

**SUPPLEMENTAL BRIEF OF APPELLEE DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE
FOR HEARING *EN BANC***

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal No. 2007-1130
(Serial No. 08/833,892)

IN RE BERNARD L. BILSKI and RAND A. WARSAW

Appeal from the United States Patent and Trademark Office,
Board of Patent Appeals and Interferences.

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ISSUES PRESENTED

The Court's February 15, 2008, Order requests the parties to address the following five questions:

1. Whether claim 1 of the 08/833,892 patent application claims patent-eligible subject matter under 35 U.S.C. § 101?
2. What standard should govern in determining whether a process is patent-eligible subject matter under section 101?

3. Whether the claimed subject matter is not patent-eligible because it constitutes an abstract idea or mental process; when does a claim that contains both mental and physical steps create patent-eligible subject matter?
4. Whether a method or process must result in a physical transformation of an article or be tied to a machine to be patent-eligible subject matter under section 101?
5. Whether it is appropriate to reconsider *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), in this case and, if so, whether those cases should be overruled in any respect?

Consistent with our principal brief, the USPTO maintains that Bilski's claim 1 fails to recite patent-eligible subject matter. Moreover, this supplemental brief explains how *State Street* and *AT&T* should be clarified to be consistent with Supreme Court precedents.

ARGUMENT

A. INTRODUCTION

The scope of patent-eligible subject matter is generally quite broad. *See* 35 U.S.C. § 101 (listing “process, machine, manufacture, or composition of matter” as categories eligible for patent protection). Over the course of this country's history, the USPTO has witnessed first-hand how that broad understanding of

patent-eligibility has been critical to helping numerous new technologies flourish, including telecommunications, biotechnology, as well as the computer/electronics area. In turn, patent law should continue accommodating new technological products and processes in the future. But at the same time, the Supreme Court's case law is very clear that the statutory category "process" does not encompass any and all human activities. Rather, the Supreme Court has recognized only two instances in which a method may qualify as a section 101 process: when the process "either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978) (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)).

This Court should clarify the meaning of *State Street* and *AT&T*, as they have been too often misunderstood to mean that any innovation with a beneficial effect is automatically patent-eligible. Such an analytical rubric eviscerates long-standing principles of subject matter eligibility, and collapses the eligibility inquiry into nothing more than a question of utility. To clarify the law, the Supreme Court's principles on eligibility should be reaffirmed.

B. The Board Correctly Rejected Bilski’s Claim 1 for Failing to Claim Patent-Eligible Subject Matter Under 35 U.S.C. § 101 (Question 1)

Bilski’s claim 1 calls for a commodity provider to enter into two sets of commodity transactions in which the second set of transactions “balances,” *i.e.*, hedges, the risk position taken by the commodity provider in the first set of transactions:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

A198¹.

¹ References to the Joint Appendix are designated “A__”, references to Bilski’s Brief are designated “Bilski Br. at __”, references to AIPLA’s brief are designated “AIPLA Br. at __”, and references to the Director’s Brief are

As we explained in our principal brief, Bilski’s method claim is not a section 101 “process,” because it is not machine-implemented, nor does it transform any article to a different state or thing. USPTO Br. at 33-35. A statutory “process” must meet one of those two requirements. *See infra*. While Bilski’s claim is broad enough to encompass a computer-driven embodiment to determine the proper fixed rates for the recited transactions, the claim is not limited to such an embodiment. Instead, the claim is so broad as to include a non-machine implemented method in which human beings negotiate and enter into commodity contracts. Moreover, the creation of intangible legal obligations is far different from the transformation of articles contemplated by the Supreme Court cases.

Alternatively, the Board also determined that Bilski’s claim constitutes the disembodied abstract concept of hedging the consumption risk cost of a commodity. In other words, the claim fails to recite a practical application of that concept, as further explained below. While Bilski’s claim may yield a beneficial result to the parties participating in the transactions, a proper section 101 analysis is not driven solely by usefulness.

designated “USPTO Br. at ___”.

C. *Diamond v. Diehr* Provides the Governing Standard for Determining Whether a “Process” Is Patent-Eligible Under Section 101 (Question 2)

For a process to be deemed patent-eligible under section 101, *Diamond v. Diehr*, 450 U.S. 175 (1981) requires that two *separate* inquiries must take place. First, the claim must qualify as a “process,” as that term has been interpreted by the courts. *Id.* at 181-84. Second, even if the claim satisfies the Supreme Court’s definition for “process,” the claim must then be evaluated for whether it is for an abstract idea, natural phenomenon, or law of nature. *Id.* at 185-93.

