analysis of claim terms.” *Edwards Lifesciences*, 582 F.3d at 1331(quoting *Netcraft Corp. v. eBay, Inc.*, 549 F. 3d 1394, 1400 n.1 (Fed. Cir. 2008)).

Thus:

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“[C]laim differentiation is merely a presumption. It is ‘a rule of thumb that does not trump the clear import of the specification.’ *Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1323 (Fed. Cir. 2011); see also *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1359 (Fed. Cir. 2012) (en banc) (“[C]laim differentiation is not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.”) (citation and quotation omitted). Because the ordinary meaning of ‘virtual machine’ is clear in light of the specification and prosecution history, claim differentiation does not change its meaning.” *CardSoft (Assignment for the Benefit of Creditors), LLC v. Verifone, Inc.*, 769 F.3d 1114, 1119 (Fed. Cir. 2014)(Hughes, J.).

The limited value of “claim differentiation” was more recently emphasized by the Great Dissenter, Circuit Judge Newman:

Although claim differentiation is a useful analytic tool, it cannot enlarge the meaning of a claim beyond that which is supported by the patent documents, or relieve any claim of limitations imposed by the prosecution history. See, e.g., *Retractable Techs.*, 653 F.3d at 1305 (“[A]ny presumption created by the doctrine of claim differentiation ‘will be overcome by a contrary construction dictated by the written description or prosecution history.’” (quoting *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005))); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1302 (Fed. Cir. 1999)(“[T]he doctrine of claim differentiation does not serve to broaden claims beyond their meaning in light of the specification, and does not override clear statements of scope in the specification and the prosecution history.”(citation omitted)).

Fenner Investments, Ltd. v. Cellco Partnership, ___ F.3d ___ (Fed. Cir. 2015)(Newman, J.)

Professor Mueller puts “claim differentiation” into proper perspective:

“The principle of *claim differentiation* provides that the existence of a narrower dependent claim shows that the broader claim from which it depends is not so limited. [*SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1122 (Fed. Cir. 1985) (*en banc*).] More broadly stated, the claim differentiation principle means that when a claim of a patent “does not contain a certain limitation and another claim [of that patent] does, that limitation cannot be read into the former claim in determining either validity or infringement.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 2, § 15.04[F][1] (Wolters Kluwer 2016)(footnote integrated in part into text in brackets)

But, while claim differentiation exists in theory it is not always honored in practice: “A series of Federal Circuit decisions evidences strong disagreement within the appellate court concerning the relative persuasive weight that should be

assigned to the claim differentiation principle as compared with disclosure set forth in a patent's written description and drawings. These decisions suggest that, despite the *en banc* resolution of other claim interpretation issues in the 2005 *Phillips* decision, a claim interpretation schism continues in the Federal Circuit post-*Phillips*.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 2, § 15.04[F][2] (Wolters Kluwer 2016)

§ 11[b][2] Narrow Claims to Pin Patentability on Unexpected Results

A claim to *just* the product to be marketed is much stronger than a generic claim, particularly in the pharmaceutical field. Even if, *arguendo*, the pharmaceutical that is marketed is *prima facie* obvious, that product, *itself*, is often distinguished from amongst even closely related homologs, analogs and isomers by having some superior property. And, above all, the product that goes on the market will have overwhelming commercial success vis a vis the structurally related compounds that often have never gotten past a post-doctoral researcher's laboratory experimentation.

If one has only generic coverage, third parties will seek to attack any showing of unexpected results by admitting, *arguendo*, that the particular pharmaceutical that is marketed is unexpectedly superior to the prior art analogues, but that the claim covers *other* products that are *not* superior to the prior art analogues and surely do not enjoy commercial success of any kind. On this basis, it may be argued that the *generic* invention lacks any unexpected result or commercial success. Such a line of argumentation simply cannot be made against a species claim to the commercial product.

Generic coverage is thus a bonus but distinct from the overriding importance of coverage of what the company itself will invest, often including hundreds of millions of dollars for regulatory approvals. [There is nothing wrong with generic claims as a way of attacking third parties from entering with their own products (or, more likely, providing basis for getting royalties or other consideration).]

§ 11[b][3] Species Claims

For the “upstream” pioneer invention from universities and startups that opens the door to a new field of research but where there is no *specific* product ready for commercialization, generic protection is the entire patenting exercise. Conversely, for a “downstream” product that will go through the regulatory

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approval process which is an adjacent homolog of a compound for the same usefulness, here, the patentee is limited to species protection. More importantly, species protection may be all that is needed: The epitome of the value of species protection is found in terms of commercial pharmaceutical patents such as the Enovid® patent or the Plavix® patent which was worth many billions of dollars in terms of profits for a blockbuster drug, Badorc *et al.*, U.S. Patent 4,847,265. The recently expired patent on Lipitor® generated revenues of \$ 13 billion for the last year before expiration of the patent.

§ 11[c] Taming the 800 Pound Gorilla of Patent Drafting

Are claims important for *every* patent? Beyond the statutory requirement to have at least one claim, the answer is, absolutely not!

If the business objective is purely defensive in nature, then the specification is key and claims play a subsidiary role. But, for every case where there is an offensive component, it is the claims that form the centerpiece of the application process. This means that drafting *starts* with the claims and – after completion of the claims, and only then – the rest of the application is put together to complement the claims.

As part of the holistic theme of a simple and easy to examine application, the minimum number of claims should be presented consistent, however, with as many claims as required to meet the business objectives of the applicant. This should normally mean seven or eight or so claims – and not seventy or eighty or so claims. Crafting generic coverage that telescopes through several claims from very broad to narrow should be an objective of many offensive patenting strategies. Filing too many claims not only obfuscates the invention to make examination more complex, but, for example, if there are very many claims this increases the likelihood that one or more of the claims has a coinventor *different* from the named applicant – opening the door to that unnamed coinventor being joined as part of the inventorship and having a *right* to independently license *all* claims of the patent without consent of the original applicants. One of the reasons why there are often too many claims is because a rational reason to introduce the claims has not been a focal point. Merely because a regular filing fee includes the right to file twenty claims should not be taken as an invitation to file twenty claims.

Combination claims present a special challenge. The temptation is to draft a claim to include all elements of the combination. To do so runs the risk that a competitor can simply *omit* one of the elements to avoid infringement altogether.

While a claim with all elements of the invention is perfectly acceptable for an application, broad protection means that “claim 1” should be drafted with only an element or subcombination of elements, the minimum aspects of the disclosed invention that passes patentability muster.

§11[c][1] Claims with Varying Numbers of Elements

To simply draft a claim with every element from the drawings is likely to provide a patent that may be next to worthless. The “all elements” rule is one of the most important aspects of the patent law for the draftsman and must be thoroughly understood as will be seen from a discussion of the *Pennwalt* case later in this book.

Under the “all elements” rule of the *Pennwalt* case, if there is a claim to a combination of elements (a), (b), (c) and (d), and element (c) is *unnecessary* to achieve the result of the combination or otherwise trivial or unimportant, infringement still depends upon finding that the accused infringer uses *all* of the elements. Therefore, good claim drafting requires that element (c) not be included in the generic claim.

For generic “claim 1”, any element that is both unnecessary to the success of the combination and also unnecessary for establishing patentability should be *deleted* from any proposed claim 1.

The ideal “claim 1” will have *only* one or two elements which are necessary to establish patentability over the prior art. This will be the broadest claim in the case.

§11[c][2] Generalized Descriptions of Each Element

It is important to understand whether a particular element *as described in the drawings* is necessary to establish patentability over the prior art. For example, if one of the elements is a screw, then a claim which recites that element as a screw may be insufficient to provide coverage against a competitor’s embodiment that utilizes a nail or even glue to hold two parts together. Therefore, instead of a “screw” a “fastener” might be described in claim 1.

§11[c][3] Claims Removed from the Closest Prior Art

An original application is often filed with a clear idea of the generic scope of protection but without a concrete idea as to the identity of the ultimate commercial species. The development process for bringing an invention to market must

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consider a variety of factors that can sometimes lead to a late choice as to the commercial embodiment, often long after the filing date.

Particularly if the commercial embodiment is more removed from the prior art than the closest embodiment in the generic claims, it is important to have a claim focused on the commercial embodiment that will present a stronger case for validity than the generic claim.

From the standpoint of nonobvious properties of the commercial embodiment it is important to reconsider claiming strategy late in prosecution to take into account the commercial choice for the preferred embodiment and to have claims either keyed to that commercial embodiment *or* to a subgeneric definition of the invention having a nexus to properties to establish nonobviousness.

(Manifestly, if the commercial embodiment is not disclosed in the original application, then a new application should be filed to that embodiment where nonobvious features or secondary considerations of nonobviousness may nevertheless be basis for patentability.)

The importance of having claims of limited scope remote from the prior art is explained in *In re Payne*, 606 F.2d 303 (CCPA 1979) where broad claims were denied because although unexpected results were shown that normally would establish nonobviousness, here, the claims were drafted too broadly to permit a conclusion that the range of compounds embraced by the claims would have unobvious properties:

“A prima facie case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties. *In re Papesch*, 315 F.2d 381, 386-87 (CCPA 1963). Direct or indirect comparative testing between the claimed compounds and the closest prior art may be necessary. *In re Merchant*, 575 F.2d 865, 869 (CCPA 1978); *In re Blondel*, 499 F.2d 1311, 1317, (CCPA 1974); *In re Swentzel*, 219 F.2d 216, 220 (1955). *** [A]n applicant need not test compounds taught in each and every reference. *In re Holladay*, 584 F.2d 384, 386 (CCPA 1978). However, where an applicant tests less than all the cited compounds, the test must be sufficient to permit a conclusion respecting the relative effectiveness of applicant's claimed compounds and the compounds of the closest prior art. *In re Holladay*, supra at 386, *In re Merchant*, supra at 869.

In re Payne, 606 F.2d 303, 315-16 (CCPA 1979)(Markey, C.J.)(emphasis added)

§11[c][4] **Claim Nexus Keyed to a Nonobvious Feature**

If the commercial embodiment of the invention has special characteristics or other basis to establish nonobviousness, it is important that a claim be presented that is keyed to the nonobvious feature in order to be able to rely upon the nonobvious feature to sustain patentability or validity.

The issue of nexus was explained by Judge Linn in *In re Kao*, 639 F.3d 1057 (Fed. Cir. 2011), in the context of secondary considerations of nonobviousness. Secondary considerations of nonobviousness must always be considered:

“[W]hen secondary considerations are present, though they are not always dispositive, it is error not to consider them. *See Stratoflex v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983) (‘[E]vidence rising out of the so-called 'secondary considerations' must always when present be considered en route to a determination of obviousness.’); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1372 (Fed. Cir. 2007) (‘Although secondary considerations must be taken into account, they do not necessarily control the obviousness conclusion.’).” *Kao*, 639 F.3d at 1067-68.

But, even where there is evidence of secondary considerations supporting a conclusion of nonobviousness, the evidence must support the full scope of the claimed invention and there must be nexus between the evidence and the merits of the *claimed invention*. As explained in *Kao*:

Evidence of secondary considerations must be reasonably commensurate with the scope of the claims. *See In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971); *In re Hiniker*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). This does not mean that an applicant is required to test every embodiment within the scope of his or her claims. If an applicant demonstrates that an embodiment has an unexpected result and provides an adequate basis to support the conclusion that other embodiments falling within the claim will behave in the same manner, this will generally establish that the evidence is commensurate with scope of the claims. *See In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978) (concluding that evidence of secondary considerations was not commensurate with the scope of the claims where that evidence related to a single compound and there was no adequate basis to conclude that other compounds included within the scope of the claims would exhibit the same behavior); *In re Cescon*, 474 F.2d 1331, 1334 (CCPA 1973) (concluding that, although not every compound within the scope of the claims was tested, the evidence of secondary considerations was sufficient where evidence showed a correlation and there was no factual basis to expect the compounds to behave differently in different environments).

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But there is a more fundamental requirement that must be met before secondary considerations can carry the day. "For objective evidence of secondary considerations to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the *claimed invention*." *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) (quotation omitted). Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention. *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists."); *Ormco Corp.*, 463 F.3d at 1312 ("[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent."); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) ("The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims [and] in such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range." (citations omitted)).

Kao, 639 F.3d at 1068.

In the *Tiffin* "cup case" cited in *Kao* the applicant invented thin-walled cups for commercial coffee dispensers which were commercially successful versus the thicker-walled, previously used foam cups. *In re Tiffin*, 448 F.2d 791 (CCPA 1971)(per curiam)(on reh'g). In the original decision of the Court the evidence of commercial success was basis for grant of claims to *any* container made from this thin-walled material as well as claims limited to "cups". On petition for reconsideration by the Patent Office, the Court agreed that only claims keyed to the commercial success were patentable based upon the limited scope of evidence of nonobviousness:

The Patent Office petitions for a ... modification of our decision... The solicitor[]... concedes to appellant claims [] drawn to processes of making "cups," ... but asks reversal of our decision as to claims [] drawn broadly to processes of making "containers," and claims [] drawn to "containers."

This distinction between the two groups of claims is based ... the ratio decidendi of our opinion, which was that appellants' evidence of commercial success and the satisfaction of a long-felt need, both the success and the need being with respect to "cups" used in vending machines, was sufficient to overcome the Patent Office's case of prima facie obviousness. The solicitor's position is that the objective evidence of non-obviousness is not commensurate with the scope of claims [] reciting "containers" generally, but establishes non-obviousness only with respect to "cups" and processes of making them. We agree.

[I]t is the view of this court that objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support. *In re Law*, 303 F.2d 951, 954 (CCPA 1962); *In re Kennedy*, 436 F.2d 1394, 1399 (CCPA

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1971); and *In re McLaughlin*, 443 F.2d 1392, 1396-97 (CCPA 1971). Here, appellants' claims [to containers] are too broad in the sense of 35 USC 103 in that they are inclusive of subject matter which is prima facie obvious and concerning which appellants have not rebutted the Patent Office's prima facie case. *Tiffin*, 448 F.2d at 791-92.

The Manual of Patent Examining Procedure provides guidance in a section excerpted from MPEP § 716.03(a), *Commercial Success Commensurate in Scope With Claimed Invention [R-2]*:

I. EVIDENCE OF COMMERCIAL SUCCESS MUST BE COMMENSURATE IN SCOPE WITH THE CLAIMS

Objective evidence of nonobviousness including commercial success must be commensurate in scope with the claims. *In re Tiffin*, 448 F.2d 791 (CCPA 1971) (evidence showing commercial success of thermoplastic foam "cups" used in vending machines was not commensurate in scope with claims directed to thermoplastic foam "containers" broadly). In order to be commensurate in scope with the claims, the commercial success must be due to claimed features, and not due to unclaimed features. *Joy Technologies Inc. v. Manbeck*, 751 F. Supp. 225, 229 (D.D.C. 1990) , aff'd, 959 F.2d 226, 228 (Fed. Cir. 1992) (Features responsible for commercial success were recited only in allowed dependent claims, and therefore the evidence of commercial success was not commensurate in scope with the broad claims at issue.).

An affidavit or declaration attributing commercial success to a product or process "constructed according to the disclosure and claims of [the] patent application" or other equivalent language does not establish a nexus between the claimed invention and the commercial success because there is no evidence that the product or process which has been sold corresponds to the claimed invention, or that whatever commercial success may have occurred is attributable to the product or process defined by the claims. *Ex parte Standish*, 10 USPQ2d 1454, 1458 (Bd. Pat. App. & Inter. 1988) .

II. REQUIREMENTS WHEN CLAIMED INVENTION IS NOT COEXTENSIVE WITH COMMERCIAL PRODUCT OR PROCESS

If a particular range is claimed, applicant does not need to show commercial success at every point in the range. "Where, as here, the claims are directed to a combination of ranges and procedures not shown by the prior art, and where substantial commercial success is achieved at an apparently typical point within those ranges, and the affidavits definitely indicate that operation throughout the claimed ranges approximates that at the particular points involved in the commercial operation, we think the evidence as to commercial success is persuasive." *In re Hollingsworth*, 253 F.2d 238, 240 (CCPA 1958) . See also *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387(Fed. Cir. 1988) (where the commercially successful product or process is not coextensive with the claimed invention, applicant must show a legally sufficient

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relationship between the claimed feature and the commercial product or process).

The *Manual of Patent Examining Procedure* provides further guidance in MPEP § 2163, *Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, para. 1, "Written Description" Requirement* [R-5]:

A question as to whether a specification provides an adequate written description may arise in the context of an original claim which is not described sufficiently (see, e.g., *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) ; *Enzo Biochem*, 323 F.3d at 968 (Fed. Cir. 2002); *Eli Lilly*, 119 F.3d 1559), a new or amended claim wherein a claim limitation has been added or removed, or a claim to entitlement of an earlier priority date or effective filing date under 35 U.S.C. 119, 120, or 365(c). Most typically, the issue will arise in the context of determining whether new or amended claims are supported by the description of the invention in the application as filed (see, e.g., *In re Wright*, 866 F.2d 422 (Fed. Cir. 1989)) , whether a claimed invention is entitled to the benefit of an earlier priority date or effective filing date under 35 U.S.C. 119, 120, or 365(c) (see, e.g., *New Railhead Mfg. L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002) ; *Tronzo v. Biomet, Inc.*, 156 F.3d 1154 (Fed. Cir. 1998) ; *Fiers v. Revel*, 984 F.2d 1164 (Fed. Cir. 1993) ; *In re Ziegler*, 992 F.2d 1197, 1200 (Fed. Cir. 1993)) , or whether a specification provides support for a claim corresponding to a count in an interference (see, e.g., *Fields v. Conover*, 443 F.2d 1386 (CCPA 1971)) . Compliance with the written description requirement is a question of fact which must be resolved on a case-by-case basis. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563 (Fed. Cir. 1991).

As seen from *In re Hiniker*, 150 F.3d 1362 (Fed. Cir. 1998)(Clevenger, J.), it is manifest that a showing of nonobviousness must be keyed to a *claimed* feature of the invention, as opposed to a feature that is disclosed but not claimed in the application: “

Although operational characteristics of an apparatus may be apparent from the specification, we will not read such characteristics into the claims when they cannot be fairly connected to the structure recited in the claims. See *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982). When given their broadest reasonable interpretation, the claims on appeal sweep in the prior art, and the prior art would have directed an artisan of ordinary skill to make the combination cited by the examiner. *** [Reexamination patentee] Hiniker's *** evidence of secondary considerations of nonobviousness, are not commensurate with the claim scope and are therefore unpersuasive. The invention disclosed in Hiniker's written description may be outstanding in its field, but the name of the game is the claim. See Giles Sutherland Rich, *Extent of Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499 (1990) (“The U.S. is strictly an examination country and the main purpose of the examination, to which every application is subjected, is to try to make sure that what each claim defines is patentable.

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To coin a phrase, *the name of the game is the claim.*’.”
Hiniker, 150 F.3d at 1368-69 (original emphasis).

Tiffin and *Hiniker* are followed in *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952 (Fed. Cir. 2014)(Prost, C.J.). As explained by the Chief Judge:

“The district court's findings on secondary considerations [as establishing patentability] suffer from the [] infirmity of lacking a nexus with the scope of the [] claimed invention. It is the established rule that ‘objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.’ [*In re*] *Tiffin*, 448 F.2d 791, 792, (CCPA 1971); *see also MeadWestVaco Corp. v. Rexam Beauty & Closures, Inc.*, 731 F.3d 1258, 1264-65 (Fed. Cir. 2013); *In re* [] *Kao*, 639 F.3d at 1068; *In re Peterson*, 315 F.3d 1325, 1331 (Fed. Cir. 2003); *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). ...[T]he district court's findings on unexpected results, which were closely inter-twined with its analysis of motivation to combine and reasonable expectation of success, were not commensurate with the full scope of the patent's claims.”

Allergan v. Apotex, 754 F.3d at 965.

"Evidence of commercial success, or other secondary considerations, is only significant if there is a nexus between the claimed invention and the commercial success." *Ortho-McNeil Pharm, Inc. v. Teva Pharms. Indus.*, 344 Fed. Appx. 595, 600 (Fed. Cir. 2009)(quoting *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311-12 (Fed. Cir. 2006)).

As seen from the statement Circuit Judge Newman, it is imperative that a showing of nonobviousness be against the closest prior art:

The provision of comparative data ... is long-established practice. See *In re Payne*, 606 F.2d at 315-16 ("A prima facie case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties. Direct or indirect comparative testing between the claimed compounds and the closest prior art may be necessary." (citing *In re Papesch*, 315 F.2d 381, 386-87 (CCPA 1963))); *In re Merchant*, 575 F.2d 865, 869 (CCPA 1978) ("An applicant relying upon a comparative showing to rebut a prima facie case must compare his claimed invention with the closest prior art."); *In re Miller*, 197 F.2d 340, 342 (CCPA 1952) ("Where, as here, results superior to those produced by the references of the prior art, or public knowledge and use, constitute the basis for the claim of invention, the making of comparative tests and the establishment of the unexpected and superior results never before attained must be established by a proper showing.").

Bristol-Myers Squibb Co. v. Teva Pharms. USA, Inc., 769 F.3d 1339, 1348-49 (Fed. Cir. 2014)(Order)(Newman, J., joined by Lourie, Reyna, JJ., dissenting from den. reh'g en banc)(emphasis supplied)

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The *Manual* explains the nexus requirement in § MPEP § 716.01(b), Nexus Requirement and Evidence of Nonobviousness:

TO BE OF PROBATIVE VALUE, ANY SECONDARY EVIDENCE MUST BE RELATED TO THE CLAIMED INVENTION (NEXUS REQUIRED)

The weight attached to evidence of secondary considerations by the examiner will depend upon its relevance to the issue of obviousness and the amount and nature of the evidence. Note the great reliance apparently placed on this type of evidence by the Supreme Court in upholding the patent in *United States v. Adams*, 383 U.S. 39 (1966) .

To be given substantial weight in the determination of obviousness or nonobviousness, evidence of secondary considerations must be relevant to the subject matter as claimed, and therefore the examiner must determine whether there is a nexus between the merits of the claimed invention and the evidence of secondary considerations. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 305 n.42 (Fed. Cir. 1985)[]. The term "nexus" designates a factually and legally sufficient connection between the objective evidence of nonobviousness and the claimed invention so that the evidence is of probative value in the determination of nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387 (Fed. Cir. 1988).

§ 11[d] *Steenbock* “Rings” of Plural Generic Definitions

“Layered” generic disclosure in a first application is an important prophylactic against the possibility that the ultimate generic protection needed in a later filing will find basis in the first filing. For example, consider the situation where working examples show that particular alloys with 3.0 % nickel and 4.7 % nickel are highly suitable and the generic disclosure covers from 2.0 to 5.0 % nickel, what happens if it is later discovered that 7.5 % nickel is suitable? Under *The Steenbock* line of case law a continuing application with a claim of up to 8.0 % nickel could be denied. See *In re Steenbock*, 83 F.2d 912 (CCPA 1936); *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)(Rich, J.). Instead, the original application should have “layers” of generic protection. For example, the generic disclosure could be of, say, 2.0 to 10.0 % nickel, with subgeneric layers defining amounts of up to 9.0 %, and up to 8.0 % and so forth. Such “layers” can thus provide specific basis for priority.

If the patentee has drafted his original specification without a correct generic statement of the invention, the failure to provide such a generic statement may mean that any continuation-in-part application adding such a generic statement may stand naked as of the continuation-in-part filing date. Hence, intervening prior art that

would be a statutory bar where there is no benefit of the earlier filing date will constitute a statutory bar under the *Steenbock* line of case law.

§ 11[d][1] **Claim by Claim Priority Basis**

Priority based upon an earlier application depends upon whether a *particular claim* is entitled to priority, as opposed to whether “the application” is entitled to such priority. (Often, because an identical issue as to priority is dispositive for all claims, the issue is phrased with less precision as to whether “the application” is entitled to priority.)

Thus, “*a claim* in a later application receives the benefit of the filing date of an earlier application so long as the disclosure in the earlier application meets the requirements of 35 U.S.C. § 112, ¶ 1, including the written description requirement, *with respect to that claim.*” *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326 (Fed. Cir., 2008)(Plager, J.)(citing *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 556 (Fed.Cir.1994)(emphasis added).

Drafting a generic definition for an invention at the time of the first filing is a most difficult but important challenge. If, say, a new invention involves a composition where there are examples that the composition includes 3.0 % Scrontium, 4.3 % Scrontium, 7.0 % Scrontium, 8.5 % Scrontium, one might consider the following generic definitions, and where the best results are from 4.0% Scrontium up to 8.0 % Scrontium. Several generic definitions may be contemplated:

- [a] ... wherein the composition includes at least 2.0 % Scrontium.
- [b]... wherein the composition includes at least about 3.0 % Scrontium.
- [c]... wherein the composition includes from about 2.5 % to about 9.0 % Scrontium.
- [d] wherein the composition includes at least 2.0 % up to 9.0 % Scrontium.
- [e] wherein the composition includes at least 4.0 % to 8.0 %Scrontium.

For the initial application, it is not wrong to have several *alternate* definitions in the original specification. If, a year after filing a provisional with the above definitions, it is discovered that all commercial embodiments and likely commercial embodiments have at least 4.0 % Scrontium and up to 7.0 % Scrontium, the following claims could be presented in the regular application:

1. A composition which includes at least 4.0 % to 8.0 % Scrontium.

2. A composition of claim 1 which includes up to 7.0 % Scrontium.

Claim 2 represents the preferred generic range, while claim 1 presents a range fully supported in the parent application (example [d]). It is important that claim 1 be maintained in the application and resultant patent in case intervening prior art is uncovered. Then, even if it is not possible to sustain priority for the preferred claim 2 range, *at least* claim 1 remains untouched by the intervening prior art.

Thus, it is important whenever a change is made in the definition of the subject matter in the claims to *maintain* at least one or more claims with the original definition in the first filing. Thus, if the claims with the changed definition are held to be restricted to their actual filing date and there is intervening prior art between the parent and later applications, at least the *maintained* claims will be entitled to priority as of the parent date and thus overcome the otherwise intervening prior art.

A good example of the challenges for priority with changes in ranges is found in *In re Wertheim*, 541 F.2d 257 (CCPA 1976), where there were several sets of claims some of which were entitled to priority while others were not – and thus defeated by intervening disclosure. See MPEP § 2163.05(III), *Changes to the Scope of Claims* [R-11](2013)(“In the decision in *In re Wertheim* [] the ranges described in the original specification included a range of ‘25%- 60%’ and specific examples of ‘36%’ and ‘50%.’ A corresponding new claim limitation to ‘at least 35%’ did not meet the description requirement because the phrase ‘at least’ had no upper limit and caused the claim to read literally on embodiments outside the ‘25% to 60%’ range, however a limitation to ‘between 35% and 60%’ did meet the description requirement.”)

§ 11[d][2] **Priority to Genus of Different Scope**

It has long been well established that a generic claim may not be entitled to priority based upon an earlier application where the genus in the later application does not find “written description” support in the earlier application. This is particularly important in the case of a strategy of sequential filings where the earliest application has sparse (if any) generic disclosure and then a later application *does* have a generic claim and disclosure:

Under cases that include *Steenbock* and *Ruscetta*, there is a two-fold inquiry: *First*, for a claim to a generic invention in a daughter application, does the parent application provide a “written description” basis for that genus? Phrased

differently, if an amendment had been made to add the later generic invention, would that amended generic definition find basis for support in the original parent application?

If the answer to the question of support is “no”, there is no written description of the generic claim in the parent, then the daughter application that claims priority to the earlier application would *not* be entitled to priority based upon the parent application, and hence would stand naked as of the later filing date.

Given that the *Leahy Smith America Invents Act* broadens the scope of prior art, there is a greater likelihood that there will be intervening prior art either by the applicant or a third party. To be sure, a large percentage of the case law prior to the *Leahy Smith America Invents Act* involved factual situations such as in *Steenbock* and *Ruscetta*. In the *Ruscetta* case the original parent Ruscetta application disclosure was published in the form of the counterpart British specification. The parent application (and hence the British counterpart published specification)

In simplified form, the first Ruscetta and Jenny filing claimed a method of etching a metal species – tantalum – while the application at the Court claimed a method of etching the same species – tantalum – or a related metal (zirconium, niobium or titanium). Intervening prior art was the Ruscetta and Jenny publication essentially *identical* to the parent: It was the British counterpart published application to the method with tantalum. There clearly was *priority* for the tantalum species. But, priority was not the issue in *Ruscetta*: Rather, the issue was whether Ruscetta and Jenny were entitled to rely on the parent filing date under what is today 35 USC § 112(a). They clearly were not.

Therefore, the *Ruscetta and Jenny* claims at the court stood naked as of their later filing date; hence, their claims were barred by their own disclosure of the tantalum species in the British counterpart application. *Ruscetta* broke no new legal ground but essentially reprised the *Steenbock* case. As explained by Judge Rich in *Ruscetta*:

“The application [in *In re Steenbock*, 83 F.2d 912 (1936),] disclosed and claimed the irradiation of fungus material broadly. It was filed [in 1932] as a continuation-in-part of an application filed [in] 1926, which did not disclose the broad genus ‘fungus material,’ but only a specific fungus, yeast. [As to Steenbock’s British counterpart specification published in 1926,] Steenbock was allowed his specific yeast claims, supported by his parent application, because there was no [] statutory bar against them But as to the broad fungus material claims, [the intervening

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British specification and other prior art] were held to be statutory bars ... [B]ecause of the lack of supporting disclosure for broad fungus claims in the parent applications, *Steenbock* had to rely on his 1932 filing date and therefore the references were ... statutory bars as to it [because they were] ‘published more than two years prior to the filing of the involved application[.]’”

In re Ruscetta, 255 F.2d 687; 690 (CCPA 1958)(quoting Board decision in *Steenbock*); see also *In re Ellis*, 37 App. D.C. 203 (1911); *In re Dosselman*, 37 App. D.C. 211 (1911); *In re Langmuir*, 62 F.2d 93 (CCPA 1932); *In re Walker*, 70 F.2d 1008 (CCPA 1934), *In re Burk*, 74 F.2d 547 (CCPA 1935)); *In re Lukach*, 442 F.2d 967 (CCPA 1971); *In re Smith*, 458 F.2d 1389 (CCPA 1972)).

Steenbock in turn cites to case law that is now more than 100 years old for the proposition that “[t]he principle is well established ... that the disclosure of a species in a cited reference is sufficient to prevent a later applicant from obtaining generic claims, although the disclosure in an application of a species may not be a sufficient basis for a generic claim.” *In re Steenbock*, 83 F.2d 912 (1936)(citing *In re Ellis*, 37 App. D.C. 203 (1911); *In re Dosselman*, 37 App. D.C. 211 (1911); *In re Langmuir*, 62 F.2d 93 (CCPA 1932); *In re Walker*, 70 F.2d 1008 (CCPA 1934), *In re Burk*, 74 F.2d 547 (CCPA 1935)).

In *In re Herschler*, 591 F.2d 693 (CCPA 1979), a parent application (the “great-grandfather” case) disclosed various species (gluco-corticosteroids) whereas the instant claims on appeal are much broader, some directed to steroids, generally, or to a group of steroids broader than the gluco-corticosteroids of the great-grandfather case. Intervening prior art was held to bar the broader claims because the narrow disclosure in the earlier case did not provide basis for the generic claim in the later case: “[T]he great-grandparent case *** disclosure is limited to gluco-corticosteroids whereas all of the present claims on appeal are drawn either to steroids in general or to steroids not limited to glucocorticosteroids[]. It is now well settled law that disclosure of a species is insufficient to provide descriptive support for a generic or sub-generic claim.” *Herschler*, 591 F.2d at 696 (citing *In re Ruscetta*, 255 F.2d 687 (CCPA 1958); *In re Lukach*, 442 F.2d 967 (CCPA 1971); *In re Smith*, 458 F.2d 1389 (CCPA 1972)).

Therefore, “appellant may not rely upon his great-grandparent case to support any of the claims on appeal and thus the [intervening] prior art ... can be properly applied against the claims under 35 USC 102(b) and 103.” *Herschler*, 591 F.2d at 697.

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Whether a new generic or subgeneric definition of an invention is entitled to priority is a very case-specific determination, as shown in a footnote citing a variety of cases in *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1568-69 n.6 (Fed. Cir. 1991)(Rich, J.) (“*Chester v. Miller*, 906 F.2d 1574 (Fed.Cir.1990) (parent application's disclosure of chemical species constituted 102(b) prior art against continuation-in-part (c-i-p) application on appeal, but did not provide sufficient written description to support c-i-p's claims to encompassing genus); *In re Gosteli*, 872 F.2d 1008 (Fed.Cir.1989) (foreign priority application's disclosure of chemical subgenus was insufficient written description to support genus claims of corresponding U.S. application); *In re Wright*, 866 F.2d 422 (Fed.Cir.1989) (application in ‘clear compliance’ with Sec. 112 ‘written description’ requirement with respect to claim limitation that microcapsules were ‘not permanently fixed’); *Utter v. Hiraga*, 845 F.2d 993, 998 (Fed.Cir.1988) (holding generic interference count to scroll compressor supported by written description of foreign priority application, the court stated, ‘A specification may, within the meaning of 35 U.S.C. Sec. 112 ¶ 1, contain a written description of a broadly claimed invention without describing all species that claim encompasses’); *Kennecott Corp. v. Kyocera Int'l, Inc.*, 835 F.2d 1419 (Fed.Cir.1987) (parent application's lack of express disclosure of inherent ‘equiaxed microstructure’ property did not deprive c-i-p's claims to a sintered ceramic body having said property of the benefit of parent's filing date); *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570 (Fed. Cir. 1985) (parent application's disclosure provided adequate written description support for certain claim limitations respecting protein content, temperature, and moisture content, but not others);

In re Wilder, 736 F.2d 1516 (Fed. Cir. 1984) (broadly worded title, general description of drawing, and objects of invention of parent patent application did not adequately support reissue application claims directed to genus of indicating mechanisms for dictating machines); *In re Kaslow*, 707 F.2d 1366 (Fed.Cir.1983) (claims to method of redeeming merchandise coupons, comprising step of providing an audit of coupon traffic, were not supported by specification of parent application).”)

§ 11[d][3] *Steenbock* Applies to Provisional Priority

The law of *Steenbock* applies equally to a provisional application: For priority purposes, “the provisional application must describe the invention in such a way that one of ordinary skill in the art ‘would understand that the genus that is being claimed has been invented, not just the species of a genus.’” *Trading Techs. Int’l. Inc. v. Espeed Inc.*, 595 F.3d 1340, 1350 (Fed. Cir. 2010)(Rader, J.) (quoting *Carnegie Mellon Univ. v. Hoffman-La Roche, Inc.*, 541 F.3d 1115, 1124 (Fed. Cir. 2008)).

The theory counter to *Steenbock* is that because a species is disclosed in a parent application that the applicant thus has “possession” of the invention. This argument is answered in *New Railhead*:

“[T]he written description requirement ‘is not subsumed by the ‘possession’ inquiry.’ *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 42 Fed. Appx. 439, *granting reh’g* at 19 (2002). Identity of description is not necessary. See, e.g., *Crown Operations Int’l, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1376 (Fed. Cir. 2002) (‘The disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter at issue.’). Identity of that which is described, however, is necessary: ‘What is claimed by the patent application must be the same as what is disclosed in the specification’ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002); *accord Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).”

New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co., 298 F.3d 1290, 1296 (Fed. Cir. 2002)(Michel, J.). See also *Endo Pharms., Inc. v. Actavis, Inc.*, 746 F.3d 1371, 1382 (Fed. Cir. 2014)(Dyk, J., dissenting in part) (“What is claimed by the patent application [claiming priority to a provisional application] must be the same as what is disclosed in the [provisional] specification.” *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1296 (Fed. Cir. 2002) (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002)) (citing *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997)); see also *Ariad Pharms. Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1342 (Fed. Cir. 2010). That is to say, a patent claiming priority to a provisional application must cover the same inventive subject matter as the provisional application.”); *Apple Inc. v. Int’l Trade Comm’n*, 725 F.3d 1356, 1372 (Fed. Cir. 2013)(Reyna, J., concurring in part and dissenting in part)(“[A] non-provisional utility patent application may be afforded the priority date of a related provisional application if the two applications share at least one common inventor and the written description of the provisional application *adequately supports the claims of the non-provisional application*.”)

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To backdate the later application with the earlier priority date, the specification of the provisional application must ‘contain a written description of the invention’ as defined in § 112 ¶ 1.

New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co., 298 F.3d 1290, 1295 (Fed. Cir. 2002)(Michel, J.)(discussing 35 U.S.C. 119(e)(1) and 35 U.S.C. § 112 ¶ 1).”

§ 11[d][4] **Statutory Bar Intervening Prior Art**

If the claims of a continuing application under 35 USC § 120 are not entitled to priority under *Steenbock* and *Ruscetta* but instead stand naked as of the continuing application filing date, then a prior art event more than one year before the continuing application filing date is a statutory bar to deny patentability to the applicant.

§ 11[d][4][A] **Narrowed Range Barred by Intervening Disclosure**

It is easy to understand the rule that a broadened generic definition is not entitled to priority based upon a narrower disclosure, and that the publication of a foreign counterpart more than a year prior to the filing of the broadened continuation-in-part application is barred under *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)).

It is more difficult to grasp that if there is a broader “generic” invention in a parent application supported by a species in the original parent filing, that *then* a narrower “subgeneric” invention in a continuing application also readable on that species may be barred keyed to the intervening publication of the species in the foreign counterpart of the original parent filing. This is the message explained in *In re Lukach*, 442 F.2d 967, 968-70 (CCPA 1971)(Lane, J.).

In *Lukach* the applicant’s original grandparent (and parent) disclosure was directed to a solid elastomeric copolymer of ethylene and propylene where the claims were not limited as to a numerical Mw/Mn ratio while the specification disclosed a specific working example with the ratio

$$\text{Mw/Mn} = 2.6$$

(Mw is the weight-average molecular weight, and Mn is the number-average molecular weight.) More than one year after the British counterpart of the grandparent was published, Lukach filed a continuing application which now claimed “[a] solid elastomeric copolymer of ethylene and propylene having *** a Mw/Mn ratio of at least 2.0 and less than about 3.0 ***.”

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Here, although the later claim was *narrowed* and supported by an example the *range* was not supported; therefore, priority was denied and the claim was held anticipated by the intervening publication corresponding to the grandparent application:

One requirement for obtaining th[e] benefit [of priority based upon a parent application] is that the invention now claimed has to have been disclosed in both the parent and grandparent applications "in the manner provided by the first paragraph of section 112." 35 U.S.C. § 120. Whether it was so disclosed is the issue before us....

* * *

The examiner... was of the view that the "ratio of at least 2.0 and less than 3.0 is not supported in any of the [grandparent application]." The board agreed, stating: "The Examiner's position is that the range recited in the claims is not disclosed in the earlier applications, and we do not find any disclosure of such a range." For this reason... the board held that appellants were not entitled to the benefit of the grandparent application and hence affirmed the § 102 (b) rejection.

[T]he question is whether the parent and grandparent applications disclose, "in the manner provided by the first paragraph of section 112," the invention now claimed. From the board's language it is apparently the description requirement, rather than the enablement provisions or best mode provision, of the first paragraph of § 112, which was considered not to have been met.

[W]here an applicant claims, as here, a class of compositions, he must describe that class in order to meet the description requirement of the statute. See *In re Ahlbrecht*, 435 F.2d 908 (CCPA 1971); *In re DiLeone and Lucas*, 436 F.2d 1404 (CCPA 1971); *In re DiLeone*, 436 F.2d 1033 (CCPA 1971). The question then is whether appellants have done so in the parent and grandparent applications. We agree with the examiner and the board that they have not.

Looking to the grandparent application, we find no express mention of the Mw/Mn ratio of the copolymers described therein. Appellants correctly argue, however, that the invention claimed does not have to be described in *ipsis verbis* in order to satisfy the description requirement of § 112. See, e. g., *Henry J. Kaiser Co. v. McLouth Steel Corp.*, 257 F.Supp. 372, 429 (E.D. Mich.1966), *affd.*, *Kaiser Industries Corp. v. McLouth Steel Corp.*, 6th Cir., 400 F.2d 36 (6th Cir. 1968)[.]

The matter of what language constitutes sufficient description to support a claim of given breadth has been a troublesome question. See, e. g., the *DiLeone* cases and *In re Ahlbrecht*, *supra*. An especially difficult aspect of this problem has been the situations involving specifications which describe broader subject matter than is subsequently claimed, e. g., a genus when a subgenus is claimed. Appellants urge that in the instant case their grandparent application disclosed a genus of copolymers having, among other characteristics, "narrow molecular weight distribution," and that they are now further limiting the claims to the subgenus wherein the distribution is indicated by a Mw/Mn ratio between 2.0 and 3.0. They point out that the examiner has agreed that one

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of the working examples in the grandparent inherently describes a co-polymer which would have a Mw/Mn ratio of 2.6. They then urge that this court's decision in *In re Risse*, 378 F.2d 948, 54 CCPA 1495 (1967), stands for the proposition that an applicant is entitled, as to a claimed subgenus, to the benefit of the filing date of a parent application if the parent discloses a genus wholly encompassing the claimed subgenus and also discloses a species within that subgenus.

We are ...left with the single example inherently disclosing a copolymer having a Mw/Mn ration of 2.6. This single example does not alone provide support for the recited range from 2.0 to 3.0, and nothing has been brought to our attention to show that any other language in the grandparent application, taken together with the knowledge of persons skilled in the art, points to the recited range. Accordingly, the grandparent application does not, either expressly or inherently, disclose the invention now claimed, and appellant is not entitled to the benefit of the grandparent filing date. It follows that appellants cannot overcome the § 102(b) time bar arising from publication of the complete specification of their British patent.

Appellants have raised a further point. They contend that "there is an inconsistency constituting an inequity in rejecting the claims as fully met by the Hercules British patent under 35 USC 102, while at the same time holding that appellants cannot obtain the benefit of the filing date of the U. S. counterpart." What they are saying, in terms of the statute, is that if "the invention was * * * described" in the British reference within the meaning of § 102(b), there must have been a "description of the invention" in the corresponding grandparent application within the meaning of the first paragraph of § 112. This argument appears to overlook the law that the description of a single embodiment of broadly claimed subject matter constitutes a description of the invention for anticipation purposes (see, e. g., *In re Ruscetta*, 255 F.2d 687 (CCPA 1958)), whereas the same information in a specification might not alone be enough to provide a description of that invention for purposes of adequate disclosure. See, e. g., *In re Ahlbrecht*, *supra*. There are other apparent anomalies between the requirements for claim-anticipating disclosures and for claim-supporting disclosures. See, e. g., *In re Hafner*, 410 F.2d 1403 (CCPA 1969). If the law in these situations really produces inequities, the proper remedy is in Congress.

§ 11[d][5] Unclaimed Disclosure to Provide Basis for Later Claims

As explained in § 613, *Disclosure is Key to International Patent Regime Priority*, priority is based upon supporting *disclosure* in the parent application which may or may not include a *claim* in the parent application.

Where a preferred range or subgenus is appreciated at the time of the original filing that preferred range or subgenus should be *disclosed* even if it is not claimed in the original application. Disclosure of the range or subgenus opens the

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door to filing a continuation-in-part or continuation application that now specifically claims the preferred range or subgenus.

With a specific *disclosure* in the original application of the range or subgenus, the possibility exists that priority would be denied in a continuing application. Thus, filing a continuing application – whether labeled a “continuation” or “continuation-in-part” is dangerous where a claimed generic parameter is changed because if the continuing application is filed more than thirty months from the earliest priority date, there is a danger that the claim in the continuing application will be barred as anticipated by the original 18 month publication of the original application. A good example is *In re Lukach*, 442 F.2d 967, 970 (CCPA 1971)(Lane, J.), which is the subject of § 154, *Narrowed Range Barred by Intervening Disclosure*.

In *Lukach* there was no publication of the original United States application but instead the British counterpart of that application was published more than one year before the filing date of the latest Lukach application which, for the first time, claimed a ratio of two components within a range of 2.0 to 3.0, supported in the original and all relevant applications by a working example of the ratio 2.6. The species with the 2.6 ratio was prior art against the Lukach claim because the *Lukach* claim was not supported in the parent.

The argument was raised that how can an intermediate publication constitute an anticipation of the later claim when priority was denied based upon the identical disclosure: “[Lukach] contend that ‘there is an inconsistency constituting an inequity in rejecting the claims as fully met by the [foreign counterpart] patent under 35 USC 102, while at the same time holding that appellants cannot obtain the benefit of the filing date of the U. S. counterpart.’” *Lukach*, 442 F.2d at 970. The Court responded:

[Lukach argues] that if "the invention was * * * described" in the British reference within the meaning of § 102(b), there must have been a "description of the invention" in the corresponding grandparent application within the meaning of the first paragraph of § 112. This *** overlook[s] the law that the description of a single embodiment of broadly claimed subject matter constitutes a description of the invention for anticipation purposes (see, e. g., *In re Ruschetta*, 255 F.2d 687 (CCPA 1958)), whereas the same information in a specification might not alone be enough to provide a description of that invention for purposes of adequate disclosure. See, e. g., *In re Ahlbrecht*, *supra*. ***

Appellants ... contend that "there is an inconsistency constituting an inequity in rejecting the claims as fully met by the Hercules British patent under 35 USC 102, while at the same time holding that appellants cannot obtain the benefit of the filing date of the U. S. counterpart." What they are saying, in terms of the statute, is that if "the invention was * * * described" in the British reference within the meaning of § 102(b),

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there must have been a "description of the invention" in the corresponding grandparent application within the meaning of the first paragraph of § 112.

This argument appears to overlook the law that the description of a single embodiment of broadly claimed subject matter constitutes a description of the invention for anticipation purposes (see, e. g., *In re Russetta*, 255 F.2d 687 (CCPA 1958)), whereas the same information in a specification might not alone be enough to provide a description of that invention for purposes of adequate disclosure. See, e. g., *In re Ahlbrecht*, *supra*. There are other apparent anomalies between the requirements for claim-anticipating disclosures and for claim-supporting disclosures. See, e. g., *In re Hafner*, 410 F.2d 1403 (CCPA 1969). If the law in these situations really produces inequities, the proper remedy is in Congress.

Lukach, 442 F.2d at 970.

§ 11[e] *Steenbock* is Still not Universally Understood

At first blush, it is difficult to understand the *Steenbock* rationale where subject matter in a parent application *identical* to disclosure in a daughter patent application is used as prior art against claims in the daughter application where that “prior art” disclosure is intermediate between the parent and daughter filing dates. How is it possible that disclosure insufficient to support claims in the daughter *is* sufficient to anticipate such claims when that very disclosure is identical to the parent application disclosure? The answer is that *Steenbock* requires a claim by claim analysis: The first issue is whether the claim in the daughter is supported under § 112(a) by the disclosure in the parent? Where the daughter claim is different in scope from the parent disclosure, § 112(a) is not met, so that the daughter claim then stands naked in the daughter filing date. The second issue is whether the disclosure in the parent is “prior art” against the claims of the daughter: Yes, it is, because the daughter claim stands naked as of the daughter filing date. The third issue is a question of anticipation: Does the claim in the daughter application read on an embodiment of the intervening prior art publication? Yes, it does: the preferred species of the claim are those disclosed in the intervening prior art publication.

For some reason, without this three part analysis, the concept that priority may be denied to a parent disclosure yet that parent disclosure may anticipate the daughter claim. Even as recently as 2012, the Great Dissenter, a jurist with nearly thirty full years on the Federal Circuit, was unable to grasp this concept:

“The panel majority forgets that ‘matter disclosed in the parent application is entitled to the benefit of the filing date of the parent application.’ *Waldemar Link, GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558 (Fed.Cir.1994); see *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1438 (Fed.Cir.1984) (‘The earlier filing date of the parent

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application pertains to material in the C–I–P application also disclosed in the prior application. 35 U.S.C. § 120.’). Instead, the panel majority relies upon the common subject matter from the [parent] patent disclosure to invalidate the [daughter] claims supported by that subject matter. This is incorrect, for the common subject matter in the [daughter] patent is entitled to the [parent] filing date. That entitlement is not lost by issuance of the [parent] patent. The common subject matter, properly carried forward in copending continuing patents, cannot be prior art against itself, as the majority holds.”

Santarus, Inc. v. Par Pharm., Inc., 694 F.3d 1344,1361-62 (Fed. Cir. 2012)(Newman, J., dissenting in part)

§ 11[f] *Steenbock* in the International Patent Arena

While claims in a parent (priority) application are not a necessary element for either domestic or foreign protection, providing a definition of the invention in the original Summary of the Invention that provides verbatim support for a later application provides the safest approach to protect the substantive priority right. Where there is an absence of such support open questions are raised in the international patent arena.

