Bilski V. Kappos: Some Buisness Methods Still Patentable After All These Years

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The much anticipated decision of the U.S. Supreme Court in *Bilski v. Kappos* did not provide the fireworks that many commentators had expected.[1] The Supreme Court did not fundamentally alter the landscape of business method patents and instead harkened back to first principles. Rather than issuing a categorical exclusion of business method patents or a newly developed test for patent-eligible subject matter as some had predicted, the Supreme Court accepted the Federal Circuit's "machine-or-transformation" test as "an important clue" and "investigative tool" in determining patent eligibility and also reaffirmed its previous decisions in *Gottschalk v. Benson*,[2] *Parker v. Flook*,[3] and *Diamond v. Diehr*.[4]

In the pages that follow, we will discuss the guidance provided by the Court in its *Bilski* decision, as well as the guidance that can be found in the Court's earlier cases, which the Court in *Bilski* specifically stated formed the "basis" of the Court's present decision. In addition, we will provide analysis of the recent guidelines issued by the U.S. Patent Office in light of *Bilski* and practice tips for handling process patents post-*Bilski*.

Analysis of the *Bilski* Decision

The Fractured Nature of the Bilski *Decision*

The Court issued its decision in *Bilski* on the final day of its current term and the final day of Justice Stevens' service on the bench. While all nine judges agreed with the ultimate decision that the claims at issue in *Bilski* were unpatentable, only four justices (Kennedy, Roberts, Thomas, and Alito) joined the entirety of the majority opinion. One additional justice (Scalia) joined a portion of the majority opinion.

Justice Stevens delivered a forty-seven page concurring opinion that was joined by Justices Breyer, Ginsburg, and Sotomayor. Justice Breyer also issued a concurring opinion joined in part by Justice Scalia.

The Bilski *Patent Process Claim*

The claims at issue in the Bilski patent are process claims directed at steps for managing consumption risk costs. The claimed invention explains how buyers and sellers of commodities in the energy market can hedge against the risk of price change. The method claim included steps of initiating a series of transactions at a first fixed rate, identifying market participants having a counter-risk position, and initiating another series of transactions at a second fixed price. Importantly, the claim is not limited to transactions involving actual commodities; rather, the recited transactions may simply involve options.

Holdings and Guidance from the Majority Decision

Justice Kennedy delivered the majority opinion of the Court onto which Justices Roberts, Thomas, and Alito joined in its entirety. Justice Scalia also joined all but two parts of the majority opinion. As some had predicted, the Court adhered to its recent trend in patent decisions of favoring a flexible, commonsense approach over an unbending, bright-line rule approach. The Supreme Court accepted the Federal Circuit's recapitulation of the "machine-or-transformation" test as "an important clue" and "investigative tool" in determining patent eligibility, but refused to recognize it as the exclusive test for determining patent-eligibility of processes.[5] The majority Court also held that "business method" patents are not categorically excluded from patentability.[6] The Court began its analysis of the issues by revisiting the meaning of "process" under § 101 of the Patent Act.

Section 101 of the Patent Act defines what is and is not patentable subject matter. It broadly states that "[w]hoever invents or discovers *any* new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."[7] The Court recognized that process patents are one of the four independent categories eligible for patent protection.

The Court also noted that while Congress intended § 101 to be given wide scope, the Supreme Court's precedent going back 150 years provides three specific exceptions to § 101's broad patent-eligibility principles that are consistent with Congress's intentions: laws of nature, physical phenomena, and abstract ideas are not eligible for patenting.[8] The Court cautioned that it "has not indicated that the existence of these well-established exceptions gives the Judiciary *carte blanche* to impose other limitations [on the meaning of 'process'] that are inconsistent with the text and the statute's purpose and design."[9] The statutory interpretation of "process" does not require the term to be tied to a machine or to transform an article, the Court stated. As such, the Court held that the machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible process, but it is a useful and important clue, an investigative tool.[10]

Continuing with similar canons of statutory interpretation, the Court stated that it was unaware of any argument that

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"method," which is used within the Patent Act's definition of "process," excludes business methods. In fact, § 273 of the Patent Act, which expressly created a prior-use defense to infringement of a patent on a method of doing business, clarifies the understanding that a business method is simply one kind of method sometimes eligible for patenting.[11] The Court reasoned that categorically excluding business method patents would render § 273 meaningless, thus violating principles of statutory interpretation. As such, the Court held that § 101 precludes the broad contention that the term "process" categorically excludes business methods.[12]