1. A Section 101 “Process” Must Either Be Tied to a Particular Apparatus or Transform an Article to a Different State or Thing

Contrary to *Bilski*’s and AIPLA’s assertions that a section 101 process can simply be “a plurality of steps” (*Bilski Br.* at 9) or any “method” (*AIPLA Br.* at 6), the courts have rejected such an interpretation. In fact, the Supreme Court has pointed out that its decisions have foreclosed an ordinary, dictionary reading of “process.” *See Flook*, 437 U.S. at 589 (“The holding that the discovery of that [*Benson*’s] method could not be patented as a ‘process’ forecloses a purely literal reading of § 101.”).

In *Diehr* the Supreme Court performed a lengthy statutory construction treatment of the term “process” in section 101. *Diehr*, 450 U.S. at 181-84. The

Supreme Court noted that the term “process” was not formally a category of statutory subject matter until 1952 when Congress inserted that term in section 101 in exchange for the word “art.” *Id.* at 182. Nevertheless, a number of Supreme Court cases, dating back to the 19th century, recognized that processes were patent-eligible because they were considered a form of “art” as that term was used in the 1793 Patent Act. *See id.* at 182. After quoting passages from those earlier cases² expounding on the long-standing meaning of “process,” the *Diehr* Court concluded that the 1952 Patent Act essentially codified the Court’s pre-existing definition of that term: “Analysis of the eligibility of a claim of patent protection for a ‘process’ did not change with the addition of that term to § 101.” *Id.* at 184. And the Court repeated the definition of “process” it had recently given in *Gottschalk v. Benson*, 409 U.S. 63 (1972): “Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” *Diehr*, 450 U.S. at 184 (quoting *Benson*, 409 U.S. at 70).³

² *Corning v. Burden*, 56 U.S. (15 How.) 252 (1853), and *Cochrane*, 94 U.S. at 788.

³ *See also Flook*, 437 U.S. at 588 n.9 (“this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a ‘different state or thing.’”) (citing *Cochrane*, 94 U.S. at 787-88).

This Court recently quoted with approval this test from *Diehr* as the standard for a statutory process. *See In re Comiskey*, 499 F.3d 1365, 1377 (Fed. Cir. 2007) (request for rehearing *en banc* pending) (quoting same test from *Diehr*). In addition, in *In re Schrader*, 22 F.3d 290 (Fed. Cir. 1994), this Court had previously embraced the *Diehr* Court’s interpretation of “process,” coming to the independent conclusion that Congress incorporated the Supreme Court’s already established meaning of “process” into the 1952 Patent Act. *Id.* at 295-96 (citing *Astoria Federal Sav. and Loan Ass’n v. Solimino*, 501 U.S. 104, 106-08 (1991) as standing for the “presumption that well-established common law principles are left unchanged by statutory enactment.”); *see also id.* at 295 n.11. Accordingly, this Court and the Supreme Court have the same requirements for a method claim to qualify as a statutory “process.”

The Supreme Court has also indicated, however, that its current test for a section 101 process is not necessarily forever fixed or permanent:

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing.’ We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.

Benson, 409 U.S. at 71. Rather, the Court made clear that it could be open to revisiting the standard if a new, unforeseen technology warranted an exception to its test. *Id.* (explaining that it did not wish to “freeze process patents to old technologies, leaving no room for the revelations of new, onrushing technology.”). The long-standing *Diehr* test for processes, however, has provided a reliable, workable set of legal principles, and nothing in *Bilski*’s claimed commodity transactions suggests that this case would be the time to depart from the *Diehr* test to make room for methods of creating legal obligations.

Moreover, as we suggested in our principal brief (USPTO Br. at 27-28), the Supreme Court’s construction of “process” appropriately keeps the scope of that statutory category *in pari materia* with the other three categories of inventions – manufacture, machine, and composition of matter. Indeed, *Comiskey* expressly recognized a direct relationship between “process” and the other categories, observing that a method claim recites statutory subject matter only if “it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter, *i.e.*, a machine, manufacture, or composition of matter.” *Comiskey*, 499 F.3d at 1376 (restating the Supreme Court’s transformation or tied to a particular apparatus test for “process”).