The World Intellectual Property Organization does not take sufficient care to explain the *Steenbock* and *Ruscetta* line of case law and underestimates the importance of claim drafting in its suggestion that “[w]hile it is generally preferable to draft the claims first [before the supporting disclosure], some situations may not provide the patent agent with this luxury. For example, assume a patent agent receives a technical paper from the inventor who tells the patent agent that the patent application needs to be filed immediately because of an imminent public disclosure of the invention. The patent agent probably will not have time to draft his own patent specification but will instead use the inventor’s technical paper as the basis for the specification.” WIPO PATENT DRAFTING MANUAL, § III-B-1, *The Claims*, p. 34 (downloaded Jan. 13, 2016), available at http://www.wipo.int/edocs/pubdocs/en/patents/867/wipo_pub_867.pdf.

Particularly contentious is the question that arises where parent (priority) application is to a genus of a different scope than the genus of the later convention application. Indeed, within the European Patent Office, it took several years to seemingly straighten out the law as to what constitutes the “same invention” for priority purposes. See *In re Same Invention*, Case G02/98, *sub nom In re Same Invention*, Case G02/98, *sub nom* “R. v. X/Same invention”, [2002] E.P.O.R. 17 p. 167 (EPO Enlarged Bd. App. 2001, and “Requirement for Claiming Priority of the ‘Same Invention’”, Official Journal 413 (October 2001), referral by the

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President of the EPO, [1999] E.P.O.R. 503 (EPO Enlarged Board of Appeal 1998). The *Same Invention* opinion from 2001 concludes that “[t]he requirement for claiming priority of ‘the same invention’, referred to in Article 87(1) [of the European Patent Convention], means that priority of a previous application in respect of a claim in a European patent application in accordance with Article 88 EPC is to be acknowledged only if the skilled person can derive the subject-matter of the claim directly and unambiguously, using common general knowledge, from the previous application as a whole.” *Same Invention*, pp. 25-26; emphasis added. For earlier debates on the subject, see Ulrich Joos, *Identität der Erfindung, Mehrfach- und Teilpriorität im europäischen Patentrecht*, 73 in Straus, ed., *AKTUELLE HERAUSFORDERUNGEN DES GEISTIGEN EIGENTUMS — FESTGABE VON FREUNDEN UND MITARBEITERN FÜR FRIEDRICH-KARL BEIER ZUM 70. GEBURTSTAG* (Carl Heymanns Verlag KG 1996); see also Richard L. Schwaab & Harold C. Wegner, *Harmonization and Priority of Invention* in *AKTUELLE HERAUSFORDERUNGEN * * **, pp. 159-169 (1996); Ernest Guttman, *Effects of Priority Rights on Claims of European Patents Claiming One or Several Priority Dates*, 22 INT’L REV. INDUS. PROP. AND COPYRIGHT L. 740 (1991); Friedrich-Karl Beier & Rainer Moufang, *Convention Priority for Improvement Patents and Patents of Addition*, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. 593 (1990); Wegner, *Filing Evolutionary Inventions Abroad: Pitfalls under the Paris Convention*, 23 INT’L REV. INDUS. PROP. & COPYRIGHT L. 184 (1992).

§ 11[g] **Inventorship Issues with Too Many Claims**

If a patent has, say, one hundred claims, it may be difficult to sort out who is the inventor of *each* claim. Incorrect – even innocent – failure to nominate the correct inventorship for *all* the claims may be fatal to an enforceable patent right

§11[g][1] **Difficulty to Sort out Inventorship with Many Claims**

An incorrect inventorship nomination even as to one claim may poison the value of the patent. If a third party inventor of even one claim who is not named as an inventor and who is not under an obligation to assign his rights to the patent applicant may be the basis for a defendant in a lawsuit to escape liability: If he is able to purchase the patent rights of the unnamed inventor of “claim 37” he will then have a defense to the charge of infringement. (And, of course, if there is a *willful* false nomination of inventorship then this raises the possibility of an inequitable conduct charge.)

§11[g][2kkkkkkkkkkkkkkkkkkkkkkkkkk] The “Starting Off” Point

It is important to know the inventor’s “starting off” point to segregate the inventor’s contribution from the previous work of others. Useful information is often provided by the inventor. The information about the prior work of others is useful to segregate the inventor’s contribution from the prior art *and also from the inventive contributions of others.*

Consider the following example:

A coworker of the inventor has developed a new Framus system which comprises elements A, B, C, D and E.

The inventor has discovered an improved element D-plus, so that his invention is introduced into the coworkers system as a combination of elements A, B, C, D-plus and E.

What happens if the inventor fails to inform the patent attorney that the combination A,B,C, D and E is the invention of a third party (which may or may not be prior art under 35 USC § 102 as to the inventor)?

If the “starting off point, here, is given to the inventor, he will have no trouble making sure that every claim includes element D-plus, for example:

Claim 1: The combination A, B, C, D-plus and E.

Claim 2: The subcombination C,D-plus and E.

Claim 3: The element D-plus.

But, if the coworker’s “starting off” point is not identified, then the following claims could be drafted based upon the inventor’s disclosure of the preferred embodiment:

Claim 1: The combination A, B, C, D and E.

Claim 2: The subcombination C,D and E.

Claim 3: The subcombination A, B and C.

Here, claims 1 and 2 are clearly the coworker’s invention.

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If the work remains secret within the coworker's organization and is not public "prior art", then the coworker would need to be named as a coinventor.

If the coworker is not under an obligation to assign his invention to the applicant and is not named in the patent, then years later the coworker could sue to be named as a coinventor. Under United States patent law, a coinventor has the right to license or sell his rights to the patent if he is the inventor of *any claim* of the patent. This means that if there are claims to, for example, element-D that is the sole invention of the inventor-applicant, the presence of claims to inventions of the coworker permit the coworker to assign or license his rights to *all* claims of the patent to a stranger. *There is no requirement for a coinventor to obtain the consent of all coinventors to license or sell a coinventor's patent rights.*

(Litigation to settle this issue may occur after grant of the patent when the accused infringer discovers the mistaken inventorship: The accused infringer then buys the patent rights of the unnamed inventor and uses such rights as a defense to a charge of patent infringement.)

Providing information about the "starting off" point will go a long way toward avoiding inventorship nomination problems. Inventorship nomination, if false and not corrected, leads to invalidity of the patent right. If an omitted coinventor is located during patent litigation who is not under an obligation to assign patent rights to anyone, the accused infringer-defendant in the patent infringement lawsuit may purchase the unnamed coinventor's patent rights and use such rights as a defense to the charge of infringement.

§11[g][3] **Coinventor Right to License the Patent Right**

Incorrect inventorship is a common basis to defend a patent infringement suit. Assume that the Acme Widget Company is sued for infringement of claim 3 of the Smith patent owned by Framus Incorporated. But, claim 37 of the patent is discovered by Acme Widget Company to have been invented by Jones who was not (and is not) under an obligation to assign his patent rights to anyone.

Acme Widget Company then is able to purchase Jones' right as a coinventor of the patent and, if successful in having the inventorship changed to list Jones as a coinventor, Acme Widget Company is able to successfully defend the infringement suit.

The statutory basis for the right of a coinventor to license his patent rights *without* permission of the other coinventors and *without* sharing in the proceeds of the license is found in 35 USC § 262:

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35 USC § 262. Joint owners . In the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention within the United States, or import the patented invention into the United States, without the consent of and without accounting to the other owners.

The situation is explained in *Willingham v Lawton*, 555 F2d 1340, 1344 (6th Cir. 1977):

Co-owners of a patent have interests which are essentially distinct and separate. The nature of a patent is such that co-owners are at the mercy of each other. In the absence of a special agreement, each of the co-owners of a patent may make, use or sell the patented invention without accounting to the other owners. 35 U.S.C. § 262 (1952). It has been held that a co-owner of a patent can even grant a license to a third party without consent of the other owners and neither the co-owner-licensor nor the third-party-licensee is liable to the other owners. *Talbot v. Quaker State Oil Refining*, 104 F.2d 967 (3d Cir. 1939); *Bendix Aviation Corp. v. Kury*, 88 F. Supp. 243 (D.N.Y. 1950). See *Aberdeen Hosiery Mills Co. v. Kaufman*, 96 U.S.P.Q. 133 (S.D.N.Y. 1952). The unlimited use of a patent by one co-owner could effectively destroy the value of a patent to the other co-owner. Within this framework, a rule requiring all joint owners to participate in an infringement suit effectively precludes one owner from filing an harassing suit against another owner's licensee.

§11[g][4] Duty of Disclosure Issues for Inventorship

It is important in meeting the duty of disclosure that the inventor provide information to the patent attorney that will avoid a situation where the inventorship is incorrectly named. If the omission of the correct inventorship is *deliberate* there can be inequitable conduct implications. This is seen from *Advanced Magnetic Closures, Inc. v. Rome Fastener Corp.*, 607 F.3d 817, 828 (Fed. Cir. 2010):

[W]hen named inventors deliberately conceal a true inventor's involvement, the applicants have committed inequitable conduct and the patent is unenforceable even as to an innocent co-inventor. *Frank's Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd.*, 292 F.3d 1363, 1376-77 (Fed. Cir. 2002). In *Frank's Casing*, this court held that the named inventors committed inequitable conduct by deliberately excluding an innocent co-inventor from their patent application. *Id.* at 1376. The court explained that "if unenforceable due to inequitable conduct, a patent may not be enforced even by "innocent" co-inventors. One bad apple spoils the entire barrel. Misdeeds of co-inventors, or even a patent attorney, can affect the property rights of an otherwise innocent individual." *Id.* at 1377 (quoting *Stark v. Advanced Magnetics.*, 119 F.3d 1551, 1556 (Fed. Cir. 1997)).

Accordingly, this court sustained the district court's holding of unenforceability. *Id.* The court, however, remanded the case "for the limited purpose of determining the correct inventorship" because an action under 35 U.S.C. § 256 did not "prevent [] a court from correcting the inventorship of an unenforceable patent." *Id.* at 1377 (alteration added).

As in *Frank's Casing*, the district court here had no obligation to resolve inventorship for the purposes of holding the patent unenforceable. If Mr. Bauer – as the sole named inventor – deliberately misrepresented that he invented the '773 patent's fastener to the PTO, his deceit would "spoil [] the entire barrel," leaving the '773 patent unenforceable. *Stark*, 119 F.3d at 1556 (alteration added). The only substantive difference between this case and *Frank's Casing* is that we have no reason here to remand to the district to resolve inventorship as no party has sought to correct inventorship under 35 U.S.C. § 256. Accordingly, the district court did not err by addressing inequitable conduct and unenforceability without resolving inventorship.



§ 12 Three Part Claim as the Default Claiming Choice

The most common and easiest claim form to use is the three part claim. The three part claim has a preamble, transition and body stating elements. The focus, here, is on this model where the claim is to the product:

[preamble]+[open transition]+[element(s)].

Any critical prior art-distinguishing feature should be recited as part of a claim element (as opposed to mere recitation in the preamble).

The simple product claim should be set forth as a set of elements with *no* important limitation found anywhere but in the elements themselves:

1. A [thing] comprising:
 [a] element A; and
 [b] element B.

There are basically three parts to a claim – the preamble, the transition and the elements.

§ 12[a] The Preamble as an Introduction

The preamble (all the wording before the transition – here, “comprising”) should be an introduction to the invention set forth in the elements. Historically, some applicants have employed a drafting strategy where features that distinguish over the prior art are placed in the preamble as opposed to the elements. This strategy is vulnerable, however, to a patent validity trial at the Patent Trial and Appeal Board because of the “broadest reasonable interpretation” given to claims at such trials. See § 12[D], *Preamble vs. Elements to Distinguish the Prior Art*.

§ 12[b] The Open Transition

The Open Transition should as a default be either “comprising” or “which comprises”. This is an “open” transition that is interpreted to mean that the claim has coverage for any combination of the elements stated in the claim *and any combination also including unstated elements*. Thus, a claim to a combination “comprising A and B” includes a combination of A+B, *and* A+B+C. (Other transition forms are “closed” (“consisting of”) or “hybrid” (“consisting essentially of”) and are *not* recommended.)

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In *In re Varma*, __ F.3d __ (Fed. Cir. March 11, 2016)(Taranto, J.), the panel explained that even though “comprising” is an open transition, there are nevertheless limits to the scope of the claim:

“Although the transitional term ‘comprising’ indicates that the claim is open-ended, the term does not render each limitation or phrase within the claim open-ended. See *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007); *Spectrum Int’l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1380 (Fed. Cir. 1998). ‘Comprising’ means that the claim can be met by a system that contains features over and above those specifically required by the claim element, but only if the system still satisfies the specific claim-element requirements: the claim does not cover systems whose unclaimed features make the claim elements no longer satisfied.” *Varma*, __ F.3d at __, slip op. at 17.

Professor Mueller explains the “comprising” transition and why it is the dominant transition used in daily patent practice: “The ‘comprising’ transition is the most prevalent, for good reason. When ‘comprising’ is used as a claim transition, it means ‘including’ or ‘having’ or ‘containing’ the elements listed following the transition word, but not limited to the listed elements. Use of a ‘comprising’ transition indicates that the patent claim is open in scope. An ‘open’ claim encompasses or is literally infringed by (or ‘reads on’) another’s product that includes each of the explicitly recited elements of the claim, *plus anything else*. Thus, use of ‘comprising’ serves to maximize patent claim scope.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.02[B][1] (Wolters Kluwer 2016)(footnotes deleted; original emphasis).

§ 12[b][1] “Consisting Essentially of” Hybrid Transition

In certain situations it is possible to provide that elements after the transition may be used as well as others that do not change the result: “[T]he claim phrase ‘consisting essentially of’ excludes ingredients that would ‘materially affect the basic and novel characteristics’ of the claimed composition. *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569, 1574 (Fed.Cir.1984)(citing *In re Herz*, 537 F.2d 549, 551 (CCPA 1976); *In re Janakirama-Rao*, 317 F.2d 951, 954 (CCPA 1963)).

§ 12[b]{2} “Closed” Transition (“Consisting of”)

The “consisting of” transition should be only rarely used for the reasons given by Professor Mueller:

“Inclusion in a patent claim of the ‘consisting of’ transition indicates that the claim is closed in scope. A ‘consisting of’ claim reads on (i.e., the claim is literally infringed or anticipated by) a device that includes each of the explicitly recited elements of the claim *but nothing else* (other than impurities normally associated with the recited elements). For example, a claim to ‘a widget consisting of A, B, and C’ would read on a widget having a part A, a part B, and a part C (‘widget ABC’), but would not read on a widget ABCD nor on a widget ABCXYZ. The claim would read on a widget made up of elements A, B, and C, plus those impurities normally associated with element B.

“Thus, a claim that employs a ‘consisting of’ transition is potentially much narrower in scope than a claim that uses the ‘comprising’ transition. A competitor could avoid literally infringing the ‘consisting of’ claim by simply reproducing the claimed device and adding to it a non-claim-recited element. For this reason, patent applicants generally file their applications with broad ‘comprising’ claims and only narrow the claims by amending the ‘comprising’ transition to a ‘consisting of’ transition when absolutely necessary for allowance.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.02[B][2] (Wolters Kluwer 2016)(footnotes deleted; original emphasis)

The point is reiterated in a subsequent section of the Mueller treatise: ““The ‘consisting essentially of’ transition is most commonly used when claiming chemical compositions and can be thought of as creating a partially closed claim. A ‘consisting essentially of’ transition means that the claim is closed *except for the addition of any elements that do not change the essential function or properties of the composition.*” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.02[B][3] (Wolters Kluwer 2016)(footnotes deleted)(original emphasis)

§ 12[c] The Elements to Distinguish the Prior Art

The Elements represent the heart of the claim is the recitation of the elements which, taken together, must establish novelty and nonobviousness over the prior art.

§ 12[d] Preamble vs. Elements to Distinguish the Prior Art

If a critical limitation necessary to distinguish the prior art is found in the preamble that is not clearly stated in the recitation of elements, a claim interpretation *in a District Court* could very well lead to a conclusion *either* that the feature is not a limitation (leading to an invalidity ruling) *or* that that the feature *is* a limitation (leading to a ruling sustaining the patent). But, in either case, the issue is highly fact dependent and subject to an amorphous body of case law traced to *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 868 F.2d 1251 (Fed.Cir.1989). No matter which answer would be given in a District Court, *both* answers often would be *reasonable*.

In a patent trial at the Patent Trial and Appeal Board, all that is necessary to invalidate a patent in this setting is a determination that the claim is *not* limited by the preamble as the “broadest reasonable interpretation” rule used at the Patent Office. *See* § 5[f], *Cabining the “Broadest Reasonable Interpretation”*

Determination whether a preamble constitutes a limitation to the scope of a claim is a fact-dependent issue: “Whether to treat a preamble term as a claim limitation is ‘determined on the facts of each case in light of the claim as a whole and the invention described in the patent.’” *American Med. Sys. Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir., 2010)(Bryson, J.)(quoting *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 831 (Fed.Cir.2003)). ““No litmus test \defines when a preamble limits claim scope.” *Catalina Marketing Intern. v. Coolsavings.Com*, 289 F.3d 801, 808 (Fed. Cir., 2002), quoting *Corning Glass*, 868 F.2d at 1257); *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1347 (Fed. Cir., 2002)(Prost, J.)(same).

As explained in *Applied Materials*, “[w]hether a preamble stating the purpose and context of the invention constitutes a limitation of the claimed process is *determined on the facts of each case* in light of the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history.” *Catalina Marketing Intern. v. Coolsavings.Com*, 289 F.3d 801, 808 (Fed. Cir., 2002)(quoting *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1572-73 (Fed.Cir.1996))(emphasis added). Thus, “[w]hether to treat a preamble as a limitation is a determination ‘resolved only on review of the entire[] ... patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.’” *Id.* (quoting *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed.Cir.1989)). In addition to the fact-specific nature of the inquiry, the guidance

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offered by the Federal Circuit is quite flexible and laced with generalities: “In general, a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim.” *Id.* (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed.Cir.1999)). Query: Precisely what, in legal terms, is meant by the “life, meaning, and vitality” of a claim?

§ 12[e] A Critical Distinguishing Feature should be an Element of the Body

Where a feature of the inventor’s combination is critical to the patentability of that combination, the safe approach is to include that feature as an element in the body of the claim – whether or not it is also a part of the preamble. Thus, whether a preamble is an actual limit to the scope of a claim is not always easy to predict when judged in the hindsight vision of a patent trial. Where a particular feature is a necessary limitation to the scope of a claim to preserve its validity, the safe approach is to include that feature as one of the elements in the body of the claim. The problematic nature of presenting a feature only in the preamble is explained by Professor Mueller:

“The general rule (subject to many exceptions) is that preamble language is *not* limiting. Where the body of the claim (i.e., the language following the transition) recites a structurally complete invention and the preamble language states only an intended purpose or use for that invention, the preamble language is generally not limiting. Language that appears only in the preamble of a claim, not repeated or referred to in the body of the claim, is less likely to be held a limitation of the claim. A similar result obtains when preamble language is considered merely laudatory.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.02[A][2] (Wolters Kluwer 2016)(footnotes deleted; original emphasis).

§ 13. *Pennwalt* “All Elements” Claim Drafting Rule

The “all elements” rule has been a fixture of American patent law since the nineteenth century when formal claims were introduced. It has been a bedrock principle of the Federal Circuit since *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987) (en banc),

The “all elements” rule is explained in *TecSec, Inc. v. IBM Corp.*, 731 F.3d 1336 (Fed.Cir. 2013)(Reyna, J., dissenting). Thus:

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“Under the ‘all elements’ rule, the accused device must contain each limitation of the claim, either literally or by an equivalent, to be infringing. *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1379 (Fed. Cir. 2008) (quoting *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005)). Most often, the ‘all elements’ rule serves to prevent vitiation of a claim limitation when the infringement theory is based on the doctrine of equivalents, but that is not the case here. *Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1355 (Fed. Cir. 2010) (quoting in *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 39 n.8 (1997)); see also *TIP*, 529 F.3d at 1379; *Freedman*, 420 F.3d at 1358; *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949-50 (Fed. Cir. 1987) (en banc) (Nies, J., additional views). Relevant to this case, literal infringement ‘occurs when every limitation recited in the claim appears in the accused device, i.e., when ‘the properly construed claim reads on the accused device exactly.’ *Demarini Sports v. Worth*, 239 F.3d 1314, 1331 (Fed. Cir. 2001) (quoting *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996)).”

TecSec, 731 F.3d at 1351 n.2.

The “all elements” rule is quite simple. If an invention has parts [A], [B] and [C], a claim reciting *all* of the elements [A], [B] and [C] is directly infringed *only* if the competitor practices the same invention with *all* of the elements [A], [B] and [C].

This means that if element [B] is *not* critical to the invention, a third party may avoid the patent entirely simply by practicing the otherwise same invention with only elements [A] and [C] with deletion of the nonessential element [B].

Thus, contrary to the wishful thinking of some, if there is a claim to a combination of elements that includes an “unimportant” element that does not impact the overall result of an invention, a finding of infringement requires that “all elements” be present. There is no basis to find infringement where a competitor precisely copies the “gist” of the invention and the “important” elements *if any unimportant element of the claimed combination (or its equivalent) is eliminated*.

§ 13[a] Nineteenth Century Foundation of the “All Elements” Rule

There is a rich history of precedent more from more than one hundred years ago that established the rule. Justice Story applied the “all elements” rule nearly 200 years ago in *Barrett v. Hall*, 2 F.Cas. 914 (No. 1047)(D. Mass. 1818)(Story, J.). Justice Story explained that “the patent [is] for the combination only[;] it is no infringement of the patent to use any of the machines separately, if the whole combination be not used; for in such a case the thing patented is not the separate machines, but the combination; and the statute gives no remedy, except for a violation of the thing patented.” *Barrett v. Hall*, 2 F.Cas. at 924.

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To be sure, a narrow focus on Federal Circuit precedent is basis to imagine that the doctrine should be traced to *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed.ir.1987) (*en banc*)(Bissell, J.).

Yet, a simple review of *Pennwalt* manifests numerous cases from the Supreme Court each dating back more than one hundred years. *See Pennwalt*, 833 F.2d at 949-51 (Nies, J., additional views)(citing *Prouty v. Draper*, 41 U.S. (16 Pet.) 335 (1842); *Brooks v. Fiske*, 56 U.S. (15 How.) 211, —219 (1853); *Vance v. Campbell*, 66 U.S. (1 Black) 427, 429 (1861); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79 (1864); *Gould v. Rees*, 82 U.S. (15 Wall.) 187 (1872); *Dunbar v. Myers*, 94 U.S. (4 Otto) 187, 202 (1876); *Water-Meter Co. v. Desper*, 101 U.S. (11 Otto) 332, 335-37 (1879); *Case v. Brown*, 69 U.S. (2 Wall.) 320, 327-28 (1864); *Gill v. Wells*, 89 U.S. (22 Wall.) 1, 26-30 (1874); *Fuller v. Yentzer*, 94 U.S. (4 Otto) 288, 297 (1876); *Gage v. Herring*, 107 U.S. (17 Otto) 640, 648 (1882); *Fay v. Cordesman*, 109 U.S. 408, 420-21 (1883); *Rowell v. Lindsay*, 113 U.S. 97, 102 (1885); *Sargent v. Hall Safe & Lock Co.*, 114 U.S. 63, 86 (1885); *Brown v. Davis*, 116 U.S. 237, 252 (1886); *Yale Lock Mfg. Co. v. Sargent*, 117 U.S. 373, 378 (1886); *McClain v. Ortmayer*, 141 U.S. 419, 425 (1891); *Wright v. Yuengling*, 155 U.S. 47, 52(1894); *Black Diamond Coal Mining Co. v. Excelsior Coal Co.*, 156 U.S. 611, 617-18 (1895); *Cimiotti Unhairing Co. v. American Fur Ref. Co.*, 198 U.S. 399, 410 (1905)).

More than twenty years after Justice Story spoke in *American Fur Ref. Barrett v. Hall*, he once again explained the “all elements” rule:

“The plaintiffs' patent is for an entire combination of all the three things, and not for a combination of any two of them. A patent for a combination of A, B and C, cannot be technically or legally deemed at once a combination of A, B and C, and of A and B alone.”

Prouty v. Draper, 20 F.Cas. 11, 12 (No. 11,446) (D. Mass. 1841)(Story, J.), *aff'd*, 41 U.S. (16 Pet.) 336 (1842)(Taney, C.J.).

The Supreme Court in the *Eames* case rephrased the test for infringement: “[T]here is no infringement of a patent which claims mechanical powers in combination unless all the parts have been substantially used. The use of a part less than the whole is no infringement.” *Eames*, 68 U.S. (1 Wall.) at 79 (1864).

Fifteen years later the doctrine was once again explained: “It is a well-known doctrine of patent law, that the claim of a combination is not infringed if

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any of the material parts of the combination are omitted. ***” *Water-Meter v. Desper*, 101 U.S. (11 Otto) at 335-37.

§ 13[b] *Pennwalt* Refinement of the “All Elements” Rule

Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931 (Fed. Cir. 1987) (en banc), is the leading case from the Federal Circuit on the “all elements” rule.

The implications of the *Pennwalt* “all elements” rule may be seen from the following hypothetical discussion based upon actual claim 1 of the case itself:

“1. An automatic sorting apparatus comprising

“[1] conveyance means for transporting a plurality of items to be sorted along a track and having individual cups for transporting each said item, said individual cups being connected in a continuous belt,

“[2] electronic weighing means incorporated into a portion of said track for generating a signal proportional to the weight of said item to be sorted,

“[3] reference signal means for providing a predetermined number of reference signals, the value of each signal established according to a predetermined criteria,

“[4] comparison means for comparing the signal generated by said electronic weighing means to the reference signals provided by said reference signal means,

“[5] clock means for incrementally signalling changes in position of an item to be sorted,

“[6] first position indicating means responsive to the signal from said clock means and the signal from said comparison means for generating a signal indicative of the position of the item to be sorted, and

“[7] discharge means responsive to the signal generated by said position indicating means for discharging the item to be sorted at a predetermined position.”

If one as an initial draftsman is putting together a case for a fruit sorter as in *Pennwalt*, is this claim too broad? Too narrow? The answer depends upon the state of the prior art and the purpose of the claim. If the only patentable novelty of the invention is found in the combination of all seven elements, then the claim is as broad as can be drafted.

But, if it appears on drafting the application that a fruit sorter with element [2], *alone*, establishes patentable novelty, then the claim is far too narrow *as a generic claim*. (Then, the generic claim should cover only the fruit sorter with the improvement of element [2].) But, if the object is to capture a copyist who is

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providing a fruit sorter *with all seven elements*, then claim 1 is far better than any broader claim: It will be far easier to defend against an invalidity attack because the narrower the claim the more difficult it will be to establish.

§ 13[c] *Pennwalt*, Recent Case Law

The “all elements” rule of *Pennwalt* reflects the decisional law of the Supreme Court. See *Unidynamics Corp. v. Automatic Products Intern., Ltd.*, 157 F.3d 1311, 1322 (Fed. Cir. 1998)(Rich, J.)(referring to “the Supreme Court's all-elements rule as enunciated in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997)[.]”). As explained by a former Chief Judge of the Federal Circuit in *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581-82 (Fed. Cir. 1996)(Michel, J.):

“As we have often observed, *** the doctrine of equivalents is not a license to ignore or ‘erase ... structural and functional limitations of the claim,’ limitations ‘on which the public is entitled to rely in avoiding infringement.’ *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1532 (Fed.Cir.1987). Liability for infringement thus requires, without exception, that an accused product contain each limitation or its equivalent [which principle has been called the ‘all limitations’ or ‘all elements’ rule.] *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 398 (Fed.Cir.1994); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935 (Fed.Cir.1987) ([e]n banc)[.]”

§ 13[d] *Pennwalt* “All Elements” Claim Rule in Actual Practice

The *Pennwalt* rule has already been discussed in the context of traditional mechanical technologies earlier in this paper. As an introduction to the challenges of the “all elements” rule, there are tradeoffs that must be weighed in determining how many, and *which*, elements should be included in the claim. The more elements the greater the strength of the patent as to validity, but also the greater the likelihood of creating a blueprint to noninfringement. Thus, drafting the generic claim to an invention with a combination of elements presents a very delicate balancing act. On the one hand, the more elements that are recited in the claim, the stronger the claim is from a standpoint of patent validity. On the other hand, the more elements presented in the claim the weaker the enforcement prospects because a competitor who copies the invention except for deletion of one of the elements is free from infringement under the “all elements” rule. The dilemma is explained by Professor Mueller:

“The body of a patent claim recites all elements of the invention and should specify how the elements are related to or interact with each other. For example, consider a claim reciting ‘the widget comprising A, B, and means for attaching A to B.’ The body of this claim is all the words following the ‘comprising’ transition. Thus, the body recites

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three elements: element A, element B, and a 'means' element (explained below) that functions to attach element A to element B.

"No minimum or maximum number of elements must be included in the body of a patent claim; however, a sufficient number of elements must be included to recite an invention that is novel, nonobvious, and useful. The device as claimed must be operable; that is, it must work. So long as these conditions are met, it is permissible to claim 'subcombination' inventions that are some subset of a larger device. For example, automobile carburetors, tires, and headlights are subcombination inventions because they consist of major subassemblies of parts and have their own utility.

"Deciding how many elements to include in the body of a patent claim requires a tradeoff that balances the patent owner's ability to enforce the claim against infringers with the likelihood that the claim will withstand a challenge to its validity. Both concepts turn on the scope of the claim. It is axiomatic that the more elements included in a claim, the narrower its scope, and the fewer elements included, the broader its scope. For example, a claim reciting 'a widget comprising elements A, B, and C' is narrower in scope than a claim reciting 'a widget comprising elements A and C.'

"This difference in scope follows from the all-elements rule ***. In summary, the all-elements rule requires that to find that an accused device infringes a particular asserted claim of a patent, every element (more properly, every *limitation*) recited in the claim must be met (i.e., matched) either literally or equivalently in the accused device. Thus, as more elements are added to a claim, it will be progressively more difficult to prove infringement of that claim because each recited element must be present in the accused device.

* * *

"Determining the optimal scope of a claim is a tradeoff because its exclusionary scope must be balanced against its sustainable validity. In other words, the scope of a patent claim should not be determined in isolation from consideration of its validity. A claim that is relatively broader, in that it is enforceable against a greater number of accused devices, is correspondingly easier to invalidate for lack of novelty or for obviousness. ***

"These relationships resolve to the following maxim favored by Judge Giles Rich:

"The strongest claims are the weakest, and the weakest claims the strongest.' [Giles S. Rich, *How Systematic Is the Patent System?*, 57 J. PAT. OFF. SOC'Y. 696, 704 (1975).]

"This maxim simply means that the claims that are broadest in scope (i.e., the 'strongest' in terms of potential enforcement against the greatest possible number of accused devices) are also the most vulnerable to invalidation by the prior art, and vice versa."

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.02[C]
(Wolters Kluwer 2016)(footnotes deleted)

§ 13[d][1] “Minimum Elements” Rule, Flip Side of the “All Elements” Rule

The minimum number of elements *necessary* to define novelty and nonobviousness should be set forth in the generic claim. This is just another way of saying that the “all elements” rule of the *Pennwalt* case mandates a conclusion of noninfringement if one of the elements of a claim is missing in the accused embodiment.

Thus, fundamental to any understanding of *why* there should be claims to a limited number of elements of a combination is a detailed appreciation for the nuances of the *Pennwalt* case.

§ 13[d][2] Value of Having both Broad *and* Narrow Claims

The narrow claim in *Pennwalt* the may be valuable against a competitor who is copying *all* elements of that claim. This claim will be better than a generic claim in an enforcement proceeding because it is more difficult to invalidate a very specific claim with many elements than a broader claim. Yet, the broad claim is also important to guard against a copyist who wants to modify the technology to avoid the claims.

§ 13[d][3] *Limelight* Single Actor Performs “All Elements”

Limelight Networks, Inc. v. Akamai Techs., Inc., 134 S. Ct. 2111 (2014), *subsequent proceedings, Akamai Techs., Inc. v. Limelight Networks, Inc.*, 805 F.3d 1368 (Fed. Cir. 2015)(Linn, J.), demonstrates the need to pay careful attention to the “all elements” rule in the context of internet claiming.

It is taken for granted in traditional technologies that a claim to a combination of elements is *directly* infringed a single actor. For example, if there is a Widget that has parts [a], [b] and [c], and the claim calls for the combination of elements [a], [b] and [c] the wholesaler, the manufacturer and the end user each practices the patented combination by making, using or selling the combination.

The situation gets tricky in the case of an internet process claim where a claim to a combination of steps may involve multiple parties. For example, Customer [A] may enter a series of keystrokes at Remote Terminal T₁ that sends an electronic signal to Headquarters Terminal T₂ which houses a central computer that “crunches” the information that then results in an instantaneous transmission from Headquarters Terminal T₂ to Customer [A] at Remote Terminal T₁:

In narrative fashion we have the situation:

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Step One: Customer [A] enters a series of keystrokes at Remote Terminal T1 to Headquarters Terminal T2

Step Two: Headquarters Terminal T2 electronically sends information to Customer [A] at Remote Terminal T1.

If one now crafts a claim as a narrative of what happens in this process there is no single actor performing “all elements” of process.

Narrative Claim:

A process which comprises:

- (a) Customer [A] enters a series of keystrokes at Remote Terminal T1 to Headquarters Terminal T2 ; and
- (b) Headquarters Terminal T2 electronically sends information to Customer [A] at Remote Terminal T1.

Here, each party performs one step but not all steps of the claimed invention so there is no single direct infringer. Instead, the claim must be reworked so that a single actor performs all steps of the claim.

Single Actor (Customer [A]) Claim: A process which comprises:

- (a) Customer [A] enters a series of keystrokes at Remote Terminal T1 to Headquarters Terminal T2 ; and
- (b) Customer [A] at Remote Terminal T1 receives electronic information from Headquarters Terminal T2 .

Now, we have Customer [A] as a direct infringer who performs all steps of the claimed invention. Liability attaches to the Headquarters for active inducement under 35 USC § 271(b).

Single Actor (Remote Terminal T1) Claim:

A process which comprises:

- (a) Headquarters Terminal T2 electronically receives from Customer [A] a series of keystrokes from Remote Terminal T1 ; and
- (b) Headquarters Terminal T2 electronically sends information to Customer [A] at Remote Terminal T1..

Which of the two claims is better? Which should be chosen?

The answer is that both sets of claims should be chosen.

Both parties can now be found liable for direct infringement.

That *Limelight* is, indeed, really a question of the “all elements” rule is explained by Circuit Judge Linn:

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Direct infringement liability requires that one actor performs each and every element or step of a claim. See *Aro [Mfg. Co. v. Convertible Top Replacement Co.]*, 365 U.S. 336, 340 (1961)] (“The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly.” (quoting *Mercoide I*, [*Mercoide Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 667 (1944)])). Unlike indirect infringement under § 271(b) and (c), which both require a certain mens rea, *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S.Ct. 2060, 2068 (2011), under § 271(a), direct infringement is a strict-liability offense, *id.* at 2065 n. 2 (“Direct infringement has long been understood to require no more than the unauthorized use of a patented invention.... [A] direct infringer’s *knowledge or intent is irrelevant.*” (emphasis added)). Because of the strict-liability nature of direct infringement, this court has limited direct infringement liability “to those who practice each and every element of the claimed invention,” *BMC [Resources, Inc. v. Paymentech, L.P.]*, 498 F.3d 1373, 1381 (Fed.Cir.2007)], i.e., the “single entity rule.” See *Cross Med. Prods. v. Medtronic Sofamor Danek*, 424 F.3d 1293, 1311–12 (Fed.Cir.2005) (applying the single entity rule).

The single entity rule, consistent with the statute, protects an actor who practices less than all elements of a claim—i.e., does not practice the “patented invention”—from direct patent infringement liability.

The legislative history supports the single entity rule for direct infringement. Congress enacted § 271 to clarify the scope of *indirect infringement*, and in so doing, “left intact the entire body of case law on direct infringement.” *Aro*, 365 U.S. at 342. When the Supreme Court held in *Aro* that § 271(a) did not change the law of direct infringement, the Court was referring to the single entity, all elements rule of direct infringement that was “well settled” in 1952. See *Wallace v. Holmes*, 29 F. Cas. 74, 80 (C.C.D.Conn.1871) (“The rule of law invoked by the defendants is this—that, where a patent is for a combination merely, it is not infringed by one who uses one or more of the parts, but not all, to produce the same results.... *This rule is well settled, and is not questioned on this trial.*” (emphasis added)).

Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1347 (Fed. Cir. 2012)(en banc)(Linn, J., joined by Dyk, Prost, O’Malley, JJ., dissenting), *rev’d*, *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111 (2014), *subsequent proceedings*, *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111 (2014), *subsequent proceedings*, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 805 F.3d 1368 (Fed. Cir. 2015)(Linn, J.).

§ 13[d][4] Japanese Leadership on the *Limelight* Issue

The *Limelight* issue may have been new to domestic circles but much earlier there had been extensive discussions of the issue in Japan. Comparative studies date back to the writer’s participation in 2001 SOFTIC Symposium, an

international conference held in Tokyo just after the turn of the century, hosted by a quasi-governmental group, SOFTIC. The symposium included a detailed study of the question of infringement of multi-step internet method claims involving the participation of differing parties. It featured members of the judiciary including the Hon. Jan H.P. Willems, Judge, Boards of Appeal, European Patent Office and former Circuit Judge Randall R. Rader Federal Circuit; several leading Japanese authorities, Yoshio Kumakura, Attorney at Law; Shigeo Takakura, then-Director, Japan Patent Office; Masato Doauchi, Professor of Law, Tokyo University; and Naoki Mizutani, Attorney at Law; as well as American lawyers, David J. Kappos, then Assistant General Counsel, IBM Asia/Pacific; and this writer.

The discussion of joint infringement is reported in the Proceedings (pp. 82-100) on the SOFTIC website. The background for the issue of “all elements” infringement of multi-step internet method claims is available on the same website. H. Wegner, *E-Business Patent Infringement: Quest for a Direct Infringement Model*.

§ 13[e] Simple Claims to an Element or Small Subcombination

§ 13[e][1] Search for the Key Element

In an ideal situation, *one* element of the invention will be critical to distinguish the invention from the prior art. If this one element is also *critical* to practice of the invention, then this is the key single element that must be claimed *as such*. Then, anyone modifying the invention who nevertheless retains the use of this one element will be an infringer.

§ 13[e][2] Generalization of the Key Feature

Even if the key element is found in a single claim, standing alone, this is not sufficient for literal protection if there are equivalents that can be practiced. If an element can be *generalized* then “claim 1” should be thusly generalized. For example, if there is a “screw” that is part of a patentable element, it is advisable to have claim 1 refer to a “fastener” with a screw being in a subclaim.

§ 13[e][3] A Reasonable Number of Subclaims

Each claim is independently enforceable, so that if “claim 1” is found invalid then “claim 2” may be independently enforced. It is therefore important to have claims drafted that cover commercially important areas that have some basis for enforcement independent from claim 1.

§ 13[e][4] Features Establishing Independent Basis for Patentability

If there are plural features of the principal embodiments that *each* establish nonobviousness of an invention, then the patentee with a “claim 2” that has this additional strength will have a better chance of successful enforcement against the user of a “claim 2” embodiment.

§ 13[e][5] Commercial Embodiments, *Per se*, and Unexpected Results

Often, the commercial embodiment has unexpected results that may tilt the balance in favor of patent validity. If a claim is not *limited* to that commercial embodiment, it is possible that the patentee may not be able to most effectively rely upon the unexpected results to confirm the validity of the claim in litigation.

All limitations that are *necessary* to distinguish over the prior art should be found as an element (or elements) which follow the transition.

§ 13[f] “Markush” Generic Definitions of Claim Elements

Professor Mueller provides an overview to Markush claiming:

“The *Markush* claiming format, which was officially sanctioned at least as early as a 1925 Patent Office decision[, *Ex parte Markush*, 1925 Dec. Comm'r Pat. 126, 340 Off. Gaz. Pat. Office 839 (1925)], is used primarily in claiming chemical and biotechnological inventions. However, it is not limited to that subject matter. ‘*Markush* groups’ are typically used to claim a class of chemical compounds in terms of a structural formula, where a given substituent of the compound can be selected from among a customized list (i.e., an artificial genus) of alternatives, each of which will result in a compound having the same asserted utility. More generally, a *Markush* group has been described as ‘a sort of homemade generic expression covering a group of two or more different materials (elements, radicals, compounds, etc.), mechanical elements, or process steps, any one of which will work in the combination claimed.’

“As suggested by the phrase ‘homemade generic expression,’ the use of *Markush* groups arose out of necessity. When no-preexisting, scientifically recognized genus exists to identify the various alternative materials that will work in a particular invention, it would be unfair not to allow a patent applicant to create her own ‘artificial’ genus. * * *

“ Proper [Markush claim] drafting practice is to list the members of the genus as selected from the group ‘consisting of,’ using the closed ‘consisting of’ transition rather than the open-ended ‘comprising.’ There is no set number of species that must be included in a *Markush* grouping. Moreover, it is permissible that the various species recited in a *Markush* group have different chemical or physical properties, so long as each one, when substituted in the claimed composition, results in a product having the same asserted utility.”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.05[D] (Wolters Kluwer 2016)(footnotes deleted)

§ 14 Jepson (“Improvement”) Claims

A “Jepson claim” is a combination claim to focus on a novel improvement. The terminology stems from the petitioner in the *Jepson* case nearly a century ago. *Ex parte Jepson*, 1917 Com’r .Dec. 62 (Ass’t.Comm’r.Pat.1917). The Jepson claim has three parts, *first*, a preamble describing the prior art; *second*, a transition phrase (e.g., “wherein the improvement comprises”); and *third*, the elements of the invention constituting the improvement.

A balanced perspective of Jepson claiming is provided by Professor Mueller:

“The *Jepson* claiming format which takes its name from a 1917 Patent Office decision, [*Ex parte Jepson*, 1917 Dec. Comm’r Pat. 62, 243 Off. Gaz. Pat. Office 526 (1917),] is most frequently used in the claiming of mechanical inventions (but is not limited to that subject matter). The *Jepson* format, or variations thereof, is often encountered in foreign patent practice. A *Jepson* claim includes a preamble that begins with the word ‘in’ and ends with the phrase, ‘an improvement comprising’ or ‘the improvement comprising...’ *Jepson* claims are frequently used ‘when there is an improvement in one or more elements of an otherwise old and unchanged combination, or if one or more new elements are added to an old combination.’ USPTO regulations recognize the *Jepson* format.

“*Jepson* claims are understood to impliedly admit that anything recited in the preamble of the claim is in the prior art. Although preamble language *Jepson* claims are understood to impliedly admit that anything recited in the preamble of the claim is in the prior art. Although preamble language in patent claims is not necessarily limiting, the language in a *Jepson* claim's preamble is generally considered to be limiting. This is because the patentee's choice of a *Jepson* format is seen as an indication of intent to use the preamble to define, in part, the structural features of the claimed invention.”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § § 2.05[C]
(Wolters Kluwer 2016)(footnotes deleted)

§ 14[a] PTO Sanctioned Claim Format

The Jepson claim has been codified in the *Rules of Practice in Patent Cases* as 37 CFR § 1.75(e):

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“Where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order:

“(1) A *preamble* comprising a general description of all the elements or steps of the claimed combination which are conventional or known,

“(2) A [*transition*] *phrase* such as “wherein the improvement comprises,” and

“(3) Those elements, steps, and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.”

As stated in the *Manual*: “[t]he form of claim required in 37 CFR 1.75(e) is particularly adapted for the description of improvement-type inventions. It is to be considered a combination claim. The preamble of this form of claim is considered to positively and clearly include all the elements or steps recited therein as a part of the claimed combination.” MPEP § 608.01(m), *Form of Claims*.

§ 14[b] Jepson Preamble as an Admission of Prior Art

“[In *In re Fout*, 675 F.2d 297, 300, 301 (CCPA 1982)], an applicant's admission of actual knowledge of the prior invention of another, which was described in the preamble of a Jepson claim, was held to constitute an admission that the described invention was prior art to the applicant.” *Riverwood Int'l Corp. v. R. A. Jones & Co.*, 324 F.3d 1346, 1354 (Fed. Cir. 2003)(Linn, J.).

As explained by the Patent Office the Jepson preamble is viewed as an admission of prior art status for everything stated in the preamble:

“Drafting a claim in Jepson format (i.e., the format described in 37 CFR 1.75(e); see MPEP § 608.01(m)) is taken as an implied admission that the subject matter of the preamble is the prior art work of another. *In re Fout*, 675 F.2d 297, 301 (CCPA 1982) (holding preamble of Jepson-type claim to be admitted prior art where applicant's specification credited another as the inventor of the subject matter of the preamble). However, this implication may be overcome where applicant gives another credible reason for drafting the claim in Jepson format. *In re Ehrreich*, 590 F.2d 902, 909-910 (CCPA 1979) (holding preamble not to be admitted prior art where applicant explained that the Jepson format was used to avoid a double patenting rejection in a co-pending application and the examiner cited no art showing the subject matter of the preamble). Moreover, where the preamble of a Jepson claim describes applicant's own work, such may not be used against the claims. *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 650 (Fed. Cir. 1984) ; *Ehrreich*, 590 F.2d at 909-910.” MPEP § 2129, *Admissions as Prior Art*, ¶ III, *Jepson Claims*.

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Pentec, Inc. v. Graphic Controls Corp., 776 F.2d 309 (Fed. Cir. 1985)(Markey, C.J.), provides an explanation where the Jepson claim form was used:

[The patentee] contends that the district court did not consider the claimed invention as a whole pursuant to § 103, see *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 785, 218 U.S.P.Q. (BNA) 698, 700 (Fed. Cir. 1983), i.e., that the court ... improperly separated the preamble from the improvement clause of the Jepson claim. Although a preamble is impliedly admitted to be prior art when a Jepson claim is used, see *In re Ehrreich*, 590 F.2d 902, 909-10 (CCPA 1979); 37 C.F.R. § 1.75(e)(1984), unless the preamble is the inventor's own work, *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 649, 223 U.S.P.Q. (BNA) 1168, 1172 (Fed. Cir. 1984), the claimed invention consists of the preamble in combination with the improvement, see Manual of Patent Examining Procedure § 608.01(m) (5th ed. 1983).

Pentec v. Graphic Controls, 776 F.2d at 315 (citations omitted).

§ 14[c] Negative Impression on the Scope of Patentability

Even without considering whether the preamble of a Jepson claim is an admission of prior art status for the preamble, the Jepson claim format suggests a narrow improvement invention.

Consider the following scenario where the invention consists of elements A, B, C, D and E and the improvement is the provision of element Dⁱ.

A traditional (non-Jepson) claim would read, for example:

“A combination which comprises:

- (a) Element “A”;
- (b) Element “B”;
- (c) Element “C”;
- (d) Element “Dⁱ”; and
- (e) Element “E”.

Now, consider a Jepson claim to the same invention:

In the combination of elements “A”, “B”, “C”, “D” and “E”, the improvement which comprises “Element D” being Element “Dⁱ”.

To a lay patent person (e.g., a typical trial judge without patent background) the superiority of the regular (non-Jepson) claim should be apparent. Noted

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Professor Janice Mueller counsels the patent draftsman to “[t]ry to avoid *Jepson* ... claims. Patent examiners understand what ... specialized claiming formats signify, but judges and juries will not. A long *Jepson*-format preamble only furthers the impression that the claimed subject matter is merely a minor addition to old technology rather than a pioneering advance entitled to broad protection.” Janice M. Mueller, *Crafting Patents For The Twenty-First Century: Maximize Patent Strength and Avoid Prosecution History Estoppel in a Post-Markman/Hilton Davis World*, 79 J. Pat. [& Trademark] Off. Soc’y 499, 504 (1997)

§14[d] An Examiner Favors the Jepson Claim Format

As seen from the example shown in the previous section, it is far, far easier for the Examiner to search and examine a Jepson claim than a regular three part (non-Jepson) claim. Currying favor with the Examiner comes at a price: Do the admissions created by the Jepson preamble make it more difficult to obtain grant of a patent on the merits of nonobviousness of the invention? Will the admissions served to destroy the nonobviousness of an invention in a trial court litigation? It is, of course, easy to see that the Examiner will invariably favor presentation of a Jepson claim. A professor with many years of experience in the classroom concludes that “[e]xperience teaches [Examiners] that Jepson claims are far more readily parsed and compared to prior art than other claim formats.” John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform*, 17 Berkeley Tech. L.J. 727, 756 (2002).

§14[e] European “Characterized by” (*dadurch gekennzeichnet*) Claims

The German “dadurch gekennzeichnet” or “characterized by” claim of the European Patent Office has seeming similarities to the Jepson claim.

