ALICE GUIDELINES: EXAMINATION TURNED UPSIDE DOWN*

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*This paper is a response to the Instructions to the Patent Examining Corps 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. This paper represents the personal views of the author and does not necessarily reflect the views of any colleague, organization or client thereof.

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I. OVERVIEW


The heart of the Patent Office *Alice* analysis is that to be patent-eligible under 35 USC § 101 a claim that includes an abstract idea must be to “inventive” subject matter. See § II, *Patent-Eligibility Requires “Inventiveness”*. Yet, “inventive concept” is a shorthand way of discussing nonobviousness, the statutory test for 35 USC § 103. “Inventiveness” or “inventive concept” has long been used as a synonym for the statutory test of the 1952 Patent Act, Section 103 nonobviousness. See § III, “*Inventiveness*”, *Nonstatutory Nonobviousness*

There is no room for a nonstatutory test of “inventiveness” in lieu of the statutory test of Section 103. Thus, in order to determine whether there is “inventiveness”, the predicate question necessarily is whether there is nonobviousness under 35 USC § 103. See § IV, *Section 103, the Statutory Test for “Inventiveness.”*

Even assuming, *arguendo*, that one would at first blush want an examination on Section 101 patent-eligibility, this would fly in the face of the more than one century of practice of a complete examination on the merits. See § V, *Proscription Against Piecemeal Examination.*
The Hirshfeld Guidance provides a test for determining patent-eligibility under 35 USC § 101 without an analysis of “inventiveness” or statutory nonobviousness under 35 USC §103. But, the latter is fact-intensive matter that cannot be accomplished absent a full examination under 35 USC § 103. Interestingly, only after completion of the Section 101 analysis, then and only then does the Examiner commence examination under 35 USC §103. See § VI, The Hirshfeld Guidance, Examination Upside Down.


II. PATENT-ELIGIBILITY Requires “INVENTIVENESS”

Alice defines patent-eligibility under 35 USC § 101 for a claim with an abstract idea as requiring “inventiveness” or, as stated in Alice, the presence of “an inventive concept”.

“In Mayo Collaborative Services v. Prometheus Laboratories, Inc., 132 S. Ct. 1289 (2012), we 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 one of those patent-ineligible concepts. If so, we then ask, ‘[w]hat else is there in the claims before us?’). To answer that question, we consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application. We have described step two 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.’ [footnote omitted]
At *Mayo* step two, we must examine the elements of the claim *to determine whether it contains an ‘‘inventive concept’’* sufficient to ‘‘transform’’ the claimed abstract idea into a patent-eligible application. A claim that recites an abstract idea must include ‘‘additional features’’ to ensure ‘‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’’. *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.’’’

* * *

‘‘Simply appending conventional steps, specified at a high level of generality,’’ was not ‘‘enough’’ to supply an ‘‘‘inventive concept.’’’

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**III. “INVENTIVENESS”, NONSTATUTORY NONOBVIOUSNESS**

**A. The Nonstatutory Language of “Inventive” Concept**

“Inventiveness” or an “inventive concept” has been used by both the Supreme Court and the several Circuit Courts of Appeal as a *synonym* for nonobviousness. In *Sakraiida* “inventive feature” was used to explain the novel feature of the invention but which fell short of meeting the test for nonobviousness under 35 USC § 103:

“The only claimed *inventive feature* of the Dairy Establishment combination of old elements is the provision for abrupt release of the water from the tanks or pools directly onto the barn floor, which causes the flow of a sheet of water that washes all animal waste into drains within minutes and requires no supplemental hand labor.”

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* * Alice, __ S.Ct. at ___. Quotations are from *Mayo*; citations to *Mayo* do not show pagination and thus have been deleted, *here*, for clarity; footnote deleted; emphasis supplied.
Wegner, Alice Guidelines: Examination Turned Upside Down

Sakraida v. Ag Pro, Inc., 425 U.S. 273, 277 (1976) (emphasis added). See also Marconi Wireless Tel. Co. v. United States, 320 U.S. 1, 72 (1943) (“Nor did Mr. Justice Parker's opinion find the inventive feature in the use of two circuits instead of one[.]”) (emphasis added).