As the *Comiskey* court observed, such an interpretation advances the Congressional and Constitutional intention that the patent system be directed to protecting technological innovations. *See id.* at 1375, 1378-79. Although this Court’s predecessor held that the question whether an invention is in the “technological arts” does not by itself constitute the test for patent-eligibility under section 101 (*see In re Toma*, 575 F.2d 872 (CCPA 1978)), the technological focus of the Patent Act and the Patent Clause informs the outer limits of subject matter eligibility under section 101. *See In re Bergy*, 596 F.2d 952, 959 (CCPA 1979) (“[T]he present day equivalent of the term ‘useful arts’ employed by the Founding Fathers is ‘technological arts’” (citing *In re Musgrave*, 431 F.2d 882, 893 (CCPA 1970)), *vacated*, 444 U.S. 1028 (1980), *aff’d sub nom.*, *Diamond v. Chakrabarty*, 447 U.S. 303 (1980)).

The Supreme Court recently reaffirmed that patents may issue only for those innovations that promote “the progress of useful arts.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1746 (2007). In this regard, usages of the term “useful arts” contemporaneous with the framing of the Constitution uniformly tie “useful arts” to manufactures and manufacturing processes, thereby providing strong support

for the notion that “process” must be interpreted in parity with the other statutory categories.⁴

Against this background, it is unlikely that Congress intended the boundaries of “process” to be so expansive as to accommodate all methods that have a use. Rather, this Court should adhere to the rule that, at least absent the development of some hitherto unknown type of technology, “[t]ransformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” *Diehr*, 450 U.S. at 184 (quoting *Benson*, 409 U.S. at 70). Just as with *Comiskey*’s disembodied arbitration method, therefore, *Bilski*’s method of initiating commodities contracts should likewise be rejected for failing to recite a statutory process. *See Comiskey*,

⁴ *See generally* Daniel Defoe, *A General History of Discoveries and Improvements in Useful Arts* (1727) (providing a history of technological developments from biblical times); W. Kenrick, *An Address to the Artists and Manufacturers of Great Britain* (1774) (contrasting the “useful arts” with the “polite arts”); Tench Coxe, *An Address to an Assembly of the Friends of American Manufactures, in Calling for More Domestic Manufacturing* (1787), at 17 (tying “useful arts” to manufactures); *id.* at 18 (describing progress in the useful arts as having produced improvements in numerous kinds of manufactures, from ships to whips to watches); George Logan, M.D., *A Letter to the Citizens of Pennsylvania, on the Necessity of Promoting Agriculture, Manufactures, and the Useful Arts* (1800) 12-13 (tying “useful arts” to manufacturing processes, and observing the connection between a country’s prosperity and the progress in the useful arts); Karl B. Lutz, *Patents and Science*, 18 Geo. Wash. L. Rev. 50, 54 (1949) (“The term ‘useful arts,’ as used in the Constitution . . . is best represented in modern language by the word ‘technology.’”).

499 F.3d at 1378 (discussing *In re Meyer*, 688 F.2d 789, 796 (CCPA 1982), and *In re Maucorps*, 609 F.2d 481 (CCPA 1979)); *see also In re Alappat*, 33 F.3d 1526, 1541 (Fed. Cir. 1994) (en banc) (“*Maucorps* dealt with a business method for deciding how salesmen should best handle respective customers and *Meyer* involved a ‘system’ for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged ‘inventions’ in those cases falls within any § 101 category.”); *Schrader*, 22 F.3d at 293-95 (holding a non-machine implemented method for bidding on items not a patent-eligible process under section 101).

Whether a method is appropriately “tied to a particular apparatus” to qualify as a section 101 process may not always be a straightforward inquiry. As *Comiskey* recognized, “the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter.” *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989)); *see also* A25-26 (“Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an ‘abstract idea’ into a statutory ‘process.’”). In other words, nominal or token recitations of structure in a method claim should not convert an otherwise ineligible claim into an eligible one. For the same reason, claims reciting incidental physical transformations also may not pass muster under section 101.

To permit such a practice would exalt form over substance and permit claim drafters to file the sort of process claims not contemplated by the case law.

In *Benson*, the Court reviewed the facts of several of its precedents dealing with process patents before drawing the conclusion that “transformation” is the clue to patent-eligibility “of a process claim that does not include *particular machines*.” *Benson*, 409 U.S. at 68-71 (emphasis added). Of the cases discussed, *Corning* (tanning and dyeing), *Cochrane* (manufacturing flour), *Tilghman v. Proctor*, 102 U.S. 707 (1880) (manufacturing fat acids), and *Expanded Metal Co. v. Bradford*, 214 U.S. 366 (1909) (expanding metal), can all fairly be read to involve transformation of some article or material to a different state or thing. *Id.* at 69-70. *Benson* also compared *O’Reilly v. Morse*, 56 U.S. (15 How.) 62 (1854), to *The Telephone Cases*, 126 U.S. 1 (1888), reasoning that Morse’s eighth claim was disallowed because it failed to recite any machinery for carrying out the printing of characters at a distance, instead simply claiming the use of “electromagnetism, however developed” for that purpose. In contrast, Bell’s claim in *The Telephone Cases* recited certain specified conditions for using a particular circuit for the transmission of sounds. *Benson*, 409 U.S. at 68-69.

