

No. 08-964

IN THE
Supreme Court of the United States

BERNARD L. BILSKI AND RAND A. WARSAW,
Petitioners,

v.

DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE
FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE,
Respondent.

ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

**BRIEF FOR BANK OF AMERICA CORPORATION,
BARCLAYS CAPITAL INC., THE CLEARING HOUSE
ASSOCIATION L.L.C., THE FINANCIAL SERVICES
ROUNDTABLE, GOOGLE INC., METLIFE, INC., AND
MORGAN STANLEY AS AMICI CURIAE IN SUPPORT
OF RESPONDENT**

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INTEREST OF AMICI CURIAE¹

Amici are leading companies and associations in the financial services and information technology industries.² Amici share a grave concern about the threat to innovation posed by the issuance of patents on abstract ideas, like the claim at issue in this case. Patents on methods of doing business and abstract software processes significantly affect the financial services and information technology industries because, rather than encouraging innovation, they monopolize the very mental processes and ideas that are the building blocks of innovation.

Moreover, the recent flood of patents on business methods and software—which has expanded the bounds of patentable subject matter beyond what is fairly encompassed by the statutory bases for patent protection—has resulted in uncertainty and an explosion of expensive litigation. Most significantly, amici are affected by those who patent abstract ideas or methods (or purchase such patents) not to make productive use of them, but to extract licensing fees from businesses that apply and improve those ideas and

¹ Letters consenting to the filing of amicus briefs have been filed by the parties with the Clerk of the Court. No counsel for a party authored this brief in whole or in part, and no person, other than amici, their members, or their counsel made a monetary contribution to the preparation or submission of this brief.

² Amici include Bank of America Corporation, Barclays Capital Inc., The Clearing House Association L.L.C., The Financial Services Roundtable, Google Inc., MetLife, Inc., and Morgan Stanley. The Financial Services Roundtable joins this brief in its organizational capacity, and this brief does not necessarily represent the views of all its individual members.

methods in real-world products and services. Conducting business in such a climate leads to costly litigation and the unproductive diversion of resources. Amici accordingly support the recognition of clear, threshold rules that prevent the patenting of abstract methods and mental processes like petitioners' and that discourage costly and counterproductive litigation.

SUMMARY OF ARGUMENT

Distilled to its essence, petitioners' patent application claims nothing more than the idea of hedging against the weather. This Court's cases interpreting Section 101 of the Patent Act, 35 U.S.C. § 101, have never recognized such a claim to recite patent-eligible subject matter. Nor is similar subject matter, like accounting methods, tax mitigation techniques, financial instruments, and other means of organizing human behavior—or software used to implement those methods—patent-eligible. Petitioners' argument to the contrary would disturb long-settled precedent and pose substantial threats to innovation in the financial services and information technology fields.

Innovation has long flourished in financial services and information technology, even though patents for business methods and software have only recently become commonplace. Indeed, the recent explosion in such patents has hindered, rather than encouraged, innovation. Due to their broad, abstract nature, such patents are particularly likely to invite expensive litigation and other costs, which creates substantial uncertainty and risk for companies wishing to develop and implement new business strategies, financial structures and processes, or software. Expanding the scope of patent-eligible subject matter to include abstract ideas or mental processes of the sort petitioners claim will only

aggravate these drags on innovation, and would thus undermine the core purpose of the Patent Act—to “promote the Progress of Science and useful Arts.” U.S. Const. art. I, § 8, cl. 8.

To avoid a construction of the Patent Act that would permit the grant of a monopoly on the building blocks of innovation, this Court has long held that the word “process” in Section 101 cannot be interpreted literally: a fundamental principle or mental process is not patent-eligible even if it may be reduced to a series of steps one might call a “process.” Similarly, a claim embodying an abstract idea or mental process does not become patent-eligible simply by limiting the application of the idea to a particular field, or by adding conventional post-solution activity or the conventional use of a machine, including a computer. To hold otherwise would “exalt[] form over substance” and permit patent applicants to evade the limits on patenting abstract ideas through clever draftsmanship. *Parker v. Flook*, 437 U.S. 584, 590 (1978). Rather, “the clue” to patent-eligibility is whether a process results in physical transformation or reduction of an article to a different state or thing. *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). Where such transformation does not occur, the Court has recognized processes to be patent-eligible only when the claim, considered as a whole, is necessarily tied to the non-conventional use of a machine.

To resolve this case—and to provide needed clarity regarding the scope of patentable subject matter—this Court need only reaffirm these long-established precepts. Continued adherence to these useful and workable principles will neither expand nor contract the scope of patent-eligible subject matter under Section 101. Nor do these precepts preclude, as petitioners contend, the patent laws from adapting to future inno-

vation. While this Court has recognized that no rule should wholly foreclose future applications of the patent laws that might accommodate unforeseen technological advancements of the kind the Patent Act was adopted to promote, that recognition provides no reason to depart from long-settled principles when dealing with mental processes and types of subject matter, like that at issue in this and similar cases, that have existed since the time of the first Patent Act.

ARGUMENT

I. **THIS COURT SHOULD REAFFIRM LONG-SETTLED PRINCIPLES OF PATENT LAW THAT EXCLUDE ABSTRACT IDEAS AND MENTAL PROCESSES FROM PATENT-ELIGIBILITY**

Although petitioners and their amici posit that the court of appeals created from whole cloth a new test for patent-eligibility, just the opposite is true. The decision below rests on long-settled tenets of patent law that properly exclude abstract ideas and mental processes—including, in the Solicitor General’s words, “methods of organizing human activity,” U.S. Br. 8—from patent-eligibility. This rule is consistent with precedent and the Patent Act’s core purpose of encouraging innovation.