B. “Inventive Step”, Superseded by Statutory Nonobviousness

To be sure, there is plenty of rhetoric in Supreme Court cases referring to a long-standing requirement for “invention” in the older case law. Taken in context of decisions prior to the 1952 Patent Act, the requirement for “invention” referred to the requirement for a patentable difference versus the prior art, what today under the statute is nonobviousness under the 1952 Patent Act, including Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130-31 (1948). It is crystal clear that Funk v. Kalo was focused on the lack of a patentable difference for the claimed invention versus the prior art and not on patent-eligibility under what is today 35 USC § 101. See Shine Tu, Funk Brothers – An Exercise in Obviousness, 80 UMKC L. Rev. 637 (2012).

C. Usage by the Several Courts of Appeal

The several Circuit Courts of Appeal have also referred to an “inventive concept” in lieu of the statutory term nonobviousness. The Third Circuit spoke of patentability in terms of subject matter being “inventive”, and as having an “inventive concept”: “Since Miller v. Eagle[, 151 U.S. 186 (1894)], courts have repeatedly ruled that an inventor’s separate applications embodying the same inventive concept afford proper bases for the issuance of separate patents at different times only if one of them also embodies an additional inventive concept not present in the other. In other words, the difference between the claims of the two applications must itself be inventive.” Wahl v. Rexnord, Inc., 624 F.2d 1169
1178 (3rd Cir. 1980)( quoting Pierce v. Allen B. DuMont Laboratories, Inc., 297 F.2d 323, 327 (3d Cir. 1961))(emphasis added). See also Forbro Design Corp. v. Raytheon Co., 532 F.2d 758, 765(1st Cir.1976)(“Dr. Kupferberg had deposed that the inventive concept was contained in the first few paragraphs of the patent[.]”)(emphasis added); Olympic Fastening Systems, Inc. v. Textron, Inc., 504 F.2d 609, 616 (6th Cir.1974)(The witness Ketchum testified … that the extent to which the [feature] is not a part of the inventive concept of the Gapp patent.”)(emphasis added); Groen v. General Foods Corp., 402 F.2d 708, 711 (9th Cir. 1968)(“[A]ppellants rely principally upon the alleged inventive concept involved in the combination of steps set forth in the claim.”); Ellipse Corp. v. Ford Motor Co., 452 F.2d 163, 167 (7th Cir. 1971)(“This purported [limitation] is the inventive feature of the pump and distinguishes it from the prior art.”)(emphasis added); McCullough Tool Co. v. Well Surveys, Inc., 343 F.2d 381, 397 (10th Cir. 1965)(“The asserted inventive feature of the patent in suit is an alleged new combination of elements having a new mode of operation[.]”)(emphasis added).

IV. SECTION 103, THE STATUTORY TEST FOR “INVENTIVENESS”

To be sure, the Supreme Court case law mentions an “inventive” difference but, clearly, when there is – as is the case – a nonobvious difference then, a fortiori, we have an “inventive” difference. Chief Judge Howard Thomas Markey explained the need to focus on the statutory test of Section 103 in considering “the inventive concept” As stated in Gore v. Garlock:
“[The trial court called one limitation] the ‘thrust of the invention’. That approach is repeated throughout [the patent challenger]'s briefs, which refer repeatedly to the ‘thrust of the invention’, to ‘the inventive concept’, and to the claims ‘shorn of their extraneous limitations’. That facile focusing on the ‘thrust’, ‘concept’, and ‘shorn’ claims, resulted in treating the claims at many points as though they read differently from those actually allowed and in suit.

It is true that [the patentee] emphasized [this limitation] during prosecution of the application for the ['] patent. Yet it is the claims that measure and define the invention. *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961); *Bowser, Inc. v. U.S.*, 388 F.2d 346, 349 (Ct. Cl. 1967).

Each claimed invention must be considered as a whole. 35 U.S.C. § 103; *Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782 (Fed. Cir. 1983). In determining obviousness, there is ‘no legally recognizable or protected 'essential', 'gist', or 'heart' of the invention’. *Aro*, 365 U.S. at 345.