These cases illustrate process claims where the recited machines played a central role in generating a useful result. In direct contrast, human-driven methods

that merely recite a device that is insignificant to accomplishing the method (like the claim in *Grams*) and do not transform any article should not be recognized as a “process” claim similar to the above-cited cases. *See Diehr*, 450 U.S. at 191-92 (“insignificant post-solution activity will not transform an unpatentable principle into a patentable process. To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.”)

We acknowledge that it will not always be simple to draw the line between a statutory process appropriately “tied to a particular apparatus” and a nonstatutory method with nominal recitations of structure, but such an inquiry is necessary to prevent clever claim drafting from circumventing the principles underlying the Supreme Court’s interpretation for “process.”

2. A Patent-Eligibility Inquiry Also Requires Evaluating Whether the Claim Impermissibly Seeks to Patent an Abstract Idea, Law of Nature, or Natural Phenomenon

Diehr also makes clear that determining that a method meets the test for a statutory “process” is only the end of the first part of the section 101 inquiry. A second, separate inquiry must take place to ensure that the claim is not merely for an abstract idea, law of nature, or natural phenomenon. *Diehr*, 450 U.S. at 185;

see also Laboratory Corp. of Am. Holdings v. Metabolite Labs., Inc., 126 S. Ct. 2921, 2927-2928 (2006) (Breyer, J., dissenting). That is, the claim must be for a practical application of that abstract idea, law of nature, or natural phenomenon in a structure or process. *See Diehr*, 450 U.S. at 192. Importantly, in making this second, separate assessment, the “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.” *Id.* at 188.

Applying this two-step inquiry to the facts of *Diehr*, the Supreme Court first determined that the claimed invention satisfied the test for a statutory “process” because it “involve[d] the transformation of an article, in this case raw, uncured synthetic rubber, into a different state or thing.” *Id.* at 184. Second, the Court still had to determine whether the patent owner impermissibly sought to patent a mathematical formula recited in the process claim. *Id.* at 187. Rather than “pre-empt that equation,” the Court reasoned that the claim recited a practical application of that equation because it sought only to foreclose the use of that equation in conjunction with a series of steps for curing rubber. *Id.*

In addition, this Court has followed this two-step inquiry for section 101 eligibility in both *Alappat* and *State Street*, in each case first determining that the claimed subject matter fell within the “machine” category, and then concluding

that neither machine claim sought to impermissibly patent an abstract idea. *See Alappat*, 33 F.3d at 1541-45, and *State Street*, 149 F.3d at 1371-75. Accordingly, Bilski is mistaken in believing that the only relevant question to a section 101 analysis is whether his claim is for an abstract idea. *See, e.g., In re Nuijten*, 500 F.3d 1346, 1354 (Fed. Cir. 2007) (“The claim must be within at least one category, so the court can proceed to *other aspects* of the § 101 analysis.”) (Emphasis added).⁵

As explained below in answering Question 3 of this Court’s Order, Bilski’s claim not only fails to meet the test for “process,” it also recites nothing more than an abstract idea.

⁵ In some cases, potentially arising under either section 101 or section 103, it may also be necessary to examine whether the claimed invention, although described in formal terms as a machine application of an abstract idea, falls outside the category of technological innovations susceptible of patent protection, for example when the advance over the prior art on which the applicant relies involves only an advance in a field of endeavor such as law (as in *Comiskey*), marketing, or other liberal (as opposed to “useful”) arts. *Cf. Comiskey*, 499 F.3d at 1380 (“The routine addition of modern electronics to an otherwise unpatentable invention typically creates a *prima facie* case of obviousness.”). There is no need to address that question in this case, because Bilski does not limit his claims to a machine application of his abstract idea.

D. Bilski’s Claim 1 Constitutes a Disembodied Abstract Idea (Question 3)

For the reasons given in our principal brief (USPTO Br. at 36-42), Bilski’s claim 1 is not patent-eligible for the alternative reason that it runs afoul of the abstract idea exception. The claimed method impermissibly encompasses the abstract principle of having one set of commodity transactions “balance[] the risk position” taken in a second set of commodity transactions, giving no indication of how that result would be accomplished. In other words, the claim covers *any* means, however developed, for initiating the two sets of transactions that are said to “balance” each other. Because a type of contract is an abstract concept, a claim merely calling for the formation of such a contract, should not be patent-eligible, simply by being re-styled as a “process” claim.