A. **Consistent With The Patent Act’s Purpose Of Promoting Innovation, Abstract Ideas Are Not Patent-Eligible “Processes” Under Section 101**

Section 101 of the Patent Act provides that “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” is patent-eligible, “subject to the conditions and requirements of this title.” Although the earliest

iterations of the Patent Act extended patent protection to “any new and useful art, machine, manufacture, or composition of matter,” 1 Stat. 318, 319 (1793), it was understood at that time that processes can be patent-eligible under the general term “useful art,” see *Corning v. Burden*, 56 U.S. (15 How.) 252, 267 (1854).

For just as long, however, this Court has recognized that the key policy underlying the Patent Act—the promotion of innovation—serves as a fundamental limitation on patent-eligibility. See generally *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 5-6 (1966). Article I, Section 8 of the Constitution restricts the patent power to the promotion of the “Progress of Science and useful Arts”—what “today [is] called technological innovation.” *In re Comiskey*, 554 F.3d 967, 977 (Fed. Cir. 2009) (internal quotation marks omitted). The determination of patent-eligibility under Section 101 must be made by reference to this constitutional standard. *Graham*, 383 U.S. at 5-6. Because patents create a narrow exception to the general public policy against monopolies, any grant of such a monopoly must further the constitutional purpose behind the Patent Act by promoting, rather than hindering, innovation. See *id.*

Consistent with the Patent Act’s constitutional underpinnings, this Court has repeatedly emphasized that not every method or idea is a “process” eligible to be patented within the meaning of Section 101. See, e.g., *Parker v. Flook*, 437 U.S. 584, 588-589 (1978). Although petitioners contend (e.g., Br. 18-20) that the meaning of “process” should be construed without bounds, it is well established that the term as used in Section 101 has a narrower scope than “‘process’ in the ordinary sense of the word.” *Flook*, 437 U.S. at 588; see *id.* at 589 (this Court’s precedent “forecloses a purely literal reading of

§ 101”); *Corning*, 56 U.S. (15 How.) at 268 (“[T]he term process is often used in a more vague sense, in which it cannot be the subject of a patent.”).³

In particular, the meaning of “process” is limited by the recognition that “abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); see also *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874); *Corning*, 56 U.S. (15 How.) at 267-268; *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1853). Rather than promoting innovation, the grant of monopolies on abstract ideas and similar principles removes those general concepts, the building blocks of innovation, from the public domain. *Graham*, 383 U.S. at 9 n.2 (“That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature[.]” (quoting VI *Writings of Thomas Jefferson* 180-181 (Henry A. Washington ed. 1861))). Abstract ideas, natural phenomena, and

³ To support their broad interpretation of Section 101, petitioners cite the legislative history of the 1952 Act, which states:

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.

S. Rep. No. 82-1979 (1952), reprinted in 1952 U.S.C.C.A.N. 2394, 2399. But as the Solicitor General has explained (U.S. Br. 28-29), when placed in proper context, that statement—which refers only to machines or manufactures, not processes—supports nothing more than the unremarkable proposition that, while all things made by man may be inventions, not all inventions may be patentable.

mathematical algorithms “are part of the storehouse of knowledge of all men,” *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948), and thus “not the kind of ‘discoveries’ that the statute was enacted to protect,” *Flook*, 437 U.S. at 593; see also *id.* at 589; *Diamond v. Diehr*, 450 U.S. 175, 185 (1981); *Benson*, 409 U.S. at 71. The exclusion of such subject matters from patent-eligibility “reflects a basic judgment that protection in such cases, despite its potentially positive incentive effects, would too often severely interfere with, or discourage, development and the further spread of useful knowledge itself.” *Laboratory Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 128 (2006) (Breyer, J., dissenting from dismissal of the writ as improvidently granted).

These essential limits on the patent-eligibility of processes were firmly in place by 1952, when Congress amended Section 101 to substitute the term “process” for the term “art” in the definition of patent-eligible subject matter. That amendment did not alter the historical understanding of the scope of patent protection. *Diehr*, 450 U.S. at 184. Rather, the amendment reaffirmed what this Court had already held—that a “process” is patent-eligible under Section 101—and left untouched the scope of that term as construed by this Court. See S. Rep. No. 82-1979 (1952), reprinted in 1952 U.S.C.C.A.N. 2394, 2398-2399; see also *Graham*, 383 U.S. at 3-4. By that time, it was clear that, in light of the Patent Act’s constitutional purpose, an abstract “principle is not patentable.” *Le Roy*, 55 U.S. (14 How.) at 175. Thus, a “process” claim that embodies no more than an abstract idea or principle is not patentable-eligible. See *Benson*, 409 U.S. at 67; *Rubber-Tip Pencil Co.*, 87 U.S. (20 Wall.) at 507.

**B. A Claim Recites A Patent-Eligible Process,
Rather Than An Unpatentable Abstract Idea,
Where There Is A Physical Transformation Or
The Process Is Tied To A Particular Machine
Or Apparatus In A Non-Conventional Manner**

Embracing a broad, literal interpretation of “process” that this Court has repeatedly rejected, *see, e.g., Flook*, 437 U.S. at 588-589; *Corning*, 56 U.S. (15 How.) at 267-268, petitioners argue (Br. 20) that applying any particular test or rule to determine whether a “process” is patent-eligible would effectively “place additional limits on patent-eligible subject matter that have not been expressed by Congress.” But “process” patents—unlike most patents on machines, manufactures, or other categories of patentable subject matter—are uniquely susceptible to the problem of claiming abstract ideas. Many abstract principles can be reduced to a series of steps that one might reasonably call a “process” within the literal meaning of that word. *See Metabolite Labs.*, 548 U.S. at 137 (Breyer, J., dissenting from dismissal of the writ as improvidently granted). And many abstract ideas, mental processes, or methods of organizing human activity can be described in the guise of conventional use of a computer or other machine, limited to a particular field, or dressed up as one step in a “method” or “system” leading to some token post-solution action.