*W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1547-48 (Fed. Cir. 1983)(Markey, C.J.). Earlier in the *Bergy* case the late Giles Sutherland Rich explained the same point in the context of the Supreme Court *Flook* opinion:

“[W]e find in *Flook* an unfortunate and apparently unconscious, though clear, commingling of distinct statutory provisions which are conceptually unrelated, namely, those pertaining to the categories of inventions in § 101 which may be patentable and to the conditions for patentability demanded by the statute for inventions within the statutory categories, particularly the nonobviousness condition of § 103. The confusion creeps in through such phrases as ‘eligible for patent protection,’ ‘patentable process,’ ‘new and useful,’ ‘inventive application,’ ‘inventive concept,’ and ‘patentable invention.’ The last mentioned term is perhaps one of the most difficult to deal with unless it is used *exclusively* with reference to an invention which complies with *every* condition of the patent statutes so that a valid patent may be issued on it.”

V. PROSCRIPTION AGAINST PIECEMEAL EXAMINATION

A. The Examiner Must Consider Section 103

The PTO guidance stands the examination system on its head by focusing only on Section 101 patent-eligibility without stating that the Examiner must conduct a complete examination on the merits, including the bread and butter issue of statutory nonobviousness under 35 USC § 103.

A complete examination on the merits is an essential integer of patent examination. The policy proscribing piecemeal examination is deeply rooted in the Code of Federal Regulations: “The examination shall be complete with respect both to compliance of the application … with the applicable statutes and rules and to the patentability of the invention as claimed…."
37 CFR § 1.104(b)(emphasis added).

For more than 100 years the need for a full examination on the merits has been recognized by the Courts. Early on in Steinmetz v. Allen at the beginning of the twentieth century the courts recognized “the policy of the law in making full and complete examinations as to the novelty and priority of every claim that is presented for a patent. This is a matter in which the public is greatly interested.” United States ex rel. Steinmetz v. Allen, 22 App. D.C. 56 (D.C. Cir. 1903), rev’d, 192 U.S. 543 (1904). Thus, “[t]he examiner's action will be complete as to all matters * * *.” Watson v. Bruns, 239 F.2d 948, 951 (D.C. Cir. 1956) (quoting Rule 105); see also National Rolled Thread Die Co. v. E. W. Ferry Screw Products, Inc., 541 F.2d 593, 598 (6th Cir. 1976)(citing 37 C.F.R. § 1.105 (1967)) (“[I]t was the examiner's obligation under the Patent Office rules to make a ‘complete [examination] as to all matters’.’

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The *Manual of Patent Examining Procedure* emphasizes that piecemeal examination should be avoided: “Piecemeal examination should be avoided as much as possible. The examiner ordinarily should reject each claim on all valid grounds available…Rejections on grounds such as lack of proper disclosure, lack of enablement, indefiniteness and *res judicata* should be applied where appropriate even though there may be a seemingly sufficient rejection on the basis of prior art. Where a non-prior art ground of rejection is proper, it should be stated with a full development of reasons rather than by a mere conclusion coupled with a boiler plate expression.” MPEP §707.07(g).

**B. “Inventive Concept”, a Bar no Higher than Section 103**

It is clear that if an invention is nonobvious it clearly by definition *does* have an “inventive concept”. Therefore, if a full examination on the merits under 35 USC § 103 shows that the invention is nonobvious then *a fortiori* there is a patentable “inventive concept” to surmount the hurdle of Section 101.

The Patent Office has the *obligation* to conduct a complete examination on the merits including both Sections 101 and 103. There is nothing inconsistent with an examination of both Sections 101 and 103 as part of a complete examination on the merits, and nothing in the case law that proscribes ordering examination starting with novelty and nonobviousness *followed* by Section 101.

To be complete, the Court has made the following statement in *Mayo v. Prometheus*:

> [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*. …[I]n 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.

* * *

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.

* * *

These considerations lead us to decline the Government’s invitation to substitute §§ 102, 103, and 112 inquiries for the better established inquiry under § 101.