It is dangerous to look to superficial similarities and then conclude that the same claim form is used in Europe and the United States.

§14[e][1] European “Two Part” Claim is Different from Jepson

There are clear differences between the various American “Jepson” claim form and the European “two part” or “characterized by” claim. Specific provision for the European “two part” claim is found in EPO Rule 43(1):

“The claims shall define the matter for which protection is sought in terms of the technical features of the invention. Wherever appropriate, claims shall contain:

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“(a) a statement indicating the designation of the subject-matter of the invention and those technical features which are necessary for the definition of the claimed subject-matter but which, in combination, form part of the prior art;

“(b) a characterising portion, beginning with the expression ‘characterised in that’ or ‘characterised by’ and specifying the technical features for which, in combination with the features stated under sub-paragraph (a), protection is sought.”

The European practice is explained by the European Patent Office in its official guidelines:

“Rule 43(1)(a) and (b) define the two-part form which a claim should have ‘wherever appropriate’. The first part should contain a statement indicating ‘the designation of the subject-matter of the invention’ i.e. the general technical class of apparatus, process, etc. to which the invention relates, followed by a statement of ‘those technical features which are necessary for the definition of the claimed subject-matter but which, in combination, are part of the prior art’. This statement of prior-art features is applicable only to independent claims ***. It is clear from the wording of Rule 43 that it is necessary only to refer to those prior-art features which are relevant to the invention. For example, if the invention relates to a photographic camera but the inventive step relates entirely to the shutter, it would be sufficient for the first part of the claim to read: ‘A photographic camera including a focal plane shutter’ and there is no need to refer also to the other known features of a camera such as the lens and view-finder. The second part or ‘characterising portion’ should state the features which the invention adds to the prior art, i.e. the technical features for which, in combination with the features stated in sub-paragraph (a) (the first part), protection is sought.

“If a single document in the state of the art according to Art. 54(2), e.g. cited in the search report, reveals that one or more features in the second part of the claim were already known in combination with all the features in the first part of the claim and in that combination have the same effect as they have in the full combination according to the invention, the examiner should require that such feature or features be transferred to the first part. Where, however, a claim relates to a novel combination, and where the division of the features of the claim between the prior-art part and the characterising part could be made in more than one way without inaccuracy, the applicant should not be pressed, unless there are very substantial reasons, to adopt a different division of the features from that which he has chosen, if his version is not incorrect.

“If the applicant insists on including more features in the preamble than can be derived from the closest available prior art, this should be accepted. If no other prior art is available, such a pre-characterising portion could be used to raise an objection on the ground of lack of inventive step.”

Guidelines for Examination, Part F, Ch. IV, § 2.2, Two-part form (European Patent Office 2015)(http://www.epo.org/law-practice/legal-texts/html/guidelines/e/f_iv_2_2.htm)

§ 14[e][2] Japan Usage of Improvement Claims

It has been suggested that a United States priority application for purposes of a later Japan Paris Convention filing one should provide claims in the European *dadurch gekennzeichnet* (“characterized by”) or the American “Jepson claim” form, because (under this theory) this will pave the way for usage of such formats particularly for Japan.

According to the Japan Patent Attorneys Association neither the use of the European *dadurch gekennzeichnet* (“characterized by”) nor the American “Jepson claim” will provide a broader scope of protection in a patent infringement litigation vis a vis a traditional claim format:

“There is no particularly preferred claim format [in Japan]. Even if a Jepson type claim format is used, the technical scope of the claim must be determined with consideration of the preamble, since the preamble constitutes a part of the invention. There is no difference in the scope of protection of claims between different types of claims. There would be no form which is more easily interpreted by the court.”

Kenji Asai, Kanji Fujiyoshi, Fujihiro Kanda, Shuhei Katayama, Yoshihiko Kido, Shinichi Kimura, Hiroshi Kobayashi, Tomoya Kurokawa, Takao Matsui, Takanori Nakajima, Nobuyuki Nishikawa, Takeshi Nonaka, Toshiharu Ogawa, Makoto Onda, Yoko Sakuma, Takahisa Satoh, Yasumitsu Suzuki, Yukihisa Tamakushi, Yoshikazu Tani, Hitoshi Wada, Masashi Yanagida and Tamaki Yoshida, *Questions and Answers Regarding Japanese Patent Practice*, Answer A11 to Question 11: “Is one particular claim format (for example, European ‘characterized’ format, Jepson [claim], etc.) preferred to increase chances of an expanded claim interpretation in subsequent litigation?” , Japan Patent Attorneys Association, International Activities Committee (3rd ed. 2007).

§ 15. Claiming Patent-Eligible Subject Matter

The law of patent-eligibility is in a state of flux with the important case involving the genetic testing method of Sequenom on the verge of a decision whether to grant certiorari in a case styled as *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, Supreme Court No. 15-1182, *proceedings below sub nom Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015). A response to the petition is due April 20, 2016, after which a vote whether to grant *certiorari* is expected before the end of June when the current Term ends.

The *Question Presented* asks “[w]hether a novel method is patent-eligible where; (1) a researcher is the first to discover a natural phenomenon; (2) that unique knowledge motivates him to apply a new combination of known techniques

to that discovery; and (3) he thereby achieves a previously impossible result without preempting other uses of the discovery.”

“Inventive” applications of software and biotechnology innovations as well as diagnostic methods have come under special scrutiny under 35 USC § 101 through a series of cases denying patent-eligibility starting with *Bilski v. Kappos*, 561 U.S. 593 (2010)(software), and continuing with *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012)(diagnostic method); the *Myriad* case, *Ass'n for Molecular Pathology v. Myriad Genetics., Inc.*, 133 S. Ct. 2107, 2116 (2013)(DNA); and *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014)(software). Undoubtedly the most extreme denial of patent-eligibility based upon *dicta* in *Mayo* is *Ariosa Diagnostics, Inc. v. Sequenom, Inc., supra*.

The present chapter is provided as basis of drafting a patent application today, designed to be a test case challenging denials of patent-eligibility under Section 101. For a more direct, “how to”, approach to draft claims today with the goal of piggybacking off the results of test cases that are sure to come in the coming months and years, reference is made to § 1[b], *Technology-Specific Patent-Eligibility Challenges*, particularly §§ 1[b][1] – 1[b][3].

Most applicants do not wish to have their innovations become “test cases”. For such applicants, it must always be kept in mind that this book is focused upon drafting the first application “today” which – in the case of many areas of patent-eligibility concerns – will be first examined “tomorrow”, which means an examination under a new Administration that may very well have different policies on examination of subject matter now under attack on the basis of patent-eligibility under 35 USC § 101.

Perhaps just months from now, many changes may – or may not – take place in the time interval between the filing “today” and the examination “tomorrow”. See § 1[b][8], *New Approach in a New Administration in 2017* (discussing options open under a more patent-friendly Under Secretary of Commerce).

In view of the case law, how should one claim and provide supporting disclosure for innovative software that is considered “abstract”? For an invention involving a combination of elements including a product of nature? A derivative of a product?

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For a *first* patent application drafted “today”, it is important to draft a *disclosure* that will support a wide variety of claims that may be the most apt way of defining the invention based upon the evolving standards of patent-eligibility that will be in force through case law modifications “tomorrow”, the time three or so years down the road when the application will be first examined.

The Patent Office *does* provide guidance on patent-eligibility, but following such guidance for drafting a patent application is dangerous. Such guidance is relatively unimportant in drafting a specification “today”, because the case law is certainly in a fluid, moving shape that will change over time. In a sense, Patent Office guidance is a negative double whammy: To the extent that an applicant targets his specification and claims today to conform to Patent Office guidance and that guidance is *too liberal vis a vis* the case law, an opponent can challenge the grant at the Patent Trial and Appeal Board in a Post Grant Review. If the guidance is *too strict* an applicant following this guidance shortchanges his patent position. Therefore, attention is focused in this book on the statute, rules and case law, and not on such Patent Office guidance.

In considering patent-eligibility under 35 USC §101 it must be remembered that the focus of this book is on drafting a *first* filing, “today”, the likely priority application for a final application that will be examined “tomorrow”, several years from now. Even if this first filing turns out to be the *only* application that will be examined, the first action in the application is likely to take place three or more years down the road: At that time, “tomorrow”, the patent-eligibility law will undoubtedly be more moderate than the current state of the law where we may be at the point of the ultimate swing of the patent-eligibility pendulum to the dark side, away from patent-eligibility. Overall, in an historical overview of the law of patent-eligibility since the early seventeenth century Statute of Monopolies, the current mini-era of anti-patent challenges is just five years old, starting with the infamous Supreme Court *Bilski* decision: The pendulum *will* swing back, away from the extreme result recently reached in *Ariosa*. See § 15[a], *Patent-Eligibility Law in a State of Flux*.

Ariosa presents perhaps the best example where a claim *is* (or *should be* considered) patent-eligible, but falls short by a rigid interpretation of *dicta* in *Mayo*. The invention in *Ariosa* permits DNA testing of a fetus *without* invasive sampling of amniotic fluid: This is accomplished by drawing a maternal blood sample and *amplifying* its DNA content through polymerase chain reaction so that what would otherwise be a *de minimus* amount of DNA that could not be tested, instead permits DNA testing of the maternal blood for foetal DNA content. It is

impossible to consider the invention in *Ariosa* as anything short of pioneer, and most certainly a nonobvious invention or – in the words of the Supreme Court patent-eligibility cases – one that has an “inventive step”. Yet, dissecting the claims in *Ariosa* and following *Mayo* has led to a conclusion that the claims lack patent-eligibility under 35 USC § 101. Undoubtedly, if *Ariosa* were to gain *certiorari* the case would represent a strong challenge to the scope of *Mayo*. *Id.*

Given the uncertainties of how the law will evolve in the coming years, how should a specification be drafted today to account for such changes? In the context of drafting a first, priority filing, the challenge for “today” is to draft a first application that will be in a position for favorable examination “tomorrow”. As for any invention, it is important to identify an “inventive” feature – what is nonobvious under 35 USC § 103. Then, the disclosure for the application to be filed “today” should include every detail of the environment of that inventive feature. The immediate goal is to provide *support* for whatever claim may be best suited to the patent-eligibility law of “tomorrow”, at a time when the application will be examined and at a time when support will be needed for claims yet to be drafted. *See* § 15[b], *Disclosure “Today” as Basis for Claims “Tomorrow.”*

When drafting a claim where an element is either an “abstract” feature or is derived from a “natural” product it is important to provide basis for a combination keyed to an “inventive” feature, whether that is a specific element or subcombination or the invention “as a whole”. This will provide basis at a later date for drafting a combination claim that accentuates the inventive feature. *See* § 15[b][1], *Combination Definition Integrating an Inventive Feature*. The inventive feature should be integrated as an essential feature of the combination. *See* § 15[b][2], *Pinpointing the Inventive Feature in a Combination Claim*. Care must be taken to demonstrate the integral nature of a combination invention and to thus focus on the inventiveness – nonobviousness – of the claimed invention *as a whole*. *See* § 15[b][3], *“Conventional” Element vs. Combination “As a Whole”*. As an example of a successful approach consider a “Diehr claim”. *See* § 15[b][4], *Diehr vs. a Simplistic “Apply it” Claim Approach*.

§ 15[a] *Ariosa*, Patent-Eligibility Law in a State of Flux

The majority opinion in *Ariosa* demonstrates just how far the Federal Circuit has interpreted the dicta from *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), to the point that the Federal Circuit runs counter to other Supreme Court precedent such as the *Adams Battery* case,

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United States v. Adams, 383 U.S. 39 (1966), as well as its own precedent such as *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995), and *In re Brouwer*, 77 F.3d 422 (Fed. Cir. 1996).

In *Ariosa* the majority issued perhaps its most extreme application of *dicta* in *Mayo* to deny patent-eligibility of truly “inventive” subject matter where it was now possible to test for genetic conditions in a fetus simply by drawing blood from the mother without invasive testing of an amniotic fluid sample, a most remarkable breakthrough discovery. “In 1996, [the patentees] Drs. Dennis Lo and James Wainscoat discovered cell-free fetal DNA [] in maternal plasma and serum, the portion of maternal blood samples that other researchers had previously discarded as medical waste. [Cell-free fetal DNA] is non-cellular fetal DNA that circulates freely in the blood stream of a pregnant woman.” *Ariosa*, __ F.3d at __.

The minute amount of fetal DNA in the mother’s bloodstream could not have been basis for genetic testing years ago, but with the discovery that minute amounts of such fetal DNA are present in the maternal bloodstream permitted use of “polymerase chain reaction (“PCR”) [which is] a widely used technique in molecular biology that was invented by Kary Mullis in 1983. Indeed, in 1993, Mullis won the Nobel Prize in Chemistry for his development of PCR[.]” *Carnegie Mellon University v. Hoffmann-La Roche, Inc.*, 541 F.3d 1115, 1129 n.4 (Fed. Cir. 2008).

Claim 1 of the patent in *Ariosa* is to “[a] method for detecting a paternally inherited nucleic acid of fetal origin performed on a maternal serum or plasma sample from a pregnant female, which method comprises [(a)] *amplifying a paternally inherited nucleic acid* from the serum or plasma sample[;] and[(b)] detecting the presence of a paternally inherited nucleic acid of fetal origin in the sample.” *Ariosa*, __ F.3d at __ (emphasis added).

The extreme nature of *Ariosa* is explained in the concurring opinion by the elder member of the panel:

“*** I am bound by the sweeping language of the test set out in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012). In my view, the breadth of the second part of the test was unnecessary to the decision reached in *Mayo*. This case represents the consequence—perhaps unintended—of that broad language in excluding a meritorious invention from the patent protection it deserves and should have been entitled to retain.

“It has long been established that ‘[l]aws of nature, natural phenomena, and abstract ideas are not patentable.’ *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354

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(2014) (citations omitted). In *Mayo*, the Supreme Court set forth a two-step framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. The first step looks to determine whether claims are directed to a patent-ineligible concept. *Mayo*, 132 S. Ct. at 1297. If they are, the second step is to consider whether the additional elements recited in the claim ‘transform the nature of the claim’ into a patent-eligible application by reciting an ‘inventive concept’ that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’ *Id.* at 1294.

“In applying the second part of the test, the Supreme Court in *Mayo* discounted, seemingly without qualification, any ‘[p]ost-solution activity that is purely conventional or obvious,’ *id.* at 1299 (original alterations omitted). This was unnecessary in *Mayo*, because doctors were already performing in combination all of the claimed steps of administering the drug at issue, measuring metabolite levels, and adjusting dosing based on the metabolite levels, *id.*

“In *Diamond v. Diehr*, the Supreme Court held that ‘a new combination of steps in a process may be patentable even though all the constituents of the combination were well-known and in common use before the combination was made.’ 450 U.S. 175, 188 (1981). As *Mayo* explained: *Diehr* ‘pointed out that the basic mathematical equation, like a law of nature, was not patentable. But [*Diehr*] found the overall process patent eligible because of the way the additional steps of the process integrated the equation into the process as a whole.’ *Mayo* 132 S. Ct. at 1298. Despite that recognition, *Mayo* discounted entirely the ‘conventional activity’ recited in the claims in that case because the steps ‘add nothing specific to the laws of nature other than what is well-understood, routine, conventional activity, previously engaged in by those in the field.’ *Id.* at 1299. While that conclusion might have been warranted in that case, given the fact that the ‘conventional activities’ in *Mayo* were the very steps that doctors were already doing—administering the drug at issue, measuring metabolite levels, and adjusting dosing based on the metabolite levels—the Supreme Court did not limit its ruling to those particular facts and circumstances.

“The Supreme Court’s blanket dismissal of conventional post-solution steps leaves no room to distinguish *Mayo* from this case, even though here *no one* was amplifying and detecting paternally-inherited [cell-free fetal DNA] using the plasma or serum of pregnant mothers. Indeed, the maternal plasma used to be ‘routinely discarded,’ ‘540 patent col.1 ll.50-53, because, as Dr. Evans testified, ‘nobody thought that fetal cell-free DNA would be present.’

“It is hard to deny that [the] invention is truly meritorious. Prior to the ‘540 patent, prenatal diagnoses required invasive methods, which ‘present[ed] a degree of risk to the mother and to the pregnancy.’ *Id.* at col.1 ll. 16—17. The available ‘techniques [we]re time-consuming or require[d] expensive equipment.’ *Id.* at col.1 ll.17—37. Dr. Mark Evans testified that ‘despite years of trying by multiple methods, no one was ever able to achieve acceptable success and accuracy.’ In a groundbreaking invention, Drs. Lo

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and Wainscoat discovered that there was cell-free fetal DNA in the maternal plasma. The Royal Society lauded this discovery as ‘a paradigm shift in non-invasive prenatal diagnosis,’ and the inventors’ article describing this invention has been cited well over a thousand times. The commercial embodiment of the invention, the MaterniT21 test, was the first marketed non-invasive prenatal diagnostic test for fetal aneuploidies, such as Down’s syndrome, and presented fewer risks and a more dependable rate of abnormality detection than other tests. Unlike in *Mayo*, the ‘540 patent claims a new method that should be patent eligible. While the instructions in the claims at issue in *Mayo* had been widely used by doctors—they had been measuring metabolites and recalculating dosages based on toxicity/inefficacy limits for years—here, the amplification and detection of [cell-free fetal DNA] had never before been done. The new use of the previously discarded maternal plasma to achieve such an advantageous result is deserving of patent protection. Cf. Rebecca S. Eisenberg, *Prometheus Rebound: Diagnostics, Nature, and Mathematical Algorithms*, 122 Yale L.J. Online 341, 343-44 (2013) (noting that despite *Mayo*’s declaration that a claim to ‘a new way of using an existing drug’ is patentable, *Mayo*, 132 S. Ct. at 1302, it is unclear how a claim to new uses for existing drugs would survive *Mayo*’s sweeping test).

“In short, [the] invention is nothing like the invention at issue in *Mayo*. [The patentees] ‘effectuate[d] a practical result and benefit not previously attained,’ so its patent would traditionally have been valid. *Le Roy v. Tatham*, 63 U.S. 132, 135-36 (1859) (quoting *Househill Coal & Iron Co. v. Neilson*, Webster’s Patent Case 673, 683 (House of Lords 1843)); *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) (same); see generally Jeffrey A. Lefstin, *Inventive Application: a History*, 67 Fla. L. Rev. (forthcoming 2015), available at <http://ssrn.com/abstract=2398696> (last visited June 10, 2015) (analyzing traditional notions of patent eligibility of newly discovered laws of nature).

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But for the sweeping language in the Supreme Court's *Mayo* opinion, I see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible.

Ariosa, ___ F.3d at ___(Linn, J., concurring).

§15[a][1] Consideration of the Invention “as a Whole”

Stretching the *dicta* in *Mayo* to conclude that the invention in *Ariosa* lacks an “inventive” feature both fails to understand the limited holding of *Mayo* and that a stretched interpretation of *Mayo* runs smack into other lines of Supreme Court case law. The *Adams Battery* case is instructive as to the “inventive” or nonobviousness nature of the invention in the *Ariosa* case.

As explained in the *KSR* case:

In *United States v. Adams*, 383 U.S. 39, 40 (1966), a companion case to *Graham* [*v. John Deere*, 383 U.S. 1 (1966)], the Court considered the obviousness of a ‘wet battery’ that varied from prior designs in two ways: It contained water, rather than the acids conventionally employed in storage batteries; and its electrodes were magnesium and cuprous chloride, rather than zinc and silver chloride. The Court recognized that *when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.* 383 U.S. at 50-51. It nevertheless rejected the Government's claim that Adams' battery was obvious. The Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *Id.*, at 51-52. *** The fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams' design was not obvious to those skilled in the art.”

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 416 (2007) (emphasis supplied).

It is impossible to read the specification of the patent in the *Ariosa* case and come to the conclusion that the invention lacks an “inventive” feature.

As explained in the *Adams Battery* case:

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“While the claims of a patent limit the invention, and specifications cannot be utilized to expand the patent monopoly, *Burns v. Meyer*, 100 U.S. 671, 672 (1880); *McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895), it is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention, *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 547 (1871); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 312 U.S. 654 (1940); *Schering Corp. v. Gilbert*, 153 F.2d 428 (2nd Cir. 1946).”

Adams Battery case, United States v. Adams, 383 U.S. 39, 48-49 (1966).

The majority in *Ariosa* explains that “[i]t is undisputed that the existence of [cell-free fetal DNA] in maternal blood is a natural phenomenon. [The patentees have not] created or altered any of the genetic information encoded in the [cell-free fetal DNA], and it is undisputed that the location of the nucleic acids existed in nature before [the inventors] found them. The method ends with paternally inherited [cell-free fetal DNA], which is also a natural phenomenon. The method therefore begins and ends with a natural phenomenon. Thus, the claims are directed to matter that is naturally occurring.”

But, the starting material in the first step of the process in *Ariosa* was *not* “naturally occurring” but instead was *amplified* DNA. It is uncontested that, as explained by the majority, prior to the invention, maternal plasma and serum from maternal blood samples had previously been discarded as medical waste. The inventors discovered cell-free fetal DNA [] in such maternal plasma and serum in such blood samples previously thought of as mere waste.

It is manifest that the invention was a breakthrough. As pointed out in the separate opinion that distinguished itself from the majority:

“Prior to the [] patent, prenatal diagnoses required invasive methods, which ‘present[ed] a degree of risk to the mother and to the pregnancy.’ The available ‘techniques [we]re time-consuming or require[d] expensive equipment.’ [An expert] testified that ‘despite years of trying by multiple methods, no one was ever able to achieve acceptable success and accuracy.’ In [this] groundbreaking invention, [the inventors] discovered that there was cell-free fetal DNA in the maternal plasma. The Royal Society lauded this discovery as ‘a paradigm shift in non-invasive prenatal diagnosis,’ and the inventors’ article describing this invention has been cited well over a thousand times. The commercial embodiment of the invention ... was the first marketed non-invasive prenatal diagnostic test for fetal aneuploidies, such as Down’s syndrome, and presented fewer risks and a more dependable rate of abnormality detection than other tests. Unlike in *Mayo*, the [] patent claims a new method that should be patent eligible. *** The new use of the previously discarded maternal plasma to achieve such an advantageous result is deserving of patent protection. Cf. Rebecca S. Eisenberg,

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Prometheus Rebound: Diagnostics, Nature, and Mathematical Algorithms, 122 Yale L.J. Online 341, 343-44 (2013) (noting that despite *Mayo's* declaration that a claim to 'a new way of using an existing drug' is patentable, *Mayo*, 132 S. Ct. at 1302, it is unclear how a claim to new uses for existing drugs would survive *Mayo's* sweeping test)."

Dissecting the claim into its separate elements the majority "conclude[d] that the practice of the method claims does not result in an inventive concept that transforms the natural phenomenon of [maternal DNA] into a patentable invention." The mistake made by the majority was to put together conventional steps to reconstruct the invention in hindsight when there was clearly no *motivation* to combine these steps.

The majority simply overlooks the fact that there is absolutely no *reason* in the prior art to combine the two steps, but in an obviousness determination it is necessary to provide such a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *KSR Int'l Co. v. Teleflex*, 550 U.S. 398, 418 (2007). The majority overlooks the fact that the invention *as a whole* must be considered to determine whether there is an "inventive step" or – to use the wording of the statute – an *unobvious* difference versus the prior art. The individual steps of the process in *Ariosa* were conventional, as were the steps in the *Ochiai* and *Brouwer* processes in *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995), and *In re Brouwer*, 77 F.3d 422 (Fed. Cir. 1996). In each case, each step of the claimed process was completely conventional.

Under the *Ochiai* and *Brouwer* cases it is manifest that there *is* an inventive concept in the invention of the *Ariosa* case that consists of the *combination* of otherwise conventional elements because of the breakthrough discovery to put the pieces of the combination together. The majority fails to give proper weight to the fact that there is absolutely no teaching in the prior art of step (a), the *amplification* of the DNA. There was clearly no *motivation* for a worker skilled in the art to amplify the DNA as nobody in the prior art appreciated that the otherwise insignificant of DNA in maternal fluid could be used for DNA testing. Thus, while it is obvious *how* to amplify DNA there was no *reason* to do so, absent the discovery by the patentees. Putting the puzzle pieces of the several elements together is only possible in hindsight without the inventive contribution made by the inventors as to how to put the puzzle together.

The failure to view the invention *as a whole* and the absence of *motivation* to combine otherwise conventional steps is explained in detail in the *Ochiai* case.

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The Board in *Ochiai* denied patentability because each of the steps of the claimed invention were conventional:

“The [prior art] references *** abundantly demonstrate the routineness of the claimed process. Thus, the Court rejected the argument that a conventional manipulation or reaction was unobvious "notwithstanding the specific starting material or resulting product or both, is not to be found in the prior art".

Ochiai, 71 F.3d at 1568 (quoting the Board’s affirmance). The Board reasoned that:

“We are not here concerned with the patentability of the starting materials, the final compounds or other processes of making the [cephem] compounds. We are concerned only with the claimed process and the patentability thereof. Cases such as *In re Larsen*, 292 F.2d 531 (CCPA 1961); *In re Albertson*, 332 F.2d 379 (CCPA 1964) and, particularly, *In re Durden*, [763 F.2d 1406 (Fed. Cir. 1985)], all of which were directed to processes of making chemical compounds, are controlling herein.... In each case, a material A, either known or novel, was subjected to a standard process of reacting with a standard reactant, B, in order to produce the result expected from the reaction of A with B. Indeed in *Albertson* as in the instant case, the only manipulative step of the process is that which is embodied in the word ‘reacting.’”

Id. In reversing the Board, the court in *Ochiai* stated that:

“One having no knowledge of this acid could hardly find it obvious to make any cephem using this acid as an acylating agent, much less the particular cephem recited in claim 6. In other words, it would not have been obvious to those of ordinary skill in the art to choose the particular acid of claim 6 as an acylating agent for the known amine for the simple reason that the particular acid was unknown but for *Ochiai*'s disclosure in the '429 application. As one of our predecessor courts had occasion to observe, in a case involving a highly analogous set of facts, ‘one cannot choose from the unknown.’”

Ochiai, 71 F.3d at 1569-70 (quoting *In re Mancy*, 499 F.2d 1289, 1293 (CCPA 1974))(footnote omitted). The Board added its further analysis; as explained by the court:

“The Board noted that *Ochiai*'s specifically claimed acid is ‘similar’ to the acids used in the prior art. Likewise, the examiner asserted that the claimed acid was ‘slightly different’ from those taught in the cited references. Neither characterization, however, can establish the obviousness of the use of a starting material that is new and nonobvious, both in general and in the claimed process. The mere chemical possibility that one of those prior art acids could be modified such that its use would lead to the particular cephem recited in [the claim] does not make the process recited in [the claim]

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obvious "unless the prior art suggested the desirability of [such a] modification." *In re Gordon*, 733 F.2d 900, 902 (Fed.Cir.1984). As we noted above, the examiner discussed no references containing any suggestion or motivation either (a) to modify known acids to obtain the particular one recited in [the claim], or (b) to obtain the particular new and nonobvious cephem produced by the process of [the claim 6. In short, the prior art contains nothing at all to support the conclusion that the particular process recited in [the claim] is obvious."

Ochiai, 71 F.3d at 1570. *Ochiai* was followed in a similar situation in *Brouwer*:

"The test of obviousness vel non is statutory. It requires that one compare the claim's 'subject matter as a whole' with the prior art 'to which said subject matter pertains.' 35 U.S.C. § 103. The inquiry is thus highly fact-specific by design. This is so 'whether the invention be a process for making or a process of using, or some other process.' *In re Kuehl*, 475 F.2d 658, 665 (CCPA 1973). When the references ... fail to establish a prima facie case of obviousness, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071 1074 (Fed.Cir.1988).

"Applying this statutory test to the art of record, we conclude that Brouwer's process invention was not prima facie obvious. Although the prior art references ... teach a generic chemical reaction of a compound containing an active methylene group with an ester of vinylsulfonic acid, we have made clear that '[t]he mere fact that a device or process utilizes a known scientific principle does not alone make that device or process obvious.' *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044 1053 (Fed.Cir.1988). See also *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452 1462 (Fed.Cir.1984) (same). * * * Without first knowing Brouwer's claimed process steps or the composition resulting from those steps, there is simply no suggestion in the references cited by the examiner to practice the claimed process. It was therefore not prima facie obvious."

In re Brouwer, 77 F.3d at 425.

§ 15[a][2] Focus on what is Claimed

In claim 1 of the invention in the *Ariosa* case the patentee utilizes fluid from the mother of a fetus where DNA has been *amplified*, absent which the minute traces of fetal DNA in the mother could not be detected. There was no recognition in the prior art that there was fetal DNA in the mother's fluid that could be basis for genetic testing.

The invention in *Ariosa* thus deals with a method to determine whether a particular DNA *exists* in a blood sample where there was no reason that a worker skilled in the art would think that such DNA would or could be present in the blood sample.

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The invention in the *Ariosa* case has nothing to do with creating a derivative of a natural product based upon that natural product, but rather is simply a method to test whether the natural product, itself, is *present* in a particular sample where there was no reason to believe that such DNA could be present in the sample. The *Ariosa* case thus has nothing to do, for example, with the creation of a product derived from nature, but rather provides a test to see whether a natural product is present in a sample where there was no reason to believe it could exist. The case thus has nothing to do with the principles of the *Myriad* case, *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013); nor *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012).

The invention in *Ariosa* thus not involve the situation of recognizing the natural properties of DNA, but instead involved the situation where a worker skilled in the art did not know the *existence* of a particular DNA in a fluid sample. There was thus no *motivation* for a worker skilled in the art to substitute amplified DNA in the process of the *Ariosa* litigation.

“Motivation” to lead a worker skilled in the art to combine several elements together must be present to establish obviousness, whether that motivation is implicit or explicit. “One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a *known problem* for which there was an obvious solution encompassed by the patent's claims.”) *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419-20 (2007)(emphasis added).

There was no “known problem” to provide where motivation to amplify the DNA for inclusion in the patented process. *Recognition* of a problem is one way to establish motivation, as explained in *Cross Medical Products, Inc. v. Medtronic Sofamor Danek*, 424 F.3d 1293 (Fed. Cir., 2005)(Linn, J.). Thus:

Evidence of a motivation to combine references need not be in the form of prior art. See [*Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd.*, 357 F.3d 1319, 1338-39 (Fed.Cir.2004)]. Evidence that a person of ordinary skill in the art recognized the same problem to be solved as the inventor and suggested a solution is, at the least, probative of a person of ordinary skill in the art's willingness to search the prior art in the same field for a suggestion on how to solve that problem. See *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed.Cir.1996) (Motivation to combine "may also come from the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem." (citing *In re Rinehart*, 531 F.2d 1048, 1054 (CCPA1976))); *In re Huang*, 100 F.3d 135, 139 n. 5 (Fed.Cir.1996) (stating that problem well-known to a person of ordinary skill in the art would have directed that person of ordinary skill to the reference teaching the missing elements); see also, e.g., *In re Gartside*, 203 F.3d 1305, 1320-21 (Fed.Cir.2000) (recognizing that motivation to

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combine can come from the nature of the problem to be solved); *In re Rouffet*, 149 F.3d 1350, 1355 (Fed.Cir.1998) (same).

Cross Medical Products, 424 F.3d at 1323. The *Kaslow* case has a similar discussion:

“[A] patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the ‘subject matter as a whole’ which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103.”

In re Kaslow, 707 F.2d 1366, 1373 (Fed. eCir. 1983)(quoting *In re Sponnoble*, 405 F.2d 578, 585 (CCPA 1969); see also *In re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997), *rev’d on other grounds*, 527 U.S. 150 (1999)(quoting *Sponnoble*, 405 F.2d at 578).

§ 15[a][3] *Ariosa* is Keyed to Extreme *Dicta* from *Mayo*

Both Professor Jeffrey Lefstin and Dr. Kevin Noonan have criticized the *Ariosa* majority opinion.

That the result in *Ariosa* was not compelled by the *holding* in *Mayo* is explained in detail by the noted scholar, Professor Lefstin:

“In *Ariosa*, the Federal Circuit has endorsed a highly restrictive interpretation of the test for patent-eligibility, one that was not mandated by *Mayo* itself. A test for ‘inventive’ application was only one of several possible analytical approaches set forth in *Mayo*. *Mayo* also suggested a test of non-generic application for patent-eligibility: that a claim must do more than state a law of nature or abstract idea, and append an instruction to ‘apply it.’ That was the aspect of *Mayo* stressed by *Alice*, which emphasized generic application far more than inventive application.

“As I argued in a recent paper, [Jeffrey A. Lefstin, *The Three Faces of Prometheus: A Post-Alice Jurisprudence of Abstractions*, 16 North Carolina Journal of Law and Technology 647 (2015),] under a test of generic application, the claims in *Ariosa* might fare differently than the claims in *Mayo*. The claims in *Mayo* represented generic applications, because they did no more than reveal the results of the underlying relationship between 6-thioguanine levels and therapeutic efficacy. Arguably, at least some of the *Ariosa* claims do more than that: rather than claiming the natural phenomenon ([cell-free fetal DNA] in the maternal circulation) itself, they employ the natural phenomenon as a means to a achieve a different end (diagnosing a genetic condition of the fetus).”

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“Moreover, the *Ariosa* opinion appears to endorse dissection of the claim to a degree not only contrary to *Diehr*, but beyond that suggested by *Flook* itself. While *Flook* explained that “the process itself” must be new and useful, *Ariosa* suggests that the individual steps of the process must be new and useful, and identifies the discovery of [cell-free fetal DNA] as “[t]he only subject matter new and useful as of the date of the application.” Given that most inventions consist of rearrangements of old elements, it is difficult to understand how the court can refrain from addressing the claim steps as an ordered whole, as mandated by *Mayo* itself.

“And that highlights what is perhaps the most puzzling (or disturbing) aspect of *Ariosa*. According to Judge Linn’s concurrence, the steps of the method *were* new: at the time of the invention, no one was amplifying paternally-inherited sequences from maternal serum or plasma, because no one thought that those fractions contained significant amounts of fetal DNA. That contrasts with *Mayo*, where the acts recited in the method were identical to those performed in the prior art. Yet Judge Linn believed that the Supreme Court’s “blanket dismissal of conventional post-solution steps” in *Mayo* left no room to distinguish the *Ariosa* claims on those grounds.

“If the step of amplifying paternally inherited DNA from serum or plasma was new, by what analysis could the court could regard it as ‘well-understood, routine, and conventional activity’? One way would be to sub-dissect that step into the conventional step of obtaining a cell-free fraction, and the conventional step of amplifying a sample containing DNA. That approach seems to lead to the *reductio ad absurdum* that most biotechnology processes are patent-ineligible, because they consist of the conventional steps of transferring drops of fluid from one tube to another.

“The alternative way would be to ask if the step of amplifying paternally inherited DNA would be obvious once it was known that there was [cell-free fetal DNA] in the maternal bloodstream. In other words, assume the patentee’s discovery to be already known, and ask if the invention is obvious once the discovery is assumed away. If that is truly the interpretation of *Mayo* signaled by *Ariosa*, then the case promises to cast a long shadow on the patent-eligibility of inventions based on discovery in the future.”

Jeffrey A. Lefstin, *Ariosa v. Sequenom and the Path Ahead for Subject-Matter Eligibility*, Patently O Blog (June 14, 2015).

Even before the decision was reached in *Ariosa*, Professor Dennis Crouch foresaw the problems that the panel faced. *See* Professor Dennis Crouch, *Sequenom v. Ariosa: Invalidating the patent on Non-Invasive Pre-Natal Genetic Testing*, Patently O Blog (September 9, 2014)(discussing the then-pending appeal at the Federal Circuit). Following the decision, Dr. Kevin Noonan provided a sharply focused critique of the majority view in *Ariosa*:

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[T]he Court appreciated that the inventors had found cell-free fetal DNA [] in maternal plasma or serum "*that other researchers had previously discarded as medical waste*" (emphasis added [by Dr. Noonan]). Foreshadowing their reasoning, the panel then state that "[a]pplying a combination of known laboratory techniques to their discovery, Drs. Lo and Wainscoat implemented a method for detecting the small fraction of paternally inherited [cell-free fetal DNA] in maternal plasma or serum to determine fetal characteristics, such as gender" (by which the opinion avoids the more significant uses such as detecting Downs syndrome and other fetal genetic defects). And more foreshadowing occurs when they characterize the development of this test as being a "discovery."

The opinion then acknowledges through the parties that the claims are not directed to [cell-free fetal DNA] *per se* or paternally inherited species thereof. In language that parallels Justice Thomas's language in Section III of his *Myriad* opinion, the opinion states that the '540 patent claims methods of using [cell-free fetal DNA] and then sets forth the panel's understanding of the technical basis for the claimed methods and the procedural particulars of the case below.

The panel's analysis is best understood using the Court's own language, to better appreciate the basis for this decision:

"In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), the Supreme Court set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to a patent-ineligible concept. *Id.* at 1297. If the answer is yes, then we next consider the elements of each claim both individually and 'as an ordered combination' to determine whether additional elements "transform the nature of the claim" into a patent-eligible application. *Id.* at 1298. The Supreme Court has described the second step of this analysis as a search for an 'inventive concept' – i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.' *Id.* at 1294; see also *Digitech Image Techs., LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ('Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.').

Applying this understanding of the Supreme Court's teachings regarding diagnostic claims, the opinion states:

"It is undisputed that the existence of [cell-free fetal DNA] in maternal blood is a natural phenomenon. [The patentee] does not contend that [the inventors] Drs. Lo and Wainscoat created or altered any of the genetic information encoded in the [cell-free fetal DNA], and it is undisputed that the location of the nucleic acids existed in nature before Drs. Lo and Wainscoat found them. The method ends with paternally inherited [cell-free fetal DNA], which is also a natural phenomenon. The method therefore begins

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and ends with a natural phenomenon. Thus, the claims are directed to matter that is naturally occurring.”

Of course, what the claimed methods end with are *amplified* [cell-free fetal DNA] and the diagnostic information that is discerned (but not claimed) using the method.

The opinion then takes isolated statements from the specification to support this conclusion (again, stating that [cell-free fetal DNA] was “routinely” discarded) and that the inventors surprisingly found that detecting [cell-free fetal DNA] could be used to render clinical diagnoses of fetal abnormalities non-invasively.

Of course, it is but a short analytical leap to find that the detection methods were simply “routine, conventional and well-understood” because the panel does not consider the claim as a whole but has broken its analysis into pieces (contrary to Supreme Court’s *Diamond v. Diehr* decision). Accordingly, the panel determines that there is no “inventive concept” in the claims (bizarrely, relying as did the District Court on *Parker v. Flook*). (The applicability of that decision on life science inventions should have been firmly put to bed in Judge Rich’s *In re Bergy* decision.) The next portion of the opinion nicely sets out the logical and legal flaws in the panel’s decision:

“Like the patentee in *Mayo*, [the patentee here] contends that the claimed methods are patent eligible applications of a natural phenomenon, specifically a method for detecting paternally inherited [cell-free fetal DNA]. Using methods like PCR to amplify and detect [cell-free fetal DNA] was well-understood, routine, and conventional activity in 1997. The method at issue here amounts to a general instruction to doctors to apply routine, conventional techniques when seeking to detect [cell-free fetal DNA]. Because the method steps were well-understood, conventional and routine, the method of detecting paternally inherited [cell-free fetal DNA] is not new and useful. The only subject matter new and useful as of the date of the application was the discovery of the presence of [cell-free fetal DNA] in maternal plasma or serum.”

Unlike the patentee in *Mayo*, the inventors of the claimed invention here did something not done before their invention (detecting [cell-free fetal DNA] in maternal blood). In contrast, *every* step in the methods claimed in *Mayo* had been performed in the prior art; the only inventive aspect in those claims was the therapeutic ratio, which the Court found to be a ‘natural law.’ Accordingly, the *Mayo* claims did nothing more than recite the natural law. That is not the case here. Tragically, the remainder of this portion of the opinion recites the tedious evidence from the specification regarding known amplification and detection methods while ignoring that these methods had never been used to detect [cell-free fetal DNA] in maternal blood.”

The opinion then visits preemption (sadly, the Circuit Court responsible for interpreting patent law does not correctly state the standard, *i.e.*, *undue* preemption; after all, *all* claims are preemptive in nature). Fortunately, the panel does not follow the District Court through the looking glass of requiring for patent eligibility that every newly claimed method to recite not only a new method but that there be commercially viable, non-

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infringing alternatives available at the time an application is filed. Instead, the Court considers the preemption question moot once claims have been determined to be patent ineligible.

Finally, the Court insulates itself from the negative consequences its decision has on innovation by citing language (dicta) in *Myriad* that "[g]roundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry," illustrated by the interpretation that "[t]he discovery of the BRCA1 and BRCA2 genes was a significant contribution to the medical field, but it was not patentable" (ignoring the fact acknowledged twelve pages prior in the opinion that the inventors were *not* claiming [cell-free fetal DNA]).

Judge Linn [in his concurrence] hoists the panel's decision on the petard of superior Supreme Court precedent:

"In short, [the patentee]'s invention is nothing like the invention at issue in *Mayo*. [Patentee] "effectuate[d] a practical result and benefit not previously attained," so its patent would traditionally have been valid. *Le Roy v. Tatham*, 63 U.S. 132, 135–36 (1859) (quoting *Househill Coal & Iron Co. v. Neilson*, Webster's Patent Case 673, 683 (House of Lords 1843)); *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) (same); see generally Jeffrey A. Lefstin, *Inventive Application: a History*, [67 Fla. L. Rev. 565 (2015)] (analyzing traditional notions of patent eligibility of newly discovered laws of nature)."

* * *

It is clear that the Federal Circuit (or at least the members of this panel) believe that they are operating under a mandate from the Supreme Court regarding patent eligibility. On the contrary, the Court itself has on many occasions made it clear that they view their role (in patent law and otherwise) as setting forth the broad contours of the law that they expect the inferior courts to use to develop the law properly. In view of the lack of clarity in the *Mayo* opinion, a third year law student could distinguish this case from that one in arriving at the correct conclusion of patent eligibility. Nothing more than Supreme Court precedent itself (specifically, the *Diamond v. Diehr* decision which the Court did not overturn in *Mayo*) is needed for the task. The issue is not a lack of analytical and doctrinal tools but the will to employ them, which these members of the Federal Circuit do not seem to have had in rendering this decision. But shielding the Court from the consequences of their bad decisions does them a disservice. If the Court intended to exclude from patent eligibility *all* genetic (nay all *types* of) diagnostic methods, the Federal Circuit owes it to the Court to give them the opportunity to say so clearly and reap the political consequences. * * *

Kevin E. Noonan, *Ariosa Diagnostics, Inc. v. Sequenom, Inc.* (Fed. Cir. 2015), Patent Docs blog (June 22, 2015).

§ 15[a][4] The *Ariosa* Invention does not “Preempt” Research

The invention in *Ariosa* had absolutely nothing to do with the discovery of a product of nature. *Ariosa* thus has nothing to do with “preemption” of the DNA involved in the *Ariosa* claimed invention. Rather, the invention in *Ariosa* involved a new method to *identify* the presence of certain DNA. By analogy, consider the situation where a natural product cannot be identified by the human eye, without more, but *can* be identified through use of a “microscope”. Imagine further that an inventor has discovered a new “microscope” that makes it easier and more accurate to identify the particular natural product. It is perfectly logical that one could claim either that “microscope” or a method of testing for the presence of the natural product by use of that “microscope”, and that – assuming nonobviousness of the “microscope” – one should obtain a patent on the “microscope” or the method of use of the “microscope” to identify the natural product.

This is in essence the situation of the *Ariosa* case where the invention involves a new method for detecting the presence of DNA in a fluid sample but makes no claim to the DNA itself: There is no “preemption”. Thus, a cornerstone argument in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), against patent-eligibility of inventions involving “natural” subject matter is that granting patents on a derivative or use of the “natural” subject matter “preempts” research on a phenomenon of nature. Thus, it is stated that “[*Benson*] warn[s] us against upholding patents that claim processes that *too broadly preempt* the use of a natural law.” *Mayo*, 132 S.Ct. at 1294 (citing *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972)). An argument that the *dicta* in *Mayo* leads to the conclusion that the invention in *Ariosa* “preempts” research demonstrates the breadth of the *dicta* and leads to a result that has absolutely no impact whatsoever on the preemption of research on or use of the natural principle of the invention in *Ariosa*: The invention in *Ariosa* is a method to test for the existence of DNA in a blood sample and has nothing to do with patenting or using that DNA or a derivative of that DNA. There is simply no preemption even for commercial use of that DNA.

§ 15[a][5] Patents Do Not “Preempt” Research

Even if the use of the natural DNA in the *Ariosa* case were within the scope of claims of the patent in that case, this leaves the more fundamental question: Can the use of an invention to *experiment on* that invention *ever* be an act of infringement to see, for example, how the invention operates or to compare it to the prior art or to otherwise conduct research on the invention to make further improvements or design around the invention?

Until the Federal Circuit came into existence the answer was a clear “no”. Wegner, *Post-Merck Experimental Use and the “Safe Harbor,”* 15 Fed. Cir. B.J. 1 (2005)(herein: “Post-Merck Paper”).

The Federal Circuit must accept a share of the responsibility for the failure of the patent community to understand the fundamental right to experiment “on” a patented invention. Despite a deep split within the Federal Circuit on this issue the appellate court has never seen fit to consider the issue *en banc*.

The starting point to understand the Federal Circuit split viewpoint is the state of the law leading up to *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005), as reported in the Post-Merck Paper. The dominant view of the former, recently retired Chief Judge is seen from *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860 (Fed. Cir. 2003)(Rader, J.) *rev’d*, *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005). The case involved a classic fact pattern of an experimentation “on” a patented invention. Yet, the dominance at the time of the view of the former Chief Judge was manifested by the accused infringer *refraining* from even raising this issue before the Federal Circuit. As explained in the majority opinion by the former Chief Judge, “Judge Newman's dissent [in this case does not] note that the judge-made [experimental use] doctrine is rooted in the notions of de minimis infringement better addressed by limited damages.” *Integra Lifesciences I*, 331 F.3d at 863 n.2.

One panel leading up to the *Mayo* case uncritically accepted the view that “the[] exceptions [to statutory patent-eligibility under 35 USC § 101] have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years[.]” *Prometheus Laboratories, Inc. v. Mayo Collaborative Serv.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010)(Lourie, J.)(citing *Le Roy v. Tatham*, 55 U.S. (14 How.) at 174-75), *subsequent proceedings sub nom Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012). The holding in *Le Roy*

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v. Tatham had absolutely nothing to do with patent-eligibility but rather dealt with the claiming of technology involving a lead pipe! A lead pipe!

While there have been recent opinions where some panels seem to understand that there *is* a right to experiment “on” a patented invention, the other side of the coin is that some panels continue to take the *Deuterium* route. *See, e.g., Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1356 (Fed. Cir., 2013)(Dyk, J.) (quoting *Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 1352–53 (Fed.Cir.2000) (Rader, J., concurring) (“[T]his court has not tolerated the notion that a little infringement—de minimis infringement—is acceptable infringement or not infringement at all.”).

§ 15[a][6] Historical Case Law and Patent “Preemption”

Preemption became important with *Bilski v. Kappos*, 561 U. S. 593 (2010):

“The Court has kept this ‘constitutional standard’ in mind when deciding what is patentable subject matter under §101. For example, we have held that no one can patent ‘laws of nature, natural phenomena, and abstract ideas.’ [*Diamond v. Diehr*, 450 U.S. 175, 185(1981)]. These ‘are the basic tools of scientific and technological work,’ [*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)], and therefore, if patented, would stifle the very progress that Congress is authorized to promote, *see, e.g., O'Reilly [v. Morse*, 56 U.S. 62, 113 (1853)](explaining that Morse's patent on electromagnetism for writing would preempt a wide swath of technological developments).

Precisely what does *Benson* say about “preemption” at the page cited in *Bilski*?

“The Court stated in *Mackay Co. v. Radio Corp.*, 306 U.S. 86, 94 that '(w)hile a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.' That statement followed the longstanding rule that '(a)n idea of itself is not patentable.' *Rubber-Tip Pencil Co. v. Howard*, 20 Wall. (87 U.S.) 498, 507. 'A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.' *Le Roy v. Tatham*, 14 How. (55 U.S.) 156, 175. Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work. As we stated in *Funk Bros. Seed Co. v. Kalo Co.*, 333 U.S. 127, 130, 'He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.'”

Gottschalk v. Benson, 409 U.S. 63, 67 (1972).

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Precisely what does *Diehr* say about “preemption” at the page cited in *Bilski*? Nothing, directly, but indirectly, *arguendo*, preemption could be understood as implicated. As stated in *Bilski*:

“A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.’ *Le Roy v. Tatham*, 14 How. 156, 175 (1853). Only last Term, we explained:

“ '[A] new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that $E = mc^2$; nor could Newton have patented the law of gravity. Such discoveries are 'manifestations of . . . nature, free to all men and reserved exclusively to none.' [*Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980)], quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, [333 U.S. 127, 130 (1948)].”