This Court accordingly has recognized that “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear.” *Flook*, 437 U.S. at 589. To ensure that patents are not granted on “processes” that embody nothing more than abstract ideas or similarly unpatentable subject matter—and to avoid the consequent hindrance to innovation that such patents pose—this Court has set forth a number of precepts to

guide courts in determining whether a process or method claim recites an abstract principle, idea, or mental process that is unpatentable under Section 101. Because those precepts—which date back at least 150 years—provide a principled, workable method to determine whether such a claim is patent-eligible, this Court should reaffirm and apply them in this case.

In particular, this Court has long asked whether the claimed process results in a physical transformation or is necessarily tied to a particular machine or apparatus in a non-conventional way. The conventional use of a machine or conventional post-solution activity is not sufficient to render an otherwise unpatentable idea patent-eligible.

1. Where a claimed process is not tied to the non-conventional use of a particular machine, “[t]ransformation and reduction of an article ‘to a different state or thing’ is *the* clue to ... patentability.” *Benson*, 409 U.S. at 70 (emphasis added); *see also Diehr*, 450 U.S. at 192 (when a claim “perform[s] a function which the patent laws were designed to protect (e.g., *transforming or reducing an article to a different state or thing*), then the claim satisfies the requirements of § 101.” (emphasis added)); *Cochrane v. Deener*, 94 U.S. 780, 788 (1877) (“A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.”).

Examples of patent-eligible subject matter include such transformative processes as “[t]he arts of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, [and] smelting ores.” *Corning*, 56 U.S. (15 How.) at 267. Similarly, processes for refining flour,

Cochrane, 94 U.S. 780; separating the component parts of fats and oils for use in soap manufacturing, *Tilghman v. Proctor*, 102 U.S. 707, 708-709 (1881); expanding metal through a particular method of cutting and stretching, *Expanded Metal Co. v. Bradford*, 214 U.S. 366 (1909); fermenting beer, *New Process Fermentation Co. v. Maus*, 122 U.S. 413, 428-429 (1887); incubating eggs, *Smith v. Snow*, 294 U.S. 1 (1935); *Waxham v. Smith*, 294 U.S. 20 (1935); and molding rubber, *Diehr*, 450 U.S. at 191, are all patent-eligible because they involve the requisite transformation or reduction of an article.

In *Diehr*, for example, this Court held that a process patent on a method for molding rubber that used a mathematical equation was patent-eligible because the method at issue involved more than a mere “mathematical formula,” *see* 450 U.S. at 192 n.14, and more than “a new method of programming a digital computer in order to calculate ... the correct curing time in a familiar process,” *id.* at 193 n.15 (internal quotation marks omitted). Rather, the application claimed a “process of curing rubber,” *id.*—a process that, as this Court stressed, transformed “an article to a different state or thing,” *id.* at 184 (internal quotation marks omitted). By contrast, this Court has invalidated patents on non-transformative processes that, at bottom, were simply attempts to patent an algorithm or mathematical equation. *See Flook*, 437 U.S. at 591; *Benson*, 409 U.S. at 70.

2. This Court has also upheld patents on non-transformative processes, but only where those processes, viewed as a whole, were necessarily tied to a particular apparatus in a non-conventional way. For example, in *O’Reilly v. Morse*, 56 U.S. (15 How.) 62 (1854), Samuel Morse submitted a patent application reciting various claims related to his use of electromag-

netism to transmit printed characters across long distances. This Court held unpatentable Morse's claim for the general principle of using the electromagnetic spectrum for printing at a distance, which was "not confine[d] ... to the machinery or parts of machinery, which he specifie[d]" in the application. *Id.* at 113 (noting that such a patent would "shut[] the door against inventions of other persons"). By contrast, Morse's patent on the process of using the telegraph to transmit characters at a distance in a particular way was patent-eligible. This Court explained:

You may use electro-magnetism as a motive power, and yet not produce the described effect, that is, print at a distance intelligible marks or signs. To produce that effect, it must be combined with, and passed through, and operate upon, certain complicated and delicate machinery, adjusted and arranged upon philosophical principles, and prepared by the highest mechanical skill. ... And for the method or process thus discovered, [Morse] is entitled to a patent.

Id. at 117.

Similarly, in the *Telephone Cases*, 126 U.S. 1 (1888), this Court held that Alexander Graham Bell's process of transmitting sounds across long distances, which was necessarily tied to a particular apparatus, was patent-eligible. There, the claim was "not alone for the particular apparatus he describes, but for *the process that apparatus was designed to bring into use.*" *Id.* at 540 (emphasis added). Like Morse's patent on the use of the telegraph as a means to create a specific result, the role of the apparatus in the *Telephone Cases* was an integral part of the process as a whole, not simply an af-

terthought. And at the time, like Morse’s use of the telegraph, Bell’s use of the telephone was far from conventional.