* Mayo v. Prometheus, 132 S. Ct. at 1303-04. To the extent that nonobviousness sets a higher or at least as high a bar to patentability as Section 101, it is logical to start the examination process with a full examination of novelty and nonobviousness.*
VI. THE HIRSHFELD GUIDANCE, EXAMINATION UPSIDE DOWN

A. Guidance too General to Be Helpful

The Hirshfeld Guidance on “Part 2” examination determines patent-eligibility under 35 USC § 101 by asking whether a claim with an abstract idea has features that “amount[ ] to significantly more than the abstract idea itself.” More specifically, before there is an examination on the merits under 35 USC § 103, the Hirshfeld Guidance states:

Part 2: If an abstract idea is present in the claim, determine whether any element, or combination of elements, in the claim is sufficient to ensure that the claim amounts to significantly more than the abstract idea itself. In other words, are there other limitations in the claim that show a patent-eligible application of the abstract idea, e.g., more than a mere instruction to apply the abstract idea? Consider the claim as a whole by considering all claim elements, both individually and in combination.*

But, under Alice if there is an “inventive” feature in the claim, then the claim passes § 101 muster. Thus, a necessary factual inquiry predicate to reaching a conclusion under § 101 is whether the invention as a whole is “inventive”, i.e., whether the invention is nonobvious under 35 USC § 103.

The Hirshfeld Guidance on “Part 2” concludes with the statement that:

After conducting the two-part analysis [under 35 USC § 101], proceed with examination of the claim, regardless of whether a rejection under § 101 has been made, to determine patentability in accordance with the other requirements of 35 U.S.C. § 101 (utility and double patenting), non-statutory double patenting, and §§ 112, 102, and 103.”*

But, the Hirshfeld Guidance turns the examination process upside down because it is impossible to conduct a complete examination under 35 USC § 101 without first determining whether the invention as a whole is nonobvious under 35 USC § 103.

B. Case by Case Board Evolution of the Law

The better approach is to provide a case by case evolution of case law at the Patent Trial and Appeal Board. To facilitate prompt creation of a new body of case law the PTO should provide expedited Board hearings and decisions in areas impacted by Alice v. CLS Bank.

* Id., emphasis added.
VII. CONCLUSION

The Hirshfeld Guidance is undoubtedly well-intentioned, but in the end falls short of providing a magic examination bullet to provide specific answers to patent-eligibility questions that must be determined on a case by case basis that includes a full examination under Section 103.

The best guidance the examination corps can be given is to read the Alice decision itself, and then determine whether an individual claimed invention as a whole meets the requirements of 35 USC § 103; if the invention does meet the statutory standard, then the claim a fortiori meets the patent-eligibility standards of “Part 2” as well. If not, the invention is unpatentable under 35 USC § 103 and the issue of patent-eligibility is moot.

[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 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. *Bilski*, 130 S. Ct. 3218; *Diehr, supra; Flook, supra; Benson, 409 U.S. 63, 93 S. Ct. 253, 34 L. Ed. 2d 273. 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.

What role would laws of nature, including newly discovered (and "novel") laws of nature, play in the Government's suggested "novelty" inquiry? Intuitively, one would suppose that a newly discovered law of nature is novel. The Government, however, suggests in effect that the novelty of a component law of nature may be disregarded when evaluating the novelty of the whole. See Brief for United States as *Amicus Curiae* 27. But §§ 102 and 103 say nothing about treating laws of nature
as if they were part of the prior art when applying those sections. Cf. *Diehr*, 450 U.S., at 188, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (patent claims "must be considered as a whole"). And studiously ignoring all laws of nature when evaluating a patent application under §§ 102 and 103 would "make all inventions unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious." *Id.*, at 189, n. 12, 101 S. Ct. 1048, 67 L. Ed. 2d 155. See also Eisenberg, Wisdom of the Ages or Dead-Hand Control? Patentable Subject Matter for Diagnostic Methods After *In re Bilski*, 3 Case W. Res. J. L. Tech. & Internet 1, ___ (forthcoming, 2012) (manuscript, at 85-86, online at http://www.patentlyo.com/files/eisenberg.wisdomordeadhand.patentlyo.pdf (as visited Mar. 16, 2012, and available in Clerk of Court's case file)); 2 D. Chisum, *Patents* § 5.03[3] (2005).