“Excluded from . . . patent protection are laws of nature, natural phenomena, and abstract ideas.” *Diehr*, 450 U.S. at 185. “An idea of itself is not patentable.” *Diehr*, 450 U.S. at 185 (quoting *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874)); *Benson*, 409 U.S. at 67 (“[M]ental processes, and abstract intellectual concepts are not patentable.”); *see also id.* at 71 (“It is conceded that one may not patent an idea.”). In the case where a claim is for a process, as opposed to a product, “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear. Both are ‘conception[s] of the mind,

seen only by [their] effects when being executed or performed.” *Flook*, 437 U.S. at 589 (quoting *Tilghman*, 102 U.S. at 728).

In *Morse*, the Supreme Court concluded that Morse’s eighth claim impermissibly crossed “the line” between a patent-eligible process and an ineligible abstract principle. Morse’s eighth claim recites:

I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; *the essence of my invention being the use of motive power of the electric or galvanic current, which I call electro-magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power of which I claim to be the first inventor or discoverer.*

Id. at 112 (emphasis added). Morse’s eighth claim thus sought to patent the concept of using electro-magnetism, not confined to any means, to produce the useful result of printing intelligible marks at a distance. The Supreme Court disallowed that claim, concluding that it would pre-empt all possible means of accomplishing the intended result:

If this 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. . . . 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.

Id. at 113. As the Court later explained in *Tilghman*, “[t]he eighth claim of Morse’s patent was held to be invalid, because it was regarded by the court as being *not for a process, but for a mere principle.*” *Tilghman*, 102 U.S. at 726 (emphasis added). By failing to recite any particular means for producing the resulting printed marks, Morse’s eighth claim was for an ineligible abstract principle rather than a patent-eligible process.⁶ *See also Diehr*, 450 U.S. at 182 n.7 (“It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself.”) (quoting *Corning*, 56 U.S. at 268).

Moreover, in *Benson*, the Supreme Court explained that the lesson from *Morse* was that “the use of magnetism as a motive power, without regard to the particular process with which it was connected in the patent, could not be claimed, but that its use in that connection could.” *Benson*, 409 U.S. at 68 (quoting *The Telephone Cases*, 126 U.S. at 534). In contrast, Bell’s claimed method “was not

⁶ *Morse* has been regarded in case law as a forerunner of the written description requirement in 35 U.S.C. § 112, as well as a patent-eligibility case. Compare *Lizard Tech. Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) (§ 112); *University of Rochester v. G.D. Searle & Co., Inc.*, 358 F.3d 916, 929 (Fed. Cir. 2004) (§ 112), with *Benson*, 409 U.S. at 68 (§ 101); *Tilghman*, 102 U.S. at 726 (§ 101) and *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1059 (Fed. Cir. 1992) (§ 101).

one for all telephonic use of electricity,” but instead recited certain specified conditions for a particular circuit to produce the desired result of transmitting sounds. *Benson*, 409 U.S. at 69. Thus, Bell’s invention was for a process – a particular application of the abstract principle of using electricity for telephones. Morse’s eighth claim, on the other hand, was impermissibly for the principle itself of using electro-magnetism for printing intelligible marks.

Accordingly, “[i]t is now commonplace that an *application* of a law of nature or [abstract idea] to a known structure or process may well be deserving of patent protection.” *Diehr*, 450 U.S. at 187 (italics in original). “If there is to be an invention from such a discovery, it must come from the application of the law of nature to a new and useful end.” *Benson*, 409 U.S. at 67 (quoting *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)). This judicial exception doctrine highlights that patent-eligible inventions should harness a law of nature or abstract idea for a particular application rather than seek to patent the law of nature or idea itself.

In *Benson*, the Court found that the claimed “method for converting binary-coded decimal (BCD) numerals into pure binary numerals” pre-empted an abstract idea, in that case, a mathematical algorithm. *Id.* at 64. The Court’s concern was

rooted in the expansive nature of the claim, which was not limited to any particular apparatus or end use:

Here, the “process” claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion. The end use may (1) vary from the operation of a train to verification of drivers’ licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus.

Id. at 68. Much as “one may not patent an idea,” the Court concluded that Benson could not patent the formula for converting BCD numerals to pure binary form.