3. Where a claimed process is unpatentable because it is neither transformative nor tied to the use of a machine in a non-conventional way, the mere form of a claim will not render the unpatentable principle patent-eligible. Specifically, adding the conventional use of a computer or machine or conventional post-solution activity is insufficient to save a claim reciting an otherwise unpatentable principle. Similarly, limiting the claim to the application of an abstract idea to a particular field or purpose does not suffice.

This Court has explained that it is “[t]he process itself, not merely the mathematical algorithm” or abstract idea that “must be new and useful.” *Flook*, 437 U.S. at 591; *see also Diehr*, 450 U.S. at 188 (in determining patent-eligibility, “claims must be considered as a whole”). It follows that if a process uses an existing machine or apparatus, the actual *use of the apparatus* must be new; it is not enough simply to link an unpatentable principle to the conventional use of a computer or other machine as part of a “system” or series of steps recited in a claim. For instance, in *Benson*, the applicant attempted to patent an algorithm for converting binary code that could be performed by hand or by “existing computers long in use, no new machinery being necessary.” 409 U.S. at 67. This Court rejected the applicant’s argument that the conventional use of a computer rendered the algorithm a patent-eligible process, concluding that granting a patent on this method “in practical effect would be a patent on the algorithm itself,” notwithstanding the fact that the process involved a machine. *Id.* at 72. Merely describing an otherwise unpatentable abstract method as a process that

is performed by conventional software operations on a computer does not render that abstract idea patent-eligible, any more than using a calculator, slide ruler, or abacus in such a method would do so. *See id.* at 67-70.⁴

Similarly, drafting a claim in a manner that merely ties an otherwise unpatentable abstract idea to a specific end use or dressing up a claim by adding token or conventional post-solution activity “will not transform an unpatentable principle into a patentable process.” *Diehr*, 450 U.S. at 191-192; *see also Flook*, 437 U.S. at 593 (calling “untenable” the “assum[ption] that if a process application implements a principle in some specific fashion, it automatically falls within the patentable subject matter of § 101”). Indeed, “[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance” because “[a] competent draftsman could attach some form of post-solution activity to almost any mathematical formula.” *Id.* at 590; *see Diehr*, 450 U.S. at 192 (“To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.”).

In *Flook*, for example, this Court held that the claimed process—a method for updating alarm limits, the only novel part of which was a mathematical equation—was not patent-eligible merely because the applicant was able to identify “a limited category of useful, though conventional, post-solution applications” of that

⁴ By the same token, characterizing an invention that simply performs a series of abstract calculations or steps as a “system” or “computer program” just as clearly fails to satisfy Section 101 as a method claim that expressly recites those steps.

method. 437 U.S. at 585. The Court explained that application of that method to a specific, useful end—adjusting the alarm limit according to the equation—was insufficient to transform the algorithm into a patent-eligible process: “the Pythagorean theorem would not have been patentable, or partially patentable, because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques.” *Id.* at 590; *see id.* at 595 n.18 (“[A] claim for an improved method of calculation, *even when tied to a specific end use*, is unpatentable subject matter under § 101.” (emphasis added)); *Diehr*, 450 U.S. at 191 (prohibition on patenting of mathematical formula “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment”).

Consistent with these limiting principles, the Solicitor General acknowledges that adding the use of a computer as insignificant extra-solution activity does not render an unpatentable process patentable (U.S. Br. 34, 39 n.18), and that software claims that would preempt all uses of a mathematical algorithm are not patent-eligible (*id.* at 39 n.19). Yet the Solicitor General nevertheless suggests (at 38-39) that “most software” should be patent-eligible merely because it “could be said to concern the use of a machine (*i.e.*, the computer itself) or involve a transformation of matter (*i.e.*, the writing and re-writing of data [on] a hard disk or ... in a memory chip).”

This Court has never held, however, that the mere inclusion of software or a computer in an otherwise unpatentable series of steps may render that process patentable subject matter. In particular, under this Court’s decisions in *Benson* and *Flook*, the fact that a process may involve the modification of electronic data

or “concern the use” of a computer is not sufficient for patent-eligibility. In *Benson*, the method at issue “convert[ed] binary-coded decimal ... numerals into pure binary numerals” and was tied to use of “a general-purpose digital computer,” 409 U.S. at 64, yet this Court held that the process was not patent-eligible, *id.* at 67-72.⁵ The process at issue in *Flook* similarly was “primarily useful for computerized calculations producing adjustments in alarm settings,” and thus could be said to have contemplated the transformation of electronic data, yet was not patent-eligible. 437 U.S. at 585-586. (In *Diehr*, by contrast, the process was patent-eligible because it transformed rubber from one state to another, not because it used a computer and manipulated electronic data. 450 U.S. at 184.) Moreover, applying this Court’s precedent to software in the manner the Solicitor General suggests would render

⁵ The government would distinguish *Benson* on the ground that a patent may not “preempt the public’s access to basic mathematical principles.” U.S. Br. 39 n.19. But if an unpatentable mathematical principle may not be rendered patent-eligible by tying the claim to the use of a computer, the same should hold true for an unpatentable abstract idea or “method of organizing human activity” that is tied to the conventional use of a computer. Although the government concedes that the method of hedging risk at issue in this case would not be rendered patent-eligible by merely reciting that a computer is used to make the necessary calculations, *id.* at 52-53, it suggests that a different result might apply if the use of the computer was “central to the process of hedging,” *id.* at 53, n.30. That formulation, however, fails to recognize that the addition of the conventional use of a computer is no different than the use of a telephone or fax machine, and thus cannot render otherwise unpatentable subject matter patent-eligible. This is so even where the use of a computer, telephone, or fax machine is “central” to the claimed “process,” such as where purchase orders are taken over the Internet, by phone, or by fax.

the limiting principles articulated in that precedent virtually meaningless, as any “competent draftsman” could easily add the use of a computer or the manipulation of electronic data to an otherwise non-patent-eligible process. *Flook*, 437 U.S. at 590. Rather, an otherwise unpatentable business strategy or transaction that transforms no particular article cannot be rendered patent-eligible merely by reciting the conventional use of a computer (or, similarly, the Internet, a telephone, or email) to implement that series of mental steps.