Section 112 requires only a "written description of the invention … in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same." It does not focus on the possibility that a law of nature (or its equivalent) that meets these conditions will nonetheless create the kind of risk that underlies the law of nature exception, namely the risk that a patent on the law would significantly impede future innovation. See Lemley 1329-1332 (outlining differences between §§ 101 and 112); Eisenberg, *supra*, at ___ (manuscript, at 92-96) (similar). Compare Risch, Everything is Patentable, 75 Tenn. L. Rev. 591 (2008) (defending a minimalist approach to § 101) with Lemley (reflecting Risch's change of mind).

These considerations lead us to decline the Government's invitation to substitute §§ 102, 103, and 112 inquiries for the better established inquiry under § 101.

In Mayo Collaborative Services v. Prometheus Laboratories, Inc., 132 S. Ct. 1289 (2012), we 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 one of those patent-ineligible concepts. Id., at ___, 132 S. Ct. 1289). If so, we then ask, “[w]hat else is there in the claims before us?” Id., at ___, 132 S. Ct. 1289). To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. Id., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337. We have described step two 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 ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327).[4]

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A

We must first determine whether the claims at issue are directed to a patent-ineligible concept. We conclude that they are: These claims are drawn to the abstract idea of intermediated settlement.

The “abstract ideas” category embodies “the longstanding rule that ‘[a]n idea of itself is not patentable.’” Benson, supra, at 67, 93 S. Ct. 253, 34 L. Ed. 2d 273 (quoting Rubber-Tip Pencil Co. v. Howard, 87 U.S. 498, 20 Wall. 498, 507, 22 L.

[4] Because the approach we made explicit in Mayo considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims “must be considered as a whole.” Diamond v. Diehr, 450 U.S. 175, 188, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981); see Parker v. Flook, 437 U.S. 584, 594, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (1978) (“Our approach . . . is . . . not at all inconsistent with the view that a patent claim must be considered as a whole”).
Ed. 410 (1874)); see also *Le Roy, supra*, at 175, 55 U.S. 156, 14 L. Ed. 367 (“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”). In *Benson*, for example, this Court rejected as ineligible patent claims involving an algorithm for converting binary-coded decimal numerals into pure binary form, holding that the claimed patent was “in practical effect [*18] . . . a patent on the algorithm itself.” 409 U.S., at 71-72, 93 S. Ct. 253, 34 L. Ed. 2d 273. And in *Parker v. Flook*, 437 U.S. 584, 594-595, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (1978), we held that a mathematical formula for computing “alarm limits” in a catalytic conversion process was also a patent-ineligible abstract idea.

We most recently addressed the category of abstract ideas in *Bilski v. Kappos*, 561 U.S. 593, 130 S. Ct. 3218, 177 L. Ed. 2d 792 (2010). The claims at issue in *Bilski* described a method for hedging against the financial risk of price fluctuations. Claim 1 recited a series of steps for hedging risk, including: (1) initiating a series of financial transactions between providers and consumers of a commodity; (2) identifying market participants that have a counterrisk for the same commodity; and (3) initiating a series of transactions between those market participants and the commodity provider to balance the risk position of the first series of consumer transactions. *Id.*, at 599, 130 S. Ct. 3218, 177 L. Ed. 2d 792. Claim 4 “put[t] the concept articulated in claim 1 into a simple mathematical formula.” *Ibid.* The remaining claims were drawn to examples of hedging in commodities and energy markets.

“[A]ll members of the Court agree[d]” that the patent at issue in *Bilski* claimed an “abstract idea.” *Id.* at 609, 130 S. Ct. 3218, 177 L. Ed. 2d 792; see also *id.*, at 619, 130 S. Ct. 3218, 177 L. Ed. 2d 792 (Stevens, J., concurring in judgment). Specifically, the claims described “the basic concept of hedging, or protecting against risk.” *Id.*, at 611, 130 S. Ct. 3218, 177 L. Ed. 2d 792. The Court explained that “‘[h]edging is a fundamental economic practice long prevalent in oU.S.stem of commerce and taught in any introductory finance class.’” *Ibid.* “The concept of hedging” as recited by the claims in suit was therefore a patent-ineligible “abstract idea, just like the algorithms at issue in *Benson* and *Flook*.” *Ibid.*
It follows from our prior cases, and *Bilski* in particular, that the claims at issue here are directed to an abstract idea. Petitioner’s claims involve a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk. The intermediary creates and updates “shadow” records to reflect the value of each party’s actual accounts held at “exchange institutions,” thereby permitting only those transactions for which the parties have sufficient resources. At the end of each day, the intermediary issues irrevocable instructions to the exchange institutions to carry out the permitted transactions.