Ultimately, the Court resolved *Bilski* narrowly on the basis of its decisions in *Benson*, *Flook*, and *Diehr* to hold that the Bilski patent claims were not patentable processes because they attempted to patent abstract ideas.[13] The Court found that Bilski's claims were directed at the basic concept of hedging, or protecting against risk. Allowing such claims would preempt use of hedging in all fields and would effectively grant a monopoly over an abstract idea. The Court also concluded that the remaining Bilski process claims were unsuccessful attempts to patent an abstract idea by limiting the claims to a field of use (i.e., energy markets) or by adding a token post-solution component (i.e., determining inputs to use in equations). Quite notably, as the Justice Stevens' concurring opinion points out, the majority opinion did not offer a definition of "abstract idea." Therefore, practitioners, litigators, and judges must rely on the decisions in *Benson*, *Flook*, *Diehr*, and now *Bilski* to offer guidance to assess whether a particular process claim is patent-eligible subject matter or an attempt to patent an abstract idea.

The Concurring Decision of Departing Justice Stevens

Justice Stevens' concurring opinion, at 47 pages, feels like it may have been written as a majority opinion that never garnered the required five votes. Justice Scalia may have been the "swing" fifth vote. Justice Scalia did not join the entirety of the majority decision; Justice Scalia joined most of Justice Breyer's concurring opinion.

In his concurring opinion, Justice Stevens discussed at length the foundations of English patent law and early American patent law. This discussion may have been an appeal to the strict constructionist in Justice Scalia. In the end, however, the inclusion of the term "method" in § 100 and the term "method of doing or conducting business" in § 273 may have made it impossible for a strict constructionist such as Justice Scalia to agree to a categorical exclusion of business method patents. If this is the case, Justice Scalia is unlikely to alter his position in later decisions unless Congress amends the Patent Act.

Back to the Future

The *Bilski* Supreme Court reaffirmed its previous decisions in *Benson*, *Flook*, and *Diehr*. A thorough understanding of these seminal cases is imperative as the law in this area develops.

Gottschalk v. Benson

The U.S. Supreme Court in *Bilski* draws upon the body of law it created in *Gottshalk v. Benson*[14] and its progeny. In *Benson*, the U.S. Supreme Court noted that 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.[15] In *Benson*, the invention was a generic formula for programs to solve mathematical problems of converting one number to another. In particular, the claims attempted to patent an algorithm to convert binary-coded decimal numerals into pure binary code. Exemplary process claim 8 of *Benson* recites steps of "storing . . . signals in a reentrant shift register," "shifting the signals . . .," "masking out [a bit] . . . of said register," and "adding [a bit] . . . of said register."

The *Benson* Court held that the claim was to an unpatentable abstract idea. The Court reasoned that permitting the process claim "would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself."[16] The Court noted that the algorithm at the heart of the process claim can be executed by existing computers long in use without requiring any new machinery, and, in fact, it could be performed even without a computer.[17] Moreover, the claims were not limited to any particular technology, apparatus, machinery, art, or end use. In short, the Court held that mathematical formulas that have no practical application except in connection with a long-in-use existing computer are not patentable processes under § 101.

The *Benson* Court provided additional guideposts for types of subject matter that are either unpatentable or potentially patentable. In the camp of unpatentable subject matter, the *Benson* Court included phenomena of nature, mental processes, and abstract intellectual concepts, all three of which that Court identified as basic tools of scientific and technological work.

Meanwhile, in the camp of potentially patentable subject matter, the *Benson* Court took great pains to clarify that its decision should not be understood to preclude a patent for a program servicing a computer. Whether "the patent laws should be extended to cover these [computer] programs [for an algorithm is] a policy matter to which we are not competent to speak," the *Benson* Court admitted.[18] Rather, the Court suggested that Congress, which has the broad investigative powers to mange this considerable problem, should consider action on this technological problem.