4. These well-established precepts provide clear, workable guidance and, contrary to petitioners’ contention, do not preclude the patent laws from adapting to future innovation.⁶ This Court has rightly recognized the need for flexible patent-eligibility criteria to ac-

⁶ Nor, as petitioners insist (at 29-34), are these precepts inconsistent with 35 U.S.C. § 273, which provides a defense to actions alleging infringement of “business method” patents. *See* U.S. Br. 46-51. Section 273 did not purport to alter the scope of patent-eligible subject matter under Section 101, nor did it abrogate the last 150 years of this Court’s jurisprudence. “Business method” patents accordingly must satisfy the same patent-eligibility standards as any other process. To the extent petitioners argue (at 31) that Congress’s failure to amend Section 101 to affirmatively abrogate the Federal Circuit’s 1998 decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* represents congressional ratification of that decision, *see* 149 F.3d 1368 (Fed. Cir. 1998) (holding that business methods are eligible for patent protection), this Court has expressly cautioned against interpreting congressional inaction in such a manner. *See, e.g., Alexander v. Sandoval*, 532 U.S. 275, 292 (2001). Indeed, legislative history reveals that Section 273 was a reaction *against* the Federal Circuit’s sweeping interpretation of Section 101. *See, e.g.,* H.R. Rep. No. 106-464, at 121-122 (1999) (Conf. Rep.); H.R. Rep. No. 106-287, pt. 1, at 47 (1999); 145 Cong. Rec. S14,986, S14,994 (daily ed. Nov. 19, 1999) (statement of Sen. Schumer).

commodate technological advancement of the kind the Patent Act and existing precedent might not have foreseen. *See, e.g., Flook*, 437 U.S. at 588 n.9; *Benson*, 409 U.S. at 71. Petitioners seize on the Court’s acknowledgment of that need for flexibility to contend that any application of an abstract idea should be patent-eligible, and that the Court’s case law leaves no room for any limit on the range of processes that may be patented. *E.g.*, Pet. Br. 20-21. But in stopping short of “hold[ing] that no process patent could *ever* qualify if it did not meet the requirements” of past precedent—*i.e.*, that the process “must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing’”—the Court did not open the door to the patenting of any and all subject matter that has existed since the time of the first Patent Act. *Benson*, 409 U.S. at 71 (emphasis added). Rather, the Court simply recognized that, while abstract ideas should never be patentable, its case law holding processes to be patentable only when physically transformative or tied to the non-conventional use of a particular machine would not necessarily foreclose the granting of a patent on a non-abstract process that involved an unforeseen kind of innovation that marked a true advance in the “Progress of Science and useful Arts.” U.S. Const. art. I, § 8, cl. 8. This is not such a case.

C. Under This Court’s Long-Established Precedent, Petitioners’ Claim Fails To Recite Patent-Eligible Subject Matter Because It Is Nothing More Than An Abstract Idea

Although they dressed it up in details and technical terms, petitioners in fact seek to patent nothing more than the abstract idea of “managing the weather-

related risks associated with energy pricing,” JA10— or, in other words, hedging against the weather. That claim is not directed to patent-eligible subject matter under this Court’s precedent: petitioners’ claim does not transform or reduce an article to a different state or thing, nor is it tied in a non-conventional manner to a particular apparatus or machine. In arguing that the invention at issue is patent-eligible, petitioners merely highlight why the alternative approach they propose is unworkable and overly broad.

Petitioners argue their claim does not cover the abstract idea of hedging, but instead is patent-eligible because it recites a “specific series of steps involving the purchase and sale of commodities by an intermediary commodity provider to manage consumption risk costs.” Pet. Br. 17; *see also id.* at 57-58. But as Justice Breyer has observed, “one can reduce *any* process to a series of steps. The question is what those steps embody.” *Metabolite Labs.*, 548 U.S. at 137 (Breyer, J., dissenting from dismissal of the writ as improvidently granted). Here, as the court of appeals concluded, petitioners’ claim embodies “a purely mental process of performing requisite mathematical calculations without the aid of a computer or any other device, mentally identifying those transactions that the calculations have revealed would hedge each other’s risks, and performing the post-solution step of consummating those transactions.” Pet. App. 36a; *see also* JA11-12 (claim involves calculating a fixed price based upon historical averages using well-known mathematical algorithms, “identif[ying]” market participants for whom that price would be desirable, and “initiat[ing]” transactions among those participants). That process is no less an abstract idea—and no more patentable—than one comprising the familiar morning ritual of consulting the

newspaper to determine the weather forecast, mentally identifying whether an umbrella or sunglasses would best hedge against the risk of weather-related discomfort, and performing the post-solution step of carrying the chosen accessory to work.