What does *O'Reilly v. Morse*, 56 U.S. 62, 113 (1853), say?

“If []his claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated—less liable to get out of order—less expensive in construction, and in its operation. But yet if it is covered by this patent the inventor could not use it, nor the public have the benefit of it without the permission of this patentee.

Nor is this all, while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of electro-magnetism which scientific men might bring to light. For he says he does not confine his claim to the machinery or parts of machinery, which he specifies; but claims for himself a monopoly in its use, however developed, for the purpose of printing at a distance. New discoveries in physical science may enable him to combine it with new agents and new elements, and by that means attain the object in a manner superior to the present process and altogether different from it. And if he can secure the exclusive use by his present patent he may vary it with every new discovery and development of the science, and need place no description of the new manner, process, or machinery, upon the records of the patent office. And when his patent expires, the public must apply to him to learn what it is. In fine he claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. *The court is of opinion that the claim is too broad, and not warranted by law.*”

No one, we suppose will maintain that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to use the motive power of steam, however developed, for the purpose of propelling vessels. It can hardly be supposed

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that under such a patent he could have prevented the use of the improved machinery which science has since introduced; although the motive power is steam, and the result is the propulsion of vessels. Neither could the man who first discovered that steam might, by a proper arrangement of machinery, be used as a motive power to grind corn or spin cotton, claim the right to the exclusive use of steam as a motive power for the purpose of producing such effects.

§ 15[a][6][A] *Deuterium* Genesis of the Federal Circuit Split

The Federal Circuit was created to establish a uniform body of patent case law. In the area of whether there is a right to “experiment on” a patented invention, an aberrant line of case law has persisted for more than twenty-five years stemming from the notorious *Deuterium* case that denied the existence of a right to experiment on a patented invention by “question[ing] whether any infringing use can be de minimis. *Deuterium Corp. v. United States*, 19 Cl.Ct. 624 (Cl.Ct.1990)(Rader, J.).

In tune with the *Deuterium* is the unequivocal and total denial in the *Myriad* case of any third party right to use a patented invention issued by the now retired Vice President of SmithKline Beecham Corporation; he unqualifiedly states that “during the term of the patent, unauthorized parties are ‘preempted’ from practicing the patent * * *.” The *Myriad* case, *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1331 (Fed. Cir. 2012)(Lourie, J.), subsequent proceedings, *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S.Ct. 2107 (2013).

The Federal Circuit to this day is influenced by *Deuterium*, a bold departure from precedent grounded on a unique theory of *de minimis* infringement that was decided by a fresh jurist in his first important patent case who had never practiced law of any kind that was handed down during the jurist’s successful candidacy for a position on the Federal Circuit.

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The ghost of *Deuterium* lives on as foundation for an aberrant line of case law denying a right to "experiment on" a patented invention. *Deuterium* took the unique approach to the experimental use right that questioned "whether any infringing use can be *de minimis*. Damages for an extremely small infringing use may be *de minimis*, but infringement is not a question of degree. Damages for an extremely small infringing use may be *de minimis*, but infringement is not a question of degree." *Deuterium*, 19 Cl.Ct. at 631 (Cl.Ct.1990)(Rader, J.)

More than a decade after *Deuterium* its authored doubled down on his denial of any experimental use exception to patent infringement in the *Embrex* case where he ridiculed the defense: "[I]n my judgment, the" Patent Act leaves no room for any *de minimis* or experimental use excuses for infringement." *Embrex v. Service Eng'g Corp.*, 216 F.3d 1343, 1352 (Fed.Cir.2000) (Rader, J., concurring). He adds that "no room remains in the law for a *de minimis* excuse." *Id.* (emphasis added). Further, "this court has not tolerated the notion that a little infringement – *de minimis* infringement – is acceptable infringement or not infringement at all." *Embrex*, 216 F.3d 1352-53. "[T]he statute leaves no leeway to excuse infringement because the infringer only infringed a little." *Embrex*, 216 F.3d 1353.

To do justice to the *Embrex* concurrence, it is useful to study the document itself to see precisely what it states:

"[I]n my judgment, the Patent Act leaves no room for any *de minimis* or experimental use excuses for infringement. Because the Patent Act confers the right to preclude 'use,' not 'substantial use,' no room remains in the law for a *de minimis* excuse. Similarly, because intent is irrelevant to patent infringement, an experimental use excuse cannot survive. When infringement is proven either minimal or wholly non-commercial, the damage computation process provides full flexibility for courts to preclude large (or perhaps any) awards for minimal infringements.

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“I.

“This court affirms the district court's denial of SEC's de minimis and experimental use excuses, but I read the Patent Act to preclude these excuses altogether. SEC essentially asserts an affirmative defense, combining a plea based on the amount or quantum of infringing activity (de minimis) with a plea based on the character or intent of the infringing activity (experimental use). Although courts have occasionally addressed these separate excuses as if they were one, see, e.g., *Douglas v. United States*, 181 USPQ 170 (Ct. Cl. Trial Division 1974), *aff'd*, 510 F.2d 364 (1975), clarity calls for separate analyses.

“Since its inception, this court has not tolerated the notion that a little infringement – de minimis infringement – is acceptable infringement or not infringement at all. The statute states directly that any unauthorized use of a patented invention is an infringement. See 35 U.S.C. § 271(a) (1994). Thus, the statute leaves no leeway to excuse infringement because the infringer only infringed a little. Rather, the statute accommodates concerns about de minimis infringement in damages calculations. See *Deuterium Corp. v. United States*, 19 Cl. Ct. 624, 631 (1990) (‘This court questions whether any infringing use can be de minimis. Damages for an extremely small infringing use may be de minimis, but infringement is not a question of degree.’). Although not influencing the finding of infringement itself, the amount, quantum, or economic effect of wrongful conduct is central to the damages assessment. For these reasons, this court might better have declined SEC's invitation to engage in an inherently subjective determination of how little infringement is necessary to escape infringement liability. The Patent Act simply authorizes no such conjecture.

“II.

“Turning next to the experimental use excuse, neither the statute nor any past Supreme Court precedent gives any reason to excuse infringement because it was committed with a particular purpose or intent, such as for scientific experimentation or idle curiosity. Rather, the Supreme Court and this court have recently reiterated that intent is irrelevant to infringement. See *Warner-Jenkinson Co., v. Hilton Davis Chem. Co.*, 520 U.S. 17, 34 (1997) (‘Application of the doctrine of equivalents, therefore, is akin to determining literal infringement, and neither requires proof of intent.’); *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1519 (Fed. Cir. 1995) (‘Intent is not an element of infringement.’), *rev'd on other grounds*, 520 U.S. 17 (1997). These recent pronouncements should dispose of the intent-based prong of SEC's argument.

“Before *Warner-Jenkinson*, this court addressed arguments based on the character or intent of infringement in *Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc.*, 733 F.2d 858, 863 (Fed. Cir. 1984); but see 35 U.S.C. § 271(e); *Glaxo, Inc. v. Novopharm, Ltd.*, 110 F.3d 1562, 1568 (1997) (noting that § 271(e) changes the result in *Roche*). The Supreme Court's recent reiteration that infringement does not depend on the intent underlying the allegedly infringing conduct, to my eyes, precludes any further experimental use defense, even in the extraordinarily narrow form recognized in *Roche*.

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Of course, even if the experimental use excuse retains some lingering vitality, the slightest commercial implication will render the 'philosophical inquiry/experimental use' doctrine inapplicable, as occurs in the court's resolution today."

Embrex, 216 F.3d at 1352-53 (Rader, J., concurring).

Another member of the Federal Circuit embraced the same line of thinking. *See Madey v. Duke Univ.*, 307 F.3d 1351 (Fed.Cir.2002)(Gajarsa, J.)(dicta concerning denial of an experimental use right while correctly denying the right to experiment *with* a patented laboratory tool for its intended purpose as a laboratory tool). *See*, generally, Wegner, *Post-Merck Experimental Use and the "Safe Harbor,"* 15 Fed. Cir. B.J. 1 (2005).

To do justice to the *Madey* opinion, it is best to read what it says:

"The district court acknowledged a common law 'exception' for patent infringement liability for uses that, in the district court's words, are 'solely for research, academic or experimental purposes.' Summary Judgment Opinion at 9 (citing *Deuterium Corp. v. United States*, 19 Cl.Ct. 624, 631 (1990); *Whittemore v. Cutter*, 29 F. Cas. 1120 (C.C.D.Mass.1813) (No. 17,600); and citing two commentators[. Janice M. Mueller, *No 'Dilettante Affair': Rethinking the Experimental Use Exception to Patent Infringement for Biomedical Research Tools*, 76 Wash. L.Rev. 1, 17 (2001); 5 Chisum on Patents § 16.03[1] (2000)]. The district court recognized the debate over the scope of the experimental use defense, but cited this court's opinion in *Embrex, Inc. v. Service Engineering Corp.*, 216 F.3d 1343, 1349 (Fed.Cir. 2000) to hold that the defense was viable for experimental, non-profit purposes. Summary Judgment Opinion at 9 (citing *Embrex, Inc. v. Service Engineering Corp.*, 216 F.3d 1343, 1349 (Fed.Cir. 2000))(noting that courts should not 'construe the experimental use rule so broadly as to allow a violation of the patent laws in the guise of 'scientific inquiry,' when that inquiry has definite, cognizable, and not insubstantial commercial purposes laws in the guise of 'scientific inquiry,' when that inquiry has definite, cognizable, and not insubstantial commercial purposes' (quoting *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 863 (Fed.Cir.1984)))).

"After having recognized the experimental use defense, the district court then fashioned the defense for application to *Madey* in the passage set forth below.

"Given this standard [for experimental use], for [*Madey*] to overcome his burden of establishing actionable infringement in this case, he must establish that [*Duke*] has not used the equipment at issue 'solely for an experimental or other non-profit purpose.' 5 Donald S. Chisum, *Chisum on Patents* § 16.03[1] (2000). More specifically, [*Madey*] must sufficiently establish that [*Duke's*] use of the patent had 'definite, cognizable, and not insubstantial commercial purposes.' *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 863 (Fed.Cir.1984)[]."

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Madey v. Duke University, 307 F.3d 1351, 1355 (Fed. Cir. 2002)(Gajarsa, J.)
footnote 2 integrated into text; footnote 3 omitted)

Note that *Madey* cites *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858 (Fed.Cir.1984), for the denial of a right to experiment on a patented invention (whereas the case involved no experimentation *on* the invention but rather testing to gain regulatory approval). The superficial nature of the *Madey* opinion is its citation of Professor Janice M. Mueller, *No 'Dilettante Affair': Rethinking the Experimental Use Exception to Patent Infringement for Biomedical Research Tools*, 76 Wash. L.Rev. 1 (2001), which clearly establishes a regime for dividing commercial exploitation from experimentation “on” the patented invention: If the author of *Madey* actually read and understood Professor Mueller’s piece, then the opinion in *Madey* could not possibly have turned out with such misunderstanding of the law.

Factually, neither *Deuterium* nor *Madey* has anything to do with an experimentation “on” a patented invention to see how the invention operates or to improve the invention. In both cases, there was experimentation “with” the patented invention. In *Deuterium*, the experimentation “with” the patented invention was to confirm that government contract specification were met and not to design around or otherwise experiment “on” the patented invention. In *Madey*, a patented laboratory tool was used to conduct research and not to study the laboratory tool itself. The use of the patented invention would be more akin to the situation where a microscope is patented and the accused infringement is the use of the microscope to study a subject – an experimentation *with* the microscope, as opposed to studying the microscope itself, to, for example, improve the microscope or understand its operation, an experimentation *on* the microscope.

Despite the irrelevancy of the holdings in both *Deuterium* and *Madey* to the issue of experimentation *on* a patented invention, where the precise factual situation of an experimentation *on* a patented invention was raised in *Integra Life Sciences I*, the accused infringer *waived* this argument, manifesting how strongly the *Deuterium* line of case law had taken hold at the Federal Circuit. *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860 (Fed. Cir. 2003), *rev'd sub nom Merck KGaA v Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005).

In *Integra Life Sciences I*, despite the fact that the accused infringer waived the right to rely upon the experimental use doctrine, a dissenting member of the

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panel *sua sponte* raised the issue. To this point, the author of the *Deuterium* case answered:

In her dissent, Judge Newman takes this opportunity to restate her dissatisfaction with this court's decision in *Madey v. Duke Univ.*, 307 F.3d 1351 (Fed.Cir.2002). However, the common law experimental use exception is not before the court in the instant case. *** On appeal, Merck does not contend that the common law research exemption should apply to any of the infringing activities evaluated by the jury. *** Moreover, during oral arguments, counsel for Merck expressly stated that the common law research exemption is not relevant to its appeal. Judge Newman's dissent, however, does not mention that the Patent Act does not include the word "experimental," let alone an experimental use exemption from infringement. See 35 U.S.C. § 271 (2000). Nor does Judge Newman's dissent note that the judge-made doctrine is rooted in the notions of de minimis infringement better addressed by limited damages. *Embrex v. Service Eng'g Corp.*, 216 F.3d 1343 (Fed.Cir.2000) (Rader, J., concurring); see also *Deuterium Corp. v. United States*, 19 Cl.Ct. 624, 631 (Cl.Ct.1990) ("This court questions whether any infringing use can be de minimis. Damages for an extremely small infringing use may be de minimis, but infringement is not a question of degree.").

Integra Lifesciences I, 331 F.3d at 863 n.2.

§ 15[a][6][B] Current Split within the Federal Circuit

The second longest serving active member of the court with more than forty years of patent experience both corporate and as a member of the court has spoken of “*stare decisis* going back 150 years[.]” *Prometheus Laboratories, Inc. v. Mayo Collaborative Serv.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010)(Lourie, J.)(citing *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 174-75 (1853)), *subsequent proceedings sub nom Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012).

A dissent in *Myspace* includes the statement that “[p]rohibitions against patenting abstract ideas, physical phenomena, and laws of nature ‘have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years.’” *Myspace, Inc. v. Graphon Corp.*, 672 F.3d 1250, 1268 (Fed. Cir. 2012)(Mayer, J., dissenting)(quoting *Bilski v. Kappos*, 130 S.Ct. 3218, 3225 (2010)).

A panel in *Cybersource* stated that “[t]he Court noted that these judicially created exceptions ‘have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years,’ and are ‘part of the storehouse of knowledge of all men ... free to all men and reserved exclusively to none.’” *Cybersource Corp.. v. Retail Decisions Inc.*, 654 F.3d 1366, 1369-70 (Fed. Cir. 2011)(Dyk,

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J.)(quoting *Bilski v. Kappos*, 130 S.Ct. 3218, 3225 (2010), quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)).

More recently, yet another panel stated that “[t]he Supreme Court has ‘interpreted § 101 and its predecessors ... for more than 150 years’ to ‘contain[] an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.’” *Buysafe, Inc. v. Google, Inc.*, 765 F.3d 1350, 1352 (Fed. Cir. 2014)(Taranto, J.)(quoting *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S.Ct. 2347, 2354 (2014), quoting *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S.Ct. 2107, 2116 (2013)).

It is without question the responsibility of an appellate court to follow *the law* as set forth by the Supreme Court. It is yet another matter for an appellate court to swallow Supreme Court Kool-Aid as to factual predicates for its jurisprudence. If the Court says black is white, the Court is wrong: Black is always black and never white.

Yet, the Federal Circuit has uncritically accepted factual predicates that are both wrong as a matter of the real world and which furthermore are in conflict with the earlier Supreme Court case law that the Federal Circuit has generally refrained from consideration in its opinions.

One dissent at the Federal Circuit notes:

Our patent system *** does not award a monopoly that precludes others from using the basic procedures of scientific investigation to study the same phenomenon. *See Bilski [v. Kappos]*, 130 S.Ct. 3218, 3253 (2010)] (Stevens, J., concurring) (Patents on laws of nature, natural phenomena, and abstract ideas “would stifle the very progress that Congress is authorized to promote.”). * * * When, as here, the claims so clearly offend the constitutional imperative to promote the useful arts, where they preempt all application of a principle or idea, it is entirely appropriate to hold them unpatentable subject matter before reaching anticipation, obviousness, or any other statutory section that might also prove invalidity.

Classen Immunotherapies Inc. v. Idec, 659 F.3d 1057, 1080 (Fed. Cir. 2011)(Moore, J., dissenting)

In yet another dissent, it is stated that:

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“[S]ometimes *too much* patent protection can impede rather than `promote the Progress of Science and useful Arts,' the constitutional objective of patent and copyright protection.’ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 (2006) (Breyer, J., joined by Stevens and Souter, JJ., dissenting from dismissal of writ of certiorari) (emphasis in original). This is particularly true in the context of patents on methods of conducting business. Instead of providing incentives to competitors to develop improved business techniques, business method patents remove building blocks of commercial innovation from the public domain. [Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 Santa Clara Computer & High Tech. L.J. 263, 275-77 (2000)]. Because they restrict competitors from using and improving upon patented business methods, such patents stifle innovation.”

In re Bilski, 545 F.3d 943, 1006 (Fed. Cir., 2008)(en banc)(Mayer, J., dissenting), *aff’d sub nom Bilski v. Kappos*, 561 U.S. 593 (2010). *See also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 719 (Fed. Cir., 2014)(Mayer, J., concurring) (““Subject matter eligibility challenges provide the most efficient and effective tool for clearing the patent thicket, weeding out those patents that stifle innovation ***.”)

The idea that patents “stifle” research is reprised in *Genetics Institute*:

“My fear is that the majority's rule could ultimately stifle the important incentives for innovation that drive our patent system. *** [T]he majority has effectively allowed Novartis to broaden the scope of its claims to usurp the fruits of research by the subsequent, independent inventors who actually discovered the location of vWF binding in the a3 region. By ruling that a patentee can have a monopoly on the later-discovered properties of a structure merely by claiming the structure itself, the majority's decision would discourage others from investing in future research into that very structure.”

Genetics Institute, LLC v. Novartis Vaccines and Diagnostics, Inc., 655 F.3d 1291, 1318 (Fed. Cir. 2011)(Dyk, J., concurring-in-part and dissenting-in-part)

The second senior-most active member of the Federal Circuit expressed his level of knowledge in the *CLS Bank* case:

“[E]ven inventions that fit within one or more of the [§ 101] statutory categories are not patent eligible if drawn to a law of nature, a natural phenomenon, or an abstract idea. The underlying concern is that patents covering such elemental concepts would reach too far and claim too much, on balance obstructing rather than catalyzing innovation. But danger also lies in applying the judicial exceptions too aggressively because ‘all

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inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”

CLS Bank Int'l v. Alice Corp., 717 F.3d 1269, 1277 (Fed. Cir., 2013)(en banc)(per curiam)(Lourie, J., joined by Dyk, Prost, Reyna, Wallach, JJ., concurring), *subsequent proceedings sub nom Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S.Ct. 1289, 1293 (2012).

Much earlier, one member of the court said that “sometimes *too much* patent protection can impede rather than ‘promote the Progress of Science and useful Arts,’ the constitutional objective of patent and copyright protection.” *In re Bilski*, 545 F.3d 943, 1006 (Fed. Cir., 2008) (en banc)(Mayer, J., dissenting), *subsequent proceedings sub nom Bilski v. Kappos*, 561 U.S. 593 (2010)(quoting *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 (2006) (Breyer, J., joined by Stevens and Souter, JJ., dissenting from dismissal of writ of certiorari)) emphasis in original).

A senior member of the court has expressed reservations to broad claims in the context of the *Myriad* case:

“[[t is important to consider the effects of such broad patent claims on the biotechnology industry. While [the patentee] has emphasized the biotechnology industry’s need of patent protection to encourage and reward research in this difficult and important field, there is another side to the coin. Broad claims to genetic material present a significant obstacle to the next generation of innovation in genetic medicine—multiplex tests and whole-genome sequencing. New technologies are being developed to sequence many genes or even an entire human genome rapidly, but firms developing those technologies are encountering a thicket of patents. Secretary’s Advisory Comm. on Genetics, Health, and Society, Dep’t of Health & Human Servs., *Gene Patents and Licensing Practices and Their Impact on Patient Access to Genetic Tests* 49–62 (2010). In order to sequence an entire genome, a firm would have to license thousands of patents from many different licensors. See *id.* at 50–51. Even if many of those patents include claims that are invalid for anticipation or obviousness, the costs involved in determining the scope of all of those patents could be prohibitive. See *id.* at 51–52; Rebecca S. Eisenberg, *Noncompliance, Nonenforcement, Nonproblem? Rethinking the Anticommons in Biomedical Research*, 45 *Hou. L.Rev.* 1059, 1076–1080 (2008) (concluding that existing studies ‘have focused relatively little attention on downstream product development’ and that interviews accompanying those studies suggest that, though smaller than initially feared, the costs associated with the patent thicket are ‘quite real in the calculations of product-developing firms’). In light of these considerations, this may well be one of those instances in which ‘*too much* patent protection can impede rather than ‘promote the Progress of Science and useful Arts.’ ”

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Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc., 548 U.S. 124, 126 (2006) (Breyer, J., dissenting from dismissal of writ as improvidently granted).

The *Myriad* Case, *The Ass'n For Molecular Pathology v. U.S. Patent and Trademark Office*, 653 F.3d 1329, 1379-80 (Fed. Cir., 2011)(Bryson, J., concurring in part and dissenting in part), *subsequent proceedings sub nom Association for Molecular Pathology v. Myriad*, 133 S. Ct. 2107 (2013).

In the same case, a differing view expressed by a less senior member of the court:

“The dissent suggests that ‘this may well be one of those instances in which ‘too much patent protection can impede rather than ‘promote the Progress of Science and useful Arts.’” Dissent at 1380 (quoting *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 (2006) (Breyer, J., dissenting from dismissal of writ as improvidently granted)). Yet the biotechnology industry is among our most innovative, and isolated gene patents, including the patents in suit, have existed for decades with no evidence of ill effects on innovation. See David E. Adelman & Kathryn L. DeAngelis, *Patent Metrics: The Mismeasure of Innovation in the Biotech Patent Debate*, 85 Tex. L.Rev. 1677, 1681 (2007) (‘The existing empirical studies find few clear signs that the patenting of biotechnology inventions is adversely affecting biomedical innovation.’); *id.* at 1729 (concluding ‘that overall biotechnology innovation is not being impaired by the growth in patents issued’).”

The *Myriad* Case, *The Ass'n For Molecular Pathology v. U.S. Patent and Trademark Office*, 653 F.3d 1329, 1371(Fed. Cir. 2011)(Moore, J., concurring), *subsequent proceedings sub nom Association for Molecular Pathology v. Myriad*, 133 S. Ct. 2107 (2013).

§ 15[a][6][C] *Ariosa* Deviation from Supreme Court Precedent

The majority opinion in *Ariosa* echoes the view that there is no right to experiment on a patented invention:

“The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability. *Alice [Corporation Pty. Ltd. v. CLS Bank International]*, 134 S. Ct. 2347, 2354 (2014) [‘We have described the concern that drives this exclusionary principal as one of pre-emption’]. For this reason, questions on preemption are inherent in and resolved by the § 101 analysis. The concern is that ‘patent law not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.’ *Id.* (internal quotations omitted). In other words, patent claims should not prevent the use of the basic building blocks of technology—abstract ideas, naturally occurring phenomena, and natural laws.”

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Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371, ___, slip op. at 14 (Fed. Cir. 2015), *further proceedings pending sub nom Sequenom v. Ariosa Diagnostics*, Supreme Court No. 15A871.

The *Ariosa* opinion is doubly flawed as to its discussion of “preemption” because the Sequenom invention in the *Ariosa* case claims neither any DNA nor any method of use of DNA so there is nothing to “preempt” in the way of the DNA set forth in the claim. Indeed, the *known* DNA in the Sequenom invention is the object of *identification* for its presence or absence which has absolutely nothing to do with any possible “preemption” of the use of any DNA.

§ 15[a][7] Importance of Simple, Well Defined Claims

An Examiner’s work load is greatly reduced where the claims are cleanly drafted, few in number and where claim elements at the point of novelty are clearly defined in the *Summary of the Invention*.

It is very important that any *definitions* of claim terminology appear in a *Summary of the Invention* so that the Examiner will quickly find the definitions and not waste time trying to figure out the scope of claim terminology from the *Detailed Description of the Invention*. To the extent that it takes a considerable amount of time for an Examiner to figure out the true scope of claims, this time – *together with other factors* may require more time for a complete action on the merits than the Examiner has allocated for the first action:

A patent examiner has only so much time to conduct a first Office Action on the merits which includes a review of all the claims to see that they are formally correct in compliance with 35 USC § 112, a prior art search; evaluation of the patentability of the claimed invention over the prior art; and preparing a first Office Action. If the Examiner allocates, say, six hours for all of these tasks, and the applicant presents a holistically prepared application that can be examined in, say, three hours, then it is to be expected that the Examiner *will* do a complete and thorough first Office Action. If, however, the cumulative effect could well *exceed* the allocated time if there is a presentation of large numbers of claims, formal errors in the claims, the citation of, say, forty references. *Then*, it is more than likely that the Examiner will focus on finding a collection of the best prior art and make a rejection of all the claims over a mosaic combination of references.

§ 15[b] Disclosure “Today” as Basis for Claims “Tomorrow”

Generic claim 1 in any application should, as a general rule, recite the “minimum elements” necessary to establish nonobviousness of an invention. In the case of a claim on the borderline of Supreme Court patent-eligibility standards, it is important to include at least one physical limitation as a prominent feature of the claims, and to include as many physical elements as possible *which are necessary for the commercial application of the invention*.

Perhaps more importantly, a “Diehr claim” should be presented that is modeled after the claims in *Diehr* which are cast as a method for curing rubber. This is in contrast to the “apply it” claims which downplay the physical element and have earned the scorn of the Supreme Court

The simple claim that recites an algorithm and essentially nothing more than a general instruction to “apply [the algorithm]” (“apply it”) is easy to write but clearly a prescription for denial of patent-eligibility: *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, ___ (2014), quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1294 (2012) (“*Mayo* made clear that transformation [of an abstract idea] into a patent-eligible application requires “more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ”)

Denial of “apply it” claims has been endorsed by the Federal Circuit. “[The court] must examine the limitations of the claims to determine whether the claims contain an ‘inventive concept’ to ‘transform’ the claimed abstract idea into patent-eligible subject matter. The transformation of an abstract idea into patent-eligible subject matter ‘requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ” *Ultramercial, Inc. v. Hulu, LLC*, ___ F.3d ___, ___ (Fed. Cir. 2014)(Lourie, J.)(citations omitted)). As stated by one of the newer members of the court, “*Mayo* made clear that transformation into a patent-eligible application requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Reyna, J.)(quoting *Mayo*, 132 S. Ct. at 1294), quoting *Mayo*, 132 S. Ct. at 1294)).

A claim to a combination that includes a “conventional” element is novel and should be nonobvious where there is no reason in the prior art to combine that “conventional” element with the other element (or elements) of a combination claim. This should also be true if the only other element of the claim is itself

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unpatentable by virtue of being abstract or a product of nature and hence, as such element, lacking patent-eligibility under 35 USC §101 as in *Parker v. Flook*, 437 U.S. 584 (1978).

Under traditional patent principles, there is *novelty* in the combination of elements in each of these situations. In the area where the other component is abstract or a product of nature as in *Flook*, the real question under historic patent law principles is whether the combination is *obvious* under 35 USC § 103.

Flook is foundational case law for more recent Supreme Court decisions relating to patent-eligibility under 35 USC § 101, including *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), the *Myriad* case, *Association for Molecular Pathology v. Myriad*, 133 S. Ct. 2107 (2013), and *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014). A more balanced view of the role of a “conventional” element is found in *Bilski v. Kappos*, 561 U.S. 593 (2010):

“*Flook* rejected ‘[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process.’ *Id.*, at 590. The Court concluded that the process at issue there was ‘unpatentable under §101, not because it contain[ed] a mathematical algorithm as one component, but because once that algorithm [wa]s assumed to be within the prior art, the application, considered as a whole, contain[ed] no patentable invention.’ *Id.*, at 594. As the Court later explained, *Flook* stands for the proposition that the prohibition against patenting abstract ideas ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or adding ‘insignificant postsolution activity.’ [*Diamond v. Diehr*, 450 U.S. 175, 191-92 (1981)].

“Finally, in *Diehr*, the Court established a limitation on the principles articulated in *Benson* and *Flook*. The application in *Diehr* claimed a previously unknown method for ‘molding raw, uncured synthetic rubber into cured precision products,’ using a mathematical formula to complete some of its several steps by way of a computer. 450 U. S., at 177. *Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, ‘an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.’ *Id.*, at 187. *Diehr* emphasized the need to consider the invention as a whole, rather than ‘dissect[ing] the claims into old and new elements and then . . . ignor[ing] the presence of the old elements in the analysis.’ *Id.*, at 188. Finally, the Court concluded that because the claim was not ‘an attempt to patent a mathematical formula, but rather [was] an industrial process for the molding of rubber products,’ it fell within §101’s patentable subject matter. *Id.*, at 192.”

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To be sure, attempts have been made to minimize the impact of *Diehr* as seen from the *dictum* from Circuit Judge Plager in *Versata Software, Inc. v. SAP America, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Plager, J.). In *Versata*, a panel minimized the precedential importance of *Diamond v. Diehr* on the basis that the claim was couched in terms of an industrial process – a method of curing rubber:

In *Alice [Corporation Pty. Ltd. v. CLS Bank International]*, 134 S. Ct. 2347 (2014), the Court held that claims directed to the abstract idea of intermediated settlement were unpatentable, even though some of the claims required generic computer implementation. In *Bilski [v. Kappos]*, 561 U.S. 593 (2010), the Court held that claims directed to the abstract idea of risk hedging were unpatentable. In *Parker v. Flook*, 437 U.S. 584 (1978), the Court held that a mathematical formula for computer alarm limits in a catalytic conversion process was a patent-ineligible abstract idea. In *Gottschalk v. Benson*, 409 U.S. 63 (1972), the Court held that claims involving an algorithm for converting binary-coded decimal numerals into pure binary form were unpatentable since the patent was, in practical effect, a patent on the algorithm itself.

These cases may be contrasted with *Diamond v. Diehr*, 450 U.S. 175 (1981), in which the Court held that a computer-implemented process for curing rubber was patent eligible even though it employed a well-known mathematical equation. It used the equation in a process to solve a technological problem in conventional industry practice.”

§ 15[b][1] Combination Definition Integrating an Inventive Feature

A common undercurrent in the patent-eligibility cases particularly since *Bilski v. Kappos*, 561 U.S. 593 (2010), has been the concern that a patent on an abstract idea or principle would “preempt” future research. *Alice* is just a more recent iteration of the Supreme Court concern for preemption: “We have described the concern [over § 101] that drives this exclusionary principle as one of pre-emption.” *Alice*, 134 S. Ct. at 2354 (quoting *Bilski v. Kappos*, 561 U.S. 593, 611-12 (2010)). The concern is the impact of “upholding the patent ‘would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea’” *Id.*

Stating that “[l]aws of nature, natural phenomena, and abstract ideas are ‘the basic tools of scientific and technological work[,]’” *Alice*, 134 S. Ct. at 2354 (quoting *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013)), the Court states that “monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,’ thereby thwarting the primary object of the patent laws.” *Alice*, 134 S. Ct. at 2354 (quoting *Mayo* and the U.S. Const., Art. I, § 8, cl. 8, that “Congress ‘shall have Power . . . To promote the Progress of Science and useful Arts’”).

The Court reiterates the position with reference to a mid-nineteenth century case: “We have ‘repeatedly emphasized this . . . concern that patent law not inhibit further discovery by improperly tying up the future use of’ these building blocks of human ingenuity.” *Alice*, 134 S. Ct. at 2354 (quoting *Mayo*, citing *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113 (1854)).

§ 15[b][2] Pinpointing the Inventive Feature in a Combination Claim

In *Alice* the Court also recognizes that it must draw the line to *permit* patenting of inventions because a naked “preemption” argument would foreclose patentability in many areas of technology. Thus, after stating its preemption theory to block patenting of abstract ideas, the Court adds an important caveat:

“At the same time, we tread carefully in construing this exclusionary principle lest it swallow all of patent law. *Mayo*, [supra]. At some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’ *Id.*, (...). Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept. See *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). ‘[A]pplication[s]’ of such concepts “to a new and useful end,” we have said, remain eligible for patent protection. *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

“Accordingly, in applying the §101 exception, we must distinguish between patents that claim the ‘buildin[g] block[s]’ of human ingenuity and those that integrate the building blocks into something more, *Mayo*, [supra], thereby ‘transform[ing]’ them into a patent-eligible invention, *id.*,.... The former ‘would risk disproportionately tying up the use of the underlying’ ideas, *id.*,...., and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.”

Alice, 134 S. Ct. at 2354-55.

Nothing in *Alice* in any way suggests that subject matter should be preempted that is both novel and nonobvious, i.e., “inventive”. Indeed, the same concerns that motivated the Supreme Court to judicially legislate a standard of “invention” are identically applicable to the concerns expressed by the Supreme Court under the theory of “preemption” in *Alice* and the other patent-eligibility cases.

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Instead of dealing with an issue of patent-eligibility, the Court in *KSR* invalidated the “gas pedal” patent on the basis that “Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command must 'promote the Progress of . . . useful Arts.' This is the *standard* expressed in the Constitution and it may not be ignored.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007)(citing U.S. Const., Art. I, § 8, cl. 8). Thus, “[t]hese premises led to the bar on patents claiming obvious subject matter established in *Hotchkiss* [v. *Greenwood*, 52 U.S. (11 How.) 248 (1851),] and codified in § 103.” *Id.*

The same theme was stated in *Anderson's-Black Rock*: “Congress may not authorize the issuance of patents whose effects are to *remove existent knowledge from the public domain, or to restrict free access to materials already available.*” *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 61 (1969)(emphasis added).

While the Court in *Alice* seeks to draw a line between what is and what is not patent-eligible based upon preemption, the way the line is drawn is based upon whether the claimed subject matter is “inventive”. But, this is synonymous with whether subject matter is non-obvious. The identical preemption concerns apply for both the “abstract” ideas and the clearly conventional technology of the section 103 cases: In both settings, the patent should not preempt known or obvious basic building blocks for future innovation.

If the Supreme Court can be faulted for perpetuating the false idea that patents *preempt* research, the blame must also be shared by the Federal Circuit that has long had an element that shared this viewpoint. A central point of the *Myriad* petition is the notion that any patent *preempts* follow-on research, a problematic premise in the context of two centuries of contrary domestic precedent that has been a model for the major patent regimes around the world.

§ 15[b][3] “Conventional” Element vs. Combination “As a Whole”

One may agree, *arguendo*, that the methodology in *Flook* was wrong and in violation of the “all elements” rule. But, at first blush, the question may be asked: Why does it matter that a “conventional” element of the claim is disregarded in the evaluation of a combination claim?

The principal reason *why* a claim is drafted with plural elements is precisely because it is the *combination* that is evaluated, *as a whole*, in determination of patentability. Thus, if there are elements “A” and “B” in a patented combination and “A”, standing alone, is patentable, while “B”, standing alone, is conventional, the manifest approach to obtaining maximum breadth would be *not* to claim the combination A+B but claim the element A-alone, because the claim to the element A-alone covers that element, by itself, as well as *any* combination with any manner of other element(s). The only reason *why* the “conventional” element “B” is included in “claim 1” is because element “A” may not be *per se* patentable, but the *combination* may be unexpected (and hence patentable).

The error in *Flook* may be seen from the explanation in *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955 (Fed. Cir. 1986)(E. Smith, J.):

“The dispositive question is not whether the claimed device is an ‘invention’; rather, it is whether the invention satisfies the standards of patentability. 35 U.S.C. §§ 100-103. To suggest that [the patentee]’s new combination ‘is not necessarily an invention’ or otherwise to require some concept of ‘inventiveness’ or ‘flash of genius’ for patentability would improperly misplace the focus of 35 U.S.C. Sec. 103.

“That each element in a claimed invention is old or unpatentable does not determine the nonobviousness of the claimed invention as a whole. ‘There is no basis in the law * * * for treating combinations of old elements differently in determining patentability.’ As stated in *Stratoflex*:

“The reference to a ‘combination patent’ is equally without support in the statute. There is no warrant for judicial classification of patents, whether into ‘combination’ patents and some other unnamed and undefined class or otherwise. Nor is there warrant for differing treatment or consideration of patents based on a judicially devised label. Reference to ‘combination’ patents is, moreover, meaningless. Virtually all patents are ‘combination patents,’ if by that label one intends to describe patents having claims to inventions formed of a combination of elements. It is difficult to visualize, at least in the mechanical-structural arts, a ‘non-combination’ invention, i.e., an invention consisting of a single element. * * * [Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1540 (Fed.Cir.1983)(original emphasis).]

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“Casting an invention as ‘a combination of old elements’ leads improperly to an analysis of the claimed invention by the parts, not by the whole. That is what seems to have happened here. The critical inquiry is whether ‘there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.’ [Fromson v. Advance Offset Plate, Inc., 755 F.2d 1549, 1556 (Fed.Cir.1985) (emphasis in original), quoting Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462 (Fed. Cir. 1984).]”

Custom Accessories, 807 F.2d at 959 (footnotes integrated into text in brackets or deleted).

§ 15[b][4] *Diehr* vs. a Simplistic “Apply it” Claim Approach

The simple claim that recites an algorithm and essentially nothing more than a general instruction to “apply [the algorithm]” (“apply it”) is easy to write but clearly a prescription for denial of patent-eligibility: “*Mayo* made clear that transformation [of an abstract idea] into a patent-eligible application requires “more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ” *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, __ (2014)(quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1294 (2012)).

The Federal Circuit has underscored its view that an “apply it” application of an algorithm lacks patent-eligibility: “[The court] must examine the limitations of the claims to determine whether the claims contain an ‘inventive concept’ to ‘transform’ the claimed abstract idea into patent-eligible subject matter. *Alice*, 134 S. Ct. at 2357 (quoting *Mayo*, 132 S. Ct. at 1294, 1298). The transformation of an abstract idea into patent-eligible subject matter ‘requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ” *Id.* (quoting *Mayo*, 132 S. Ct. at 1294).” *Ultramercial, Inc. v. Hulu, LLC*, __ F.3d __, __ (Fed. Cir. 2014)(Lourie, J.); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, __ F.3d __, __ (Fed. Cir. 2015)(Reyna, J.)(quoting *Mayo*, 132 S. Ct. at 1294)(“*Mayo* made clear that transformation into a patent-eligible application requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’ ”). *See also* § 15[a][7], *Adams and Ochiai Consideration of the Invention “as a Whole”* (discussing the *Adams Battery* case, *United States v. Adams*, 383 U.S. 39 (1966), and *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995)).

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The better approach is to provide a claim to an overall process where the algorithm is just one of the elements of the claim as exemplified by the claim in *Diamond v. Diehr*, 450 U.S. 175 (1981), to a method of curing rubber.

§ 15[b][5] *Ariosa* Adoption of the “Apply it” Rationale

In *Ariosa* the majority opinion explained:

“*Mayo* [*Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012),] made clear that transformation into a patent-eligible application requires ‘more than simply stat[ing] the law of nature while adding the words ‘apply it.’” *Id.* at 1294. A claim that recites an abstract idea, law of nature, or natural phenomenon must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea, law of nature, or natural phenomenon].’ *Id.* at 1297. For process claims that encompass natural phenomenon, the process steps are the additional features that must be new and useful. *See Parker v. Flook*, 437 U.S. 584, 591 (1978) (‘The process itself, not merely the mathematical algorithm, must be new and useful.’).”

Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371, ___ (Fed. Cir. 2015). (Reyna, J.)

§ 15[c] Mythology of “[S]tare decisis going back 150 years”

“Although not compelled by the statutory text, the Court has held that “the[] exceptions [to statutory patent-eligibility] have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years[.]” *Prometheus Laboratories, Inc. v. Mayo Collaborative Serv.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010)(Lourie, J.)(citing *Le Roy v. Tatham*, 55 U.S. (14 How.) at 174-75), *subsequent proceedings sub nom Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012).

To be sure, the Supreme Court itself has characterized the case in similar terms. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)(citing *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1853)) (“ “[P]atents cannot issue for the discovery of the phenomena of nature.”); *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014)(quoting *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S.Ct. 2107, 2116 (2013)) (“ [The Supreme Court has] interpreted § 101 and its predecessors ... for more than 150 years [to]

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contain[] an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.’ ”)

Beyond *Prometheus*, other Federal Circuit cases discussing *Le Roy v. Tatham* include *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008)(Michel, C.J.)(quoting *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1852) (“A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.”); *Classen Immunotherapies Inc. v. Idec*, 659 F.3d 1057, 1080 (Fed. Cir. 2011)(Moore, J., dissenting) (quoting *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 173 (1853) (“A patent is not good for an effect, or the result of a certain process, as that would prohibit all other persons from making the same thing by any means whatsoever. This, by creating monopolies, would discourage arts and manufactures, against the avowed policy of the patent laws.”)).

§ 15[c][1] *Househill Coal Nineteenth Century English Precedent*

Househill Coal & Iron Co. v. Neilson, Webster's Patent Case 673, 683 (House of Lords 1843)), is cited as foundation for *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852). See Jeffrey A. Lefstin, *Inventive Application: a History*, 67 Fla. L. Rev. 565, 594-96 (2015)(analyzing traditional notions of patent eligibility of newly discovered laws of nature); cf. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Linn, J., concurring)(“Sequenom's invention is nothing like the invention at issue in *Mayo [Collaborative Services v. Prometheus Laboratories, Inc.]*, 132 S. Ct. 1289 (2012)]. Sequenom ‘effectuate[d] a practical result and benefit not previously attained,’ so its patent would traditionally have been valid. *Le Roy v. Tatham*, 63 U.S. 132, 135-36 (1859)(quoting *Househill Coal & Iron Co. v. Neilson*, Webster's Patent Case 673, 683 (House of Lords 1843)); *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) (same); see generally Jeffrey A. Lefstin, *Inventive Application: a History*, 67 Fla. L. Rev. [565, 594-96 (2015)](analyzing traditional notions of patent eligibility of newly discovered laws of nature). But for the sweeping language in the Supreme Court's *Mayo* opinion, I see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible.”).

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Le Roy v. Tatham, 55 U.S. (14 How.) 156 (1852), states that:

“A new property discovered in matter, when practically applied, in the construction of a useful article of commerce or manufacture, is patentable; but the process through which the new property is developed and applied, must be stated, with such precision as to enable an ordinary mechanic to construct and apply the necessary process. This is required by the patent laws of England and of the United States, in order that when the patent shall run out, the public may know how to profit by the invention. *It is said, in the case of the Househill Company v. Neilson, Webster's Patent Cases, 683, 'A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.'*”

Le Roy v. Tatham, 55 U.S. (14 How.) at 175 (emphasis added). The emphasized portion of this opinion is repeated in *Le Roy v. Tatham*, 63 U.S. (22 How.) 132 (1859). *See also In re Bergy*, 596 F.2d 952, 991 (CCPA 1979)(Baldwin, J., concurring)(“A new property discovered in matter, when practically applied, in the construction of a useful article of commerce or manufacture, is patentable; but the process through which the new property is developed and applied, must be stated, with such precision as to enable an ordinary mechanic to construct and apply the necessary process. This is required by the patent laws of England and of the United States, in order that when the patent shall run out, the public may know how to profit by the invention. It is said, in the case of the *Househill Company v. Neilson*,

1 Webs. Pat. Cas., 683, ‘A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.’ *Id.* at 174-5.”)

Househill Coal, however, had absolutely nothing to do with patent-eligibility, as explained by Professor Lefstin, *supra*.

§ 15[c][2] *Le Roy v. Tatham*, The Lead Pipe Case

Le Roy v. Tatham has nothing to do with an “abstract” idea.

The invention involved was to a method of making a lead pipe.

A lead pipe!

A detailed analysis of the case is provided by Professor Jeffrey A. Lefstin, *Inventive Application: A History*, 67 Fla. L. Rev. 565, 594-96 (2015). In contrast to the characterization of *Le Roy v. Tatham* since *Funk v. Kalo* nineteenth century case law more properly provides a more contemporaneous explanation of the case.

A Supreme Court case from the same century, *Busell Trimmer Co v. Stevens*, 137 U.S. 423 (1890)(Lamar, J.). See also Professor Jeffrey A. Lefstin, *Inventive Application: A History*, 67 Fla. L. Rev. 565, 594-96 (2015). As explained in *Bussell Trimer*:

In *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 177 (1853), ... the claim was for a combination of old parts of machinery to make lead pipes, in a particular manner, under heat and pressure. The combination was held not to be patentable, the court saying: 'The patentees claimed the combination of the machinery as their invention in part, and no such claim can be sustained without establishing its novelty, not as to the parts of which it is composed, but as to the combination.' The court also quoted, with approval, the following from *Bean v. Smallwood*, 2 Fed. Cas. 1142 (No. 1,173)(D. Mass. 1843), an opinion by Mr. Justice STORY: 'He [the patentee] says that the same apparatus, stated in this last claim, has been long in use, and applied, if not to chairs, at least in other machines, to purposes of a similar nature. If this be so, then the invention is not new, but at most is an old invention or apparatus or machinery applied to a new purpose. Now, I take it to be clear that a machine or apparatus or other mechanical contrivance, in order to give the party a claim to a patent therefor, must in itself be substantially new. If it is old and well known, and applied only to a new purpose, that does not make it patentable.'"

Busell Trimmer, 137 U.S. at 433-34.

Bean v. Smallwood is just one of several leading cases standing for the proposition that the application of an old process to a new use lacks patentable novelty. See *Dunbar v. Myers*, 94 U.S. 187, 199 (1876)(Clifford, J.)(citing *Howe v. Abbott*, 12 Fed. Cas. 42 (No. 6,766)(D. Mass. 1842)(Story, J.); *Bean v. Smallwood*, 2 Fed. Cas. 1142 (No. 1,173)(D. Mass. 1843); *Glue Co. v. Upton*, 97 U.S. 3 (1877))("Judge Story held, many years ago, that the mere application of an old process, machine, or device to a new use was not patentable,— that there must be some new process or some new machinery to produce the result, in order that the

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supposed inventor may properly have a patent for the alleged improvement.”). See also *Brown v. Piper*, 91 U.S. 37, 41 (1875)(Swayne, J.)(citing, *inter alia*, *Howe v. Abbott and Bean v. Smallwood*) (“[T]his was simply the application by the patentee of an old process to a new subject, without any exercise of the inventive faculty, and without the development of any idea which can be deemed new or original in the sense of the patent law. The thing was within the circle of what was well known before, and belonged to the public. No one could lawfully appropriate it to himself, and exclude others from using it in any usual way for any purpose to which it may be desired to apply it.”).

As explained in *Diehr*, “[t]he question ... of whether a particular invention is novel is ‘wholly apart from whether the invention falls into a category of statutory subject matter.’” *Id.*, quoting *Diamond v. Diehr*, 450 U.S. 175, 190 (1981), quoting *In re Bergy*, 596 F.2d 952, 961 (CCPA 1979)(Rich, J.).

To be sure, *Le Roy v. Tatham* is not the only case relied upon by the Court as basis for an exception to patent-eligibility. Other notable cases having nothing to do with patent-eligibility but instead deal with the nineteenth century invention of the eraser-tipped pencil, the *Rubber-Tip Pencil* case, *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498 (1874), and the more modern aggregation of several known species of microorganism in *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127 (1948).

The *Rubber-Tip Pencil* case has been cited for “the longstanding rule that ‘an idea of itself is not patentable.’” See *Diamond v Diehr*, 450 U.S. at 164-65 (dictum)(citing *Rubber-Tip Pencil*, 87 U.S. (20 Wall.) at 507), and other cases for the proposition that “[t]his Court has undoubtedly recognized limits to § 101 and every discovery is not embraced within the statutory terms. Excluded from such patent protection are laws of nature, natural phenomena, and abstract ideas.”); see also *Parker v. Flook*, 437 U.S. at 598-99 (Stewart, J., joined by Burger, C.J., Rehnquist, J., dissenting)(citing *Rubber-Tip Pencil*, 87 U.S. (20 Wall.) at 507), and other cases for the proposition that “[i]t is a commonplace that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter [under 35 USC § 101]. A patent could not issue, in other words, on the law of gravity, or the multiplication tables, or the phenomena of magnetism, or the fact that water at sea level boils at 100 degrees centigrade and freezes at zero –even though newly discovered.”