Parker v. Flook

Six short years after *Benson*, the authors' law firm represented patentee Dale Flook before the U.S. Supreme Court in *Parker v. Flook*.[19] The patent at issue in *Flook* related to a process for updating an alarm limit in a catalytic chemical conversion of hydrocarbons. The method steps involved measuring the present value of process variables such as temperature and pressure, calculating an updated alarm-limit value according to a specific equation, and finally adjusting the actual alarm-limit value to the updated value. The claim expressly recited an equation, which provided a new and presumably better method for calculating alarm-limit values: $B1 = B0\ (1.0 - F) + PVL\ (F)$. Significantly, the "alarm-limit" feature in the claim was just a number. Moreover, the Court noted that the Flook patent specification did not contain any disclosure relating to the chemical processes at work, the monitoring of the process variables, or the means of triggering or adjusting an alarm. In particular, we note that the subject matter of the process claim did not include physical, tangible elements. In *Flook*, the Court

held the process claim to be unpatentable under § 101. The Court reasoned that the process itself must be new and useful for the process to be patentable; the novelty of any mathematical algorithm used in the process is "not a determining factor at all."[20] In fact, mathematical algorithms, as well any natural phenomena, the Court advised, should be treated as if they were prior art for purposes of determining patent eligibility. Moreover, based on the prosecution of the Flook patent before the U.S. Patent Office, the Court justifiably assumed the algorithm was the only novel feature of the process claim. As such, with the specific equation recited in the Flook process claim treated as prior art, the Court held the claimed process, considered as a whole, contains no patentable invention. The Court recapitulated: "[A] claim for an improved method of calculation, even when tied to a specific end use, is unpatentable subject matter under § 101."

The *Flook* Court also provided additional guidance with respect to types of subject matter that are either unpatentable or potentially patentable. For unpatentable subject matter, the Court rejected the notion that post-solution activity can transform an unpatentable principle into a patentable process. Finding otherwise would improperly exalt form over substance, according *Flook*, because any competent patent prosecutor could attach some form of post-solution steps to almost any mathematical formula. *Flook* also noted that limiting an abstract idea to one field of use does not make the concept patentable. Meanwhile, with regard to potentially patentable subject matter, *Flook* stated that "[w]hile a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."

Diamond v. Diehr

In *Diamond v. Diehr*,[21] the U.S. Supreme Court received yet another opportunity to clarify its precedent on the patent eligibility of process claims under § 101. The Diehr patent claimed a method for molding raw, uncured synthetic rubber into cured precision products using a mathematical algorithm. The method of Diehr is directed at steps for operating a molding press, including heating the mold, adding unmolded rubber, closing the mold, constantly measuring internal temperature, continuously calculating cure time by means of the well-known Arrhenius equation (i.e., In v = CZ + x), opening the mold press, and taking out the molded and cured rubber. According to the Diehr inventors, their process of constantly measuring the temperature inside the closed mold using a thermocouple, feeding this information to a digital computer for continuous recalculation of cure time, and signaling by the computer to open the mold press at the appropriate time was previously unknown in the art. It cannot be disputed, the *Diehr* Court stated, that the claimed process involves the transformation of an article (i.e., raw, uncured synthetic rubber) into a different state or thing. In particular, we note that the subject matter of the process claim includes interaction with physical, tangible elements.

The *Diehr* Court held the process claim to be patentable subject matter under § 101 because it was not an attempt to patent a mathematical formula, but, rather, was an industrial process for molding rubber products.[22] In stark contrast to *Flook*, the *Diehr* Court emphasized the need to consider the invention as a whole, rather than dissecting the claims into old and new elements and then ignoring the presence of old elements in the patent-eligibility determination. The novelty of any element or step is irrelevant in a § 101 analysis. A claim satisfies § 101 when the claim as a whole performs functions patent laws were designed to protect.

In addition, the *Diehr* Court reiterated some of the principles for determining which types of subject matter are potentially patentable. *Diehr* stated that processes involving transformation of an article into a different state or thing are patentable under §101. In particular, industrial processes, such as the type at issue in *Diehr*, have historically been eligible for patent protection, according to the Court. Furthermore, the Court stated that claims drawn to otherwise statutory subject matter do not become nonstatutory because the claims use a mathematical formula, a computer program, or a digital computer. An application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.[23]

We note that the *Diehr* and *Flook* inventions, at their core, involved a similar type of invention. The process claims of both patents at issue expressly recite a mathematical formula that was used to continuously calculate a value. In *Flook*, the method caused a number (i.e., the "alarm limit") to be continuously updated based on an equation. Likewise, in *Diehr*, curing time was continuously calculated based on the Arrhenius equation. However, the subject matter recited in the two claims was strikingly different. In *Flook*, physical or tangible subject matter was essentially absent. Meanwhile, in *Diehr*, such subject matter was splattered all over the claim. This difference in claiming strategy, we believe, was one of the reasons the *Diehr* Court went down the path of patent eligibility, while the *Flook* Court headed in the other direction. Patent practitioners would be well-advised to draft some claims with this valuable lesson in mind and include them in their future patent application filings.