Petitioners contend (Br. 17) that even if their claims comprise the abstract idea of hedging and an abstract mathematical formula, they should be patent-eligible because they are “practically applied” to manage weather-related risk in the sale and purchase of energy commodities. But that simply suggests a limitation on the field of application, and this Court has rejected the notion that otherwise unpatentable abstract ideas may be patented so long as the claimed process applies the idea to a particular field. *See Flook*, 437 U.S. at 589-590. Nor could petitioners save their claim from unpatentability by adding some token post-solution activity or describing it as a system that makes conventional use of computer software, a calculator, a telephone, or the Internet. *See id.* At bottom, because petitioners’ claims reduce to nothing more than an abstract idea, they do not recite a process that “perform[s] a function which the patent laws were designed to protect.” *Diehr*, 450 U.S. at 192.

II. ALLOWING ABSTRACT IDEAS SUCH AS PETITIONERS’ CLAIMS TO BE PATENTED WOULD THREATEN INNOVATION

Although this Court has never held a process to be patentable that was neither transformative nor tied to a particular machine or apparatus in a non-conventional manner, petitioners and their amici argue that this Court must, for the first time, interpret “process” in Section 101 to encompass *any* practical application of an abstract idea in order to avoid hindering innovation

in today's "knowledge economy." Br. 38; *see also id.* at 16. They sound the alarm that adherence to established precedent that looks to transformation of an article or the non-conventional use of an apparatus as the touchstones of patentability will "diminish the incentives available to new enterprise." *Id.* at 39 (quoting Pet. App. 61a (Newman, J., dissenting)); *see also* Business Software Alliance Br. 2-3; International Business Machines Corp. Br. 19-23, 27-29. But, in fact, just the opposite is true. Abstract ideas are excluded from patent-eligibility precisely because allowing them to be patented would place the basic tools of innovation out of reach of those who would put them into use. As recent experience in the financial services and information technology industries confirms, departing from that principle in this case, as petitioners urge the Court to do, would pose a serious threat to innovation.

As amici can well attest, the recent surge in patents on abstract ideas such as how to run a business or software that merely implements such methods has not promoted innovation in the financial services or information technology fields—to the contrary, such patents create a drag on innovation.⁷ Due to their abstract nature, patents of the sort petitioners seek are difficult to examine against prior art, provide fodder for unjustified exploitation and opportunistic behavior, and are

⁷ "[M]any scholars make little distinction between business method patents, internet patents, and software patents more broadly," because "many business method patents are in fact patents on the transfer of a known business method to a software and/or web-based implementation." Bronwyn H. Hall, *Business and Financial Method Patents, Innovation, and Policy*, National Bureau of Economic Research Working Paper No. 14868, at 2 (2009), available at <http://www.nber.org/papers/w14868>.

overwhelmingly likely to lead to costly litigation. In the face of the proliferation of these patents, virtually any company that seeks to offer a new product or service faces the prospect of numerous licensing demands and expensive litigation based on claims to the building blocks of innovation, and must account for the potential cost of these risks, divert resources to obtain defensive patents of its own, or, in the worst case, forego innovation altogether. Thus, rather than promote innovation, the recent explosion in abstract patents claiming business or financial methods and software—and the spike in litigation associated with those patents—has presented a significant hindrance to innovation. Endorsing petitioners’ proposed expansion of the scope of patent-eligible “process[es]” in Section 101 will only threaten further harm to innovation.

A. Petitioners’ Overly Expansive Interpretation Of Patentable “Processes” Has Never Been Necessary To Promote Innovation

Since well before Congress enacted the first Patent Act, there has been no shortage of innovation in business, to say the least. That is so even though such ideas have not been the subject of significant patenting activity until recently. Petitioners’ and their amici’s prediction that innovation in the modern economy will be imperiled without patent protection for ideas of this type is thus without basis.

For much of this Country’s history, it was generally believed that most business methods were not eligible for patent protection. *See, e.g., Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467, 467, 469 (2d Cir. 1908) (“system of transacting business” comprising a “method of and means for cash-registering and account-checking’ designed to prevent frauds and pecula-

tion by waiters and cashiers in hotels and restaurants” was “not, within the most liberal interpretation of the term, an art”). Even when the Patent Office began granting such patents with greater frequency beginning in the early 1970s, those patents were met with widespread doubt as to their validity. *See, e.g.*, Adam B. Jaffe & Josh Lerner, *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation and Progress, and What To Do About It* 117 (2004).

The modern flood of business method patents began in the 1990s with the Federal Circuit’s 1998 decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998). Although technically construing the claim before the court as a patentable machine, not a process, *see id.* at 1372; Pet. App. 23a n.18, the court of appeals took the occasion to overrule a line of cases holding business methods categorically ineligible for patenting under Section 101, *see* 149 F.3d at 1375. The *State Street* decision came to be “widely viewed as having opened the door to widespread business method patenting, especially financial methods.” *See* Bronwyn H. Hall, *Business and Financial Method Patents, Innovation, and Policy*, National Bureau of Economic Research, Working Paper No. 14868, at 3 (2009), *available at* <http://www.nber.org/papers/w14868>; *see also* Clifford S. Stanford, *Business Method Patents and Financial Services*, Federal Reserve Bank of Atlanta Economic Review, 4th Quarter 2003, at v, v (*State Street* triggered a new “patent flood”); Jaffe & Lerner, at 118 (*State Street* was the “critical change”).