Id. at 71. While the claim did not merely recite a theoretical formula, but rather recited a series of steps using that formula, the Court nevertheless ruled that the claim “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.” *Id.* at 72.

The term “abstract idea” has been used in different ways depending on the context in a given case. For example, in *Benson*, the Court regarded the claim as for an abstract idea because it sought to patent a mathematical formula (409 U.S. at 71-72), even though one of the claims at issue used a machine to conduct the calculation. This Court in *State Street* faced a similar abstract idea question, where it had to address whether an algorithm performed by a machine was nothing more than an abstract idea without any particular useful application. The *Benson*

court also noted, as was true of another claim at issue, that it was “so abstract and sweeping” as to cover any use of BCD to pure binary conversion, *by any means*. *Id.* at 68. This appears to be another use of abstraction that is not fully answered by whether the result reached is practical. Similarly, the *Flook* court concluded that the claim (1) merely recited the steps for solving a formula, but also saw the claim as (2) reserving a formula in a field with no integration into the claim of any particular machine or transformation. *Flook*, 437 U.S. at 586; *see also Morse*, 56 U.S. at 113. While *Bilski*’s claim does not recite a formula, it nonetheless suffers from the latter problem described above regarding *Flook* and *Benson*, in that the claimed hedge scheme likewise seeks to appropriate the concept of hedging in a certain field, however it is implemented. Regardless of the changing reference point for how “abstract idea” has been used, the analysis for eligibility remains the same in that one may not patent the abstract idea itself, or pre-empt substantially every application of that abstract idea.

Given that *Bilski*’s claim is untethered from any means for carrying out his hedging concept of balancing two sets of transactions, his claim in practical effect would be a patent on the idea itself, rather than an application of that idea. Longstanding case law suggests that a business method is directed to an abstract idea when there is no substantive means for carrying out the method. For

example, in *In re Patton*, 127 F.2d 324 (CCPA 1942), this Court’s predecessor observed that “it is sufficient to say that a system of transacting business, *apart from the means for carrying out such system*, is not within the purview of [the predecessor to section 101], nor is an abstract idea or theory, regardless of its importance or the ingenuity with which it was conceived, apart from the means for carrying such idea or theory into effect, patentable subject matter.” *Id.* at 327-28 (emphasis added). One hundred years ago, the Second Circuit reached the same conclusion: “In the sense of patent law, an art [process] is not a mere abstraction. A system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art [process].” *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467, 469 (2d Cir. 1908). And in *State Street*, this Court recognized this limiting principle on patent-eligibility, while also noting that it should not be read to exclude *all* business methods. *Id.*, 149 F.3d at 1376 n.15

In the Court’s Order, the Court specifically raises the question of patent-eligibility for a method claim comprising mental and physical steps. In our view, such a claim may be ineligible, not necessarily because it recites mental and physical steps, but if it fails to transform an article nor is it implemented by a machine. In other words, if such a method claim recited steps causing the

transformation of an article or is tied to an apparatus (and not in an insignificant way), then the presence of a mental step in the claim by itself should not defeat eligibility. Rather, the claim must be considered as a whole when evaluating its eligibility. *Diehr*, 450 U.S. at 188. Furthermore, pre-emption must also be considered to ensure that a claim, even one that recites an apparatus, is not written so broadly as to preempt an abstract idea. *See, e.g., Benson*, 409 U.S. at 71-72.

Thus, regarding *Bilski*'s claims as improperly abstract is an alternative basis for the USPTO's position that the claims do not fall into any statutory category. Generally, claims that qualify as a statutory process will in all likelihood also be for a practical application of an abstract idea because the claimed method will be limited to a step(s) for transforming matter or an operation(s) performed by a particular apparatus. In such instances, the question of abstractness will be generally answered according to some test for practical effect such as articulated by this Court in *State Street*. Here, however, even if the result is regarded as practical, the claim recites merely an idea, seeks simply to reserve that idea in a particular field of endeavor regardless of the means, technological or not, of implementing it, and is, under the applicable precedents, abstract.

We recognize the challenge that will often arise in identifying when a claim is merely an abstract idea and not a practical application of the idea. Some cases

will be inevitably more difficult than others. Concluding that a claim impermissibly pre-empts an abstract idea also can be a esoteric endeavor. Yet these inquiries continue to be a necessary part of the recognized limitations on patent-eligible subject matter.