The first two paragraphs of the opinion in the *Rubber-Tip Pencil* case make it crystal clear that it was *acknowledged* that the claimed rubber-tipped pencil *is* an “article of manufacture” (and hence to patent-eligible subject matter). But, the

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question presented was whether this new article of manufacture is *patentable* in the sense of what today are the patentability considerations of novelty and nonobviousness:

“The question which naturally presents itself for consideration at the outset of this inquiry is, whether the new article of manufacture, claimed as an invention, was patentable as such. ...

“A patent may be obtained for a new or useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof. In this case..., [the] patent was for ‘a new manufacture,’ being a new and useful rubber head for lead-pencils. It was not for the combination of the head with the pencil, but for a head to be attached to a pencil or something else of like character. It becomes necessary, therefore, to examine the description which the patentee has given of his new article of manufacture, and determine what it is, and whether it was properly the subject of a patent.”

Rubber-Tip Pencil, 87 U.S. (20 Wall.) at 504-05.

Patentability was denied under classic principles of novelty and nonobviousness:

“But the cavity [of the claimed pencil] must be made smaller than the pencil and so constructed as to encompass its sides and be held thereon by the inherent elasticity of the rubber. This adds nothing to the patentable character of the invention. Everybody knew, when the patent was applied for, that if a solid substance was inserted into a cavity in a piece of rubber smaller than itself, the rubber would cling to it. The small opening in the piece of rubber not limited in form or shape, was not patentable, neither was the elasticity of the rubber. What, therefore, is left for this patentee but the idea that if a pencil is inserted into a cavity in a piece of rubber smaller than itself the rubber will attach itself to the pencil, and when so attached become convenient for use as an eraser?

“An idea of itself is not patentable, but a new device by which it may be made practically useful is. The idea of this patentee was a good one, but his device to give it effect, though useful, was not new.”

Rubber-Tip Pencil, 87 U.S. (20 Wall.) at 507.

The holding in the *Rubber-Tipped Pencil* case was to the product still in use today, the modern pencil pointed at one end with “lead” and eraser-tipped at the other, which was found invalid over the prior art under what today would be obviousness under 35 USC § 103(a).

For one year short of a full quarter century, *Funk v. Kalo* was a relatively obscure case holding that an aggregation of bacterial was obvious or – to use the

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terminology before the 1952 Patent Act – lacked “patentable invention”. Twenty-four years later the author of the *Benson* case latched onto *dicta* from his previous majority opinion in *Funk v. Kalo* as basis for sweeping statements denying patent-eligibility to software technology.

The Bond invention claimed in *Funk v. Kalo* is to a classic “manufacture” or “article of manufacture”, a novel mixture of bacterial: “An inoculant ... comprising a plurality of selected mutually non-inhibitive strains of different species of bacteria of the genus *Rhizobium*....” *Funk v. Kalo*, 333 U.S. at 128 n.1 (quoting claim 4).

Indeed, the Court recognizes that Bond’s mixture is a “new and different *composition*”:

“The Circuit Court of Appeals [in its ruling sustaining patent validity] thought that Bond did much more than discover a law of nature, since he made a new and different composition of non-inhibitive strains which contributed utility and economy to the manufacture and distribution of commercial inoculants.”
Funk v. Kalo, 333 U.S. at 130-31.

The *holding* in *Funk v. Kalo* was that this combination lacked “invention” – the pre-1952 *Hotchkiss*-based wording of the day for the standard of what four years later under the 1952 Patent Act was codified as a standard of nonobviousness under what today is 35 USC § 103(a).

The *holding* in *Funk v. Kalo* focused upon invention in the sense of obviousness as stated by the Court itself: Bond’s “*aggregation of species* fell short of invention within the meaning of the patent statutes.” More completely stated:

“The Circuit Court of Appeals [in its ruling sustaining patent validity] thought that Bond did much more than discover a law of nature, since he made a new and different composition of non-inhibitive strains which contributed utility and economy to the manufacture and distribution of commercial inoculants. But we think that that *aggregation of species* fell short of invention within the meaning of the patent statutes.”

Funk v. Kalo, 333 U.S. at 130-31 (emphasis added).

The focus on obviousness is underscored by the concurring opinion of Justice Frankfurter: “Insofar as the court below concluded that the packaging of a particular mixture of compatible strains is an invention [in the sense of patent-eligibility] and as such patentable, I agree, provided not only that a new and useful property results from their combination, but also that *the particular strains are*

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identifiable and adequately identified.” *Funk v. Kalo*, 333 U.S. at 133 (Frankfurter, J., concurring)(emphasis added). He points out that the Bond claim failed to *identify* the particular strains which were basis for the claim of his unobvious result.

The majority attributes the beneficial results of the patentee’s work to “nature”: “Bond does not create a state of inhibition or of non-inhibition in the bacteria. Their *qualities are the work of nature*. Those qualities are of course not patentable.”

Manifesting his knowledge of science *vel non* Justice Douglas states:

“Discovery of the fact that certain strains of each species of these bacteria can be mixed without harmful effect to the properties of either is a discovery of their qualities of non-inhibition. It is no more than the discovery of some of the handiwork of nature and hence is not patentable. The aggregation of select strains of the several species into one product is an application of that newly-discovered natural principle. But however ingenious the discovery of that natural principle may have been, the application of it is hardly more than an advance in the packaging of the inoculants. ...The bacteria perform in their natural way. Their use in combination does not improve in any way their natural functioning. They serve the ends nature originally provided and act quite independently of any effort of the patentee.”

Funk v. Kalo, 333 U.S. at 130.

The quoted statement of opinion relates not to the law but to the relation of science to a mystical belief of nature and has been outdistanced by the growth of scientific knowledge:

Particularly in earlier centuries and millennia but still well into the twentieth century, where there is no scientific explanation for a phenomenon, the explanation was often that this was a “nature’s secret”. As the frontiers of science rolled back the areas of uncertainties, what had been “nature’s secret” was now attributable to a rational scientific explanation. One of the last bastions of a mystical belief in “nature’s secrets” relates to the explanation of mechanisms of pharmaceutical and agricultural phenomena where there is no explanation available from science.

One may see the spread of science filling the void of knowledge in the field of cancer treatments. Whereas little more than a generation ago a diagnosis of cancer was usually a diagnosis of impending death, whereas today more and more cancers are treatable and in some areas the prognosis for recovery outweighs the

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alternative. Yet, specific cancer treatments remain elusive as only one out of literally thousands of compounds has true efficacy in humans and many cancers remain untreatable.

§ 15[d] The “Question Presented” at the Supreme Court

There have been several cases where the facts *appeared* to support a Supreme Court review, but for an ill-stated “*Question Presented*”. The mythology that a petition – and its “*Question Presented*” – represent a mere procedural hurdle to grant *certiorari* and then plays no role in the merits appeal is mythology. That the merits appeal must in almost all cases stick to the *Question Presented* is graphically illustrated by *Izumi Seimitsu Kogyo K.K. v. U. S. Philips Corp.*, 510 U.S. 27 (1993) (per curiam dismissal of petition for grant of *certiorari*). In that case, *certiorari* was granted and full merits briefing and merits oral argument transpired, but the theme of the case had shifted from the *Question Presented*. Whereupon, after the oral argument on the merits, the Supreme Court *dismissed* the case for improvident grant of *certiorari*:

“In order to reach the merits of this case, we would have to address a question that was neither presented in the petition for certiorari nor fairly included in the one question that was presented. Because we will consider questions not raised in the petition only in the most exceptional cases, and because we conclude this is not such a case, we dismiss the writ of certiorari as improvidently granted.

* * *

“[In its petition for *certiorari*, Izumi] presented a single [*Question Presented*] for our review: ‘Should the United States Courts of Appeals routinely vacate district court final judgments at the parties’ request when cases are settled while on appeal?’ *** In its brief on the merits, petitioner added the following to its list of questions presented: ‘Whether the court of appeals should have permitted Petitioner to oppose Respondents’ motion to vacate the district court judgment.’

“*** [Supreme Court Rule 14.1(a) provides:] ‘Only the questions set forth in the petition, or fairly included therein, will be considered by the Court.’

“The intervention question being neither presented as a question in the petition for certiorari nor fairly included therein, ‘Rule 14.1(a) accordingly creates a heavy presumption against our consideration’ of that issue. *Ibid.* Rule 14.1(a), of course, is prudential; it ‘does not limit our power to decide important questions not raised by the parties.’ *Blonder-Tongue Laboratories, Inc. v. University of Ill. Foundation*, 402 U. S. 313, 320, n. 6 (1971). A prudential rule, however, is more than a precatory admonition.

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As we have stated on numerous occasions, we will disregard Rule 14.1(a) and consider issues not raised in the petition 'only in the most exceptional cases.' [Yee v. Escondido, 503 U. S. 519, 535 (1992)](quoting Stone v. Powell, 428 U. S. 465, 481, n. 15 (1976)); see also Berkemer v. McCarty, 468 U. S. 420, 443, n.38 (1984) ('Absent unusual circumstances, ... we are chary of considering issues not presented in petitions for certiorari')."

Izumi Seimitsu, 510 U.S. at 30, 32 (footnotes deleted).



§ 16. Method of Making or Using a Product

§ 16[a] Method of use claims

Method of use claims are important for a novel and unobvious use of a known product. Such claims are also useful where the use is novel and unobvious even if the product is seemingly patentable.

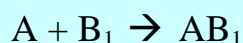
If there is close prior art to a claimed compound *but for a different utility* then the method of use claim can remain valid even if the compound, per se, lacks novelty or is obvious.

§ 16[b] Method of making a Novel Product

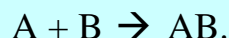
Where a chemical or biotechnology new entity is patentable, the “analogy process” of making that product may also be patentable. Thus, consider the situation where there is a new molecule



that is produced by the synthesis



which follows the prior art method



§ 16[b][1] Classic German “Analogie Verfahren” Claims

Historically, and since the very first Federal Patent Law of Germany in the nineteenth century, claims to the “Analogie Verfahren” (analogy process) were quasi-product claims used by the German chemical and pharmaceutical industries to protect their new products. A novel and nonobvious compound could not be claimed, *per se*, but the *method* for making that compound through obvious methods was patentable. Furthermore, if the product were novel, then a presumption arose that the sale of the same product was made by the accused infringer.

§ 16[b][2] *Ochiai* Establishment of Patentability

Historically, the German “analogy process” claim was not recognized as patentable under the notorious *Larsen* case:

More than fifty years ago in *Larsen* it was established that an “analogy process” for making a new chemical product through conventional synthesis is obvious, because “given” the identity of the final product, the selection of the reactants would be obvious. *In re Larsen*, 292 F.2d 531 (CCPA 1961)(Rich, J.); *In re Durden*, 763 F.2d 1406 (Fed. Cir. 1985). In reaffirming *Larsen* the court in *Durden* explained that:

“A process, after all, is a manipulation according to an algorithm, as we have learned in recent years – doing something to or with something according to a schema. The argument is that an otherwise old process with a predictable outcome is unobvious because it is applied to a new material, notwithstanding the new material is similar or analogous to materials identically manipulated or treated before. *To anyone other than a patent lawyer and therefore unfamiliar with the mysteries of patent claims, this would make little sense, we believe.* Appellants conclude their argument with the assertion that they ‘are entitled to claim their invention as they see fit,’ which is indisputable. 35 U.S.C. Sec. 112, second paragraph. But when it comes to determining whether their claim is allowable under Sec. 103, as was said in [*In re Albertson*, 332 F.2d 379 (CCPA 1964),] and elsewhere, we must treat the claim as we find it. We hold the process claim before us to be directed to obvious subject matter in view of [the prior art]. We do not find that *Albertson* has been previously overruled *sub silentio*, as the dissenters believe, and we do consider it a viable precedent which fully supports this decision.”

Durden, 763 F.2d at 1410-11 (emphasis added).

Durden, if not overruled, was distinguished to pave the way for patenting an “analogy process”, in *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995). As explained in *Ochiai*:

“The test of obviousness *vel non* is statutory. It requires that one compare the claim's ‘subject matter as a whole’ with the prior art ‘to which said subject matter pertains.’ 35 U.S.C. Sec. 103. The inquiry is thus highly fact-specific by design. This is so ‘whether the invention be a process for making or a process of using, or some other process.’ [*In re Kuehl*, 475 F.2d 658, 665 (CCPA 1973)]. When the references cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071 1074 (Fed.Cir.1988).

“Applying this statutory test to the art of record, we conclude that *Ochiai*'s process invention as claimed is not *prima facie* obvious. The process invention *Ochiai* recites in claim 6 specifically requires use of none other than its new, nonobvious acid as one of

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the starting materials. One having no knowledge of this acid could hardly find it obvious to make any cephem using this acid as an acylating agent, much less the particular cephem recited in claim 6. In other words, it would not have been obvious to those of ordinary skill in the art to choose the particular acid of claim 6 as an acylating agent for the known amine for the simple reason that the particular acid was unknown but for Ochiai's disclosure in the '429 application. As one of our predecessor courts had occasion to observe, in a case involving a highly analogous set of facts, 'one cannot choose from the unknown.' [*In re Nancy*, 499 F.2d 1289, 1293 (CCPA 1974)]."

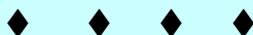
§ 16[b][3] Backup Protection for Important Product Inventions

A claim to the method of making a new compound through a conventional chemical reaction provides backup protection for compound inventions. In some situations an at first blush novel compound is later discovered to have been produced as a byproduct or occurs as part of a natural extract. If claims to the product are invalidated, then the claim to the organic synthesis of the compound may well survive. For example, if it is later discovered that a product produced through an analogy process claim is anticipated due to the production of the product as a minor impurity in a different prior art process, the process claim may well survive a validity test.

§ 16[b][4] Meaningful Protection under the Process Patents Amendments Act

Method of making claims at one time had the serious drawback of limited applicability to products made offshore because there is no direct infringement of a process claim under 35 USC § 271(a) where a process is practiced overseas, and the product of that process is imported into the United States.

Congress plugged this loophole with the Process Patents Amendments Act of 1988. Thus, "[35 USC §] 154(a)(1) did not include the right to exclude others from using products made by a patented process—statutory provisions that were not implemented until 1988. Process Patents Amendment Act of 1988 [], P.L. 100–418, §§ 9002, 9003, 102 Stat. 1107, 1563–64 (1988)." *Zoltek Corp. v. United States*, 672 F.3d 1309, 1320 (Fed. Cir. 2012)(en banc)(Gajarsa, J.).



§ 17 Product-by-Process Claims

Is a product-by-process claim infringed when the *same product* is produced by a different process than identified in the claim? Currently, the answer in the United States is “no” based upon the the *en banc* decision in *Abbott Laboratories v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009)(en banc in relevant part)(Rader, J.).

But, the answer is “yes” in at least Japan, thanks to the recent Supreme Court decision in that country in *Pravastatin Sodium Case* (Japan Supreme Court, June 5, 2015, Second Petty Bench, case Nos. 2012(ju)1204 and 2012(ju) 2658); *see also* Dr. Shoichi Okuyama, *Pravastatin Sodium Case, Japan Product-by-Process Claiming Practice: Supreme Court Overrules the Grand Panel of the IP High Court* (June 8, 2015).

To be sure, it is *always* preferable to claim a new chemical or biotechnology entity where the entity is identified by the structural formula as the “label” for the product. The only exception is where there is any uncertainty as to whether a structural formula thought to represent such an entity may not in fact be correct. Where this is a close call, the structural formula claim should be presented as “claim 1” while an “insurance” claim in product-by-process format should be set forth in a separate claim.

Domestically, the law concerning product-by-process claiming appears, at the moment, to be stable. This is only after conclusion of a “Twenty Years War” between two of the key protagonists of the past generation that had quarreled over the scope of product-by-process protection is seemingly over in view of *Abbott v. Sandoz*, but, is the “war” *really* over?

Where science permits a clear structural formula definition of a new chemical entity, claims to the new entity are easy to draft by simple naming of the “label”, the structural formula, that identifies the new entity such as by an international standard for of chemical nomenclature. But, where the patent applicant at the time of filing has not been able to successfully identify the “label”, the structural formula, resort has historically been attempted to define the new entity in terms of the ingredients used to synthesize that new entity through a “product by process” claim.

Whether a claim to a product has a “label” to identify the product – its structural formula – or defines the product by its method of production – the product-by-process claim, it must be remembered that in both cases it is the *product* defined in either way that is important. Thus, whether the claim in

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question is defined as a “product”, *per se*, or styled through a “product-by-process” definition, it is the *product* that is the invention; it is identical no matter whether it is identified by a structural formula as in a pure product claim or as a product-by-process.

Thus, in both cases, it is three dimensional “thing”, the compound that is the invention; a structural formula is merely a “label”, an *identifier* of the claimed compound: “[A] formula is not a compound and while it may serve in a claim to identify what is being patented, as the metes and bounds of a deed identify a plot of land, the thing that is patented is not the formula but the compound identified by it.” *Eli Lilly and Co. v. Premo Pharmaceutical Laboratories, Inc.*, 630 F.2d 120, 128 (3rd Cir. 1980)(quoting *In re Papesch*, 315 F.2d 381, 391 (CCPA 1963)). See also *Commissioner of Patents v. Deutsche Gold-und-Silber-Scheideanstalt Vormals Roessler*, 397 F.2d 656, 662 (D.C. Cir., 1968)(same); *In re Herr*, 377 F.2d 610, 622 (C.C.P.A., 1967)(same); see also § 16[e][1], *Late Stage Conversion to True Product Protection*.

There has historically been a discrimination shown against the use of a product-by-process claim including a “rule of necessity”: A product-by-process claim has historically been procedurally proscribed by the patent offices of the world unless it was *necessary* to use this claim format. There is good reason for the “rule of necessity” because the structural formula as a label for a new product is much easier for the public to understand to grasp the boundaries of the scope of protection of the patent claim.

While the United States has abandoned the rule of necessity for presentation of product-by-process claims, a different viewpoint is seen in both Europe and Japan as manifested by the Supreme Court of Japan that has departed from the United States to interpret a product-by-process claim as covering the same product made by a process not described in the product-by-process claim. See § 16[e][5][b], *Japan Adoption of the Rule of Necessity* (discussing the *Pravastatin Sodium Case*); see also Shoichi Okuyama, *supra*. Europe, too, has an independent voice. See § 16[e][5][b], *EPO Adoption of the Rule of Necessity* (discussing *Hospira UK Ltd. v. Genentech Inc.*, [2014] EWHC 3857 ¶ 147(iii), (Pat)(High Court 2014)(Birss, J.).

A major reason that the rule of necessity has been relaxed in the United States is because – apart from the “Twenty Year Patent War” within the Federal Circuit – the American rule for product-by-process claiming has been to limit the scope of protection of such a claim to the very product identified by the process features *but to exclude the identical product made by a different process*. This

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feature of the American rule serves the function of giving the public clear guidance on the limited scope of protection of a product by process claim while also providing a powerful incentive to the patent applicant to claim a new entity in the classic structural formula claim. Whether the “Twenty Year War” is over or not remains to be seen. See *The Twenty Year War, Is it Over?*, in § 16[e][3][b], *Minority View that Product made by Any Process Infringes*.

Yet, another feature of the *Pravastatin Sodium Case* of the Japan Supreme Court is that this highest court in Japan has interpreted product-by-process claims to cover the same product identified by the process details, *but when made by any process*. Thus, the Japan Supreme Court adopted a holding consistent with the views of the Great Dissenter, Circuit Judge Newman: Now, in Japan, a product-by-process claim provides coverage for the same product defined by that claim *when produced by any process*. See § 16[e][3][c], *Japan Adopts the Result of the Newman Dissent*; see also Shoichi Okuyama, *supra*.

In the context of Japan’s new liberality favoring the patentee as to scope of protection, the incentive to use structural formula claiming is greatly diminished. In that context, it is understandable why the Supreme Court reinstated the rule of necessity.

Open questions still remain: For example, if the applicant has been forced to use product-by-process terminology because of a lack of understanding of the structural formula *at the time of filing*, what measures can the applicant take to *amend* the specification to identify the structural formula and change the format of his claims? Where it is not altogether certain whether the applicant correctly understands the composition, should the applicant be permitted to have *both* types of claims?

The *Ashless Dispersant* case provides a graphic example where a true product claim was presented which included an “ashless dispersant” but which during the litigation was discovered to disappear *in situ*. *Ashless Dispersant Case, Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553 (Fed. Cir. 1995)(Clevenger, J.), discussed at § 16[e][2], *Ashless Dispersant Case, Product-by-Process as Insurance*. An “insurance” claim could have been included in the patent, e.g., In addition to the product claim (“A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising *** [an] ashless *** compound[]” and other ingredients), a product-by-process claim should have also been presented claiming, e.g., “[a] lubricating oil composition suitable as a crankcase lubricant in internal combustion engines produced from a mixture comprising *** [an] ashless *** compound[]” and other ingredients.

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Professor Mueller explains the practical aspects of product-by-process claiming:

“The ‘product-by-process’ claiming format is used primarily in claiming chemical and biotechnological inventions. It is not limited to that subject matter, however. [See, e.g., *In re Nuijten*, 500 F.3d 1346, 1355 (Fed. Cir. 2007)] Unlike means-plus-function claims, product-by-process claims are not expressly contemplated by the Patent Act. Rather, the product-by-process claiming technique was developed in Patent Office practice as a way of claiming a product, such as a composition of matter or an article of manufacture, that could not be adequately identified by its structure (e.g., when the structure of a new chemical composition was unknown and could not be determined by its inventor). The only way of identifying the product was through a recitation of the process by which it was made.

“The historical rationale for permitting product-by-process claiming was that ‘the right to a patent on an invention is not to be denied because of the limitations of the English language, and, in a proper case, a product may be defined by the process of making it [T]he limitations of known technology concerning the subject matter sought to be patented should not arbitrarily defeat the right to a patent on an invention.’ Today, product-by-process claiming is allowed without a showing of necessity to use the format; that is, product-by-process claims are permitted even when the claimed product's structure is known.

“The primary area of dispute concerning product-by-process claims involves whether they should be interpreted the same way in the USPTO and in the federal courts. When the USPTO examines claims for patentability (i.e., for novelty and nonobviousness), the agency interprets product-by-process claims as drawn to the product and not limited by the process steps recited in the claim. The agency effectively ignores the process steps when examining such claims.”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, §§ 2.05[B](Wolters Kluwer 2016)(footnotes deleted)

§ 17[a] Late Stage Conversion to True Product Protection

Whenever possible, it is always in the best interests of the patentee to have a true product claim that identifies the product, *per se*, as opposed to a product-by-process claim. Often, the structural identity of the product that is not known at the filing date *will* become known during the pendency of the application. In such a case, where the *product* is clearly and unequivocally identified *other than the structural formula* it should be possible, once the structural formula is known, to

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amend an original disclosure that “fingerprints” the identity of the structure without raising an issue of new matter.

In order to permit amendment of the application to include the structural formula to identify the product initially claimed in product-by-process format, it is essential that the product be “fingerprinted” in a manner to show that there is one and only one product that is the same as that later identified by structural formula. Beyond a working example of the preparation for the product, it would be helpful, for example, to include a spectral analysis of the product as a “drawing” figure accompanying the original specification as a fool proof “fingerprinting” of the product.

The structural formula in a true product claim is nothing more than a *label* for the product it identifies. Thus, whether the claim in question is a one to a “product”, per se, or styled as a “product-by-process”, the *product* is the object of the invention, and is identical no matter whether it is identified by a structural formula as in a pure product claim or as a product-by-process. Thus, in a regular “product” claim it is the three dimensional “thing”, the compound, per se, that is claimed, while the two-dimensional structure, the formula, named in the claim is merely a “label” or “symbol” that is the *identifier* for the claimed compound: “[A] formula is not a compound and while it may serve in a claim to identify what is being patented, as the metes and bounds of a deed identify a plot of land, the thing that is patented is not the formula but the compound identified by it.” *Eli Lilly and Co. v. Premo Pharmaceutical Laboratories, Inc.*, 630 F.2d 120, 128 (3rd Cir. 1980)(quoting *In re Papesch*, 315 F.2d 381, 391 (CCPA 1963)). See also *Commissioner of Patents v. Deutsche Gold-und-Silber-Scheideanstalt Vormals Roessler*, 397 F.2d 656, 662 (D.C. Cir., 1968)(same); *In re Herr*, 377 F.2d 610, 622 (C.C.P.A., 1967)(same).

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As explained in greater detail in *In re Papesch*, 315 F.2d 381, 391 (CCPA 1963):

“From the standpoint of patent law, a compound and all of its properties are inseparable; they are one and the same thing. The graphic formulae, the chemical nomenclature, the systems of classification and study such as the concepts of homology, isomerism, etc., are mere symbols by which compounds can be identified, classified, and compared. But a formula is not a compound and while it may serve in a claim to identify what is being patented, as the metes and bounds of a deed identify a plot of land, the thing that is patented is not the formula but the compound identified by it. And the patentability of the thing does not depend on the similarity of its formula to that of another compound but of the similarity of the former compound to the latter. There is no basis in law for ignoring any property in making such a comparison. An assumed similarity based on a comparison of formulae must give way to evidence that the assumption is erroneous.

To be sure, an incomplete characterization of the product where the specification “recipe” for making the product allows for multiple possibilities may very well deny a patent applicant or patentee from substituting the correct structural formula for a product-by-process representation of the product. Where the original specification “fingerprints” the identity of the product, a subsequent identification of the structural formula matching that “fingerprint” should permit amendment of the specification to include the structural formula and, hence, permit a true product claim to be presented without loss of priority.

The law on incorporation by reference was established in *In re Fouche*, 439 F.2d 1237 (CCPA 1971), in the context of amendment to an original specification to identify a copending, still secret patent application where the serial number of the application was not included in the application as filed. The amendment adding the serial number was held to be free from new matter because the identity of the application was sufficiently fingerprinted:

“First, there is some merit to appellant's rebuttal arguments*** that it would be unreasonable to read the referring language as pertaining to anything but an earlier or concurrently filed United States application.

“Second, it is undisputed that, at the time of filing the present application, appellant in fact had on file in the Patent Office an application containing enough information to complete his disclosure as to the appealed claims. It is therefore clear that he had solved, as of his present filing date, any technical problems involved in making and using the claimed compositions. This is a major consideration in judging compliance with the first paragraph of § 112. See *In re Argoudelis*, 434 F.2d 1390, 58 CCPA (1971), and especially Judge Baldwin's concurring opinion therein.

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“Third, application serial No. 459,921 [referenced without serial number] does in fact contain an "Example I" [cited in the specification] disclosing a method for preparing 10-(3-dimethylaminopropyl) dibenzo[a,d]cycloheptadiene. ***

“Fourth, there has been no showing by the Patent Office that there existed any other application to which the referring language could have pertained.”

Fouche, 439 F.2d at 1240.

§ 17[b] *Ashless Dispersant Case, Product-by-Process as Insurance*

Even if the patentee has a good faith belief that he has identified the exact chemical composition of his invention, the reason why a product-by-process claim should be presented *in addition to* the product claim is seen from the *Ashless Dispersant Case, Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553 (Fed. Cir. 1995)(Clevenger, J.), where the patentee had only a composition claim and did not provide a product-by-process claim.

If there is any doubt as to the identity of a final product, a prophylactic approach to safeguard protection is to provide *both* a true product claim *and* a product-by-process claim.

In *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553 (Fed. Cir. 1995)(Clevenger, J.), the patentee’s failure to properly claim the invention was literally a billion dollar mistake as this was the amount in controversy the patentee failed to gain because of the failure to present a product-by-process claim.

Each product claim included as an essential element of the claimed combination the presence of an “ashless dispersant”. But, once the various ingredients specified in the claim were mixed together, the ashless dispersant “disappeared”. The mistake was failing to provide a product-by-process claim.

The *Exxon* main claim is to a lubricant composition that requires an ashless dispersant. “[C]laim 1 is directed to ‘[a] lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising’ (1) a major amount of lubricating oil, (2) an ashless dispersant (*i.e.* one that neither contains nor is complexed with metal) in specified amounts of ‘about 1 to 10 wt. %’, (3) from about 0.01 to 5.0 parts by weight of oil soluble ZDDP, (4) 5 to 500 parts per million by weight of added copper in the form of an oil soluble copper compound, and (5) magnesium or calcium detergent.”

More completely, the claim in *Exxon v. Lubrizol* reads as follows:

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“1. A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising:

“A. a major amount of lubricating oil;

“B. a dispersing amount of lubricating oil dispersant [which is an] ashless nitrogen or ester containing dispersant compound[] ***;

“C. ***oil soluble zinc dihydrocarbyl dithiophosphate wherein the hydrocarbyl groups contain from **1** to **18** carbon atoms;

“D. an antioxidant effective amount *** of added copper in the form of an oil soluble copper compound; and

“E. a lubricating oil detergent additive ****.

Exxon v. Lubrizol, 64 F.3d at 1556.

The accused infringing product provided a recipe of starting ingredients that 1:1 matched the claim limitations for the *product*. But, once the recipe was put together, *in situ* the ashless dispersant disappeared, converted into something else or otherwise destroyed. Therefore, the product lacked the required ashless dispersant element. Under the *Pennwalt* “all elements” rule, there was no infringement.

Circuit Judge Plager, in his concurrence, pointed out that the patentee *should have* included a product-by-process claim, which would have saved his case: “There is testimony in the record that indicates that it is not known exactly how the chemical complexing *** actually works. If this is so, then Exxon's burden, to prove that the chemical ingredients exist at some point in the accused composition in the claimed proportions, may be impossible of accomplishment. That could be said to argue in favor of an alternative construction of the claims, that what was meant was a process or product-by-process claim.” *Exxon v. Lubrizol*, 64 F.3d at 1562-63 (Fed. Cir. 1995)(Plager, J., concurring).

Thus, “[i]n retrospect, it would appear that Exxon wishes it had product-by-process claims, and thus a ‘recipe.’ But [the court is] not free to read the claims as they might have been drafted, even if as drafted they do not accomplish what the inventor may have intended.” *Id.* at 1563.

Judge Plager concludes: “Claim drafting is itself an art, an art on which the entire patent system today depends. The language through which claims are expressed is not a nose of wax to be pushed and shoved into a form that pleases

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and that produces a particular result a court may desire. The public generally, and in particular, the patentee's competitors, are entitled to clear and specific notice of what the inventor claims as his invention. That is not an easy assignment for those who draft claims, but the law requires it, and our duty demands that we enforce the requirement. There is no room in patent claim interpretation for the equivalent of the *cy pres* doctrine; that would leave the claiming process too indefinite to serve the purposes which lie at the heart of the patent system." *Id.*

§ 17[c] Scope of Product-by-Process for Infringement

§ 17[c][1] *Abbott v. Sandoz* Limitation to Product Produced by the Process

Is a product-by-process claim infringed when the *same product* is produced by a different process than identified in the claim? The United States has had a split view of this issue that was finally resolved *en banc* in *Abbott Laboratories v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009)(*en banc* in relevant part)(Rader, J.):

This court *** addresses the proper interpretation of product-by-process claims in determining infringement. *** In reaching [its] conclusion, the trial court followed this court's opinion in *Atlantic Thermoplastics [Co. v. Faytex Corp.]*, 970 F.2d 834 (Fed.Cir.1992) .] *** This court takes this opportunity to clarify *en banc* the scope of product-by-process claims by adopting the rule in *Atlantic Thermoplastics*.

In *Atlantic Thermoplastics [Co. v. Faytex Corp.]*, 970 F.2d 834 (Fed.Cir.1992)], this court considered the scope of product-by-process claim 26 in the patent at issue: "[t]he molded innersole produced by the method of claim 1." 970 F.2d at 836. The patentee urged that competing, indistinguishable innersoles made by a different method nonetheless infringed claim 26. *Id.* at 838. This court rejected the patentee's position. This court in *Atlantic Thermoplastics* construed product-by-process claims as limited by the process. *Id.* at 846-47.

This rule finds extensive support in Supreme Court opinions that have addressed the proper reading of product-by-process claims. See *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 493 (1877) ("The process detailed is thereby made as much a part of the invention as are the materials of which the product is composed."); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 224 (1880) ("[T]o constitute infringement of the patent, both the material of which the dental plate is made ... and the process of constructing the plate ... must be employed."); *Merrill v. Yeomans*, 94 U.S. 568 (1877); *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884) (BASF); *The Wood-Paper Patent*, 23 Wall. 566, 90 U.S. 566, 596 (1874); *Plummer v. Sargent*, 120 U.S. 442 (1887); *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364 (1938); see also *Atl. Thermoplastics*, 970 F.2d at 839-42 (discussing each of these cases). In these cases, the Supreme Court consistently noted that process terms that define the product in a product-by-process claim serve as enforceable limitations. In addition, the

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binding case law of this court's predecessor courts, the United States Court of Customs and Patent Appeals (see *In re Hughes*, 496 F.2d 1216, 1219 (CCPA 1974) (acknowledging that "true product claims" are "broader" in scope than product-by-process claims)), and the United States Court of Claims (see *Tri-Wall Containers v. United States*, 408 F.2d 748, 751 (Ct. Cl. 1969)), followed the same rule.

This court's sister circuits also followed the general rule that the defining process terms limit product-by-process claims. See, e.g., *Hide-lte Leather v. Fiber Prods.*, 226 F.3d 34, 36 (1st Cir.1915) ("It is also a well-recognized rule that, although a product has definite characteristics by which it may be identified apart from the process, still, if in a claim for the product it is not so described, but is set forth in the terms of the process, nothing can be held to infringe the claim which is not made by the process."); *Paeco, Inc. v. Applied Moldings, Inc.*, 562 F.2d 870, 876 (3d Cir. 1977) ("A patent granted on a product claim describing one process grants no monopoly as to identical products manufactured by a different process."). Indeed, this court itself had articulated that rule: "For this reason, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself." *In re Thorpe*, 777 F.2d 695, 697 (Fed.Cir.1985) (emphasis added).

The Supreme Court has long emphasized the limiting requirement of process steps in product-by-process claims. In *BASF*, the Court considered a patent relating to artificial alizarine. Specifically, the patent claimed "[a]rtificial alizarine, produced from anthracine or its derivatives by either of the methods herein described, or by any other method which will produce a like result." 111 U.S. at 296 (quoting U.S. Patent Reissue No. RE 4,321). In turn, the specification generally described a method for making artificial alizarine involving anthracine or its derivatives. Alizarine had been in use for thousands of years as a red textile dye, traditionally extracted from madder root. Pure alizarine has the chemical formula $C_{14}H_8O_4$, but "artificial alizarines" available in the market at the time of the litigation varied from almost completely pure alizarine, to combinations of alizarine and anthrapurpurine, to pure purpurine containing no alizarine whatsoever. *Id.* at 309-10. The defendant's product contained approximately sixty percent anthrapurpurine. Thus both alizarine and artificial alizarines were known in the prior art. The Supreme Court clearly articulated some of the scope and validity problems that arise when process limitations of product-by-process claims are ignored:

"[The defendant's product] is claimed by the plaintiff to be the artificial alizarine described in No. 4,321, and to be physically, chemically, and in coloring properties similar to that. But what that is is not defined in No. 4,321, except that it is the product of the process described in No. 4,321. Therefore, unless it is shown that the process of No. 4,321 was followed to produce the defendant's article, or unless it is shown that that article could not be produced by any other process, the defendant's article cannot be identified as the product of the process of No. 4,321. Nothing of the kind is shown. * * *

"If the words of the claim are to be construed to cover all artificial alizarine, whatever its ingredients, produced from anthracine or its derivatives by methods invented since Graebe and Liebermann invented the bromine process, we then have a

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patent for a product or composition of matter which gives no information as to how it is to be identified. Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process.:

Id. at 310, 4 S.Ct. 455 (emphasis added).

After *BASF*, the Supreme Court continued to emphasize the importance of process steps in evaluating the infringement of product-by-process claims. See, e.g., *Plummer*, 120 U.S. at 448 ("[W]hatever likeness that may appear between the product of the process described in the patent and the article made by the defendants, their identity is not established unless it is shown that they are made by the same process."); *Gen. Elec. Co.*, 304 U.S. at 373 ("[A] patentee who does not distinguish his product from what is old except by reference, express or constructive, to the process by which he produced it, cannot secure a monopoly on the product by whatever means produced." (footnote omitted)).

Thus, based on Supreme Court precedent and the treatment of product-by-process claims throughout the years by the PTO and other binding court decisions, this court now restates that "process terms in product-by-process claims serve as limitations in determining infringement." *Atl. Thermoplastics*, 970 F.2d at 846-47. As noted earlier, this holding follows this court's clear statement in *In re Thorpe* that "product by process claims are limited by and defined by the process." 777 F.2d at 697.

More recently, the Supreme Court has reiterated the broad principle that "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention." *Warner-Jenkinson*, 520 U.S. at 19. Although *Warner-Jenkinson* specifically addressed the doctrine of equivalents, this rule applies to claim construction overall. As applied to product-by-process claims, *Warner-Jenkinson* thus reinforces the basic rule that the process terms limit product-by-process claims. To the extent that *Scripps Clinic* is inconsistent with this rule, this court hereby expressly overrules *Scripps Clinic*.

The dissenting opinions lament the loss of a "right" that has never existed in practice or precedent—the right to assert a product-by-process claim against a defendant who does not practice the express limitations of the claim. This court's en banc decision in no way abridges an inventor's right to stake claims in product-by-process terms. Instead this decision merely restates the rule that the defining limitations of a claim—in this case process terms—are also the terms that show infringement.

Thus this court does not question at all whether product-by-process claims are legitimate as a matter of form. The legitimacy of this claim form was indeed a relevant issue in the nineteenth century when *Ex parte Painter*, 1891 C.D. 200, 200-01 (Comm'r Pat. 1891), and some later cases were before the Commissioner of Patents. However, this court need not address that settled issue. The issue here is only whether such a

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claim is infringed by products made by processes other than the one claimed. This court holds that it is not.

The jurisprudence of the Court of Customs and Patent Appeals—a court with virtually no jurisdiction to address infringement litigation—can shed little light on the enforcement of the only claim limitations that an applicant chooses to define the invention. Indeed, this court's venerable predecessor expressed its ambivalence towards the relevant infringement analysis:

“The policy of the Patent Office in permitting product-by-process type claims to define a patentable product, where necessary, has developed with full cognizance of the fact that in infringement suits some courts have construed such claims as covering only a product made by the particular process set forth in the claim and not to the product per se.”

In re Bridgeford, 357 F.2d 679, 683 n. 5 (CCPA 1966). The reference to "some courts" in this prior citation, as this court notes en banc, includes the United States Supreme Court and every circuit court to consider the question, including this circuit. See also Jon S. Saxe & Julian S. Levitt, *Product-by-Process Claims and Their Current Status in Chemical Patent Office Practice*, 42 J. Pat. Off. Soc'y 528, 530 (1960) (“[P]roduct-by-process claims have met with a most strict interpretation in the courts in infringement proceedings.... [T]he courts uniformly hold that only a product produced by the claim-designated process may be held to infringe the claim.”) (citing *Gen. Elec. Co.*, 304 U.S. 364 and *BASF*, 111 U.S. at 310).

Product-by-process claims, especially for those rare situations when products were difficult or impossible to describe, historically presented a concern that the Patent Office might deny all product protection to such claims. See *In re Butler*, 37 F.2d 623 (CCPA 1930) (“Process claims are valuable, and appellant thinks he is entitled to them; but it is submitted that he should not be limited to control of the process when the article which that process produces is new and useful.”). In the modern context, however, if an inventor invents a product whose structure is either not fully known or too complex to analyze (the subject of this case—a product defined by sophisticated PXR technology—suggests that these concerns may no longer in reality exist), this court clarifies that the inventor is absolutely free to use process steps to define this product. The patent will issue subject to the ordinary requirements of patentability. The inventor will not be denied protection. Because the inventor chose to claim the product in terms of its process, however, that definition also governs the enforcement of the bounds of the patent right. This court cannot simply ignore as verbiage the only definition supplied by the inventor.

This court's rule regarding the proper treatment of product-by-process claims in infringement litigation carries its own simple logic. Assume a hypothetical chemical compound defined by process terms. The inventor declines to state any structures or characteristics of this compound. The inventor of this compound obtains a product-by-process claim: “Compound X, obtained by process Y.” Enforcing this claim without

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reference to its defining terms would mean that an alleged infringer who produces compound X by process Z is still liable for infringement. But how would the courts ascertain that the alleged infringer's compound is really the same as the patented compound? After all, the patent holder has just informed the public and claimed the new product solely in terms of a single process. Furthermore, what analytical tools can confirm that the alleged infringer's compound is in fact infringing, other than a comparison of the claimed and accused infringing processes? If the basis of infringement is not the similarity of process, it can only be similarity of structure or characteristics, which the inventor has not disclosed. Why also would the courts deny others the right to freely practice process Z that may produce a better product in a better way?

In sum, it is both unnecessary and logically unsound to create a rule that the process limitations of a product-by-process claim should not be enforced in some exceptional instance when the structure of the claimed product is unknown and the product can be defined only by reference to a process by which it can be made. Such a rule would expand the protection of the patent beyond the subject matter that the inventor has "particularly point[ed] out and distinctly claim[ed]" as his invention, 35 U.S.C. § 112 ¶ 6.

Thus, the Eastern District of Virginia correctly applied the rule that the recited process steps limit the product-by-process claims 2-5 for any infringement analysis.

§ 17[c][2] Minority View that Product made by Any Process Infringes

In *Abbott Laboratories v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009)(en banc in relevant part)(Newman, J., the Great Dissenter, dissenting), a forceful argument is presented that for purposes of patent infringement a product-by-process claim should cover the same product produced by a *different* process than recited in the claim:

The court today acts en banc to overturn a century of precedent and practice, and holds that a new product that is difficult to describe without reference to how it was made, but that is nonetheless a new and unobvious product, cannot be protected as a product if its description is aided by reference to how it was made. Heretofore a new product whose structure was not fully known or not readily described could be patented as a product by including in the product description sufficient reference to how it can be made, to distinguish the new product from prior art products. Patentability was determined as a product, independent of any process reference in the claim, and validity and infringement were based on the product itself. This expedient for patenting products whose structure was not fully known at the time of filing the patent application has been called the "rule of necessity." It was pragmatic, fair, and just, for it attuned patent law and practice to the realities of invention.

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Today the court rejects this expedient and discards this practice, ruling that all claims containing a process term under the rule of necessity now must be construed, for purposes of infringement, as limited to use of any process term that was used to assist in defining the product. That is, such a product is not patented as a product, however it is produced, but is limited to the process by which it was obtained. This is a new restraint on patents for new products, particularly today's complex chemical and biological products whose structure may be difficult to analyze with precision. It is a change of law with unknown consequences for patent-based innovation.

* * *

SUMMARY

Precedent establishes that the correct construction of claims that recite process steps depends, like all claim construction, on what has been invented. No single rule fits all inventions. The construer must view the claims in light of the description of the invention in the specification, the prior art, and the prosecution history. In the complex law and practice of patents and inventions, the special expedient here of concern arises when the precise structure of a new product is not known from the information available when the patent application was filed. The law has enabled and endorsed this expedient of describing a product in order to claim it as a product, whereby validity and infringement are determined as a product, independent of any process term that was used to aid in defining the product. This expedient does not enlarge patent scope; it simply permits patenting what has been invented. A narrow but clear body of law has evolved to accommodate this need of complex technologies. This entire body of law is today overturned, sua sponte and without a hearing, without any participation of those affected, without identification of the intended benefits. I respectfully dissent from the en banc court's rulings, as well as the procedure by which they were reached.

Abbott Laboratories v. Sandoz, Inc., 566 F.3d 1282, 1299-1320 (Fed. Cir. 2009)(en banc in relevant part)(Newman, J., dissenting).

The Twenty Year War, Is it Over?

While there is presently apparent peace in the American law following *Abbott v. Sandoz* where the narrow view of scope of patent protection for product-by-process claims prevailed over the more than twelve thousand (12,000) word dissent of the losing jurist, 566 F.3d at 1282, 1299-1320 (Newman, J., dissenting). One must only marvel at the ant-like persistence of the dissenter who came to the Federal Circuit in 1984 upon her retirement from a top industry position and now is the longest serving member of the Federal Circuit in the history of that court.

The two protagonists have been at opposite ends of *en banc* decisions dating back to a decision when one of the protagonists had been a member of the court for only three months where he was part of the majority in *In re Dillon*, 919 F.2d 688, 699 (Fed. Cir. 1990)(Newman, J., joined by Cowen, Mayer, JJ., dissenting).

The differing views of the protagonists bubbled to the surface in the dispute over product-by-process claims where the senior of the two reached a conclusion that a product-by-process claim should be interpreted to cover the same product made by *any* process in *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565 (Fed.Cir. 1991)(Newman, J.). While *Scripps Clinic* became the binding precedent of the Federal Circuit, a year later a panel with the junior of the two jurists directly repudiated *Scripps Clinic*. See *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 970 F.2d 834, 838 (Fed. Cir. 1992)(Rader, J.). The lack of collegial spirit was manifested by the judgement of the dean of the court, the late Giles Sutherland Rich, who proclaimed that the action of the junior member in *Atlantic Thermoplastics* “is not only insulting to the *Scripps* panel (Chief Judge Markey, Judge Newman and a visiting judge), it is mutiny. It is heresy. It is illegal.” *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 974 F.2d 1279, 1281 (Fed. Cir. 1992)(Rich, J., dissenting from denial of rehearing en banc). The continued passion over this issue in the course of a generation is manifested by the dissent in *Abbott v. Sandoz* that runs over twelve thousand (12,000) words.

With the resignation from the bench of the junior protagonist there is now a vacuum. Is the Twenty Year War really over?

§ 17[c][3] Japan Adopts the Result of the Newman Dissent

In the *Pravastatin Sodium Case*, the Supreme Court of Japan has adopted the same result as proposed by the Great Dissenter, Judge Newman, in her dissent in the *Abbott* case: “[E]ven if a patent claim concerning a product invention recites the manufacturing process of a product, the technical scope of the patented invention should be determined to cover products that have the same structure and characteristics, etc., as those of the product made in accordance with the manufacturing process.” *Pravastatin Sodium Case*, (Japan Supreme Court, June 5, 2015, Second Petty Bench, case Nos. 2012(ju)1204 and 2012(ju)2658); *see also* Dr. Shoichi Okuyama, *Pravastatin Sodium Case, Japan Product-by-Process Claiming Practice: Supreme Court Overrules the Grand Panel of the IP High Court* (June 8, 2015).

§ 17[d] Product-by-Process Patentability

Patentability of a product-by-process claim depends entirely on whether the product that is defined by the process is patentable, and not whether the process defined in the product-by-process is described in the prior art. *See* § 16[e][4][a], *Validity is keyed to Product, not to Process for Making Product*. Because the Patent Examiner is a “paper chemist” without access to a laboratory to study the invention, the burden falls on patentee to show that the accused infringement is within the scope of the patentee’s claim. *See* § 16[e][4][b], *Burden of Proof Shifts to the Patent Applicant*.

§ 17[d][1] Validity is keyed to Product, not to Process for Making Product

Patentability of a product-by-process claim depends upon whether the *product* is novel and unobvious over the prior art, whether or not the same *process* is used to make the prior art product:

“[E]ven though product-by-process claims are limited by and defined by the process, *determination of patentability is based on the product itself*. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.’ *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding

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the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.)

“Furthermore, ‘[b]ecause validity is determined based on the requirements of patentability, a patent is invalid if a product made by the process recited in a product-by-process claim is anticipated by or obvious from prior art products, even if those prior art products are made by different processes.’ *Amgen Inc. v. F. Hoffman-La Roche Ltd.*, 580 F.3d 1340, 1370 n 14 (Fed. Cir. 2009). However, in the context of an infringement analysis, a product-by-process claim is only infringed by a product made by the process recited in the claim. *Id.* at 1370 (‘a product in the prior art made by a different process can anticipate a product-by-process claim, but an accused product made by a different process cannot infringe a product-by-process claim.’).

“The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garner*, 412 F.2d 276, 279 (CCPA 1979) (holding ‘interbonded by interfusion’ to limit structure of the claimed composite and noting that terms such as ‘welded,’ ‘intermixed,’ ‘ground in place,’ ‘press fitted,’ and ‘etched’ are capable of construction as structural limitations.)”

MPEP § 2113, *Product-By-Process Claims* [R-08.2012], *Product-By-Process Claims are not Limited to the Manipulations of the Recited Steps, Only the Structure Implied by the Steps*.

§ 17[d][2] Validity tied to the Product, a British Viewpoint

Judge Birss provides an excellent summary of British and European law and practice of product-by-process claims in *Hospira UK Ltd. v. Genentech Inc.*, [2014] EWHC 3857 (Pat)(High Court 2014), where novelty in the process does not impart novelty for purposes of the patentability or validity of a product-by-process claim:

“125. Product by process claims are tricky. Before coming to the House of Lords in *Kirin Amgen* there are some background matters to deal with.