On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk. Like the risk hedging in *Bilski*, the concept of intermediated settlement is “‘a fundamental economic practice long prevalent in our system of commerce.’” *Ibid.*; see, *e.g.*, Emery, Speculation on the Stock and Produce Exchanges of the United States, in 7 Studies in History, Economics and Public Law 283, 346-356 (1896) (discussing the use of a “clearing-house” as an intermediary to reduce settlement risk). The use of a third-party intermediary (or “clearing house”) is also a building block of the modern economy. See, *e.g.*, Yadav, The Problematic Case of Clearinghouses in Complex Markets, 101 Geo. L. J. 387, 406-412 (2013); J. Hull, Risk Management and Financial Institutions 103-104 (3d ed. 2012). Thus, intermediated settlement, like hedging, is an “abstract idea” beyond the scope of § 101.

Petitioner acknowledges that its claims describe intermediated settlement, see Brief for Petitioner 4, but rejects the conclusion that its claims recite an “abstract idea.” Drawing on the presence of mathematical formulas in some of our abstract-ideas precedents, petitioner contends that the abstract-ideas category is confined to “preexisting, fundamental truth[s]” that “‘exist[ ] in principle apart from any human action.’” *Id.*, at 23, 26 (quoting *Mayo*, 566 U.S., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337).

*Bilski* belies petitioner’s assertion. The concept of risk hedging we identified as an abstract idea in that case cannot be described as a “preexisting, fundamental truth.” The patent in *Bilski* simply involved a “series of steps instructing how to hedge risk.” 561 U.S., at 599, 130 S. Ct. 3218, 177 L. Ed. 2d 792. Although hedging is a longstanding commercial practice, *id.*, at 599, 130 S. Ct. 3218, 177 L. Ed. 2d 792,
it is a method of organizing human activity, not a “truth” about the natural world “that has always existed,”’ Brief for Petitioner 22 (quoting Flook, supra, at 593, n. 15, 98 S. Ct. 2522, 57 L. Ed. 2d 451). One of the claims in Bilski reduced hedging to a mathematical formula, but the Court did not assign any special significance to that fact, much less the sort of talismanic significance petitioner claims. Instead, the Court grounded its conclusion that all of the claims at issue were abstract ideas in the understanding that risk hedging was a “‘fundamental economic practice.’” 561 U.S., at 611, 130 S. Ct. 3218, 177 L. Ed. 2d 792.

In any event, we need not labor to delimit the precise contours of the “abstract ideas” category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in Bilski and the concept of intermediated settlement at issue here. Both are squarely within the realm of “abstract ideas” as we have used that term.

B

Because the claims at issue are directed to the abstract idea of intermediated settlement, we turn to the second step in Mayo’s framework. We conclude that the method claims, which merely require generic computer implementation, fail to transform that abstract idea into a patent-eligible invention.

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At Mayo step two, we must examine the elements of the claim to determine whether it contains an “‘inventive concept’” sufficient to “transform” the claimed abstract idea into a patent-eligible application. 566 U.S., at ___, ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327, 337). A claim that recites an abstract idea must include “additional features” to ensure “that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].” Id., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327). 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.’” Id., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327).
Mayo itself is instructive. The patents at issue in Mayo claimed a method for measuring metabolites in the bloodstream in order to calibrate the appropriate dosage of thiopurine drugs in the treatment of autoimmune diseases. Id., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327). The respondent in that case contended that the claimed method was a patent-eligible application of natural laws that describe the relationship between the concentration of certain metabolites and the likelihood that the drug dosage will be harmful or ineffective. But methods for determining metabolite levels were already “well known in the art,” and the process at issue amounted to “nothing significantly more than an instruction to doctors to apply the applicable laws when treating their patients.” Id., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337). “Simply appending conventional steps, specified at a high level of generality,” was not “enough” to supply an “‘inventive concept.’” Id., at ___, ___, ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337, 327, 325.