E. A Section 101 “Process” Must Result in a Physical Transformation of an Article OR Be Tied to a Particular Machine; However, the Definition for “Process” Should Remain Flexible to Accommodate Future Technologies (Question 4)

The USPTO’s answer to Question 4 has already been fully briefed above in response to Question 2. As mentioned above, *Diehr*’s interpretation of a section 101 “process” controls. On the other hand, the Supreme Court has also indicated that its test does not necessarily bar the eligibility of future unforeseen technologies that may not fit within the current rubric.

F. This Court Should Clarify *State Street* and *AT&T* to the Extent They Have Been Read Inconsistently with Supreme Court Precedents (Question 5)

Over the past several years, the USPTO has witnessed many applicants, including *Bilski*, take the position that *State Street* and *AT&T* effectively reduced the section 101 condition of patentability to nothing more than a question of “usefulness.” In other words, if a claim recites any series of steps and yields some sort of benefit, then it allegedly meets the “useful, concrete, and tangible result”

requirement enunciated in *State Street*. And because the meaning of “concrete and tangible” in that context has never been explained, those terms have simply added further confusion to the patent-eligibility inquiry, leading some to believe they do not add anything to the test.

Viewed out of context, some of the statements in *State Street* and *AT&T* can be read as repudiating the well-established requirements in Supreme Court case law and such Federal Circuit precedents as *In re Schrader* concerning what is necessary to qualify as a patent-eligible “process.” As a result, applicants are seeking patents on purely human-driven claims covering “useful” business concepts, teaching concepts, financial instruments, and other broad claims untied to any machine implementation or transformation of an article to a different state or thing. We believe, however, that those readings of *State Street* and *AT&T* reflect a misunderstanding of the factual postures of the two cases. This Court sitting *en banc* can and should clarify the holdings of those decisions but need not overrule them.

It is in our view incorrect to read either *State Street* or *AT&T* as repudiating the inquiry into whether a process to be eligible under section 101 should be tied to a machine or a transformation. The claim in *State Street* was to a specific “machine,” and the claim in *AT&T* was a machine-based process (*AT&T*, 172 F.3d

at 1358 (“switching and recording mechanisms”). Thus, the Court in both cases could treat that aspect of the patent subject-matter eligibility requirement as having been met. The *Comiskey* court made this very point, explaining that the inventions in both *State Street* and *AT&T* were patent-eligible “because they claimed practical applications and were tied to specific machines.” *Comiskey*, 499 F.3d at 1377. Thus, *State Street* and *AT&T* are properly read as analyzing only the relevant, disputed portion of the § 101 validity question at issue in those cases. Due to the confusion over the meaning of *State Street* and *AT&T*, this Court should take the opportunity now to clarify that the usefulness of a claimed invention, as discussed in those cases, is one part, *but not the only part*, of the section 101 analytical inquiry. This Court recently suggested such a clarification when in *Nuijten*, 500 F.3d at 1354, it rejected the notion that *State Street* held that “the four statutory categories are rendered irrelevant, non-limiting, or subsumed into an overarching question about patentable utility.”

Besides producing a useful result, a “process” claim must also meet additional criteria in order to satisfy section 101, as discussed above in answer to question 2. In particular, a process claim must either transform an article to a different state or thing, or be tied to a particular apparatus, in a manner that is not merely incidental or insignificant. *See also supra* p. 16 n.5. Furthermore, the

process claim must avoid pre-empting any abstract idea, law of nature, or natural phenomenon, but rather must be for a specific, tangible application. Assuming that the foregoing criteria are met, and the claim also produces a useful result, then it is generally eligible for patent protection.

In hindsight, it is perhaps not surprising that misunderstandings have arisen regarding the scope of section 101. The holding from *State Street* reads as follows:

Today, we hold that the transformation of data . . . by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces “a useful, concrete and tangible result.”

Id. at 1373. Read in isolation, that passage appears to incorrectly call for focusing *only* on the result of the claim for determining a practical application, rather than also focusing on the parts of the claim that achieve the purported result. As explained above, a practical application of an abstract idea requires a process claim to specify in the claim the means of accomplishing the useful result rather than simply determining whether the claim yields a useful result. And that means can be in the form of a series of steps undertaken to transform an article, or it can be a series of steps performed by a particular apparatus to produce a result.

However, before the *State Street* court reached that conclusion, it correctly first determined that the claimed data processing system in that case fell into a statutory category (“machine”) before proceeding to inquire whether it impermissibly sought to patent a mathematical algorithm. *See State Street*, 149 F.3d at 1372. The holding in *State Street* was thus in fact more than what it summarized as its holding.