After *State Street*, the number of business method patent applications soared by one count from 330 filed in 1995 to about 10,000 in 2001. *See* Jaffe & Lerner, at

119. Additional business method patent applications have been filed by the several thousand each year since then. *See Issues Relating to the Patenting of Tax Advice: Hearing Before the Subcomm. on Select Revenue Measures of the H. Comm. on Ways and Means*, 109th Cong. (2006) (statement of James Toupin, General Counsel, U.S. Patent and Trademark Office), *available at* <http://waysandmeans.house.gov/hearings.asp?formmode=detail&hearing=492>. These thousands of applications have claimed a wide variety of ideas for organizing business activities, and often include conventional use of a computer to carry out the idea or mental process. As the General Counsel of the Patent Office has explained,

[t]oday, the computer-implemented “business method” area includes business practices in many fields such as health care management, insurance and insurance processing, reservation and booking systems, financial market analyses, point of sale systems, tax processing, inventory management, accounting and financial management.

Id. In this category, the Patent Office has issued patents for such concepts as a “[m]ethod and apparatus for tax efficient investment management,” a “[p]rocess for creating a financial plan for ... funding of college education,” a “[s]ystem for funding, analyzing and managing life insurance policies funded with annuities,” and a “[s]ystem, method, and apparatus for providing an executive compensation system.” U.S. Patent & Trademark Office, U.S. Patent Classification 705/36T, http://www.uspto.gov/patft/class705_sub36t.html (last visited Oct. 1, 2009).

Software patents have followed a similar trajectory. As one observer has noted, “[a]n essential legal principle learned by anyone who ... attended law school in the 1970s was that computer software [was] not susceptible of patent protection.” James F. Bauerle, “*Beam Me Up, Scotty*”: *Business Method Patents As A Transformational Device In Financial Services*, 119 *Banking L.J.* 376, 377 (2002). Like business methods generally, “the software-publishing industry grew up largely without patents.” James Bessen & Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators At Risk* 22 (2008). The Federal Circuit’s 1994 decision in *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994), however, “open[ed] the door to the widespread patenting of computer software.” Jaffe & Lerner, at 116. After *Alappat*, which held patent-eligible a means for creating a smooth waveform display in a digital oscilloscope that would be carried out by programming a general-purpose computer, the number of software patents issued skyrocketed. See Robert M. Hunt, *You Can Patent That?*, *Bus. Rev.*, 1st Quarter 2001, at 5, 6, 8. Nonetheless, even today, “the majority of software firms still do not obtain patents, and most software patents are awarded to firms in other industries.” Bessen & Meurer, at 22; see also *id.* at 190.⁸

⁸ Indeed, most major software firms and inventors opposed patents for software through the mid-1990s. See Bessen & Meurer, at 22, 189; see also Effy Oz, *Acceptable Protection of Software Intellectual Property: A Survey of Software Developers and Lawyers*, 34 *Info. & Mgmt.* 161, 167 (1998) (reporting that 86% of surveyed software developers chose copyright over patent as their preferred avenue of protection).

As this history reveals, innovation in business and financial methods and software “flourished for decades” well before those fields became the subject of significant patenting activity. Stanford, at vi. Contrary to petitioners’ claims, then, patent rights for processes that are neither transformative nor tied to a non-conventional use of an apparatus have not been essential to that innovation.⁹ Thus, petitioners’ warning that the future of the “modern information-based economy” (Br. 16) will be put in jeopardy unless the scope of patentable subject matter is expanded to include any application of an abstract idea is refuted by the history of successful innovations in the financial services and information technology industries that occurred without significant patenting activity.

B. Expanding Patent-Eligible Subject Matter To Include Abstract Processes That Are Neither Transformative Nor Tied To A Particular Machine In A Non-Conventional Manner Would Hinder Innovation

The principle that patenting abstract ideas is contrary to the very purpose of the Patent Act holds particular import in the financial service and information technology fields, where the rates and costs of patent litigation and the opportunities for abusive rent-

⁹ Innovators in business and finance historically have developed new strategies and methods largely “as a result of incentives other than patent rights.” Stanford, at vi. Similarly, without patents, the software field “produced innovations such as Windows, virtual reality, spreadsheets and networks,” and “because of the absence of patents, programmers could develop software using these innovations.” Seth Shulman, *Software Patents Tangle the Web*, Tech. Rev., Mar./Apr. 2000, at 68, 71.

seeking are uniquely high. Far from promoting innovation, expanding the scope of patent-eligible subject matter to include abstract ideas or mental processes like petitioners' method for hedging against the weather will aggravate these costs and pose a significant drag on innovation.

Although the relationship between patents and innovation is complex in all industries, when dealing with patents on ideas or methods for conducting business—including those implemented through conventional use of a computer—"there is grave doubt whether the patent system is encouraging or retarding innovation." Jaffe & Lerner, at 76. For example, one analyst has documented a unique divorce between innovation and patenting for financial services companies compared to other industries and found that differences in financial patenting are not necessarily driven by variations in fundamental innovativeness. Josh Lerner, *The New New Financial Thing: The Origins of Financial Innovations*, 79 J. Fin. Econ. 223, 248 (2006); *see also id.* at 224 ("Several considerations ... suggest that the dynamics of financial innovation are quite different from those in manufacturing."). Others have concluded, as an empirical matter, that the effects of patents on innovation are particularly likely to be negative for patents on business and financial methods. *See* Hall, at 17-18 (benefits of the patent system are less likely to outweigh costs for business- and financial-method patents than for other fields); *see also* Bessen & Meurer, at 92-93, 120-121.