The introduction of a computer into the claims does not alter the analysis at Mayo step two. In Benson, for example, we considered a patent that claimed an algorithm implemented on “a general-purpose digital computer.” 409 U.S., at 64, 93 S. Ct. 253, 34 L. Ed. 2d 273. Because the algorithm was an abstract idea, see supra, at 8, the claim had to supply a “‘new and useful’” application of the idea in order to be patent eligible. 409 U.S., at 67, 93 S. Ct. 253, 34 L. Ed. 2d 273. But the computer implementation did not supply the necessary inventive concept; the process could be “carried out in existing computers long in use.” Ibid. We accordingly “held that simply implementing a mathematical principle on a physical machine, namely a computer, [i]s not a patentable application of that principle.” Mayo, supra, at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337) (citing Benson, supra, at 64, 93 S. Ct. 253, 34 L. Ed. 2d 273).

Flook is to the same effect. There, we examined a computerized method for using a mathematical formula to adjust alarm limits for certain operating conditions (e.g., temperature and pressure) that could signal inefficiency or danger in a catalytic conversion process. 437 U.S., at 585-586, 98 S. Ct. 2522, 57 L. Ed. 2d 451. Once again, the formula itself was an abstract idea, see supra, at 8, and the computer implementation was purely conventional. 437 U.S., at 594, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (noting that the “use of computers for ‘automatic monitoring-alarming’” was “well known”). In holding that the process was patent ineligible,
we rejected the argument that “implement[ing] a principle in some specific fashion” will “automatically fall[] within the patentable subject matter of §101.” *Id.*, at 593, 98 S. Ct. 2522, 57 L. Ed. 2d 451. Thus, “Flook stands for the proposition that the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Bilski*, 561 U.S., at 610-611, 130 S. Ct. 3218, 177 L. Ed. 2d 792 (internal quotation marks omitted).

In *Diehr*, 450 U.S. 175, 101 S. Ct. 1048, 67 L. Ed. 2d 155, by contrast, we held that a computer-implemented process for curing rubber was patent eligible, but not because it involved a computer. The claim employed a “well-known” mathematical equation, but it used that equation in a process designed to solve a technological problem in “conventional industry practice.” *Id.*, at 177, 178, 101 S. Ct. 1048, 67 L. Ed. 2d 155. The invention in *Diehr* used a “thermocouple” to record constant temperature measurements inside the rubber mold—something “the industry had not been able to obtain.” *Id.*, at 178, 101 S. Ct. 1048, 67 L. Ed. 2d 155, and n. 3. The temperature measurements were then fed into a computer, which repeatedly recalculated the remaining cure time by using the mathematical equation. *Id.*, at 178-179, 101 S. Ct. 1048, 67 L. Ed. 2d 155. These additional steps, we recently explained, “transformed the process into an inventive application of the formula.” *Mayo*, supra, at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337). In other words, the claims in *Diehr* were patent eligible because they improved an existing technological process, not because they were implemented on a computer.

These cases demonstrate that the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words ‘apply it’” is not enough for patent eligibility. *Mayo*, supra, at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 325). Nor is limiting the use of an abstract idea “to a particular technological environment.” *Bilski*, supra, at 610-611, 130 S. Ct. 3218, 177 L. Ed. 2d 792. Stating an abstract idea while adding the words “apply it with a computer” simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to “implement[t]” an abstract idea “on . . . a computer,” *Mayo*, supra, at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 337), that addition cannot impart patent eligibility. This conclusion accords with the pre-
emption concern that undergirds our §101 jurisprudence. Given the ubiquity of computers, see 717 F. 3d, at 1286 (Lourie, J., concurring), wholly generic computer implementation is not generally the sort of “additional featur[e]” that provides any “practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.” Mayo, 566 U.S., at ___, 132 S. Ct. 1289, 182 L. Ed. 2d 321, 327).