The *AT&T* court did not address whether the claimed method qualified as a statutory “process,” as defined by *Diehr*. *AT&T*, 172 F.3d at 1355. That court declared in conclusory fashion that “the method claims at issue fall within the ‘process’ category,” and quoted the definition of “process” from 35 U.S.C. § 100(b), which defines “process” as simply “[a] process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.” *See id.* at n.1. Since the claimed process in *AT&T* in fact involved electronic switches, that discussion cannot be seen as repudiating this Court’s prior reliance in *Schrader* on *Diehr* and *Benson* as providing the controlling standard for a statutory “process” (*id.*, 22 F.3d at 295). Indeed, it is apparent that this was the context in which the *AT&T* court made its observation, since it specifically cited *State Street* to the effect that “any step-by-step process, *be it electronic, chemical or mechanical*, involves an ‘algorithm’ in the broad

sense of the term.” *Id.* at 1356, *citing State Street*, 149 F.3d at 1374-75 (Fed. Cir. 1998), *cert. denied* 525 U.S. 1093 (1999) (emphasis added). *AT&T*, however, has frequently been misunderstood as ignoring the qualifiers emphasized in this quotation.

Another issue with *AT&T* is its statement “a structural inquiry is unnecessary” for claims directed to a process. *AT&T*, 172 F.3d at 1359. It is often true that process claims are not necessarily required to recite the means or structure for performing the recited steps for transforming an article to a different state or thing. *See, e.g., Cochrane*, 94 U.S. at 788 (“The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence.”). This is not the same, however, as saying that process claims that do not transform an article may fail to recite any apparatus to qualify as a statutory process, as well as avoid the abstract idea exception. It would be helpful for this Court to clarify the scope of that statement from *AT&T*.

The “useful, concrete and tangible” formulation in *State Street* would also be troublesome if it equated reaching a “a useful, concrete, and tangible result” with accomplishing a practical application that in itself avoided the bar on patenting abstractions. The dissenting Justices in *LabCorp* voiced this same

concern when they observed, citing *Morse*, that the Supreme Court “invalidated a claim to the use of electromagnetic current for transmitting messages over long distances even though it produces a result that seems ‘useful, concrete, and tangible.’” *LabCorp*, 126 S.Ct. at 2928 (Breyer, J., dissenting). Just as analyzing the means by which a process reaches its result is integral to analyzing whether it fits within the meaning of the statutory understanding of ‘process,’ it is also integral to assuring that the claimed process is a “practical application of an abstract idea.” Neither inquiry is satisfied simply by an appreciation of the practicality of the result; pre-emption is still a necessary part of the inquiry, and that should be reaffirmed. We do not understand this Court to have foregone this principle. It is indeed explicitly acknowledged in *AT&T* (172 F.3d at 1358). As *State Street* failed to mention it as a necessary consideration for a § 101 analysis, it would be useful for the Court to reiterate it.⁷

Finally, this Court should also clarify that *State Street*’s repudiation of a *per se* business method exception to eligibility should not be read to suggest that *all* business method claims are automatically patent-eligible. Rather, just like every

⁷ Likewise, the Court may wish to reiterate that mere combination of an abstract idea with a transformative or machine-implemented step does not automatically satisfy section 101, because incidental physical limitations will not suffice to transform an abstract idea into patent-eligible subject matter. *Diehr*, 450 U.S. at 191-92; *Comiskey*, 499 F.3d at 1380; *Grams*, 888 F.2d at 839-40.

other type of process claim, business methods must satisfy all aspects of the § 101 analysis. *See Comiskey*, 499 F.3d at 1374. The USPTO agrees that there is no such thing as a categorical business method exception to the patent system. We have seen that technology has a role in many arenas, and we do not believe that a class of technological innovations should go unprotected simply because they operate in the commercial environment. As reflected in the claims at issue in the current appeal, however, the *State Street* decision has been widely misread as giving *imprimatur* for the patentability of all methods of doing business regardless of whether they satisfy traditional section 101 eligibility requirements. We do not believe the Court intended to go so far, and appreciate the Court's willingness to revisit its case law in order to clarify the matter.

CONCLUSION

For the reasons given above and in our principal brief, the Board's conclusion that Bilski's claims 1-11 are not directed to patent-eligible subject matter should be affirmed.

Respectfully submitted,

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I certify pursuant to FRAP 32(a)(7) that the foregoing brief complies with the type-volume limitation. The total number of words in the foregoing brief, excluding the table of contents and table of authorities, is 7303, as calculated by the WordPerfect 9 program.

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CERTIFICATE OF SERVICE

I hereby certify that on March 6, 2008, I caused two copies of the foregoing
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Representative Claim

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

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