“126. One of the key problems which a system of patents for inventions has to handle is how to legislate for future inventive (non-obvious) developments. By definition they are often hard to foresee. One way this is done is to give inventors more or less complete freedom in the drafting of their patent applications. They can define the invention in a claim in any way and using any language they like so long as the definition is clear to a person skilled in the art and the invention satisfies various other criteria.

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“138. In *Kirin-Amgen* the House of Lords had to consider the novelty of an overt product by process claim. This is dealt with in the speech of Lord Hoffmann at paragraphs 86 to 101. A number of points arise. Lord Hoffmann dealt with the history of product by process claims and noted that the advantage they had before the 1977 Act was removed by s60(1)(c) (paragraphs 88-89). He noted that the idea that a process could confer novelty on a known product was not particularly logical since the history by which it was made is not an attribute which it carries around and makes it new (paragraph 88). He dealt with the EPO’s practice starting from the 1980s, referring to the *IFF/claim Categories T150/82* decision and the EPO’s practice (paragraphs 90-91).

“He was puzzled by an earlier decision of the EPO relating to the patent in suit which appeared to be based on inconsistent findings of fact as to whether the process of making recombinant erythropoietin (rEPO) did or did not necessarily give rise to differences with known urinary erythropoietin (uEPO) (paragraphs 92-95) and noted that the trial judge (Neuberger J as he then was) had found as a fact that there was no necessary distinction between rEPO and uEPO (paragraph 96).

“139. In *Kirin-Amgen* ***. Lord Hoffmann *** held that a difference in the method of manufacturing did not make a product new and that was so as a matter of law. On that basis the claim could only be novel if the process definition gave the product a new characteristic of some kind. On the finding of fact in *Kirin-Amgen*, therefore claim 26 lacked novelty since the process did not necessarily do so. *** The UK should follow the approach of the EPO.

“145. [Based on the case law,] a product not made by the claimed process has been found not to infringe because it was not made by the claimed process while another product not made by the process has been found to render the claim lacking novelty despite the fact it was not made by the process. This is a little paradoxical but it shows the difficulties one can get into with product by process claims. A further puzzle is the following. What if, in *Kirin-Amgen*, the prior art uEPO had not been disclosed so as to be relevant for novelty but was something which was obvious? Presumably it would make the claim obvious for the same reason?

“146. On the other hand treating the point as a rule of novelty works in the EPO since the EPO is only concerned with validity. The EPO does not have to grapple with the meaning of these claims from the point of view of infringement. It is not obvious that an inventor who drafted his or her claim in the form of a product “obtained by” a process ever intended to cover other things or would be understood to be using language to mean that. The test for novelty is one thing but to ignore the clear words of the claim may result in it covering things which owe nothing to the inventor’s technical contribution and risk insufficiency. It is hard to see how one can apply one of the key principles of

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construction emphasised by *Kirin-Amgen* itself, that the reader considers what the draftsman was using language to mean, in any other way.

“147. I derive the following principles from this consideration of the EPO and UK authorities:

“i) A new process which produces a product identical to an old product cannot confer novelty on that product. To be novel a product obtained or obtainable by a process has to have some novel attribute conferred on it by the process as compared to the known product.

“ii) This rule is a rule of the law of novelty. It is not a principle of claim construction. Although in effect the rule treats “obtained by” language as “obtainable by” language, nevertheless as a matter of claim construction a claim to a product “obtained by” a process means what it says. That will be the relevant scope of the claim as far as infringement and sufficiency are concerned.”

Hospira UK v. Genentech, [2014] EWHC 3857 at ¶¶ 125, 126, 138, 139, 145-147.

§ 17[d][3] Burden of Proof Shifts to the Patent Applicant

If there is a close apparent relationship between the claimed product (defined by its process of manufacture) and the prior art, the burden is on the *patentee or patent applicant* to establish novelty and nonobviousness:

“The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature’ than when a product is claimed in the conventional fashion. In *re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product.

In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be ‘essentially free of alkali metal.’ The court upheld the rejection because the applicant had not come forward with any evidence that the prior art was not ‘essentially free of alkali metal’ and therefore a different and unobvious product.).

Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) (The prior art disclosed human nerve growth factor (b-NGF) isolated from human placental tissue. The claim was directed to b-NGF produced through genetic engineering techniques. The factor produced seemed to be substantially the same whether isolated from tissue or

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produced through genetic engineering. While the applicant questioned the purity of the prior art factor, no concrete evidence of an unobvious difference was presented. The Board stated that the dispositive issue is whether the claimed factor exhibits any unexpected properties compared with the factor disclosed by the prior art. The Board further stated that the applicant should have made some comparison between the two factors to establish unexpected properties since the materials appeared to be identical or only slightly different.).

MPEP § 2113, *Product-By-Process Claims* [R-08.2012], *Once a Product Appearing to be Substantially Identical is Found and a 35 U.S.C. 102/103 Rejection Made, the Burden Shifts to the Applicant to Show an Unobvious Difference.*

The Patent Office justifies the shifting of the burden of proof to the applicant to establish patentability of a product-by-process invention because, in essence, the Examiner operates as a “paper chemist” without a laboratory; he is unable to establish through his own work whether an a product defined by the process of manufacture is or is not nonobvious:

“[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable.

As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.’ *In re Brown*, 459 F.2d 531, 535 (CCPA 1972). Office personnel should note that reliance on the alternative grounds of 35 U.S.C. 102 or 35 U.S.C. 103 does not eliminate the need to explain both the anticipation and obviousness aspects of the rejections.”

MPEP § 2113, *Product-By-Process Claims* [R-08.2012], *The Use of 35 U.S.C. 102/103 Rejections for Product-By-Process Claims has been Approved by the Courts.*

§ 17[e] **Rule of Necessity**

At one time the United States followed the “rule of necessity” that permitted a product-by-process claim only where it was not possible to define a chemical product by its formula. This rule is no longer followed in the United States but *is* part of the practice in some other countries:

§17[e][1] Patent Office Repudiation of the Rule of Necessity

Historically, the United States followed the rule of necessity that barred presentation of a product-by-process claim without “[a] showing that the product cannot be described except by reference to the process of making it[.]” MPEP § 706.03(e), *Product by Process* (3rd ed. 1961)((citing *In re Dreyfuss and Whitehead*, 1935 C.D. 386 (1936))).

By the time of the next edition of the *Manual*, the policy had been liberalized: “An article may be claimed by a process of making it provided it is definite.” Fourth edition (June 1979)(citations omitted). The current Fourteenth edition no longer even has a section devoted to product-by-process claims.

§ 17[e][2] EPO Adoption of the Rule of Necessity

“Although normally a patent is drafted by the inventor ‘in words of his own choosing’, the EPO will not permit overt product by process language unless there is no other alternative available. By no other alternative, they mean no other way of defining a particular characteristic of the product in question.” *Hospira UK Ltd. v. Genentech Inc.*, [2014] EWHC 3857 ¶ 147(iii), (Pat)(High Court 2014)(Birss, J.).

As explained earlier in this opinion:

“[¶] 135. The EPO’s approach to overt product by process claims today is settled. They will be permitted (and only permitted) if there is no other way of defining the product open to the patentee. This is a decision based on policy. Such claims present clarity problems and are best avoided but if there is no alternative way of defining the characteristic in question, then they will be permitted.

“[¶] 136. But despite their apparently esoteric nature (even by the standards of patents) product by process language is actually quite common and hardly remarked upon. ***.”

Id. at ¶¶ 135-136.

§ 17[e][3] Japan Adoption of the Rule of Necessity

In the *Pravastatin Sodium Case*, the Supreme Court of Japan has adopted the approach taken in Europe that follows the rule of necessity:

“[W]hen patent claims concerning a product invention recite the manufacturing process of a product, the claims would satisfy the requirement [that] "the invention be clear" according to Article 36(6)(ii), Patent Act, only if circumstances exist under which it is impossible or utterly impractical to directly identify the structure or characteristics of the product at the time of filing.”

Pravastatin Sodium Case, (Japan Supreme Court, June 5, 2015, Second Petty Bench, case Nos. 2012(ju)1204 and 2012(ju)2658); *see also* Dr. Shoichi Okuyama, *Pravastatin Sodium Case, Japan Product-by-Process Claiming Practice: Supreme Court Overrules the Grand Panel of the IP High Court* (June 8, 2015).

§ 17[f] Plural Product-by-Process Claims of Varying Scope

The Patent Office acknowledges the right of the patent applicant to present multiple product-by-process claims in a single application:

“An applicant may present claims of varying scope even if it is necessary to describe the claimed product in product-by-process terms.” MPEP § 2173.05(p), *Claim Directed to Product-By- Process or Product and Process* (citing *Ex parte Pantzer*, 176 USPQ 141 (Bd. App. 1972)).



§18. “Means”-Defined Functional Elements

“Means for” terminology is a statutory trigger to invoke the presumption that a functional claim should be interpreted according to 35 USC § 112(f) of the *Leahy Smith America Invents Act*:

“ELEMENT IN CLAIM FOR A COMBINATION.—An element in a claim for a combination may be expressed as a *means* ... *for* performing a specified function without the recital of structure [or] material ... in support thereof, and such claim shall be construed to cover the corresponding structure [or] material ... described in the specification and equivalents thereof.”

The original “means” provision was styled as 35 USC § 112 ¶ 3 as part of the 1952 Patent Act. With the addition in 1965 of three further paragraphs preceding the “means” provision, the final paragraph of Section 112 became paragraph 6.

“Means for” and other functional language to define an element of a claim has been a part of the American patent law since the nineteenth century, but was introduced as a *statutory* feature only in the 1952 Patent Act. The principal draftsman of this provision of the 1952 Patent Act explained “that a considerable body of case law, if not the preponderance thereof, before [*Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946),] interpreted broad statements of structure, e. g., ‘means,’ plus a statement of function in the manner now sanctioned by the statute. See, e. g., *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 558 (1898).”

In re Fuetterer, 319 F.2d 259, 264 n.11 (CCPA 1963)(Rich, J.).

The Supreme Court in the generation leading up to the 1952 Patent Act had numerous patent cases where a claim reciting an element with “means for” language was used. See, e.g., *Saranac Automatic Mach Corporation v. Wirebounds Patents Co.*, 282 U.S. 704, 705 n.1 (1931)(quoting U.S. Patent 1,128,145, Claim 25, and U.S. Patent 1,128,144, Claim 6, reciting “means for” elements); *Permutit Co v. Graver Corp.*, 284 U.S. 52, 58 n.5 (1931)(quoting claim 5 reciting “means for” element); *Keystone Driller Co v. Northwest Engineering Corp.*, 294 U.S. 42, 47 (1935)(quoting “means for” usage in claims); *Altoona Publix Theatres v. American Corp.*, 294 U.S. 477, 479-80 (1935)(“claim 13 [] was for a combination for a means for projecting a narrow line of light upon and through the moving film to a photoelectric cell in sound reproduction”); *United States v. Esnault-Pelterie*, 299 U.S. 201, 203-04 (1936)(quoting claim 5 reciting “means for” element); *Textile Machine Works v. Louis Hirsch Textile Machines, Inc.*, 302 U.S. 490, 494 (1938)(quoting claim 5 reciting “means for” usage); *Williams Mfg. Co v. United Shoe Machinery Corp.*, 316 U.S. 364, 388

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(1942)(citing claim 164; claim recites “means for” elements); *Marconi Wireless Telegraph Co of America v. United States*. 320 U.S. 1, 52 (1943)(quoting claims; reciting “means for” elements). Lower courts also used “means for” terminology, e.g., *Lewis v. Merritt, Chapman & Scott Corp.*, 3 F.2d 66 (E.D.N.Y., 1924)(quoting claims 2 and 5 using “means for” terminology); *Auto Hone Co. v. Hall Cylinder Hone Co.*, 3 F.2d 479, 482 (N.D. Ohio 1924) (same, quoting claim 6); *International Banding Mach. Co. v. American Bander Co.*, 4 F. 2d 726, 730 (S.D.N.Y. 1924)(same, quoting claim 97). *aff'd*, 9 F.2d 606 (2nd Cir. 1925); *McLaren Products Co. v. Cone Co. of America*, 7 F.2d 120, 120-22 (E.D.N.Y. 1925) (same). Nineteenth century cases also used “means for” definitions. *See Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 548 (1863)(summary not part of the opinion)(quoting claim language “means for directing the fur-bearing current”). Specification support was also a problem for “means for” claims before the 1952 Patent Act. *International Banding*, 9 F.2d at 612-13 (L. Hand, J., dissenting).

The principal draftsman explained that “[t]he record is clear on why [the statutory “means” provision] was enacted. In *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946), the Supreme Court held that means-plus-function language could not be employed at the exact point of novelty in a combination claim. Congress enacted [the statutory “means” provision] to statutorily overrule that holding. *See In re Fuetterer*, 319 F.2d 259, 264 n. 11 (CCPA 1963) (noting that it was Congress's intent to restore the law regarding broad functional language in combination claims to its state prior to Halliburton).” *In re Donaldson Co.*, 16 F.3d 1189, 1194 (Fed. Cir. 1994) (en banc)(Rich, J.).

Merely because the statutory provision *exists* and *can* be used by an applicant is not, however, a reason *why* this provision should be used in daily practice. It is on the one hand easy to write “means for” in a patent claim, but it is extremely challenging to draft supporting specification language to provide for a proper scope of protection and to avoid invalidity on the basis of indefiniteness. *See* § 18[a], “*Means*” *Defined Elements should be Avoided*.

“Means” language is particularly ill advised for a domestic *first filing* which is to be the basis for Paris Convention priority filings around the world: No other country honors the American statutory scheme. *See* §18[a][1], *Conflict with All Other Patent Laws of the World*. Even disregarding the difficulties the applicant will face in obtaining a priority right abroad keyed to the unique American draftsmanship needed to support a “means” claim, *domestically* the applicant who chooses the “means” claiming route will invariably gain a *narrower* scope of

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protection: A means claims *exclude* all examples of the means-defined element *other than* the disclosed embodiment in the specification and equivalents of the disclosed embodiment (or embodiments). See §18[a][2], “Means” Interpretation Provides Narrower Protection.

Fortunately, the applicant can easily escape the pitfalls of the statutory “means” interpretation of claims by taking two precautions:

First, the word “means” should never be used in the claims because use of the term “means” is the statutory trigger of a *presumption* that the “means”-defined element will be interpreted under the “means” paragraph of the statute, as explained by the author of that provision in *In re Donaldson Co.*, 16 F.3d 1189, 1195(Fed.Cir.1994) (en banc)(Rich, J.); see § 18[b][1], *The En Banc Explanation in Donaldson*; see also *Williamson v. Citrix Online, LLC.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(en banc in relevant part)(Linn, J.), § II-C-1, *Applicability of 35 U.S.C. § 112, para. 6*; §18[b][3], *Williamson Presumption when “Means” Language is Used*.

Second, the specification should include a recitation of *structure* that exemplifies the “means”-defined element. Absent recitation of such structure, even without use of the “means” term, the “means” statutory provision will be used to interpret the element. See §18[c][2], *Absence of Structure to Rebut the “Means” Presumption*.

Further complicating usage of “means”-defined elements is the continued confusion within the patent community itself. One of the members of the *en banc* court in *Williamson* sees the need for a deeper study of “fundamental” issues. See §17[d][1], “*Sidestep[ping] Fundamental Issues*” (discussing *Williamson v. Citrix Online*, ___ F.3d at ___ (Fed. Cir. 2015)(en banc in relevant part)(Reyna, J., concurring-in-part, dissenting-in-part, and additional views)). More challenging to parse is the lengthy separate opinion by the senior member of the Court. See §17[d][2], *Unique Concerns over the Means Presumption* (quoting *Williamson v. Citrix Online, LLC.*, ___ F.3d at ___ (Fed. Cir. 2015)(en banc in relevant part)(Newman, J., the Great Dissenter, dissenting)).

Professor Mueller provides further insight into the *Williamson* case: : “The presence or absence of the word ‘means’ in a claim element is not the only inquiry, however. The Federal Circuit observed in a 2015 partial *en banc* decision, *Williamson v. Citrix Online, LLC.*, [___ F.3d ___ (Fed. Cir. 2015),] that ‘the essential inquiry is not merely the presence or absence of the word ‘means’ but whether the

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words of the claim are understood by person of ordinary skill in the art to have a sufficiently definitely meaning as the name for structure.’ In other words, even though the word ‘means’ is used in a claim, the presumption that §112, ¶6 applies may be rebutted ‘if the claim limitation itself recites sufficient structure to perform the claimed function in its entirety.’” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.05[A][3] (Wolters Kluwer 2016)(footnotes deleted)

One of the major problems for “means” claiming that should dissuade the prospective first time user of this claim form is that it is more difficult to *support* this type of claim than any other claim form. *See* § 18[e], *Algorithm to Support a “Means”-Defined Element* (quoting *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371 (Fed. Cir. 2009)). The problem of supporting structure is particularly acute where software is defined in terms of “means”: Numerous attempts have been made (unsuccessfully) to enforce such claims where the specification failed to disclose a supporting algorithm. *See* §18[e][1], *Algorithm Needed for Software Inventions*. There are rare exceptions. *See* §18[e][3], “Katz Exception” with no *Need for Algorithm Disclosure*.

§ 18[a] “Means” Defined Elements should be Avoided

A first filing should *always* avoid usage of a “means”-defined element as part of a worldwide filing plant where that first filing will be basis for Paris Convention priority around the world. Even if the application is not to be filed globally, the default choice should be *against* employing a “means”-defined element.

§ 18[a][1] Conflict with All Other Patent Laws of the World

In the more than sixty years since the first introduction of the statutory “means”-defined claim element in the 1952 Patent Act not one single country has joined with the United States to employ this unique claim interpretation system.

Thus, a “perfectly” tailored set of claims and supporting specification based upon a “means”-defined claim element will *not* be optimally suited as a priority application for foreign protection because the unique interpretation scheme of 35 USC § 112(f) is *not* part of any foreign patent law.

§18[a][2] “Means” Interpretation Provides Narrower Protection

A properly drafted “means”-defined element provides *narrower* coverage than a regular definition of the same term. This was made clear only in 1994 in the leading cases, *In re Donaldson Co.*, 16 F.3d 1189 (Fed. Cir. 1994) (en banc)(Rich,

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J.), and *In re Alappat*, 33 F.3d 1526 (Fed.Cir.1994) (en banc)(Rich, J.). Senior practitioners from the time before *Alappat* and *Donaldson* often mistakenly thought that the reference to coverage of “equivalents” in the statute meant that “means”-defined elements received *broader* protection than otherwise is possible.

But, the statute *limits* the scope of protection to a “means”-defined element to *exclude* all embodiments that are *other than the disclosed* embodiment – and equivalents of that *disclosed* embodiment. Thus, under what is now 35 USC § 112(f) of the *Leahy Smith America Invents Act* a “means”-defined element is *limited* to “to cover the ... structure [or] material... described in the specification and equivalents thereof.”

§ 18[a][3] Means” Doctrine of “Anti-Equivalents”

“Means’ claiming is explained by Professor Mueller:

“[A] claims drafter will use the means-plus-function format as a convenient shorthand technique to express those elements that can be performed by many different types of structures or devices. All such structures or devices need not be explicitly disclosed in the patent application, *so long as at least one ‘corresponding structure’ is clearly identified in the written description*. In this manner, a claim can cover a relatively large number of possible structures without the patent application becoming excessively detailed.

* * *

“The critical last clause of §112(f) mandates that a means element in a patent claim ‘shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.’ This *mandatory language* requires reference to the written description portion of the patent to interpret the scope of a means-plus-function element in a claim. The written description portion of the patent (and/or the patent's drawings) must disclose the ‘corresponding structure’ (or corresponding ‘material’ or ‘acts’) for the ‘means’ (or ‘step’) recited in the claim.

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.05[A][2]
(Wolters Kluwer 2016)(emphasis added)(footnotes deleted)

“Means” claiming is thus *not* a foundation for the doctrine of equivalents (which is designed to expand the scope of protection beyond the literal reach of the proper interpretation of the claim), but instead is an “anti-equivalents” *statutory* doctrine the *excludes* otherwise literally infringing embodiments which are either not identical to the supporting, disclosed embodiments or *equivalents of the disclosed embodiments*. In other words, an element defined in “means” terminology *excludes* otherwise literally infringing “means” unless the accused embodiment matches an *identically disclosed* embodiment in the specification or equivalent of that *disclosed* embodiment.

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Thus, a common mistake from the lay community is to consider that means-defined infringement is under the “doctrine of equivalents”, which it surely is not. Rather, it may be better from a result standpoint to consider “means”-defined claiming under 35 USC §112(f) as the “doctrine of non-equivalents”: This, an “equivalent” of an exemplified embodiment defined in the claims by a “means”-definition is claim that *excludes* all embodiments that achieve the result of the “means”-defined element *except* the very elements *defined* as representing such “means” and their equivalents, i.e., the claim *excludes* all embodiments within the normal definition of the “means”-defined term *except* the disclosed embodiments and their equivalents.

Professor Mueller explains that with a “means” claim the equivalents identified in the specification are *literal* infringement of the disclosed means: “The ‘equivalents thereof’ of the disclosed corresponding structure (sometimes referred to as ‘statutory equivalents’ to distinguish them from equivalents recognized under the judicially created doctrine of equivalents, which are beyond a claim’s literal scope) need not be (and usually are not) explicitly disclosed in the patent. Determining just what types of items would qualify as statutory equivalents to the disclosed corresponding structure—in this example, the shoe laces—would likely need to be resolved in litigation. For example, a fact-finder might conclude that the statutory equivalents of the shoe laces are buttons, hooks and eyes, and zippers. This is considered a question of fact. Even though they are ‘equivalents,’ and most likely not disclosed in the patent specification, such statutory equivalents are considered within the literal scope of the means-plus-function element in question.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.05[A][3] (Wolters Kluwer 2016)(footnotes deleted)

§ 18[b] “Means for” Triggers the Statutory Presumption

§ 18[b][1] The *En Banc* Explanation in *Donaldson*

The late Giles Sutherland Rich, the principal draftsman of the “means for” provision of the 1952 Patent Act, explains the usage of the “means” term: “[T]he PTO [is] required by statute to look to [the] specification and construe the ‘means’ language recited in *** [the claim] as limited to the corresponding structure disclosed in the specification and equivalents thereof.” *In re Donaldson Co.*, 16 F.3d 1189, 1195(Fed.Cir.1994) (en banc)(Rich, J.).

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As explained two years after *Donaldson*, “[t]he question whether a claim element triggers section 112(6) is ordinarily not a difficult one. Claim drafters conventionally use the preface “means for” *** when they intend to invoke section 112(6), and there is therefore seldom any confusion about whether section 112(6) applies to a particular element.” *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)(Bryson, J.).

The “means for” language introduced into the 1952 Patent Act did not come from thin air but was taken from a major thread of application drafting that was dominant in the generation leading up to this legislation. The principal draftsman of the statutory provision explained “that a considerable body of case law, if not the preponderance thereof, before [*Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946),] interpreted broad statements of structure, e. g., ‘means,’ plus a statement of function in the manner now sanctioned by the statute. See, e. g., *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 558 (1898).” *In re Fuetterer*, 319 F.2d 259, 264 n.11 (CCPA 1963)(Rich, J.). See also *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 548 (1863)(summary not part of the opinion)(quoting claim language “means for directing the fur-bearing current”); *Marconi Wireless Telegraph Co. of America v. United States*, 320 U.S. 1, 38 1943)(claiming “means for adjusting the two transformer-circuits in electrical resonance with each other”)(emphasis supplied).

§ 18[b][2] The Patent Office Understanding of the Presumption

The Patent Office understands the “means for” language as a trigger of what is now 35 USC § 112(f). See MPEP § 2181, *Identifying and Interpreting a 35 U.S.C. 112(f) *** Limitation* (4th ed. 2014) (“[A] claim limitation is presumed to invoke 35 U.S.C. 112(f) *** when it explicitly uses the term ‘means’ *** and includes functional language. That presumption is overcome when the limitation further includes the structure necessary to perform the recited function. *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259-60 (Fed. Cir. 2008) (‘Sufficient structure exists when the claim language specifies the exact structure that performs the function in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.’); see also *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1376 (Fed. Cir. 2003).”)

§18[b][3] Williamson Presumption when “Means” Language is Used

En banc, the Federal Circuit in *Williamson v. Citrix Online, LLC.*, ___ F.3d ___, ___ (Fed. Cir. 2015)(en banc in relevant part)(Linn, J.), § II-C-1, *Applicability of 35 U.S.C. § 112, para. 6*, provides clarification as to when a court should employ

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“means” interpretation of a claim:

“In enacting [what is now 35 USC § 112(f)], Congress struck a balance in allowing patentees to express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function, while placing specific constraints on how such a limitation is to be construed, namely, by restricting the scope of coverage to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof. See *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1350 (Fed. Cir. 2003).

“To determine whether § 112, para. 6 applies to a claim limitation, our precedent has long recognized the importance of the presence or absence of the word ‘means.’ In *Personalized Media Communications, LLC v. International Trade Commission*, building upon a line of cases interpreting § 112, para. 6,^[4] we stated that the use of the word ‘means’ in a claim element creates a rebuttable presumption that § 112, para. 6 applies. 161 F.3d 696, 703-04 (Fed. Cir. 1998) ***

“Merely because a named element of a patent claim is followed by the word ‘means,’ however, does not automatically make that element a ‘means-plus-function’ element under 35 U.S.C. § 112, ¶ 6.***

“[T]he essential inquiry is not merely the presence or absence of the word “means” but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. *Greenberg [v. Ethicon Endo-Surgery, Inc.]*, 91 F.3d 1583 (Fed. Cir. 1996)](“What is important is . . . that the term, as the name for structure, has a reasonably well understood meaning in the art.”). When the claim uses the word “means,” our cases have been consistent in looking to the meaning of the language of the limitation in assessing whether the presumption is overcome. We have also traditionally held that when a claim term lacks the word “means,” the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to ‘recite[] sufficiently definite structure’ or else recites “function without reciting sufficient structure for performing that function.” *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000).”

* * *

“The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.

^[4] See, e.g., *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533 (Fed. Cir. 1991); *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580 (Fed. Cir. 1996); *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524 (Fed. Cir. 1997); *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206 (Fed. Cir. 1998); *Unidynamics Corp. v. Automatic Prods. Int'l, Ltd.*, 157 F.3d 1311 (Fed. Cir. 1998).

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Greenberg, 91 F.3d at 1583. When a claim term lacks the word "means," the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to "recite sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function." *Watts*, 232 F.3d at 880. The converse presumption remains unaffected: "use of the word 'means' creates a presumption that § 112, ¶ 6 applies." *Personalized Media*, 161 F.3d at 703."

§ 18[b][4] Converse Presumption without "Means" Language

As stated by the *en banc* Court in *Williamson*:

"Applying the converse [to the presumption that use of the term 'means' triggers a statutory 'means' interpretation], we stated that the failure to use the word 'means' also creates a rebuttable presumption—this time that § 112, para. 6 does not apply. *Id.* We have not, however, blindly elevated form over substance when evaluating whether a claim limitation invokes § 112, para. 6:

" '***[M]erely because an element does not include the word 'means' does not automatically prevent that element from being construed as a means-plus-function element.'

"*Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996); *see also Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1584 (Fed. Cir. 1996) ('We do not mean to suggest that section 112(6) is triggered only if the claim uses the word 'means.'").

"In making the assessment of whether the limitation in question is a means-plus-function term subject to the strictures of § 112, para. 6, our cases have emphasized that the essential inquiry is not merely the presence or absence of the word 'means' but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. *Greenberg*, 91 F.3d at 1583 ('What is important is . . . that the term, as the name for structure, has a reasonably well understood meaning in the art.'). When the claim uses the word 'means,' our cases have been consistent in looking to the meaning of the language of the limitation in assessing whether the presumption is overcome. We have also traditionally held that when a claim term lacks the word 'means,' the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to 'recite[] sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.' *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000).

"***Henceforth, we will apply the presumption as we have done [under earlier case law] without requiring any heightened evidentiary showing and expressly overrule the characterization of that presumption as 'strong.' We also overrule the strict requirement

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of 'a showing that the limitation essentially is devoid of anything that can be construed as structure.'

"The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. *Greenberg*, 91 F.3d at 1583. When a claim term lacks the word 'means,' the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.' *Watts*, 232 F.3d at 880."

§ 18[b][5] "Means" Interpretation without Defined Structure

A "mean-plus-function" definition under 35 USC § 112(f) *will* be given to a claim element *even without the use of the "means" word* if the element does not have a well recognized meaning in the art or where the "definition" of the term is a "nonce" definition, one without defined meaning. It is thus important whenever including an element in the claim that *should not* receive "means-plus-function" interpretation to make sure that the element either has a well defined dictionary meaning or there is a *coined* definition for the term that appears in the specification.

Coined definitions have long been accepted by the courts. As explained by Circuit Judge Linn, "patentees can act as their own lexicographers if they 'clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning." *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d ___, ___ (Fed. Cir., 2015)(Linn, J.)(quoting *Thorner v. Sony Computer Entm't Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

Additionally, it is helpful for the definition to be supported by *examples* of the elements. At least, in the *Summary of the Invention* after recitation of the elements of the claim, here is an appropriate place to name *examples* of the element.

Whenever the patent draftsman seeks to *avoid* a "means"-defined § 112(f) interpretation that each element have a well defined meaning or, if a coined term is used for an element, then that element should be *defined* in the specification. Thus, there is no harm in using a coined term *as long as a definition is provided*. Thus, "[i]t is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer" *Hormone Research Foundation, Inc. v. Genentech, Inc.*,

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904 F. 2d 1558, 1563 (Fed. Cir. 1990) (citing *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569-70 (Fed.Cir.1983)).

§ 18[b][6] “Nonce Word” vs. Applicant as “Lexicographer”

The patent draftsman may coin a unique term to define an event where that unique term is, per common usage, a “nonce word”. Every coined term used in a claim should be *defined* in the *Summary of the Invention*. See § 20[h], *Coined (“Nonce”) Term for a Key Element of the Claim*.

It is sometimes *critical* that an element of a claimed combination is not treated as a “nonce word”: A series of cases have held that a definition of an element of a claimed combination using a “nonce word” means that the element should be interpreted as a “means plus function” element. See *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed.Cir.2004); *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1336 (Fed. Cir., 2014)(Prost, C.J., concurring in part and dissenting in part); *Massachusetts Institute of Technology and Electronics for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1353-54 (Fed. Cir. 2006)(Dyk, J.).

"It is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer . . .". *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. ___, ___ (2014)(quoting *Hormone Research Foundation, Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990)). “Departure from the ordinary and customary meaning is permissible only when the patentee has acted as his own lexicographer or disavowed claim scope in the specification or during the prosecution history.” *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1348 (Fed. Cir. 2014)(Chen, J.)(citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed.Cir.2005) (en banc)).

As explained by the Federal Circuit in *Markman*, “a patentee is free to be his own lexicographer. *Autogiro [Co. of Am. v. United States]*, 384 F.2d 391, 397 (Ct. Cl. 1967)]. The caveat is that any special definition given to a word must be clearly defined in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed.Cir.1992).” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir. 1995)(en banc)(Archer, C.J.), *subsequent proceedings*, 570 U.S. 370 (1996).

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Patent law is an area where dictionaries fail to keep up with the technology, where the inventor must set forth a definition in the specification. As explained in *Autogiro*: “Often the invention is novel and words do not exist to describe it. The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words, but words for things. To overcome this lag, patent law allows the inventor to be his own lexicographer.” *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)(citing *Chicago Steel Foundry Co. v. Burnside Steel Foundry Co.*, 132 F.2d 812 (7th Cir. 1943); *Stuart Oxygen Co. Ltd. v. Josephian*, 162 F.2d 857 (9th Cir. 1947); *Universal Oil Products Co. v. Globe Oil & Refining Co.*, 137 F.2d 3 (7th Cir. 1943)). See also *Helmsderfer v. Brobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008) (“A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however, a patentee must clearly express that intent in the written description.”).

The “nonce word” case law is relatively new (at least using the terminology “nonce word”), while this new body of law is a deviation from the well established principle that an applicant can be his own “lexicographer”. A former Chief Judge of the Federal Circuit explains the practice as “the lexicographer rule”:

Under the lexicographer rule, an inventor acts as an independent lexicographer and can even give claim terms a meaning ‘inconsistent with its ordinary meaning.’ *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1347 (Fed.Cir.2003) (citing *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325-26 (Fed.Cir.2002)); see also *Teleflex*, 299 F.3d at 1325 (“[A]n inventor may choose to be his own lexicographer if he defines the specific terms used to describe the invention ‘with reasonable clarity, deliberateness, and precision.” (quoting *In re Paulsen*, 30 F.3d 1475, 1480 (Fed.Cir.1994))). Indeed, this court often acknowledges that an applicant, acting as a lexicographer, may define ‘black’ as ‘white.’ See *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed.Cir.1990) (‘It is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer and thus may use terms in a manner contrary to or inconsistent with one or more of their ordinary meanings.’); see also, e.g., *Int’l Rectifier Corp. v. IXYS Corp.*, 361 F.3d 1363, 1373 (Fed.Cir.2004) (patentee defining ‘annular,’ which ordinarily means in the shape of a ring, to describe structures that are not circular or curved, but polygonal).

Merck & Co. v. Teva Pharmaceuticals USA, 395 F.3d 1364, 1377 (Fed. Cir. 2005)(Rader, J., dissenting). As explained by Circuit Judge Moore:

To be his own lexicographer, a patentee must use a ‘special definition of the term [that] is clearly stated in the patent specification or file history.’ *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1580 (Fed.Cir.1996); see also *CCS Fitness, Inc. v.*

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Brunswick Corp., 288 F.3d 1359, 1366 ('[T]he claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.'). The specification does not clearly contain such a special definition. *** The specification here does not clearly indicate the patentee's intent to give [the word in question] a unique meaning different from its ordinary and customary meaning to one of skill in the art. See *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed.Cir.2008) ('A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however, a patentee must clearly express that intent in the written description.').

Laryngeal Mask Co. Ltd. v. AMBU A/S, 618 F.3d 1367, 1372 (Fed. Cir. 2010)(Moore, J.).

A "coined" or "nonce" element should be *defined* in the *Summary of the Invention*; that definition should be followed by *naming* examples of such "coined" or "nonce" term. Without doing so, the claim may be determined to require a "means-plus-function" interpretation as to that element. To be sure, even without such a definition and exemplification in the *Summary of the Invention*, the patentee may still block a "means- plus-function" interpretation if he is successful in arguing that the specification as a whole provides the missing definition and exemplification, as pointed out in *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014), discussed later in this section.

As explained in the *Manual of Patent Examining Procedure*:

"[A] claim limitation that does not use the term "means" *** will trigger the rebuttable presumption that 35 U.S.C. 112(f) *** does not apply. See, e.g., *Phillips v. AWH Corp.*, 415 F.3d 1303, 1310 (Fed. Cir. 2005) (en banc); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002); *Personalized Media Commc'ns, LLC v. ITC*, 161 F.3d 696, 703-04 (Fed. Cir. 1998). The presumption is overcome when "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc) (quoting *Watts v. XL Systems, Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000); see also *Personalized Media Communications, LLC v. International Trade Commission*, 161 F. 3d 696, 704 (Fed. Cir. 1998). Instead of using "means" *** in such cases, a substitute term acts as a generic placeholder for the term "means" and would not be recognized by one of ordinary skill in the art as being sufficiently definite structure for performing the claimed function. "The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson*, 792 F.3d at 1349; see also *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996).

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MPEP § 2181, *Identifying and Interpreting a 35 U.S.C. 112(f) ...Limitation, § I, Determining Whether a Claim Limitation Invokes 35 U.S.C. 112(f)**** (R-07)(2015).

The focus on “nonce wording” is in seeming contradiction to the right of the applicant to be his own lexicographer: “It is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer”. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. ___, ___ (2014)(quoting *Hormone Research Foundation, Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990)). “Departure from the ordinary and customary meaning is permissible only when the patentee has acted as his own lexicographer or disavowed claim scope in the specification or during the prosecution history.” *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1348 (Fed. Cir. 2014)(Chen, J.)(citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed.Cir.2005) (en banc)).

As explained by the Federal Circuit in *Markman*, “a patentee is free to be his own lexicographer. *Autogiro [Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)]. The caveat is that any special definition given to a word must be clearly defined in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed.Cir.1992).” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir. 1995)(en banc)(Archer, C.J.), *subsequent proceedings*, 570 U.S. 370 (1996).

Patent law is an area where dictionaries fail to keep up with the technology, where the inventor must set forth a definition in the specification. As explained in *Autogiro*: “Often the invention is novel and words do not exist to describe it. The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words, but words for things. To overcome this lag, patent law allows the inventor to be his own lexicographer.” *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)(citing *Chicago Steel Foundry Co. v. Burnside Steel Foundry Co.*, 132 F.2d 812 (7th Cir. 1943); *Stuart Oxygen Co. Ltd. v. Josephian*, 162 F.2d 857 (9th Cir. 1947); *Universal Oil Products Co. v. Globe Oil & Refining Co.*, 137 F.2d 3 (7th Cir. 1943)). See also *Helmsderfer v. Brobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008) (“A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however, a patentee must clearly express that intent in the written description.”).

§ 18[b][6][A] “Dictionary” Definitions of a “Nonce word”

As explained in the *Encyclopedia Britannica* a nonce word is one “coined and used apparently to suit one particular occasion. Nonce words are sometimes used independently by different writers and speakers, but they are not adopted into general use. Literary works known for their prominent use of nonce words include Lewis Carroll’s poem “Jabberwocky” (1871) and James Joyce’s novel *Finnegans Wake* (1939).”, <http://www.britannica.com/topic/nonce-word>. See also Merriam-Webster (“Definition of *nonce word*: a word (as *ringday* in ‘four girls I know have become engaged today: this must be ringday’) coined and used apparently to suit one particular occasion sometimes independently by different writers or speakers but not adopted into use generally ...”) <http://www.merriam-webster.com/dictionary/nonce%20word>; Cambridge English dictionary (“Nonce word” is “a word invented for a particular occasion or situation.”) (<http://dictionary.cambridge.org/us/dictionary/english/nonce-word>); Dictionary.com (“Nonce word” is “a word coined and used only for a particular occasion”, <http://www.dictionary.com/browse/nonce--word>.) Consistent with these definitions, Wikipedia states that “[a] ***nonce word*** (also called an ***occasionalism***) is a lexeme created for a single occasion to solve an immediate problem of communication. The term is used because such a word is created “for the nonce”. *** Some nonce words have a meaning and may become an established part of the language, while others are essentially meaningless and disposable and are useful for exactly that reason[.]” Wikipedia, https://en.wikipedia.org/wiki/Nonce_word (last visited March 29, 2016).

The *Manual of Patent Examining Procedure* identifies various “non-structural generic placeholders that may invoke 35 U.S.C. 112(f) ***: ‘mechanism for,’ ‘module for,’ ‘device for,’ ‘unit for,’ ‘component for,’ ‘element for,’ ‘member for,’ ‘apparatus for,’ ‘machine for,’ or ‘system for.’” MPEP § 2181, *Identifying and Interpreting a 35 U.S.C. 112(f) ...Limitation, § I-A, The Claim Limitation Uses the Term “Means” or “Step” or a Generic Placeholder (A Term That Is Simply A Substitute for “Means”)* (R-07)(2015)(citing *Welker Bearing Co., v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008); *Massachusetts Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006); *Personalized Media*, 161 F.3d at 704, 48 USPQ2d at 1886–87; *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1214-1215 (Fed. Cir. 1998).

§ 18[b][6][B] The Kappos Analysis of “Nonce” Claiming

The respected former Under Secretary of Commerce, David J. Kappos and his distinguished colleague Christopher P. Davis provide an excellent analysis of “nonce” claiming:

“[T]he Federal Circuit established a semi-magic word (‘means’) whose inclusion in a claim supports a rebuttable presumption that § 112(f) applies, and whose absence supports a rebuttable presumption that § 112(f) does not apply.[*EnOcean GmbH v. Face Int’l Corp.*, 742 F.3d 955, 958 (Fed. Cir. 2014).] The presumptions are rebuttable because courts have recognized the potential to purposefully dodge § 112(f) (or, conversely, be unwittingly trapped by it) through selective diction.

“A common tactic to evade § 112(f)’s reach—or at least preserve an argument for its inapplicability—is the use of so called ‘nonce’ words. Nonce words are substitutes for the word ‘means’ that facially suggest structure but, in fact, merely describe function. The U.S. Patent and Trademark Office (PTO) has supplied a non-exhaustive list of these non-structural, generic placeholders: ‘mechanism for,’ ‘module for,’ ‘device for,’ ‘unit for,’ ‘component for,’ ‘element for,’ ‘member for,’ ‘apparatus for,’ ‘machine for,’ and ‘system for.’ Apart from the most obvious examples, however, distinguishing a nonce word from a structurally informative word can be a nuanced endeavor. This is because many structural devices take their names from the functions they perform (e.g. ‘filter,’ ‘brake,’ ‘clamp,’ ‘screwdriver,’ ‘lock,’ etc.). On one level, a screwdriver is merely a ‘mechanism for’ driving screws, but to one skilled in the relevant art, the word ‘screwdriver’ suggests specific structural limitations: though one conceivably could use a hammer to drive a screw, a carpenter would be expected to recognize the difference. Thus, whether or not § 112(f) will apply—which bears on crucial determinations of validity under the Patent Act’s disclosure, novelty and nonobviousness requirements—depends on whether a person having ordinary skill in the relevant art would recognize a term as providing specific structural guidance or, in the alternative, merely incanting a device’s function.

“In 2012’s *Flo Healthcare Solutions, LLC v. Kappos*], 697 F.3d 1367, 1373 (Fed. Cir. 2012)]. the Federal Circuit demonstrated that the presumption against § 112(f)’s applicability to claims lacking the word ‘means’ is strong enough even to overcome the use of terms characteristically recognized as nonce words. The case centered on the term ‘height adjustment mechanism.’ Both parties agreed that the term pointed to a means-plus-function claim (the parties’ disagreement involved whether the specification provided sufficient structural limitations to support the meansplus-function claim’s validity). Nevertheless, despite the parties’ agreement regarding the claim’s functional nature, the Federal Circuit found that the term did not invoke § 112(f) in the first place. The court noted that when the claim drafter has not ‘signaled his intent to invoke

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[§ 112(f)] by using the term ‘means,’ the court will not find a means-plus-function claim unless the limitation ‘essentially is devoid of *anything* that can be construed as structure.’ The court relied on the surrounding language and found that the noun ‘adjustment’ (as defined in the Random House Dictionary) modified the more generic ‘mechanism’ to imbue it with sufficient structure and escape § 112(f). The court went on to equate the term ‘height adjustment mechanism’ to other devices that take their names from the functions they perform, as enumerated in *Greenberg*. The argument that a ‘height adjustment mechanism’ designates structure to a similar extent as do the terms ‘clamp’ and ‘screwdriver’ is tenuous at best. ***

David J. Kappos & Christopher P. Davis, 18 Stan. Tech. L. Rev. 365, 367-70 (2015)(original emphasis)(footnotes omitted or integrated into text in brackets).

§ 18[b][6][C] Federal Circuit Treatment of “Nonce” Claiming

A series of cases have held that a definition of an element of a claimed combination using a “nonce word” means that the element should be interpreted as a “means plus function” element. *See Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed.Cir.2004); *Apple v. Motorola.*, 757 F.3d at 1336(Prost, C.J., concurring in part and dissenting in part); *Massachusetts Institute of Technology and Electronics for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1353-54 (Fed. Cir. 2006)(Dyk, J.).

A coined term such as a “nonce word” may be *expressly defined* to avoid triggering a “means” claim interpretation. “[P]atentees can act as their own lexicographers if they ‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d ___, ___ (Fed. Cir., 2015)(Linn, J.)(quoting *Thorner v. Sony Computer Entm't Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

To the extent that the cases stand for the proposition that any “nonce word” definition of an element triggers interpretation a “means” defined element under 35 USC § 112(f), this is a clear overstatement and shows a fundamental misunderstanding of the definition of a “nonce word” (defined at the outset of this section). Thus, a *defined* “nonce word” is like any other properly defined coined term and should not trigger interpretation under 35 USC § 112(f). It is only an *undefined* “nonce word” that should trigger such an interpretation.

As noted in the previous section, the general rule is that an element of a claimed combination is given a normal claim construction *unless* that element is defined in terms of “means” plus function, in which case an interpretation is made

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under 35 USC § 112(f). But, if an element is *undefined* and has neither a well established meaning in the art exemplified, then the element will be interpreted under 35 USC § 112(f).

“What is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a *nonce word* or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term “means for.” The court in *Personalized Media Communications* drew the pertinent distinction in holding that the term ‘detector,’ although broad, is still structural for purposes of section 112 ¶ 6 because it “is not a generic structural term such as ‘means,’ ‘element,’ or ‘device’; nor is it a coined term lacking a clear meaning such as ‘widget’ or ‘ram-a-fram.’”

Apple v. Motorola, 757 F.3d at 1336 (Prost, C.J., concurring in part and dissenting in part); *see also Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d at 1360; *see also See also 3M Innovative Propts. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1321 (Fed. Cir. 2013)(citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315-16 (Fed.Cir.2005) (en banc) (“Idiosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification.”)).

It is important that when a claim refers to an element where the draftsman does *not* want a “means-plus-function” statutory interpretation that one should avoid an *undefined* “nonce word” or such a verbal construct not recognized as the name of structure.

Even short of a specific definition of a “nonce word” in the specification, it may well be that the *context* of the usage of the term in the specification may provide a definition. The fact that a “nonce word” is used to describe an element does not necessarily mean that the “nonce word” cannot be defined by reference to the specification. The patent who provides a specific *definition* of a “nonce word” in the specification best protects himself from a “means”-defined interpretation of that element under 35 USC § 112(f). Yet, even short of such a specific definition, it may be the context of the use of the term in the specification which provides an implicit definition to avoid a “means”-defined definition. In the leading case on claim interpretation, the court in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316-17 (Fed.Cir.2005) (en banc), explained the key role of the specification to interpret the claims:

*** Judge Rich wrote that “[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims.” *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). On numerous occasions since then, we have reaffirmed that point, stating that “[t]he best

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source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history." *Multiform Desiccants*, 133 F.3d at 1478; *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed.Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."); *see also, e.g., Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir.2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed.Cir.2003) ("[T]he best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.").

That principle has a long pedigree in Supreme Court decisions as well. *See Hogg v. Emerson*, 47 U.S. (6 How.) 437, 482 (1848) (the specification is a "component part of the patent" and "is as much to be considered with the [letters patent] in construing them, as any paper referred to in a deed or other contract"); *Bates v. Coe*, 98 U.S. 31, 38 (1878)("in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims"); *White v. Dunbar*, 119 U.S. 47, 51 (1886) (specification is appropriately resorted to "for the purpose of better understanding the meaning of the claim"); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) ("The claims of a patent are always to be read or interpreted in light of its specifications."); *United States v. Adams*, 383 U.S. 39, 49 (1966) ("[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.").

Yet, the Federal Circuit case law has not differentiated between an *undefined* "nonce word" and one that *is* defined either explicitly or in the context of the specification.

The Federal Circuit introduced reference to a "nonce word" element in *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed.Cir.2004): "What is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term 'means for'." (It should be noted that the term had been used previously. *See Minnesota Mining & Mfg. Co. v. Berwick Industries*, 393 F. Supp. 1230, 1239 n.2 (M.D. Pa., 1975)("The nonce-word 'concoidal' does not appear in "Webster's Third New International Dictionary" (1965), "The American Heritage Dictionary of the English Language" (1969), "The Oxford Universal Dictionary" (1933), or the "The Oxford English Dictionary," Compact (microprint) edition (1971), Supplement (1972).").

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While *Lighting World* put a focus upon “nonce words: to trigger a “means-plus-function” interpretation, what was new in *Lighting Word* was the introduction of the new term, “nonce”, whereas historically it had long been a point of contention as to when the “means-plus-function” terminology should be applied where the word “means” is not used. For both sides of the issue, see *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 704 n.10 (Fed.Cir.1998)(citing *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1214 (Fed.Cir.1998); *York Prods., Inc. v. Central Tractor*, 99 F.3d 1568, 1573-75 (Fed.Cir.1996); *Cole v. Kimberly-Clark Corp.*, 102 F.3d at 524, 531 (Fed.Cir.1996); also *Unidynamics Corp. v. Automatic Prods. Int'l, Ltd.*, 157 F.3d 1311, 1319 (Fed.Cir.1998)).