More specifically, the high costs of litigation that have accompanied the increase in business method and software patents in recent years divert resources away from innovation, and would only increase under petitioners' view that *any* practical application of abstract

ideas may be patented. Since *Alappat*, *State Street*, and related cases expanded the universe of patentable subject matter, the rate of applications filed for patents on business methods and related software has skyrocketed. See Jaffe & Lerner, at 10, 119. This dramatic increase, in turn, has brought about a spike in expensive litigation. See Bessen & Meurer, at 121-122, 123-124, 127. One study found that financial patents are 27 times more likely to be litigated than other patents. *Id.* at 152; see also Hall, at 13 (noting studies showing a lawsuit rate of 30% for financial patents compared to a 1-2% rate for all patents overall). Another noted that “[s]oftware patents are more than twice as likely to be litigated as other patents,” while “patents on methods of doing business, which are largely software patents, are nearly *seven* times more likely to be litigated.” Bessen & Meurer, at 22. Business method and software patents also have the highest growth rate in litigation compared to other industries. See *id.* at 156-157.

This litigation has resulted in massive costs for companies in the financial services and information technology industries. As one study found, litigation costs for business method and software patents reached the billions of dollars and substantially exceeded profits from those patents between 1996 and 1999. See Bessen & Meurer, at 142-144. By the late 1990s, these net effects and the high risk of litigation “likely provided a net *disincentive* for innovation for the firms who fund the lion’s share of industrial [research and development].” *Id.* at 144; see also *id.* at 145.

In addition to litigation costs, the liberal granting of patents since the late 1990s for mental processes and software for implementing those processes has enabled significant opportunistic behavior by individuals or entities who use patents primarily as a tool for extracting

licensing fees. Studies of lawsuits involving business and software patents held by small entities have suggested that “the primary role played by them is the collecting of royalties from other firms.” Hall, at 13. Such behavior, in turn, has resulted in a surge in patent applications not only from these rent-seekers themselves, but also from companies forced to seek patents defensively. The current environment as a result of *State Street*, *Alappat*, and subsequent developments has been described as “[a]n intellectual property arms race,” in which financial services and technology firms have been forced to seek defensive patents to protect themselves from litigation “brought by individuals or small companies whose primary business is holding patents.” Julie Creswell, *A Wall Street Rush To Patent Profit-Making Methods*, N.Y. Times, Aug. 11, 2006, at C7; see also Hunt, at 12 (describing software “patent arms race”). The Patent Office, in turn, has become overwhelmed by a flood of applications claiming financial products and software. Creswell, at C7. This experience only confirms the wisdom of this Court’s warning, made over 125 years ago, that

indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits

and vexatious accountings for profits made in good faith.

Atlantic Works v. Brady, 107 U.S. 192, 200 (1883).

Petitioners casually suggest (Br. 37, 41) that these costs and harmful consequences may be prevented through enforcement of other limits on patentability, such as the requirements of novelty and non-obviousness. But besides rendering Section 101 a near-nullity, that approach ignores that the abstract nature of the patents at issue makes those other limits harder to enforce. For example, the abstract nature of most business method and software patents makes the scope of those patents difficult to determine and prior art harder to find or to apply. *See* Bessen & Meurer, at 201-203. Because they were rarely patented until recently, the bulk of prior art in the business method and software fields is found not in prior patents, but in “scientific articles, ... conference papers, business and other non-technical journals, users’ manuals, and computer programs.” Jaffe & Lerner, at 145; *see also* Hall, at 18 (citing “widespread agreement among legal scholars that ... lack of prior art databases have led to many invalid patents issuing in software and business methods”). The difficulty of searching prior art, likewise, results in poorer patent quality and increased litigation.

More fundamentally, it is precisely because business method and software patents are so likely to embody abstract ideas that litigation and other costs are so high. *See* Bessen & Meurer, at 22, 187, 200-203; *see also id.* at 194-200 (describing examples of abstract, heavily litigated business method and software patents). Among other things, the boundaries of patents claiming mere abstract ideas are particularly difficult to define and therefore provide poor notice of the patent

holder's property rights. *See id.* at 147, 152. Such claims, moreover, tend to cover unintended or evolving subject matter, which both reduces incentives for future innovation by capturing the innovations of future inventors, *see id.* at 199, and makes them particularly prone to strategic extension of vague language beyond the originally intended scope, *see id.* at 200. Other provisions of the statute cannot be relied on to cure the harms to innovation that are inherent in a patent on an abstract idea or method of organizing human activity.

Moreover, even if other statutory limits on patentability could preclude the ultimate enforceability of patents with these problematic features, litigating those issues often takes years and consumes substantial resources. *See, e.g.,* Hall, at 13 (“[E]ven weak patents whose validity is uncertain can be surprisingly effective in litigation.”). The absence of clear boundaries associated with most business method and software patents—combined with their sheer proliferation—creates both high risk that future business activity will inadvertently infringe on existing patents claiming abstract concepts and significant uncertainty as to the likely outcome of litigation. *See* Bessen & Meurer, at 200. For example, one study estimated that a company entering the online commerce market in 2003 would have been confronted with an estimated 4,319 patents that might apply to its services; if that same company also planned to advertise, receive payments, or arrange shipments online, an estimated 11,000 patents could have been implicated. *See id.* at 213. Ensuring in advance that a new product or service will not infringe existing patents in such an environment may be so prohibitively expensive that companies will invest only when they are willing (and able) to risk inadvertent infringement and costly and uncertain litigation.

This experience confirms the wisdom of settled precedent, under which these kinds of business methods and software are not patent-eligible. Expanding the interpretation of “process” in Section 101, as petitioners urge the Court to do, would only serve to aggravate these drags on innovation and would thus contravene the core purpose of the Patent Act.

CONCLUSION

For the foregoing reasons, this Court should affirm the judgment of the court of appeals.

Respectfully submitted.

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