In *MIT v. Abacus*, Circuit Judge Dyk explains that a claim defining an element *without* using the word “means” is *presumed* not to be a “means-plus-function” claim, but will be treated as a “means-plus-function” claim if the term for the element is a “nonce word” *or is “a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’”* Thus:

“The phrase ‘colorant selection mechanism’ is presumptively not subject to 112 ¶ 6 because it does not contain the term ‘means.’ *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed.Cir.2002). However, a limitation lacking the term ‘means’ may overcome the presumption against means-plus-function treatment if it is shown that ‘the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.* (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed.Cir.2000)).

“[T]he presumption here is overcome and that the phrase ‘colorant selection mechanism’ should be construed as a means-plus-function limitation. The generic terms ‘mechanism,’ ‘means,’ ‘element,’ and ‘device,’ typically do not connote sufficiently definite structure. In *Personalized Media Commc'ns, LLC v. Int'l Trade Com'n*, 161 F.3d 696 (Fed.Cir. 1998), we addressed the claim term ‘digital detector.’ We contrasted the term ‘detector,’ which recited sufficient structure to avoid 112 ¶ 6, with ‘generic structural term[s] such as ‘means,’ ‘element,’ or ‘device,’ which do not. *Id.* at 704. Similarly, in *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354 (Fed.Cir. 2004), we recognized that Section 112 ¶ 6 does not apply to ‘a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’” *Id.* at 1360.”

Massachusetts Institute of Technology and Electronics for Imaging, Inc. v. Abacus Software, 462 F.3d 1344, 1353-54 (Fed. Cir. 2006)(Dyk, J.)(emphasis added). See also *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir.

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2008)(quoting *Lighting World*, 382 F.3d at 1360)(“[T]he unadorned term “mechanism” is “simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’”); *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014)(“[T]his court has found the word ‘device’ to be a non-structural, ‘nonce’ word. See *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed.Cir.2006); *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed.Cir.1998).”); *Williamson v. Citrix Online, LLC*, 770 F.3d 1371, 1374 (Fed. Cir., 2014)(“The district court [characterized] the word ‘module’ as a mere nonce word, [but] failed to appreciate that the word ‘module’ has understood dictionary meanings....”), *subsequent proceedings*, __ F.3d __, __ (Fed. Cir. 2015)(“‘Module; is a well-known nonce word that can operate as a substitute for ‘means’ in the context of § 112, para. 6[.]”). *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1299 (Fed. Cir. 2014)(quoting *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed.Cir.2004))(“Even if a patentee elects to use a ‘generic’ claim term, such as ‘a nonce word or a verbal construct,’ properly construing that term (in view of the specification, prosecution history, etc.) may still provide sufficient structure such that the presumption against means-plus-function claiming remains intact..”).

§ 18[b][6][D] Morphing into a Term in the Art: “Nonce” No More

One of the difficulties in the interpretation of a “nonce” or “coined” term is that while some terms are used just once or in a limited context, some morph into established terms in the art. When is the line crossed? Thus, what were once “nonce” or “coined” terms when created over time may morph into a fixed meaning in the art as in exemplified by the terms “amphetamine”, “racemate” and “immunometric assay”. See *Smith, Kline & French Laboratories v. Clark & Clark*, 157 F.2d 725, 727 n.3 (3rd Cir. 1946)(“The name ‘amphetamine’ was coined by the American Medical Association.”); *Eli Lilly and Company v. Generix Drug Sales, Inc.*, 460 F.2d 1096, 1100 (5th. Cir. 1972)(“racemate [is] a name coined by Pasteur for a compound consisting of equal parts of a dextro and a levo isomer, also referred to as a racemic mixture.”); *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1369 (Fed. Cir. 1986)(“a ‘sandwich’ assay [is] otherwise known as an immunometric assay, the latter being a term coined by Dr. Lawton Miles[.]”). See also *Linde Air Products Co. v. Graver Tank & Mfg. Co.*, 167 F.2d 531, 537 (7th Cir. 1948), *subsequent proceedings*, *Graver Tank &*

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Manufacturing Co. v. Linde Air Products Co., 339 U.S. 605 (1950)(“[T]he phrase ‘conductive melt,’ [was] coined by the inventors to identify their welding compositions.”).

§ 18[b][6][E] Role of the Specification as a Whole

Even if a “nonce word” is used the context of the specification as a whole may provide basis to avoid a “means-plus-function” interpretation of the element defined by the “nonce word”. *See e.g. Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1299 (Fed. Cir. 2014)(quoting *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed.Cir.2004)) (“Even if a patentee elects to use a ‘generic’ claim term, such as ‘a nonce word or a verbal construct,’ properly construing that term (in view of the specification, prosecution history, etc.) may still provide sufficient structure such that the presumption against means-plus-function claiming remains intact..”).

While it is easier for the patentee to deny a “means-plus-function” interpretation to an element of the claim by providing a *definition* and *exemplification* of the term in the *Summary of the Invention*, all is not lost without this information. Rather, the specification *as a whole* may provide basis to determine structure to defeat a means-plus-function interpretation of the element. This is explained in *Apple v. Motorola*, 757 F.3d at 1299:

Structure may also be provided by describing the claim limitation's operation, such as its input, output, or connections. The limitation's operation is more than just its function; it is how the function is achieved in the context of the invention. For example, in *Linear [Tech. Corp. v. Impala Linear Corp.]*, 379 F.3d 1311 (Fed.Cir.2004)], we found that the claim term “circuit” has a known structural definition and that the patent described the circuit's operation, including its input, output, and objective. 379 F.3d at 1320–21. Similarly, in *Lighting World[, Inc. v. Birchwood Lighting, Inc.]*, 382 F.3d 1354 (Fed.Cir.2004)], we found that “connector” had a known structural definition and that the specification described its operational requirements, including which claim elements it was connected to and how they were connected. 382 F.3d at 1361–63. In both cases, we found the presumption against means-plus-function claiming was un rebutted.

Even if a patentee elects to use a “generic” claim term, such as “a nonce word or a verbal construct,” properly construing that term (in view of the specification, prosecution history, etc.) may still provide sufficient structure such that the presumption against means-plus-function claiming remains intact. *Id.* at 1360; *see also Inventio [AG v. ThyssenKrupp Elevator Americas Corp.]*, 649 F.3d 1350, 1356-57 (Fed.Cir.2011)] (“Claims are interpreted in light of the written description supporting them, and that is true whether or not the claim construction involves interpreting a

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'means' clause."); [*Massachusetts Institute of Technology v. Abacus Software*, 462 F.3d 1344, 1354 (Fed.Cir.2006)]("The generic terms 'mechanism,' 'means,' 'element,' and 'device,' typically do not connote sufficiently definite structure."). ***

Complementary to what is stated in *Apple v. Motorola* is the explanation in the *Manual of Patent Examining Procedure*:

"[A] claim limitation that does not use the term "means" *** will trigger the rebuttable presumption that 35 U.S.C. 112(f) *** does not apply. See, e.g., *Phillips v. AWH Corp.*, 415 F.3d 1303, 1310 (Fed. Cir. 2005) (en banc); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002); *Personalized Media Commc'ns, LLC v. ITC*, 161 F.3d 696, 703-04 (Fed. Cir. 1998). The presumption is overcome when "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc) (quoting *Watts v. XL Systems, Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000); see also *Personalized Media Communications, LLC v. International Trade Commission*, 161 F. 3d 696, 704 (Fed. Cir. 1998). Instead of using "means" *** in such cases, a substitute term acts as a generic placeholder for the term "means" and would not be recognized by one of ordinary skill in the art as being sufficiently definite structure for performing the claimed function. "The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson*, 792 F.3d at 1349; see also *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996).

MPEP § 2181, *Identifying and Interpreting a 35 U.S.C. 112(f) ...Limitation*, § I, *Determining Whether a Claim Limitation Invokes 35 U.S.C. 112(f)**** (R-07)(2015).

§ 18[c] Structure Focused on the Stated Function

The definition of a means-defined element in a claim is based upon what is *disclosed* in the specification which is "Part II" of a two step inquiry. As explained by Circuit Judge Linn in *Williamson v. Citrix Online, LLC*, ___F.3d __ (Fed Cir. 2015):

Construing a means-plus-function claim term is a two-step process. The court must first identify the claimed function. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012). Then, the court must determine what structure, if any, disclosed in the specification corresponds to the claimed function. Where there are multiple claimed functions, as we have here, the patentee must disclose adequate corresponding structure to perform all of the claimed functions. *Id.* at 1318-19. If the patentee fails to disclose adequate corresponding structure, the claim is indefinite. *Id.* at 1311-12.

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Structure disclosed in the specification qualifies as ‘corresponding structure’ if the intrinsic evidence clearly links or associates that structure to the function recited in the claim. *Id.* (citing *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). Even if the specification discloses corresponding structure, the disclosure must be of ‘adequate’ corresponding structure to achieve the claimed function. *Id.* at 1311-12 (citing *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc)). Under 35 U.S.C. § 112, paras. 2 and 6, therefore, if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite. *Id.* at 1312 (citing *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1241 (Fed. Cir. 2007)).

Circuit Judge O’Malley in *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302 (Fed. Cir., 2012), provides a parallel view of the law:

Construction of a means-plus-function limitation includes two steps. ‘First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs the function.’ *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1332 (Fed.Cir.2006) (internal citations omitted). ***[T]he inquiry on appeal is whether the specification adequately discloses a corresponding structure that performs the function associated with the ‘access means’ limitation.

A structure disclosed in the specification qualifies as a ‘corresponding structure’ if the specification or the prosecution history ‘clearly links or associates that structure to the function recited in the claim.’ *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed.Cir.1997). Even if the specification discloses a ‘corresponding structure,’ the disclosure must be adequate; the patent’s specification must provide ‘an adequate disclosure showing what is meant by that [claim] language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.’ *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed.Cir.1994) (en banc). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, therefore, ‘a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.’ *AllVoice Computing PLC v. Nuance Commc'ns., Inc.*, 504 F.3d 1236, 1241 (Fed.Cir.2007) (citing *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381–82 (Fed.Cir.1999)).

While it is undisputed that the question of whether a claim is indefinite is based on how the claim limitation would be understood by one of skill in the art, ‘the testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification.’ *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1302 (Fed.Cir.2005); see also *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950–53 (Fed.Cir.2007). The prohibition against using expert testimony in this manner is a direct consequence of the requirement that the specification itself adequately disclose the corresponding structure. *AllVoice Computing*, 504 F.3d at 1240

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(‘The test for definiteness asks whether one skilled in the art would understand the bounds of the claim when read in light of the specification.’ (citation omitted)).

§ 18[c][1] Correlation of Structure to Stated Function

An applicant setting forth a means-defined element must *identify the structure* set forth in the specification that preforms the “means”-defined function.

As explained in *Micro Chem*, “[a]pplication of § 112, ¶ 6 requires identification of the structure in the specification which performs the recited function. See *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302 (Fed. Cir. 1999). Therefore, § 112, ¶ 6 requires both identification of the claimed function and identification of the structure in the written description necessary to perform that function. The statute does not permit limitation of a means-plus-function claim by adopting a function different from that explicitly recited in the claim.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1257-58 (Fed.Cir.1999) (emphasis added).

Or, as stated by Judge Dyk, “[w]hen construing functional claims under § 112 ¶ 6, “[t]he statute does not permit limitation of a means-plus-function claim by adopting a function different from that explicitly recited in the claim.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed.Cir.1999) (“[T]he district court erred ... by incorporating unrecited functional limitations into the claims.”); see also *Globetrotter Software, Inc. v. Elan Computer Grp.*, 236 F.3d 1363, 1367 (Fed.Cir.2001) (The structure disclosed in the specification must be necessary to perform ‘the function described in the claim.’) (citing *Micro Chem.*, 194 F.3d at 1258).” *In re Teles AG Informationstechnologien*, 747 F.3d 1357, 1367-68 (Fed. Cir., 2014)(Dyk, J.).

In *Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328 (Fed.Cir.2008), the court emphasizes that it is the *disclosure* of the structure that is critical, and not whether a structure would be obvious to a worker skilled in the art. Thus:

“[I]n *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1380 (Fed.Cir.1999), the court embraced the proposition that ‘consideration of the understanding of one skilled in the art in no way relieves the patentee of adequately disclosing sufficient structure in the specification.’ It is not enough for the patentee simply to state or later argue that persons of ordinary skill in the art would know what structures to use to accomplish the claimed function. The court in *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 953 (Fed.Cir.2007), put the point this way: ‘The inquiry is whether one of skill in the art would understand the specification itself to

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disclose a structure, not simply whether that person would be capable of implementing that structure.”

Aristocrat Technologies, 521 F.3d at 1336-37.

§18[c][2] Obviousness is not Disclosure of “structure”

“Means”-defined software should be supported by disclosure of an algorithm in the specification even though, *arguendo*, it may very well be within the skill of a worker in the art how to create an algorithm that would satisfy the enablement requirement of 35 USC § 112(a). The reason for this distinction is because the issue in the first instance for a “means”-defined software element is *not* a question of *enablement*. Rather, the issue is one of the *definition* of the invention because the “means”-defined element has a scope of protection limited to “the corresponding structure *** *described in the specification* and equivalents thereof.” 35 USC § 112(f)(emphasis added). Circuit Judge Bryson explains the distinction in *Blackboard, Inc. v. Desire2Learn Inc.*, 574 F.3d 1371 (Fed.Cir.2009). He explains the unique definitional challenge for a “means”-defined claim element. Without disclosure of structure in the specification, there is no way to determine the scope of the “means”-defined element because the *disclosed* structure is at the heart of the definition of the scope of protection: As explained in *Blackboard v. Desire2Learn*:

Because th[e] limitation is written in ‘means-plus-function’ form, it covers only ‘the corresponding structure ... described in the specification and equivalents thereof.’ 35 U.S.C. § 112, ¶ 6.

* * *

The specification contains no description of the structure or the process that the access control manager uses to perform the ‘assigning’ function. Nor has [the patentee] ever suggested that the ‘access control manager’ represents a particular structure defined other than as any structure that performs the recited function. In fact, before the district court, counsel for [the patentee] defined the term ‘access control manager’ in precisely those terms. He stated, ‘We suggest that the corresponding structure for [the function of assigning a level of access to and control of each data file] is the access control manager. That’s not really a revolutionary thought. The access control manager manages access control.’ Counsel also stated of the access control manager that ‘the name of it pretty much describes what it does. It assigns a level of access to and control of a user’s role in a course.’ [patentee]’s expert made clear that he did not regard the term ‘access control manager’ as limited even to software. He stated, ‘Although the access manager in Figure 1 is described as software, there is nothing in the [] patent specification that would limit the performance of the access manager’s functions to software; one of ordinary skill in the art would know that hardware could be used.’ In

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other words, the access control manager, according to [the patentee], is any computer-related device or program that performs the function of access control.

In *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328, 1331 (Fed.Cir.2008), we addressed the question whether a general reference to ‘a standard microprocessor-based gaming machine with appropriate programming’ constituted a sufficient disclosure of structure to support a claimed function in a means-plus-function claim. We concluded that it did not. First, we explained that ‘[t]he point of the requirement that the patentee disclose particular structure in the specification and that the scope of the patent claims be limited to that structure and its equivalents is to avoid pure functional claiming.’ *Id.* at 1333. Without so limiting a claim, we noted, ‘the patentee has not paid the price but is attempting to claim in functional terms unbounded by any reference to structure in the specification.’ *Id.* (citations omitted). We then applied those teachings to the patentee’s assertion that a reference to a general purpose computer could satisfy that standard. We noted that ‘any general purpose computer must be programmed’ and pointed out that relying on such general structure is equivalent to saying ‘that the function is performed by a computer that is capable of performing the function.’ *Id.* at 1334. We also considered and rejected the patentee’s assertion that language describing when the computer would perform the function at issue constituted a sufficient description of the structure for performing the function. Such language, we explained, ‘describes an outcome, not a means for achieving that outcome.’ *Id.*

In *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359 (Fed.Cir.2008), we again addressed a patentee’s argument that reference to a computer provides sufficient structure for a claim drafted in means-plus-function form. In *Net MoneyIN*, the computer was not a general purpose computer; the patentee contended that the reference to a ‘bank computer’ provided sufficient structure to support the function of ‘generating an authorization indicia in response to queries containing a customer account number and amount.’ *Id.* at 1365. The patentee argued that ‘a person skilled in the art would know that such a computer would be programmed to compare account data and amount data to those data structures and generate an authorization indicia if credit were available.’ *Id.* at 1366-67. We rejected that argument and explained that when a computer is referenced as support for a function in a means-plus-function claim, there must be some explanation of how the computer performs the claimed function:

“To avoid purely functional claiming in cases involving computer-implemented inventions, we have consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor. Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to the corresponding structure, material, or acts that perform the function, as required by section 112 paragraph 6. Thus, in a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to

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perform the disclosed algorithm. Consequently, a means-plus-function claim element for which the only disclosed structure is a general purpose computer is invalid if the specification fails to disclose an algorithm for performing the claimed function.”

Id. at 1367 (citations omitted). Because there was no disclosed algorithm in that case, we held that the claims were invalid for lack of a sufficient recitation of structure. *Id.*; see also *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340-41 (Fed.Cir.2008) (‘Simply reciting ‘software’ without providing some detail about the means to accomplish the function is not enough.’).

[The patentee] argues that the specification in this case contains more disclosure of the structure that performs the access control functions than did the specifications in *Aristocrat* and *Net MoneyIN*. It points to the sentence in the specification that states, ‘Education support system 100 provides multiple levels of access restrictions to enable different types of users to effectively interact with the system (e.g. access web pages, upload or download files, view grade information) while preserving confidentiality of information.’ [citation omitted] That sentence, however, merely states that the access control manager enables different types of users to interact with the system in a manner that preserves confidentiality (i.e., it works as intended). Like the specification in *Aristocrat*, that language ‘simply describes the function to be performed.’ 521 F.3d at 1334. It says nothing about how the access control manager ensures that those functions are performed. As such, the language ‘describes an outcome, not a means for achieving that outcome.’ *Aristocrat*, 521 F.3d at 1334.

[The patentee] argues that the process of putting together control lists through software is well known to a person of ordinary skill in the art because access control lists ‘have been around for a long time and everyone of ordinary skill in the field of this invention would know how to construct one given the understanding conveyed in the specification about the entry of files into the system, and which roles have access to which types of files.’ That argument, however, conflates the definiteness requirement of section 112, paragraphs 2 and 6, and the enablement requirement of section 112, paragraph 1. The fact that an ordinarily skilled artisan might be able to design a program to create an access control list based on the system users’ predetermined roles goes to enablement. The question before us is whether the specification contains a sufficiently precise description of the ‘corresponding structure’ to satisfy section 112, paragraph 6, not whether a person of skill in the art could devise some means to carry out the recited function.

[Patentee]’s argument that a person skilled in the art could readily fashion a computer-based means for performing the ‘assigning’ function is the same as the argument that we rejected in *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205 (Fed.Cir.2003). There, the patentee sought to overcome a finding of indefiniteness by relying on expert testimony that a software programmer with ordinary skill in the pertinent art would be aware of programs that could be used to perform the recited function. The court explained, however, that the expert’s testimony was not directed at the correct inquiry. The court stated:

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“The correct inquiry is to look at the *disclosure* of the patent and determine if one of skill in the art would have understood that *disclosure* to encompass software for digital-to-digital conversion and been able to implement such a program, not simply whether one of skill in the art would have been able to write such a software program.... It is not proper to look to the knowledge of one skilled in the art apart from and unconnected to the disclosure of the patent.”

344 F.3d at 1212 (emphasis in original).

[Patentee]’s argument also parallels the argument that was rejected in *Net MoneyIN*, i.e., that the recitation of structure was sufficient because a person skilled in the art would know how to program a bank computer to generate ‘an authorization indicia.’ 545 F.3d at 1367. A patentee cannot avoid providing specificity as to structure simply because someone of ordinary skill in the art would be able to devise a means to perform the claimed function. To allow that form of claiming under section 112, paragraph 6, would allow the patentee to claim all possible means of achieving a function. See *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1380 (Fed.Cir.1999) (‘consideration of the understanding of one skilled in the art in no way relieves the patentee of adequately disclosing sufficient structure in the specification’).

That ordinarily skilled artisans could carry out the recited function in a variety of ways is precisely why claims written in ‘means-plus-function’ form must disclose the particular structure that is used to perform the recited function. By failing to describe the means by which the access control manager will create an access control list, [the patentee] has attempted to capture any possible means for achieving that end. Section 112, paragraph 6, is intended to prevent such pure functional claiming. *Aristocrat*, 521 F.3d at 1333. We thus agree with the district court that the [] patent discloses insufficient structure to perform the function of ‘assigning a level of access to and control of each data file based on a user of the system’s predetermined role in a course.’

Blackboard v. Desire2Learn, 574 F.3d at 1382–85.

Three years after *Blackboard v. Desire2Learn* the same issue was presented in *DealerTrack, Inc. v. Huber*, 674 F.3d 1315 Fed. Cir. 2012), where a “means”-defined software invention lacked disclosure of an algorithm to perform a function of that software:

“[It] is clear that [the claims] recite an additional function for the ‘central processing means’ to perform—i.e., the function of ‘further provid[ing] for tracking pending credit applications.’ ... [T]he appropriate structure for the ‘central processing means’ limitation must include the algorithms disclosed in the specification that ‘implement[] and control[]’ the recited functions that the ‘central processing means’ is required to perform. However, the [] specification discloses no algorithm pursuant to which the ‘central processing means’ could perform the claimed function of ‘tracking.’ The ‘central processing means’ term is therefore indefinite, as used in [the claims], for failure to

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recite sufficient structure to perform its claimed functions. See *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed.Cir.2009); *Aristocrat [Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed.Cir.2008)]; *WMS Gaming[, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed.Cir.1999)].”

DealerTrack v. Huber, 674 F.3d at 1330.

§ 18[d] Algorithm to Support a “Means”-Defined Element

As seen from *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371 (Fed. Cir. 2009), it is axiomatic that a “means”-defined element must have supporting structure set forth in the specification. As explained in that case:

“[Where a] limitation is written in ‘means-plus-function’ form, it covers only ‘the corresponding structure ... described in the specification and equivalents thereof.’ 35 U.S.C. § 112, ¶ 6. * * *

“It is well settled that ‘if one employs means-plus-function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language.’ *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed.Cir. 1994) (en banc). If the specification does not contain an adequate disclosure of the structure that corresponds to the claimed function, the patentee will have ‘failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112,’ which renders the claim invalid for indefiniteness. *Id.*”

Blackboard v. Desire2Learn, 574 F.3d at 1382.

§18[d][1] Algorithm Needed for Software Inventions

It is difficult to write a proper application to *support* a “means”-defined element because the specification must correlate the “means”-defined element as to its stated function with the structure or material disclosed in the specification. Thus, under 35 USC § 112(f), “[a]n element in a claim for a combination may be expressed as a means ... for performing a *specified function* without the recital of structure [or] material ... in support thereof....”

Patentees seeking to enforce claims with “means”-defined elements have had a very difficult track record at the Federal Circuit. See *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371 (Fed. Cir., 2009)(discussing *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328 (Fed.Cir. 2008); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359 (Fed. Cir. 2008); *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323 (Fed. Cir. 2008); *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205

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(Fed.Cir.2003); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374 (Fed.Cir. 1999)).

As explained by Circuit Judge O'Malley in *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302 (Fed. Cir. 2012), a software patent may face an indefiniteness challenge either where there is no algorithm disclosed in the patent or where the patent challenger questions the sufficiency of the disclosure. Thus:

[Federal Circuit] case law regarding special purpose computer-implemented means-plus-functions claims is divided into two distinct groups: First, cases in which the specification discloses no algorithm; and second, cases in which the specification does disclose an algorithm but a defendant contends that disclosure is inadequate. Compare *Blackboard, Inc. v. Desire2Learn Inc.*, 574 F.3d 1371, 1383–85 (Fed.Cir.2009) (no algorithm) with *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed.Cir.1999) (algorithm). This distinction is important because we have clarified that, while “[i]t is certainly true that the sufficiency of the disclosure of algorithmic structure must be judged in light of what one of ordinary skill in the art would understand the disclosure to impart,” in a situation in which the specification discloses no algorithm, “[t]hat principle ... has no application....” *Aristocrat [Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337 (Fed.Cir.2008)]; see *Atmel [Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed.Cir.1999) (“Fulfillment of the § 112, ¶ 6 tradeoff cannot be satisfied when there is a total omission of structure. There must be structure in the specification. This conclusion is not inconsistent with the fact that the knowledge of one skilled in the particular art may be used to understand what structure(s) the specification discloses ... because such resources may only be employed in relation to structure that is disclosed in the specification.”); see also *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1301 (Fed.Cir.2005) (“The inquiry under § 112, ¶ 2 ... asks first ‘whether structure is described in [the] specification, and, if so, whether one skilled in the art would identify the structure from that description.’ ” (quoting *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381 (Fed.Cir.1999))). Where no structure appears, the question “is not whether the algorithm that was disclosed was described with sufficient specificity, but whether an algorithm was disclosed at all.” *Aristocrat [Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337 (Fed.Cir.2008)]. When the specification discloses some algorithm, on the other hand, the question is whether the disclosed algorithm, from the viewpoint of a person of ordinary skill, is sufficient to define the structure and make the bounds of the claim understandable. *AllVoice Computing [PLC v. Nuance Commc'ns., Inc.*, 504 F.3d 1236, 1245 (Fed.Cir.2007)].

Noah v. Intuit, 675 F. 3d at 1312.

§ 18[d][2] Sec. 112(f) Disclosure is not an Enablement Issue

“Means for” terminology is a statutory trigger to invoke the presumption that a functional claim should be interpreted according to 35 USC § 112(f) of the *Leahy Smith America Invents Act*:

“ELEMENT IN CLAIM FOR A COMBINATION.—An element in a claim for a combination may be expressed as a *means ... for* performing a specified function without the recital of structure [or] material ... in support thereof, and such claim shall be construed to cover the corresponding structure [or] material ... described in the specification and equivalents thereof.”

The argument is sometimes made that where a claim is to a “means”-defined element and that element relates to software, it is unnecessary to disclose software that can be used to practice the invention because, once the invention is disclosed (minus a supporting algorithm) anyone skilled in the art would be able to create an operative algorithm. In other words, it would be obvious how to construct an operative algorithm.

This argument totally misses the point that the algorithm is the “corresponding structure” in the specification in support of the “means”-defined definition. Thus, the question is one of *disclosure* of the “corresponding structure” within the meaning of 35 USC § 112(f) that is at issue. So, it may well be that it is obvious how to create an operative algorithm, but that is not the point.

§18[d][3] “Katz Exception” with No Need for Algorithm Disclosure

Exceptionally, a means-plus-function claim *without* supporting algorithm disclosure is acceptable where *any* general purpose computer may be used in the claimed invention. This is cited as the “Katz Exception” in *Eon Corp. IP Holdings LLC v. AT&T Mobility LLC*, ___ F.3d ___, ___ (Fed. Cir. 2015)(Prost, J.)(citing *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303 (Fed. Cir. 2011)). Thus:

“[*Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008); *Finisar Corp. v. DirecTV Grp.*, 523 F.3d 1323, 1340–41 (Fed. Cir. 2008); and *Aristocrat Techs. Austral. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1338 (Fed. Cir. 2008)] involved specific functions that would need to be implemented by programming a general purpose computer to convert it into a special purpose computer capable of performing those specified functions. See, e.g., *Aristocrat*, 521 F.3d at 1333–34; *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005); *WMS Gaming[, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)]. By contrast, ... Katz has not claimed a specific function performed by a special purpose computer, but has simply recited the claimed

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functions of ‘processing,’ ‘receiving,’ and ‘storing.’ Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ ... those functions can be achieved by any general purpose computer without special programming.”

Katz, 639 F.3d at 1316.

§ 18[e] Separate Views of the *En Banc* Court in *Williamson*

§18[e][1] “Sidestep[ping] Fundamental Issues”

One of the members of the en banc *Williamson* court continued in his tradition of seeking the exploration of major issues beyond the immediate question before the Court. *Williamson v. Citrix Online, LLC.*, ___ F.3d at ___ (Fed. Cir. 2015)(en banc in relevant part)(Reyna, J., concurring-in-part, dissenting-in-part, and additional views). On the one hand he *concurs with the result* where the majority overrules case law, inter alia, *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 649 F.3d 1350, 1360 (Fed. Cir. 2011), which the dissent characterizes as “describing a ‘strong’ presumption in favor of § 112, paragraph 6 application where a claim recites ‘means.’” But, in the same paragraph this jurist “question[s] whether those statements sidestep underlying fundamental issues involving the development of functional claiming law since 1952 when 35 U.S.C. § 112, paragraph 6^[Ed. note] was passed.”

While in agreement with the holding overruling case law, the dissent charges that the majority has ignored “fundamental concerns”. Thus, the majority opinion “stop[s] short of addressing other equally fundamental concerns about functional claiming.” *Id.*

The opinion also takes a unique position never before expressed. The opinion refers to “the fact that [35 USC § 112(f)] uses both terms—‘means’ and ‘step’—[which] would suggest that any presumption should apply to the use of either word. Yet, it is arguably not clear to what extent this court attaches a presumption to the word ‘step.’” *Id.*

Indeed, there is a paucity of any case law on point as to “step” claims. *Query*: What major precedent exists as to “step” claims for *any* point of law? How often has an issue unique to a “step” claim been decided by the Federal Circuit?

^[Ed. note] The 1952 Patent Act did not have six paragraphs. The “means” provision was 35 USC § 112 ¶ 3 at the time of enactment and stayed that way until a statutory amendment in 1965.

§18[e][2] Unique Concerns over the Means Presumption

One of the eleven members of the *en banc* Court issued a dissent that speaks for itself:

“The court now overrules dozens of cases referring to a ‘strong presumption’ of means-plus-function usage, and goes to the opposite extreme, holding that this court will create such usage from ‘[g]eneric terms such as ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words.’ Maj. Op. at 17. In the case before us, the so-called “nonce” word is “module.” Thus the court erases the statutory text, and holds that no one will know whether a patentee intended means-plus-function claiming until this court tells us.

* * *

“I urge the court to recognize that it is the applicant's choice during prosecution whether or not to invoke paragraph 6, and the court's job is to hold the patentee to his or her choice. This approach is clear, easy to administer by the USPTO in examination and the courts in litigation, and does no harm, for patent applicants know how to invoke paragraph 6 if they choose.”

Williamson v. Citrix Online, LLC., ___ F.3d at ___ (Fed. Cir. 2015)(en banc in relevant part)(Newman, J., dissenting).

The answer is that the applicant *can* choose statutory “means” claim interpretation by use of the “means for” terminology *and by reciting structure* in support of the “means for”-defined element.

PART IV: SPECIFICATION TO SUPPORT THE CLAIMS

§ 19. Simplicity, Key to Supporting the Claimed Invention

The holistic approach to patent drafting is clearly best – or any other route the applicant takes to reach the result of a patent application with a simple presentation of a few claims, few citations of prior art and a non-argumentative exposition of the invention.

There are several matters that may not at first blush be apparent:

For *offensive* patent rights, the claims play the central role in determining the scope of protection, while the *specification* play a secondary role that, in a well drafted application, can nail down the scope of protection in accordance with the objectives of the applicant. But, it is important that for offensive patent purposes, the *claims must be drafted first*. Only after the claims have been drafted, *then* the specification is drafted to *complement* the definition of the scope of protection defined by the claims.

Drafting the specification and the claims are thus *not* separate tasks that can be segregated from each other. Rather, the claims provide the primary definition of the scope of protection but the specification must be considered in the interpretation of the claims.

The roles of each of the claims and the specification is set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005)(en banc)(Bryson, J.). *Phillips* demonstrates that it is the *claims* that play the primary role in the definition of the invention, while the specification provides a role to *support* the claims and help refine the definition of the claims.

The specification is used to interpret the claims and thus, clearly, is both subsidiary to the claims and also must be drafted *after* the claims so that the specification is consistent with the scope of the claims as intended by the applicant. For example, if an element of the claims is defined generic to both a Framus and a Doohickey, if the specification had been drafted first and all examples set for a Doohickey, there would be amongst some members of the Federal Circuit an inclination to limit the claims to elements with a Doohickey. If the claims are drafted first with the vision of broad generic coverage, then when the specification is drafted the case would include examples of both the Doohickey *and* the Framus.

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In terms of the important yet subsidiary role of the specification in the interpretation of the scope of protection, Judge Bryson explains that:

The role of the specification in claim construction has been an issue in patent law decisions in this country for nearly two centuries. We addressed the relationship between the specification and the claims at some length in our en banc opinion in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370 (1996). We again summarized the applicable principles in *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed.Cir.1996), and more recently in *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed.Cir.2004). What we said in those cases bears restating, for the basic principles of claim construction outlined there are still applicable, and we reaffirm them today. We have also previously considered the use of dictionaries in claim construction. What we have said in that regard requires clarification.

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It is a "bedrock principle" of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Innova*, 381 F.3d at 1115; see also *Vitronics*, 90 F.3d at 1582 ("we look to the words of the claims themselves... to define the scope of the patented invention"); *Markman*, 52 F.3d at 980 ("The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims."). That principle has been recognized since at least 1836, when Congress first required that the specification include a portion in which the inventor "shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery." Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119. In the following years, the Supreme Court made clear that the claims are "of primary importance, in the effort to ascertain precisely what it is that is patented." *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876). Because the patentee is required to "define precisely what his invention is," the Court explained, it is "unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *White v. Dunbar*, 119 U.S. 47, 52 (1886); see also *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908) ("the claims measure the invention"); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 (1895) ("if we once begin to include elements not mentioned in the claim, in order to limit such claim ..., we should never know where to stop"); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) ("the claims made in the patent are the sole measure of the grant").

Phillips, 415 F.3d at 1312. To obtain the scope of the claim definition of the invention it is important that the claims be written first as the claims are interpreted in light of the specification. Thus, the specification should be tailored to meet the definition of the invention and not vice versa. The relationship of the specification to the claims is explained by Judge Bryson:

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The claims, of course, do not stand alone. Rather, they are part of "a fully integrated written instrument," *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 978 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370 (1996)], consisting principally of a specification that concludes with the claims. For that reason, claims "must be read in view of the specification, of which they are a part." *Id.* at 979. As we stated in *Vitronics*, the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." [*Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)].

This court and its predecessors have long emphasized the importance of the specification in claim construction. In *Autogiro Co. of America v. United States*, 384 F.2d 391, 397-98 (Ct. Cl. 1967), the Court of Claims characterized the specification as "a concordance for the claims," based on the statutory requirement that the specification "describe the manner and process of making and using" the patented invention. The Court of Customs and Patent Appeals made a similar point. See *In re Fout*, 675 F.2d 297, 300 (CCPA 1982) ("Claims must always be read in light of the specification. Here, the specification makes plain what the appellants did and did not invent . . .").

Shortly after the creation of this court, Judge Rich wrote that "[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). On numerous occasions since then, we have reaffirmed that point, stating that "[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history." *Multiform [Desiccants, Inc. v. Medzam, Ltd.]*, 133 F.3d 1473, 1478 (Fed.Cir.1998); *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed.Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."); see also, e.g., *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir.2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed.Cir.2003) ("[T]he best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.").

That principle has a long pedigree in Supreme Court decisions as well. See *Hogg v. Emerson*, 47 U.S. (6 How.) 437, 482 (1848) (the specification is a "component part of the patent" and "is as much to be considered with the [letters patent] in construing them, as any paper referred to in a deed or other contract"); *Bates v. Coe*, 98 U.S. 31, 38 (1878) ("in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims"); *White v. Dunbar*, 119 U.S. 47, 51 (1886) (specification is appropriately resorted to "for the purpose of better understanding the meaning of the claim"); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) ("The claims of a patent are always to be read or interpreted in light of its specifications."); *United States v. Adams*, 383 U.S. 39, 49 (1966) ("[I]t is

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fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.").

Phillips v. AWH Corp., 415 F.3d 1303, 1315-16 (Fed.Cir.2005) (en banc).

§ 19[a] Specification is a Critical Complement to Claim Drafting

Throughout this monograph the primacy of the claims to define the scope of protection has been stressed. The role of the specification is and the majority view still is that the specification is *complementary* to help define what is meant by the claims and to provide support to show enablement of the invention. Yet, there has been a consistent minority view often to the contrary by the second longest serving member of the Federal Circuit.

In one case the majority criticized this approach.

“The concurrence-in-part and dissent-in-part [by Lourie, J.] characterizes the specification as the ‘heart of the patent’ and, using ‘colloquial terms,’ states that ‘you should get what you disclose.’ This devalues the importance of claim language in delimiting the scope of legal protection. ‘Claims define and circumscribe, the written description discloses and teaches.’ *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1347 (Fed.Cir.2010) (en banc). To use a colloquial term coined by Judge Rich, ‘*the name of the game is the claim.*’ Giles S. Rich, *The Extent of the Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990). Indeed, unclaimed disclosures are dedicated to the public. *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1051 (Fed.Cir.2002) (en banc).” *Arlington Indus. Inc. v. Bridgeport Fittings Inc.*, 632 F.3d 1246, 1255 n.2 (Fed. Cir. 2011)(Rader, C.J.).

Professor Mueller emphasizes the importance of reading claims as part of the overall patent application: “[P]atent claims generally cannot and should not be read standing alone. The language of a patent claim must be understood in the overall context of the patent instrument (including the patent's written description and, often, drawings). The task of claim construction (also referred to as claim interpretation) is to analyze and determine what the terms in the claims mean, using appropriate evidentiary sources. This determination is essential to ascertaining the scope of the patent owner's right to exclude others.” Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 1, § 2.01[F] (Wolters Kluwer 2016)(footnotes deleted).

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She adds:

“It cannot be overstated that, in patent law, “the name of the game is the claim.” [Giles S. Rich, *The Extent of the Protection and Interpretation of Claims: American Perspectives*, 21 INT'L REV. INDUS. PROP. & COPYRIGHT L. 497, 499, 501 (1990).] This maxim reflects the prominence of claims in patent litigation. Federal Circuit judges observe that “[c]laim construction is the single most important event in the course of a patent litigation.” [*Retractable Techs., Inc. v. Becton, Dickinson and Co.*, 659 F.3d 1369, 1373 (Fed. Cir. 2011) (Moore, J., joined by Rader, C.J., dissenting from denial of rehearing *en banc*).] The manner in which the claims of a patent are interpreted is, in many cases, dispositive of literal infringement. In a smaller but growing number of cases, claim interpretation also may effectively decide whether infringement is found under the doctrine of equivalents. Reflecting the centrality and significance of patent claim interpretation, the U.S. Supreme Court in 2014-2015 issued two decisions dealing with the topic [*Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015)].

“The claims are undoubtedly the most important part of a patent. A patent claim is a single-sentence definition of the literal boundary of the patent owner's right to exclude. Acting as a sort of verbal fence, the patent claim is intended to provide reasonably clear notice, in advance of litigation, of just how far the patentee's competitors can proceed in imitating the patented invention without infringing the patent owner's right to exclude.

“The patent law professor's classic analogy compares a patent claim with a deed to real property. The deed very specifically defines the boundaries of a plot of land but does not describe what may be located in the interior—buildings, trees, water, and the like. Similarly, a patent claim does not describe the invention to which the patent is directed. Rather, it defines the extent of the patent owner's right to prevent others from exploiting that invention.

“The role of *describing* the patented invention is played not by the patent's claims but rather by its written description and drawings. In accordance with 35 U.S.C. §112(a) (eff. Sept. 16, 2012), these parts of the patent specification must provide an enabling disclosure of how to make and use the invention without undue experimentation and also must disclose the best mode of carrying out the invention if such a mode was known to the inventor on the application filing date. ***”

Janice M. Mueller, MUELLER ON PATENT LAW, Vol. 2, § 15.01 (Wolters Kluwer 2016)(footnotes integrated in part into text in brackets or omitted).

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§ 19[b] The Production Quota for the Examiner

The Patent Examiner in the first instance needs a certain level of production to maintain his position or be promoted. Beyond that, a *higher* level of production is needed for a cash bonus each year.

If the Examiner to meet his own self-set production goals can allocate, say, ten hours for a first action on the merits, consider two contrasting examples:

Situation (I): The first application is a holistic application with three prior art references, without argumentation, eight claims (with only “claim 1” in independent form), and a totally “flat” presentation without argumentation.

Situation (II): The second application has fifty prior art references and fifty claims and an argumentative *Background of the Invention*.

In Situation (I) the Examiner has a very easy search to conduct. Instead of starting from scratch and saving twenty or so prior art references after careful reflection, in this holistic example the Examiner instead has the goal of seeing whether the three prior art references cited by the applicant are indeed the best prior art references. His search thus is focused on *beating* the applicant’s search, to see if there is any prior art *closer* than that which the applicant has presented. Already the Examiner has saved a considerable slug of time through the search results provided by the applicant.

The Examiner in Situation (I) now has the task of measuring “claim 1” against the closest prior art, a matter that should be wrapped up in a matter of an hour or so. If the patentability looks close, the Examiner may spend another hour or so searching for a “secondary” (or teaching) reference. If a rejection *is* made for obviousness it will likely be based upon the one most pertinent prior art reference – either alone or in view of one or two “secondary” references.

The Examiner in Situation (I) will also have time to go through the claims with a fine tooth comb and reject any claims under Section 112 with real *or apparent* weaknesses.

In other words, the Examiner in Situation (I) is able to perform a *complete examination on the merits within his allotted time window*.

In terms of nonobviousness issues, the applicant in response to the Situation (I) rejection is now able to see whether an amendment is necessary to the claims to establish nonobviousness or whether evidence should be presented to overcome

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any rejection. The applicant has the absolute *right* to amend and present evidence at this stage because the application stands rejected *without* a Final Rejection.

In terms of formal issues under Section 112, if the Examiner's position does have merit, the applicant is able to *amend* the claims at this stage to obviate the rejection. (This is far, far better than gaining an allowance with a real defect that can be challenged at the Patent Trial and Appeal Board in a Post Grant Review.) The applicant is also the winner if the Examiner has exposed what is only an *apparent* defect under Section 112: The issue has been exposed in the rejection and now the applicant has the opportunity to clarify *why* the claims pass Section 112 muster, creating a more solid prosecution history for defense of the patent that will be granted.

In Situation (II) it is hardly feasible that the Examiner will be able to accomplish a complete first action on the merits within ten hours. First of all, the search results are hardly helpful: The fifty references cited by the applicant in Situation (II) hardly help to clarify what is the closest prior art. The greater the number of citations by the applicant the less helpful the information is to the Examiner. Instead of using the prior art references in Situation (II) in the manner of the earlier example, here, the Examiner is more likely to start his search from scratch.

Blending in the factor of fifty claims in Situation (II) geometrically complicates the examination to make the Examiner's task far, far more time consuming.

It is also likely that the Examiner will *not* have enough time to go past his primary task of examining claims to see whether they represent a patentable contribution under Section 103. In the end, it is likely that the Examiner will see the futility of his task within his allotted time frame and simply seek to "bury" the application so that it cannot be granted before a Final Rejection – thus requiring the applicant to file a Request for Continued Examination or to refile the application under Section 120.

A hint that this has been the fate of the applicant will be manifested by a "Combination Rejection" of a set of seemingly close prior art references "A", "B" and "C" together with "teaching" references "D", "E" and "F":

Claims 1-50 are rejected under 35 USC § 103 a obvious over "A", "B" and "C", each taken alone or in combination with references "D", "E" and "F".

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Further evidence that the Examiner has not done a complete first action will be seen through an absence of *real* formal rejections under 35 USC § 112.

The Examiner's "Combination Rejection" has doomed the applicant to never gaining a patent in the current examination. The second action will be a Final Rejection where the issues have hardly been joined. An appeal would be fruitless, thus requiring a Request for Continued Examination or other refiling.

Furthermore, the Examiner will be most reluctant in any event to grant the patent on this record because there will undoubtedly be formal matters amongst the fifty claims that, upon Quality Review after allowance, would ding the Examiner's record and harm his standing in the Office. (Quality Review is avoided simply by *maintaining* the rejection of the application.)

§ 19[b][1] Supervisory Primary Examiner Intervention

In Situation (I) of the previous section, if the Examiner is at a lower grade level there may be the opportunity for *meaningful* review by the Supervisory Primary Examiner because the case is *simple* and easy to understand.

In Situation (II) the record may become extremely complex. So, while there may be the opportunity for Supervisory Primary Examiner review, in fact the review may be so time consuming and difficult that the default answer will be to sustain the Examiner's rejection.

§ 19[b][2] Appellate Review at the PTAB

Appeal to the Patent Trial and Appeal Board (PTAB) is much more likely to be successful in Situation (I) than in Situation (II).

A crisp appeal brief focused on one issue in In Situation (I) may very well lead to the allowance of the case *by the Examiners* because the issue is clearly framed and easy to understand.

In Situation (II) it may be very difficult to sort through the complex web of the prosecution history, making reversal at the PTAB unlikely and even more surely leading to the Examiner *maintaining* the rejection and forcing the case to reach the PTAB.

§ 19[c] Mythological Importance of the “Inventor’s” Intention

In the introductory portion of this monograph there is a detailed explanation as to precisely *why* it is important for any offensive patent application to draft the claims first, *before* the specification is drafted. See § 2[e][1], *Drafting the Claims First, the Specification Second*.

While it is of course axiomatic that it is the set of *claims* that determines the literal scope of protection, the Federal Circuit has taken an approach that now tends to focus on the inventor’s own intention in his definition of the invention in the specification using the implicit mythology that the patent attorney drafts the claims but somehow it is the inventor who drafts the specification where he expresses his true intention. At least insofar as patent applications drafted by major corporate organizations, it is the patent attorney who drafts the entire application, to be sure with the help of the inventor who should provide a “cook book” disclosure of this preferred embodiment. See § 2[e][6], *Mythology of the Inventor’s Intention*. The special significance of this judicial mythology is that in extreme cases the Federal Circuit has denied the right of the applicant to correct claim scope based upon the “intention” of the inventor in the specification. See *id*.

§19[d] Complete Harmony with the Claim Wording

By far the greatest simplification of the drafting from an *affirmative* side is found in a properly drafted *Summary of the Invention*. Simplicity, here, refers to what should be included in the patent application, which is the subject of this section.

Simplicity in patent drafting from a *negative* side refers to what should *not* be included in the patent application, which is the subject of the section which follows this discussion of what *should* be included in the application.

The claim language should be reproduced word for word as the Summary of the Invention. A verb should be added to each claim to make a complete sentence. (Thus, “A product comprising ***” in claim 1 is reworked as “A product *is provided* comprising ***.”) *The wording to describe the invention should be identical in both the claims and the Summary.*

The *Manual* in one portion of that document makes it clear that claims lacking support in the specification should be objected to: “The meaning of every term used in any of the claims should be apparent from the descriptive portion of

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the specification with clear disclosure as to its import....” MPEP § 608.01(o), *Basis for Claim Terminology in Description*.

In the *Gardner* case the Commissioner argued that the specification *must* contain a disclosure of the invention of ‘claim 1’ in the specification: “While an original claim may be considered as a part of the original disclosure, it should not be considered a part of the ‘written description’—unless the specification contains or is amended to contain the subject matter of the original claim.” *In re Gardner*, 480 F.2d 879, 879 (CCPA 1973)(quoting argument of the Solicitor).

As explained in *Technology Licensing* “a claim in a later application receives the benefit of the filing date of an earlier application so long as the disclosure in the earlier application meets the requirements of 35 U.S.C. § 112, ¶ 1, including the written description requirement, with respect to that claim.” *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326 (Fed. Cir. 2008)(citing *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 556 (Fed.Cir.1994)). Thus, “a patent must contain a written description of the claimed invention in ‘full, clear, concise, and exact’ terms. 35 U.S.C. § 112, ¶ 1. [Where] a patentee seeks the benefit of the filing date of an earlier filed application, compliance with the written description requirement may turn on whether the disclosure of the earlier application provides ‘adequate support’ for the claims at issue.” *Technology Licensing*, 545 F.3d at 1324 (citing *Vas-Cath Inc. v. Mahurkar*, 935 F. 2d 1555, 1560 (Fed.Cir.1991)).

Fortunately, in terms of whether a claim lacking disclosure in the specification passes statutory muster, it is clear that an original claim is a part of the specification as filed so that if the disclosure of the claim is lacking in the body of the specification, it is procedurally possible to amend the Summary of the Invention to include a recitation of the definitions of the original claims.

Unfortunately, if the original claims (or the remainder of the original specification) lack *definitions* of the terms of the claims, then the applicant may be out of luck to cure a deficiency in terms of definitions of the invention.

As to the right to *amend* the specification to include the text from an *original* claim, this is explained by Judge Lourie in *Enzo*, “[t]here is no question that an original claim is part of the specification. That was the question answered in the affirmative by *In re Gardner*, 480 F.2d 879 (CCPA1973), in which the CCPA found compliance with the written description requirement over the objection of the PTO Commissioner, who argued that an original claim should not be considered part of the written description unless the specification was amended to contain the subject matter of the original claim.” *Enzo Biochem, Inc. v. Gen-Probe*

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Inc., 323 F.3d 956, 972 (Fed. Cir., 2002)(on pet. for reh’g)(Lourie, J.). This statement echoes what Judge Lane had said shortly after the *Gardner* case:

“Where the claim is an original claim, the underlying concept of insuring disclosure as of the filing date is satisfied, and the description requirement has likewise been held to be satisfied.” *In re Smith*, 481 F.2d 910, 914 (CCPA 1973)(Lane, J.)(citing *In re Gardner*, 475 F.2d 1389 (CCPA 1973), *supplemental opinion*, 480 F.2d 879 (CCPA 1973); *In re DiLeone*, 436 F.2d 1404 (CCPA 1971)). See also *In re Koller*, 613 F.2d 819, 823 (CCPA 1980) (“[O]riginal claims constitute their own description.”).

§ 19[e] Exemplification of Alternate Embodiments

As noted in §7[f], *Ariad Generic Support to Establish “Possession” of an Invention*, it is important to identify alternate embodiments for an element of the claim where the examples only show one particular embodiment. Additionally, provision of plural working examples may be important in an unpredictable technology.

Whether an example limits the scope of a generic claim or not remains a challenge. As explained by Professor Mueller: “A fine line often must be drawn between properly interpreting claims in light of the written description and improperly narrowing the claims by reading in limitations from the written description. [See *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1561-1563 (Fed. Cir. 1991); see also *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1354 (Fed. Cir. 2012) (“While claim terms are understood in light of the specification, a claim construction must not import limitations from the specification into the claims.”).] It is ‘important not to confuse exemplars or preferred embodiments in the specification that serve to teach and enable the invention with limitations that define the outer boundaries of claim scope.’ [Intervet Inc. v. Merial Ltd., 617 F.3d 1282, 1287 (Fed. Cir. 2010).]” Janice M. Mueller, *MUELLER ON PATENT LAW*, Vol. 2, § 15.04[D] (Wolters Kluwer 2016)(footnotes integrated into text in brackets).

§ 19[f] Definitions at the Point of Novelty

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In *addition* to exemplification of terms to support the claims, a *definition* of terms at the point of novelty will provide a clear line of demarcation of the claimed subject matter from the prior art. This will help avoid an unnecessarily broad interpretation under the “broadest reasonable interpretation” rule used at the Patent Trial and Appeal Board for its post-grant proceedings.

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“[P]atentees can act as their own lexicographers if they “clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d __, ___ (Fed. Cir., 2015)(Linn, J.)(quoting *Thorner v. Sony Computer Entm’t Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

Words that need a definition should be placed in parenthesis and defined in the text immediately following the repetition of the wording of the claims.

The need for definitions of terms is seen from the statement of the Great Dissenter, Circuit Judge Newman:

Words are symbols, linguistic embodiments of information sought to be communicated, and, as such, can be imperfect at representing their subject. The Supreme Court recently observed this challenge to patent claim interpretation, stating in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128-29 (2014), that “the definiteness requirement must take into account the inherent limitations of language,” and that clarity is required although “recognizing that absolute precision is unattainable.” When the disputed words describe technology, the terse usage of patent claims often requires “construction” in order to define and establish the legal right. Judicial “construction” of patent claims aims to state the boundaries of the patented subject matter, not to change that which was invented.

Fenner Investments, Ltd. v. Cellco Partnership, ___ F.3d __ (Fed. Cir. 2015)(Newman, J.)

While the best way to provide an express definition of a term is to place that term in quotation marks, in the context of a definitional interpretation in the prosecution history, the court has approved the use of the phrase “refers to” as a definitional term: “An applicant’s use of the phrase ‘refers to’ generally indicates an intention to define a term.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d __, ___ (Fed. Cir., 2015)(Linn, J.)(citing *In re Imes*, 778 F.3d 1250, 1252-53 (Fed. Cir. 2015); *Microsoft Corp. v. Int’l Trade Comm’n*, 731 F.3d 1354, 1360 (Fed. Cir. 2013); *Linear Tech. Corp. v. Int’l Trade Comm’n*, 566 F.3d 1049, 1054 (Fed. Cir. 2009)).

§ 19[f][1] Claim Boundaries Determined with “Reasonable Certainty”

For the first time in more than seventy years the Supreme Court in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), reviewed the issue of claiming definiteness under what is now 35 USC § 112(b). Until the Federal Circuit issues either an *en banc* decision or a set of consistent panel opinions over the coming years, the law in this area must be considered fluid.

§ 19[f][2] Obfuscation to Deny “Reasonable Certainty”

To the extent that a patent applicant files, say, fifty claims with ambiguities created by internal inconsistencies or where the applicant in prosecution explains support for claims based upon the wrong section of the patent application, do such *unnecessary* ambiguities mean that the applicant has failed to define the invention with “reasonable certainty”?

§ 19[g] “Best Mode Contemplated” Should be Disclosed

The “best mode contemplated” requirement of the patent law *remains* as part of the *Leahy Smith America Invents Act*. See § 19[g][1], “*Best Mode Contemplated*” Requirement is Maintained. But, an accidental or good faith violation of the best mode requirement is no longer a basis to lose the patent right: Under the *Leahy Smith America Invents Act* a best mode challenge can be raised neither in a District Court patent infringement action, see § 19[g][2], “*Best Mode*” Violation is not a Defense to Patent Infringement, nor at the Patent Office in a Post Grant Proceeding, § 19[g][3], “*Best Mode*” Violation not Permitted in Post Grant Review.

Open questions still remain, however, whether an inequitable conduct charge can be successfully raised with deliberate obfuscation of the best mode such as through substitution of a fictitious, inoperative best mode, given a statutory change that removes unenforceability as a defense to patent infringement where the unenforceability is keyed to a violation of the “best mode” requirement. *Ssee* § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

A successful inequitable conduct charge under the new law would represent a significant milestone. See § 19[g][5], *Willful Violation of the Best Mode Requirement: Uncharted Waters*. Thus, where there is a best mode that the patent practitioner *should* know about and *would know* about through the normal course of business, is deliberate avoidance of such knowledge may not be sufficient to escape liability? See § 19[g][6], *Liability for Deliberate Avoidance of Best Mode Knowledge*.

The law of best mode has been further liberalized in the *Leahy Smith America Invents Act* by permitting the applicant to file an application *disclosing* the best mode that claims priority to a provisional application *without disclosing*

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the best mode. See § 19[g][7], *Priority to Provisional without Disclosure of the Best Mode*.

Although there is no explicit wording change to 35 USC § 119 insofar as a Paris Convention priority right is concerned, there is a strong argument that if a United States application *discloses* the best mode while the “home country” priority document does not disclose the best mode, priority nevertheless should be granted. See § 19[g][8], *Paris Convention Priority where Foreign Parent Lacks the Best Mode*. The applicant may also file a continuation-in-part to add the best mode *without losing a right of priority*. See § 19[g][9], *Continuation-in-Part May Add the Best Mode Contemplated*.

§ 19[g][1] “Best Mode Contemplated” Requirement is Maintained

The Leahy Smith America Invents Act makes a major change in the law by denying a basis for a third party attack against the patentee who has failed to disclose the “best mode contemplated”.

Thus, on the one hand, there *remains* a statutory requirement to disclose the “best mode contemplated” by the inventor for carrying out his invention. This is spelled out in 35 USC § 112(a): “The specification *** shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”

The complete text of this section reads:

“*The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.*” [emphasis added]

§ 19[g][2] Violation is not a Direct Defense to Patent Infringement

The denial of a best mode attack in litigation is explicitly stated in 35 USC § 282(b)(3)(A):

“The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded: ...

Invalidity of the patent or any claim in suit for failure to comply with –

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any requirement of section 112 , except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable....”

35 USC § 282(b)(3)(A)[emphasis added]

But, the emphasized wording (a best mode violation also is not basis for the case where “any claim may be *** held *** otherwise unenforceable) questions whether “best mode” inequitable conduct may be raised as a defense to patent infringement. See § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

Whether a deliberate obfuscation of the best mode may be attacked on the basis of inequitable conduct is an open question. The classic case where such an attack was successful is *Consolidated Aluminum Corp. v. Foseco Intern. Ltd.*, 910 F.2d 804 (Fed. Cir. 1990)).

§ 19[g][3] “Best Mode” Violation not Permitted in Post Grant Review

A failure to meet the best mode requirement may not be challenged at the Patent Office in a post grant proceeding under 35 USC § 321(b): “A petitioner in a post-grant review may request to cancel ... claims of a patent on any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).” 35 USC § 321(b).

But, as explained in the previous section, “best mode” is *not* basis for an attack under 35 USC § 282(b).

§ 19[g][4] Does Deliberate Obfuscation Permit an Unenforceability Defense?

Whether a deliberate obfuscation of the best mode may be attacked on the basis of inequitable conduct is an open question. The classic case where such an attack was successful is *Consolidated Aluminum Corp. v. Foseco Intern. Ltd.*, 910 F.2d 804 (Fed. Cir. 1990)). The view that *Consolidated Aluminum* may no longer be viable under the *Leahy Smith America Invents Act* is buttressed by new 35 USC § 282(b)(3)(A) that provides the following:

“The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded: ...

“Invalidity of the patent or any claim in suit for failure to comply with –

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any requirement of section 112 , *except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable . . .*”

Leahy Smith America Invents Act, 35 USC § 282(b)(3)(A) (emphasis supplied).

Under the law prior to the *Leahy Smith America Invents Act*, it was well settled that an “intentional concealment of a best mode coupled with disclosure of a false mode of practicing an invention may constitute inequitable conduct rendering a patent unenforceable.” *U.S. Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1216 n.8 (Fed. Cir. 1996)(dictum)(citing *Consolidated Aluminum*). But, even under the old law a successful ruling against the patentee on the basis of inequitable conduct keyed to a best mode violation has not been looked on with favor as seen from *Old Town Canoe Co. v. Confluence Holdings Corp.*, 448 F.3d 1309 (Fed. Cir. 2006).

Consolidated Aluminum confirmed a ruling of inequitable conduct where the patentee had *both* concealed the best mode and *fabricated an inoperative* mode that it disclosed in its patent. It was this egregious conduct of *fabrication* of an inoperative embodiment that struck the nerve of the Court.

The Federal Circuit in *Consolidated Aluminum* noted that “[the patentee] Consolidated committed inequitable conduct by intentionally withholding the best mode contemplated by the inventors for practicing the invention of [one of the patents] and by disclosing a fictitious, inoperable mode[.]” *Consolidated Aluminum*, 910 F.2d at 807.

The egregious nature of the conduct in *Consolidated Aluminum* is best appreciated by reading the opinion itself:

Consolidated Aluminum Corp. v. Foseco Intern. Ltd.
910 F.2d 804 (Fed. Cir. 1990)

Markey, Circuit Judge.

* * *

Inequitable Conduct Renders the '917 Patent Unenforceable

* * *

*** Consolidated not only failed to disclose the best mode in the '917 patent but disclosed a fictitious and inoperable mode, rejected Consolidated's argument that failure

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to disclose the best mode cannot constitute inequitable conduct,⁵ and agreed with the master that Consolidated had engaged in inequitable conduct:

“Because disclosure of the best mode is statutorily required, see 35 U.S.C. Sec. 112, failure to disclose the best mode is inherently material and, we believe, reaches the minimum level of materiality necessary for a finding of inequitable conduct. See *J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc.*, 747 F.2d 1553, 1559 (Fed.Cir.1984)]. On the other hand, since the failure to disclose the best mode is not excused even if unintentional, *Spectra-Physics [Inc. v. Coherent, Inc.]*, 827 F.2d 1524, 1535 (Fed.Cir. 1987)], but inequitable conduct requires a ‘threshold’ level of intent, *J.P. Stevens*, 747 F.2d at 1560, the failure to disclose the best mode will not constitute inequitable conduct in every case.

* * * * *

“Consolidated’s concealment was obviously intentional. An inoperable slurry was listed on the patent application although a cited example had been produced with the operable concealed slurry. Moreover, false proportions were listed for slurry constituents and an intentionally vague statement was made on the application.”

§ 19[g][5] Willful Violation, Uncharted Waters

Given that a violation of the “best mode contemplated” requirement is now no longer basis for invalidity of a patent, it is a question of first impression for a test case to answer the question whether concealment of the best mode may represent inequitable conduct of a sufficiently egregious nature to warrant rendering a patent unenforceable. Even then, however, one must confront the exclusion of unenforceability under the new law as basis to deny a patent infringement charge. See § 19[g][4], *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

While the “best mode contemplated” requirement remains in the law, given that there is no punishment for violation of this requirement, it is difficult to predict that a court would reach a conclusion of inequitable conduct for violation of the best mode requirement.

Yet, even *if* an obfuscation of the best mode as in *Consolidated Aluminum* is found to be a basis for unenforceability, this still leaves open the question whether unenforceability can be raised based on this ground, given the amendment adding 35 USC § 282(b)(3)(A) as discussed in § 19[g][4] *Does Deliberate Obfuscation Permit an Unenforceability Defense?*

§ 19[g][6] Liability for Deliberate Avoidance of Best Mode Knowledge

If the patentee does not *actually* know of a best mode but *deliberately avoids* learning knowledge of the best mode under some circumstances that might be equated with actual knowledge.

Thus, in some instances the patentee may not have *actual* knowledge that there is a violation of the best mode requirement, but if the patentee *deliberately avoids* knowledge of a violation he may be “willfully blind” of such knowledge and then may be under the same standard as if he had actual knowledge. This is explained in *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011):

The doctrine of willful blindness is well established in criminal law. Many criminal statutes require proof that a defendant acted knowingly or willfully, and courts applying the doctrine of willful blindness hold that defendants cannot escape the reach of these statutes by deliberately shielding themselves from clear evidence of critical facts that are strongly suggested by the circumstances. The traditional rationale for this doctrine is that defendants who behave in this manner are just as culpable as those who have actual knowledge. Edwards, *The Criminal Degrees of Knowledge*, 17 Mod. L. Rev. 294, 302 (1954) (hereinafter Edwards) (observing on the basis of English authorities that “up to the present day, no real doubt has been cast on the proposition that [willful blindness] is as culpable as actual knowledge”). It is also said that persons who know enough to blind themselves to direct proof of critical facts in effect have actual knowledge of those facts. See *United States v. Jewell*, 532 F. 2d 697, 700 (9th Cir. 1976) (en banc).

§ 19[g][7] Priority to Provisional that Lacks Disclosure of the Best Mode

If the first filing is a provisional application *without* disclosure of the best mode contemplated, a regular application that includes the best mode is entitled to rely upon the filing date of the provisional.

If the inventor has failed to meet the best mode requirement either in a priority application under the Paris Convention or a regular application the defect can be cured by *adding* the best mode to a new application claiming priority to the defective application *without losing the priority of the earlier application*. For a foreign priority application that fails to disclose the best mode contemplated, it is explicitly provided in the statute that the best mode can be added *without* loss of priority:

Priority may be based upon a provisional application that does not disclose the best mode contemplated:

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“An application for patent filed under section 111(a)... for an invention disclosed in the manner provided by section 112(a) (*other than the requirement to disclose the best mode*) in a provisional application filed under section 111(b) ...shall have the same effect... as though filed on the date of the provisional application....
35 USC § 119(e)(1)(emphasis added).

§ 19[g][8] Paris Convention Priority where Earlier Case Lacks the Best Mode

Paris Convention priority requires compliance with 35 USC § 119(a) that states that the priority standard to obtain benefit of a foreign priority filing date is the same as for benefit of a domestic priority situation:

“An application for patent for an invention filed in this country by any person who has...previously regularly filed an application for a patent for the same invention in a foreign country ...shall have *the same effect as the same application would have if filed in this country* on the date on which the application for patent for the same invention was first filed in such foreign country....”
35 USC § 119(a)(emphasis added).

So far there has been no test case to confirm that full priority will be granted based upon a foreign application that fails to disclose the “best mode contemplated”.

However, a ruling that priority *should* be granted would be consistent with the case law interpretation of “same effect” in the cases establishing a judicial basis to require a disclosure in a foreign priority application having the same standard as an American priority application. *See Kawai v. Metlesics*, 480 F.2d 880, 889 (CCPA 1973)(“[T]he the purpose of the Paris Convention was to have an application made in a foreign country treated as the equivalent of a domestic filing. We believe that equivalent treatment is accorded when the foreign application is weighed under the first paragraph of section 112 in the same manner as would a United States application under section 120.”); *see also In re Gosteli*, 872 F.2d 1008, 1011 (Fed. Cir. 1989)(“Section 119 provides that a foreign application ‘shall have the same effect’ as if it had been filed in the United States. 35 U.S.C. § 119. Accordingly, if the effective filing date of what is claimed in a United States application is at issue, to preserve symmetry of treatment between sections 120 and 119, the foreign priority application must be examined to ascertain if it supports,

within the meaning of section 112, ¶ 1, what is claimed in the United States application.”)

§ 19[g][9] Continuation-in-Part May Add the Best Mode Contemplated

If the original United States application meets the disclosure requirements of enablement under 35 USC § 112(a) but fails to disclose the “best mode contemplated” this defect can be cured by filing a continuation-in-part *adding* the best mode contemplated as part of the original disclosure of the continuation-in-part application. The patent applicant gains a priority right to the parent filing date *even though* the parent was defective as to the best mode requirement.

This scenario is specifically provided for in the patent law: “An application for patent for an invention disclosed in the manner provided by section 112(a) (*other than the requirement to disclose the best mode*) in an application previously filed in the United States... shall have the same effect ... as though filed on the date of the prior application....”35 USC § 120, first sentence; emphasis added.



§ 20. Definitions in the *Summary of the Invention*

It is axiomatic that for every term used in the claims, that claim should be clearly defined either in the specification or in the prior art. As part of the Examiner's first action on the merits, it is his obligation to understand the scope of protection which he most readily gains by reading the claims and their definitions in the specification. The place for such definitions is the *Summary of the Invention*.

It is always safest to rely upon a definition for each term in the *Summary of the Invention*. The downside of failing to provide a definition may occur, for example, where a term has been widely used in the prior art, but where there have been plural definitions for the term. Here, it is important that the specification provide a definition for the term. As pointed out in the *Manual*, "when there is more than one meaning for a term, it is incumbent upon applicant to make clear which meaning is being relied upon to claim the invention. Until the meaning of a term or phrase used in a claim is clear, a rejection under 35 U.S.C. 112(b) ... is appropriate. It is appropriate to compare the meaning of terms given in technical dictionaries in order to ascertain the accepted meaning of a term in the art." MPEP § 2173.05(a), *New Terminology* (R-07)(2015), § III, *Terms Used Contrary to their Ordinary Meaning must be Clearly Redefined in the Written Description* (citing *In re Barr*, 444 F.2d 588 (CCPA 1971). See also MPEP § 2111.01.)

"[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)(en banc)(Bryson, J.)(citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed.Cir. 2002)). Thus, "[t]o act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning' and must 'clearly express an intent to redefine the term.'" *Hill-Rom Services, Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014)(Moore, J.)(dictum)(quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed.Cir.2012).

§ 20[a] Definitions in the Specification as Filed

The patent applicant *without* a definition of claim terminology may well have to rely upon a “definition by implication”, an always second best approach where it is too late to amend the specification because of a concern about “new matter” if a new definition is added to define a term in the claims. Thus, while it is always the better position to be able to refer to a definition for claim terminology in the *Summary of the Invention*, once the application has been filed it may well represent proscribed “new matter” to add a definition to the *Summary of the Invention*.

Without a definition in the specification as filed, one may be forced to the position of reliance upon a “definition by implication” in the specification. As explained in the *Manual*: “In some cases, the meaning of a particular claim term may be defined by implication, that is, according to the usage of the term in the context in the specification.” MPEP § 2111.01, *Plain Meaning* [R-07.2015], § IV, *Applicant may be Own Lexicographer and/or May Disavow Claim Scope*, § A, *Lexicography* (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320-21 (Fed. Cir. 2005) (*en banc*); *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)).

§ 20[b] The Summary Complements the Claim

§ 20[b][1] The Summary Should Mirror the Language of “Claim 1”

The claim language should be reproduced word for word as the Summary of the Invention. A verb should be added to each claim to make a complete sentence. (Thus, “A product comprising ***” in claim 1 is reworked as “A product *is provided* comprising ***.”) *The wording to describe the invention should be identical in both the claims and the Summary.*

The *Manual* in one portion of that document makes it clear that claims lacking support in the specification should be objected to: “The meaning of every term used in any of the claims should be apparent from the descriptive portion of the specification with clear disclosure as to its import....” MPEP § 608.01(o), *Basis for Claim Terminology in Description.*

In the *Gardner* case the Commissioner argued that the specification *must* contain a disclosure of the invention of ‘claim 1’ in the specification: “While an original claim may be considered as a part of the original disclosure, it should not be considered a part of the ‘written description’—unless the specification contains or is amended to contain the subject matter of the original claim.” *In re Gardner*, 480 F.2d 879, 879 (CCPA 1973)(quoting argument of the Solicitor).

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As explained in *Technology Licensing* “a claim in a later application receives the benefit of the filing date of an earlier application so long as the disclosure in the earlier application meets the requirements of 35 U.S.C. § 112, ¶ 1, including the written description requirement, with respect to that claim.” *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326 (Fed. Cir. 2008)(citing *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 556 (Fed.Cir.1994)). Thus, “a patent must contain a written description of the claimed invention in ‘full, clear, concise, and exact’ terms. 35 U.S.C. § 112, ¶ 1. [Where] a patentee seeks the benefit of the filing date of an earlier filed application, compliance with the written description requirement may turn on whether the disclosure of the earlier application provides ‘adequate support’ for the claims at issue.” *Technology Licensing*, 545 F.3d at 1324 (citing *Vas-Cath Inc. v. Mahurkar*, 935 F. 2d 1555, 1560 (Fed.Cir.1991)).

Fortunately, in terms of whether a claim lacking disclosure in the specification passes statutory muster, it is clear that an original claim is a part of the specification as filed so that if the disclosure of the claim is lacking in the body of the specification, it is procedurally possible to amend the Summary of the Invention to include a recitation of the definitions of the original claims.

Unfortunately, if the original claims (or the remainder of the original specification) lack *definitions* of the terms of the claims, then the applicant may be out of luck to cure a deficiency in terms of definitions of the invention.

As to the right to *amend* the specification to include the text from an *original* claim, this is explained by Judge Lourie in *Enzo*, “[t]here is no question that an original claim is part of the specification. That was the question answered in the affirmative by *In re Gardner*, 480 F.2d 879 (CCPA1973), in which the CCPA found compliance with the written description requirement over the objection of the PTO Commissioner, who argued that an original claim should not be considered part of the written description unless the specification was amended to contain the subject matter of the original claim.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 972 (Fed. Cir., 2002)(on pet. for reh’g)(Lourie, J.). This statement echoes what Judge Lane had said shortly after the *Gardner* case:

“Where the claim is an original claim, the underlying concept of insuring disclosure as of the filing date is satisfied, and the description requirement has likewise been held to be satisfied.” *In re Smith*, 481 F.2d 910, 914 (CCPA 1973)(Lane, J.)(citing *In re Gardner*, 475 F.2d 1389 (CCPA 1973), *supplemental opinion*, 480 F.2d 879 (CCPA 1973); *In re DiLeone*, 436 F.2d 1404 (CCPA 1971)). See also *In re Koller*, 613 F.2d 819, 823 (CCPA 1980) (“[O]riginal claims constitute their own description.”).

§ 20[b][2] Inventor as his Own “Lexicographer”

It is axiomatic that an applicant may coin new terminology and in effect create his own “dictionary”, i.e., he acts as his own “lexicographer”. It is imperative, however, that the patent applicant *define* and *exemplify* the coined terminology, or face a claim interpretation where the coined terminology is deemed a “nonce word”. Under recent case law, if a term is deemed a “nonce word” then the term may be subject to an unwanted “means-plus-function” interpretation under 35 USC § 112(f). See § 18[b][6], “*Nonce Word*” vs. *Applicant as “Lexicographer.”*

§ 20[c] Definitions at the Point of Novelty

In *addition* to exemplification of terms to support the claims, a *definition* of terms at the point of novelty will provide a clear line of demarcation of the claimed subject matter from the prior art. This will help avoid an unnecessarily broad interpretation under the “broadest reasonable interpretation” rule used at the Patent Trial and Appeal Board for its post-grant proceedings.

“[P]atentees can act as their own lexicographers if they “clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, __ F.3d __, __ (Fed. Cir., 2015)(Linn, J.)(quoting *Thorner v. Sony Computer Entm't Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012), quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

Words that need a definition should be placed in parenthesis and defined in the text immediately following the repetition of the wording of the claims.

The need for definitions of terms is seen from the statement of the Great Dissenter, Circuit Judge Newman:

Words are symbols, linguistic embodiments of information sought to be communicated, and, as such, can be imperfect at representing their subject. The Supreme Court recently observed this challenge to patent claim interpretation, stating in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128-29 (2014), that “the definiteness requirement must take into account the inherent limitations of language,” and that clarity is required although “recognizing that absolute precision is unattainable.” When the disputed words describe technology, the terse usage of patent claims often requires “construction” in order to define and establish the legal right. Judicial “construction” of patent claims aims to state the boundaries of the patented subject matter, not to change that which was invented.

Fenner Investments, Ltd. v. Cellco Partnership, __ F.3d __ (Fed. Cir. 2015)(Newman, J.)

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While the best way to provide an express definition of a term is to place that term in quotation marks, in the context of a definitional interpretation in the prosecution history, the court has approved the use of the phrase “refers to” as a definitional term: “An applicant's use of the phrase ‘refers to’ generally indicates an intention to define a term.” *Vasudevan Software, Inc. v. Microstrategy, Inc.*, ___ F.3d ___, ___ (Fed. Cir., 2015)(Linn, J.)(citing *In re Imes*, 778 F.3d 1250, 1252-53 (Fed. Cir. 2015); *Microsoft Corp. v. Int'l Trade Comm'n*, 731 F.3d 1354, 1360 (Fed. Cir. 2013); *Linear Tech. Corp. v. Int'l Trade Comm'n*, 566 F.3d 1049, 1054 (Fed. Cir. 2009)).

The patent applicant *without* a definition of claim terminology may well have to rely upon a “definition by implication”, an always second best approach where it is too late to amend the specification because of a concern about “new matter” if a new definition is added to define a term in the claims. Thus, while it is always the better position to be able to refer to a definition for claim terminology in the *Summary of the Invention*, once the application has been filed it may well represent proscribed “new matter” to add a definition to the *Summary of the Invention*.

Here, one may be forced to the position of reliance upon a “definition by implication” in the specification. As explained in the *Manual*: “In some cases, the meaning of a particular claim term may be defined by implication, that is, according to the usage of the term in the context in the specification.” MPEP § 2111.01, *Plain Meaning* [R-07.2015], § IV, *Applicant may be Own Lexicographer and/or May Disavow Claim Scope*, § A, *Lexicography* (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320-21 (Fed. Cir. 2005) (*en banc*); *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)).

§ 20[d] Claim Boundaries Determined with “Reasonable Certainty”

For the first time in more than seventy years the Supreme Court in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014), reviewed the issue of claiming definiteness under what is now 35 USC § 112(b). Until the Federal Circuit issues either an *en banc* decision or a set of consistent panel opinions over the coming years, the law in this area must be considered fluid.

§ 20[e] “Reasonable Certainty”, Antithesis of an Obscure Definition

To the extent that a patent applicant files, say, fifty claims with ambiguities created by internal inconsistencies or where the applicant in prosecution explains support for claims based upon the wrong section of the patent application, do such *unnecessary* ambiguities mean that the applicant has failed to define the invention with “reasonable certainty”?

§ 20[f] Headings to Focus Attention on the *Summary*

Headings that identify the start and finish of the *Summary of the Invention* are useful to direct the Examiner’s attention to that portion of the specification that contains essentially all the information needed for his examination. Conveniently, this is consistent with the regulations that govern specification drafting:

“The specification should include the following sections in order:

* * *

- (8) Brief summary of the invention.
- (9) Brief description of the several views of the drawing.
- (10) Detailed description of the invention. * * *

37 CFR § 1.77(b). It is furthermore a *requirement* that each of the sections be *titled*; the title should under the regulations be centered and capitalized. 37 CFR § 1.77(c)(“The text of the specification sections defined in [§ 1.77(b)(1) through § 1.77(b)(12)], if applicable, should be preceded by a section heading in uppercase and without underlining or bold type.”)

§ 20[g] Consistent Usage of Terms in the Claims and Specification

A specific term should be used for each element that is recited *verbatim* in the claims and the specification, including both the *Summary of the Invention* and the *Abstract of the Disclosure*. While the term used in the claims will in the first instance define the scope of protection for that element, at the same time the Federal Circuit uses both the *Summary of the Invention* and the *Abstract of the Disclosure* in order to *interpret* the claims. Any deviation where either the *Summary of the Invention* or the *Abstract of the Disclosure* gives a narrow interpretation to the term may be used to give the claim a narrower definition than if consistent language had been used throughout the specification.

§ 20[h] Coined (“Nonce”) Term for a Key Element of the Claim

It is extremely important that each term used in a claim either be a well established term known in the art *or* that the term be *defined* in the *Summary of the Invention*. Because some established terms may have multiple meanings or acquire inconsistent definitions, it is safest to include a definition of a critical element of the claim even where it is an established term known in the art.

The *Summary of the Invention* should be the home for a definition of any “coined” or “nonce” element. Thus, the patent draftsman may coin a unique term to define an event where that unique term is, per common usage, a “nonce word”.

Following the first recitation of a “nonce” (or any) term in the *Summary of the Invention*, any term that is open to multiple interpretations should be defined, particularly at the point of novelty. If such a coined term is used in the generic claim, then following the first time that term is recited in the Summary of the Invention there should be both a specific definition (“By the term ‘widget’ is meant...”) and a statement reciting each of the species that is disclosed as an example of that term.

Failure to provide a definition may lead to the technical trap that the term may be deemed a “nonce word”, which refers to a coined term initially developed for a specific occasion that may or may not have established a recognized meaning. *See* § 18[b][6], “*Nonce Word*” *vs. Applicant as “Lexicographer”*. Without such recognized meaning, an *undefined* “nonce word” is open to an ambiguous interpretation and, where the “nonce word” is used to define a specific element may trigger a claim interpretation governed by the statutory “means-plus-function” analysis of 35 USC § 112(f). *Id.* A useful definition of a “nonce word” based upon dictionary definitions set forth in this monograph, *id.*, is a coined word particularly for a special occasion that, *if undefined*, may trigger a section 112(f) analysis.

§ 20[i] English that Correctly Expresses the Invention

Language mistakes may be fatal to coverage even where a simple preposition is incorrectly used. In *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371 (Fed.Cir. 2004), the claimed invention is a bakery process heating dough “to” near incineration temperatures (instead of “at” such temperatures). In *Teknowledge Corp. v. Akamai Technologies, Inc.*, 2004 WL 2042864 (N.D.Cal. 2004)(Illston, J.), the

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patentee claimed a process with “objects fetched from [the] clients” where the actual process involves objects fetched for [the] clients.”

Thus, a simple English usage mistake of one word – “from” instead of “for” – led to a nonsensical claim interpretation . Here, the error created a nonsensical meaning for an internet business claim where a part of the process concerns “objects fetched *for* [the] clients”; but, the claim calls for “objects fetched *from* [the] clients”.

It is axiomatic that “[c]ourts may not redraft claims to make them operable or to sustain their validity.” *In re Papst Licensing GmbH & Co. Kg Litigation*, 670 F.Supp.2d 16, 29 (D.D.C. 2009)(citing *Chef America*, 358 F.3d at 1374).

United States patent applicants up until the current generation have lived in a dream world that *encouraged* fuzzy claim drafting and *deliberate* ambiguities built into a patent document. Thus, if the boundaries of a patent claim were unclear but the “gist” or “heart” of an invention was copied by an accused infringer, patent applicants relied upon the judicial system to provide leniency to at least compel a settlement.

Often, courts would interpret claims in a way to give them meaning consistent with the specification. Or, even worse, patent applicants could seemingly always rely upon the doctrine of equivalents to get to a jury that would determine infringement: Even if in the end the patentee may lose the case, an accused infringer could not take the business risk of a jury finding him guilty of patent infringement and the shut down of a business line.

The real world of the Federal Circuit today has taken the view that ambiguities shall be resolved *against* the patent owner. Perhaps the best example of the get tough attitude of the mainstream Federal Circuit is in the case of the use of the wrong two letter preposition – “to” instead of “at”:

In *Chef America* this led to the entirely nonsensical interpretation that made the patent entirely worthless: The *specification* disclosed a baking process that included a step of heating dough *at* a temperature of up to 850 F. for a period of at little as 10 seconds to set the batter. But, the *claim* instead stated a limitation of “heating the ***dough *to* a temperature in the range of about 400 F. to 850 F. for a period of time ranging from about 10 seconds to 5 minutes” for the purpose of setting the batter. Obviously, the examples did not disclose creating a dough product at 850 degrees – a temperature so high that a self-cleaning oven (that *incinerates* residue in an oven) is automatically locked at such a high temperature to safeguard the kitchen user; the temperature would transform any bakery product

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into a charcoal-like product. Yet, the claim called for heating *to* a temperature of 800 degrees, a totally nonsensical result.

In *Teknowledge v. Akamai* a simple English usage mistake of one word – “from” instead of “for” – led to a nonsensical claim interpretation . Here, the error created a nonsensical meaning for an internet business claim where a part of the process concerns “objects fetched *for* [the] clients”; but, the claim calls for “objects fetched *from* [the] clients”. Finding this nonsensical claim construction not infringed – and the claim itself fatally indefinite and thus invalid – the court said it followed “[t]he clear line of Federal Circuit authority dictates that this Court may not re-draft claims to change their ordinary meaning, even if the ordinary meaning produces a nonsensical result.” *Teknowledge* (citing *Chef America Inc.*, 358 F.3d at 1374)).

Industry in the 1990’s clamored for greater certainty in claim construction as the notice function of patents became of paramount importance. The ultimate reach of the notice function of the mainstream Federal Circuit necessarily is at a price to patentees who do *not* provide fair notice for the invention they disclose but do not properly claim in their patents. The result is a hardball claim construction regime by the mainstream of the Federal Circuit that in its most extreme is perhaps best exemplified in *Chef America*. The patent community has in essence *asked* that the court provide the regime of *Chef America*, and now the flip side of the question is how to adapt patent drafting and prosecution regimes to the realities of such a hardball approach.

§ 20[j] Established Term with Plural Meanings

An ambiguity may arise where an element has a well established meaning in the art, but where there are *plural* meanings in the art. Here, a definition of the term in the *Summary of the Invention* obviates claim interpretation difficulties that can arise.

The failure to provide such a specific definition for an established term is manifested by the *O2 Micro* case as explained by Circuit Judge Prost:

“A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute. *** This court has construed other “ordinary” words ***. *See, e.g., Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed.Cir.2005) (construing ‘board’ in light of intrinsic record); *Unitherm Food Sys., Inc. v. Swift-Eckrich, Inc.*, 375 F.3d 1341, 1350 (Fed.Cir.2004) (construing ‘golden brown’ even though

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colors ‘are commonly used terms with well-accepted plain definitions that rarely need construction’), *rev'd on other grounds*, 546 U.S. 394 (2006); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed.Cir.1999) (construing ‘cover,’ ‘included,’ ‘attachment,’ and ‘removable’).”

O2 Micro Intern. Ltd. v. Beyond Innovation Technology Co., Ltd , 521 F.3d 1351, 1361-62 (Fed. Cir. 2008)(Prost, J.)(footnote deleted)

§ 20[k] File Record Chart Showing Basis for Claim Elements

It is axiomatic that the patent drafter should leave notes in the applicant’s file showing precisely where in the specification there is support for terms used in the claims which are *not* specifically defined in the *Summary of the Invention*. The chances are that by the time of the first action when an issue of claim support is raised in an Examiner’s first action, a *different* practitioner will be handling the prosecution than one who drafted the application. Or, memories may fade after two or three years.

In any event, if there is sufficient ambiguity for the Examiner to reject a claim as lacking support, this means that *the Examiner* couldn’t figure out the support: Will a fresh practitioner without participation in the drafting process have a better chance of doing so?

Where the practitioner provides an answer to the Examiner that is in fact inconsistent with the drafter’s intention and support, this may be a sufficient basis for the Examiner to withdraw the rejection. But, downstream, the careful opponent in a post grant proceeding challenging the patent at the Patent Trial and Appeal Board may be able to see that, in fact, there is now an inconsistency in the prosecution history. This may be a basis to challenge the claim under Section 112(b) as indefinite.



APPENDIX:
THE LEAHY SMITH AMERICA INVENTS ACT OF 2011
Selected Sections

- 35 U.S.C. 100 Definitions.
- 35 U.S.C. 101 Inventions patentable.
- 35 U.S.C. 102 Conditions for patentability; novelty.
- 35 U.S.C. 103 Conditions for patentability; non-obvious subject matter.
- 35 U.S.C. 103 Conditions for patentability; non-obvious subject matter.
- 35 U.S.C. 112 Specification.
- 35 U.S.C. 120 Benefit of earlier filing date in the United States.
- 35 U.S.C. 121 Divisional applications.

35 U.S.C. 100 Definitions.

When used in this title unless the context otherwise indicates -

- (a) The term “invention” means invention or discovery.
- (b) The term “process” means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.
- (c) The terms “United States” and “this country” mean the United States of America, its territories and possessions.
- (d) The word “patentee” includes not only the patentee to whom the patent was issued but also the successors in title to the patentee.
- (e) The term “third- party requester” means a person requesting ex parte reexamination under section 302 who is not the patent owner.
- (f) The term "inventor" means the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention.
- (g) The terms "joint inventor" and "coinventor" mean any 1 of the individuals who invented or discovered the subject matter of a joint invention.
- (h) The term "joint research agreement" means a written contract, grant, or cooperative agreement entered into by 2 or more persons or entities for the

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performance of experimental, developmental, or research work in the field of the claimed invention.

(i)(1) The term "effective filing date" for a claimed invention in a patent or application for patent means—

(A) if subparagraph (B) does not apply, the actual filing date of the patent or the application for the patent containing a claim to the invention; or

(B) the filing date of the earliest application for which the patent or application is entitled, as to such invention, to a right of priority under section 119 , 365(a) , 365(b) , 386(a) , or 386(b) or to the benefit of an earlier filing date under section 120 , 121 , 365(c) , or 386(c).

(2) The effective filing date for a claimed invention in an application for reissue or reissued patent shall be determined by deeming the claim to the invention to have been contained in the patent for which reissue was sought.

(j) The term "claimed invention" means the subject matter defined by a claim in a patent or an application for a patent.

35 U.S.C. 101 Inventions patentable.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. 102 Conditions for patentability; novelty.

(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—

(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or

(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b) , in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

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(b) EXCEPTIONS.—

(1) DISCLOSURES MADE 1 YEAR OR LESS BEFORE THE EFFECTIVE FILING DATE OF THE CLAIMED INVENTION.—A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—

(A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.

(2) DISCLOSURES APPEARING IN APPLICATIONS AND PATENTS.—A disclosure shall not be prior art to a claimed invention under subsection (a)(2) if—

(A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;

(B) the subject matter disclosed had, before such subject matter was effectively filed under subsection (a)(2), been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were owned by the same person or subject to an obligation of assignment to the same person.

(c) COMMON OWNERSHIP UNDER JOINT RESEARCH AGREEMENTS.—Subject matter disclosed and a claimed invention shall be deemed to have been owned by the same person or subject to an obligation of assignment to the same person in applying the provisions of subsection (b)(2)(C) if—

(1) the subject matter disclosed was developed and the claimed invention was made by, or on behalf of, 1 or more parties to a joint research agreement that was in effect on or before the effective filing date of the claimed invention;

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(2) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and

(3) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement.

(d) PATENTS AND PUBLISHED APPLICATIONS EFFECTIVE AS PRIOR ART.—For purposes of determining whether a patent or application for patent is prior art to a claimed invention under subsection (a)(2), such patent or application shall be considered to have been effectively filed, with respect to any subject matter described in the patent or application—

(1) if paragraph (2) does not apply, as of the actual filing date of the patent or the application for patent; or

(2) if the patent or application for patent is entitled to claim a right of priority under section 119 , 365(a) , 365(b) , 386(a) , or 386(b) , or to claim the benefit of an earlier filing date under section 120 , 121 , 365(c) , or 386(c) based upon 1 or more prior filed applications for patent, as of the filing date of the earliest such application that describes the subject matter.

Prior § 102 before the Leahy Smith America Invents Act:

35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this

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country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in — (1) an application for patent, published under section 122(b) , by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or

(f) he did not himself invent the subject matter sought to be patented, or

(g) (1) during the course of an interference conducted under section 135 or section 291 , another inventor involved therein establishes, to the extent permitted in section 104 , that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. 103 Conditions for patentability; non-obvious subject matter.

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 , if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Prior § 103 before the Leahy Smith America Invents Act:

35 U.S.C. 103 Conditions for patentability; non-obvious subject matter.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 , if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b)(1) Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if-

(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective filing date; and

(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.

(2) A patent issued on a process under paragraph (1)-

(A) shall also contain the claims to the composition of matter used in or made by that process, or

(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.

(3) For purposes of paragraph (1), the term “biotechnological process” means-

(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to-

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- (i) express an exogenous nucleotide sequence,
 - (ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or
 - (iii) express a specific physiological characteristic not naturally associated with said organism;
- (B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and
- (C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).
- (c)(1) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.
- (2) For purposes of this subsection, subject matter developed by another person and a claimed invention shall be deemed to have been owned by the same person or subject to an obligation of assignment to the same person if —
- (A) the claimed invention was made by or on behalf of parties to a joint research agreement that was in effect on or before the date the claimed invention was made;
 - (B) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and
 - (C) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement.
- (3) For purposes of paragraph (2), the term “joint research agreement” means a written contract, grant, or cooperative agreement entered into by two or more persons or entities for the performance of experimental, developmental, or research work in the field of the claimed invention.

35 U.S.C. 112 Specification.

(b) [*ed. note*: This corresponds to the prior law, 35 USC § 112, ¶ 2] CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

(c) [*ed. note*: This corresponds to the prior law, 35 USC § 112, ¶ 3] FORM.—A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

(d) [*ed. note*: This corresponds to the prior law, 35 USC § 112, ¶ 4] REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

(e) [*ed. note*: This corresponds to the prior law, 35 USC § 112, ¶ 5] REFERENCE IN MULTIPLE DEPENDENT FORM.—A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

(f) [*ed. note*: This corresponds to the prior law, 35 USC § 112, ¶ 6] ELEMENT IN CLAIM FOR A COMBINATION.—An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Note: Best Mode is Removed as Basis for Invalidity: Where a foreign priority application does not disclose the “best mode contemplated” but does disclose an alternate mode to teach how to make and use the invention, priority is awarded under 35 USC §119(e)(1). Priority is also awarded where the parent is a defective domestic United States application under 35 USC § 120. If there *is* a

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best mode defect, that defect is not basis to deny validity or enforceability because it is “[a] requirement of section 112 , except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable ****.” 35 USC § 282(b)(3)(A)

35 U.S.C. 119 Benefit of earlier filing date; right of priority.

(a) An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, or in a WTO member country, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within 12 months from the earliest date on which such foreign application was filed. The Director may prescribe regulations, including the requirement for payment of the fee specified in section 41(a)(7) , pursuant to which the 12-month period set forth in this subsection may be extended by an additional 2 months if the delay in filing the application in this country within the 12-month period was unintentional.

(b)(1) No application for patent shall be entitled to this right of priority unless a claim is filed in the Patent and Trademark Office, identifying the foreign application by specifying the application number on that foreign application, the intellectual property authority or country in or for which the application was filed, and the date of filing the application, at such time during the pendency of the application as required by the Director.

(2) The Director may consider the failure of the applicant to file a timely claim for priority as a waiver of any such claim. The Director may establish procedures, including the requirement for payment of the fee specified in section 41(a)(7) , to accept an unintentionally delayed claim under this section.

(3) The Director may require a certified copy of the original foreign application, specification, and drawings upon which it is based, a translation if not in the English language, and such other information as the Director considers necessary. Any such certification shall be made by the foreign intellectual

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property authority in which the foreign application was filed and show the date of the application and of the filing of the specification and other papers.

(c) In like manner and subject to the same conditions and requirements, the right provided in this section may be based upon a subsequent regularly filed application in the same foreign country instead of the first filed foreign application, provided that any foreign application filed prior to such subsequent application has been withdrawn, abandoned, or otherwise disposed of, without having been laid open to public inspection and without leaving any rights outstanding, and has not served, nor thereafter shall serve, as a basis for claiming a right of priority.

(d) Applications for inventors' certificates filed in a foreign country in which applicants have a right to apply, at their discretion, either for a patent or for an inventor's certificate shall be treated in this country in the same manner and have the same effect for purpose of the right of priority under this section as applications for patents, subject to the same conditions and requirements of this section as apply to applications for patents, provided such applicants are entitled to the benefits of the Stockholm Revision of the Paris Convention at the time of such filing.

(e)(1) An application for patent filed under section 111(a) or section 363 for an invention disclosed in the manner provided by section 112(a) (other than the requirement to disclose the best mode) in a provisional application filed under section 111(b) , by an inventor or inventors named in the provisional application, shall have the same effect, as to such invention, as though filed on the date of the provisional application filed under section 111(b) , if the application for patent filed under section 111(a) or section 363 is filed not later than 12 months after the date on which the provisional application was filed and if it contains or is amended to contain a specific reference to the provisional application. The Director may prescribe regulations, including the requirement for payment of the fee specified in section 41(a)(7) , pursuant to which the 12-month period set forth in this subsection may be extended by an additional 2 months if the delay in filing the application under section 111(a) or section 363 within the 12-month period was unintentional. No application shall be entitled to the benefit of an earlier filed provisional application under this subsection unless an amendment containing the specific reference to the earlier filed provisional application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment

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within that time period as a waiver of any benefit under this subsection. The Director may establish procedures, including the payment of the fee specified in section 41(a)(7) , to accept an unintentionally delayed submission of an amendment under this subsection.

(2) A provisional application filed under section 111(b) may not be relied upon in any proceeding in the Patent and Trademark Office unless the fee set forth in subparagraph (A) or (C) of section 41(a)(1) has been paid.

(3) If the day that is 12 months after the filing date of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, the period of pendency of the provisional application shall be extended to the next succeeding secular or business day. For an application for patent filed under section 363 in a Receiving Office other than the Patent and Trademark Office, the 12-month and additional 2-month period set forth in this subsection shall be extended as provided under the treaty and Regulations as defined in section 351 .

(f) Applications for plant breeder's rights filed in a WTO member country (or in a foreign UPOV Contracting Party) shall have the same effect for the purpose of the right of priority under subsections (a) through (c) of this section as applications for patents, subject to the same conditions and requirements of this section as apply to applications for patents.

(g) As used in this section—

(1) the term “WTO member country” has the same meaning as the term is defined in section 104(b)(2) ; and

(2) the term “UPOV Contracting Party” means a member of the International Convention for the Protection of New Varieties of Plants.

35 U.S.C. 120 Benefit of earlier filing date in the United States.

An application for patent for an invention disclosed in the manner provided by section 112(a) (other than the requirement to disclose the best mode) in an application previously filed in the United States, or as provided by section 363 or 385 which names an inventor or joint inventor in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to

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contain a specific reference to the earlier filed application. No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing the specific reference to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section. The Director may establish procedures, including the requirement for payment of the fee specified in section 41(a)(7) , to accept an unintentionally delayed submission of an amendment under this section.

Note: Best Mode is Removed as Basis for Invalidity: Where a foreign priority application does not disclose the “best mode contemplated” but does disclose an alternate mode to teach how to make and use the invention, priority is awarded under 35 USC §119. Priority is also awarded where the parent is a domestic United States application under 35 USC § 120. If there *is* a best mode defect, that defect is not basis to deny validity or enforceability because it is “[a] requirement of section 112 , except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable ****.” 35 USC § 282(b)(3)(A)

35 U.S.C. 121 Divisional applications.

If two or more independent and distinct inventions are claimed in one application, the Director may require the application to be restricted to one of the inventions. If the other invention is made the subject of a divisional application which complies with the requirements of section 120 it shall be entitled to the benefit of the filing date of the original application. A patent issuing on an application with respect to which a requirement for restriction under this section has been made, or on an application filed as a result of such a requirement, shall not be used as a reference either in the Patent and Trademark Office or in the courts against a divisional application or against the original application or any patent issued on either of them, if the divisional application is filed before the issuance of the patent on the other application. The validity of a patent shall not be questioned for failure of the Director to require the application to be restricted to one invention.

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