The Machine-or-Transformation Test Does Not Stand Alone

In *In re Bilski*, the Court of Appeals for the Federal Circuit, in an *en banc* decision the judges believed consistent with U.S. Supreme Court precedent, held that the "machine-or-transformation" test is the sole test for patent eligibility of a process patent claim.[24] The Federal Circuit stated that to meet the machine-or-transformation test, a process claim must be "tied to a particular machine or apparatus," or the process claim must "transform a particular article into a different state or thing."

On appeal, the Supreme Court shot down the exclusivity of the machine-or-transformation test but accepted the Federal Circuit's "machine-or-transformation" test as "an important clue" and "investigative tool" in determining patent eligibility. The Court also noted that it by no means wishes to foreclose the Federal Circuit's development of other limiting criteria.[25] We can be certain that future Federal Circuit decisions dealing with § 101 patentable subject matter will provide further guidance in the form of these "limiting criteria."

Moving forward, patent practitioners, litigators, and judges would be well advised to continue to consider the outcome of the machine-or-transformation test on the patent eligibility of their process claims. However, the *Bilski* Court has provided

practitioners with some leeway with respect to the machine-or-transformation test. A process claim that fails to meet the machine-or-transformation test may still be patentable subject matter. Therefore, a robust analysis should consider other criteria the Supreme Court has provided, including the guideposts in *Benson*, *Flook*, and *Diehr*.

Prosecution Strategies Before the U.S. Patent Office Subsequent to the Decision

USPTO's Reaction to the Bilski *Decision—Interim Guidelines*

On July 27, the USPTO released interim guidelines for determining subject matter eligibility for process claims in view of the *Bilski* decision.[26] The guidelines state that patent examiners should evaluate the claim as a whole and conduct a "factor-based inquiry" into the abstract idea exception when considering subject matter eligibility. The guidelines provide numerous factors that the Office believes are consistent with Supreme Court precedent and that "are useful examples and not intended to be exclusive or limiting." The factors are grouped into two: those that weigh in favor of patent eligibility and those that weigh against patent eligibility.

The patent eligibility factors echo the idea that the machine-or-transformation test continues to be a "useful and important clue" for determining patent eligibility of method claims. For example, where a machine is recited or inherent in the method claim, the degree to which the machine in the claim can be specifically identified—its particularity—weighs in favor of patent eligibility. In addition, an "integral use" of the machine to achieve performance of the method is a factor in favor of eligibility. A method claim involving a transformation that results in a thing acquiring "a different function or use" is favored for patent eligibility. The more that a method claim involving a general concept also involves an "observable and verifiable" process, the more eligibility will be favored.

Meanwhile, the ineligibility factors advise that where a machine in a process claim is "merely an object on which the method operates" without making integral use of the machine, this weighs against patent eligibility. Where a transformation is involved in a process claim, "merely having a different location" may be an insufficient type of transformation. Moreover, where the nature of the article transformed is "a concept such as a contractual obligation or mental judgment," the guidelines advise that this may weight against patent eligibility. If a method claim involves a general concept, such as a principle, theory, plan, or scheme, to the extent that it "would preempt its use in other fields," this weighs against patent eligibility. Moreover, if the process claim "cover[s] both known and unknown uses of the concept, and [can] be performed through any existing or future-devised machinery, or even without an apparatus," this also weighs against patent eligibility. Process claims should avoid language that would appear to amount to statements of a problem, rather than a description of the particular solution to the problem, the guidelines advise.

Looking Ahead—Post-*Bilski*

Post-*Bilski* it remains prudent to continue to draft patent claims and specifications with an eye towards the machine-or-transformation test. Patent practitioners should continue to strive to include details about any specific machine, apparatus, or machine components involved in the invention, including functional descriptions of machines and their components. Practitioners should also continue to strive to include descriptions of process steps that are directed to a physical transformation of an article or material. Finally, the interim guidelines note that "*Bilski* held open the possibility that some claims that do not meet the machine-or-transformation test might nevertheless be patent eligible." Practitioners should provide support for method claims that do not expressly require being tied to a machine or transforming a particular article into a different state or thing. As such, if the guideposts to patent eligibility change, the practitioner may be in a position to take advantage of the greater claim scope.

Conclusion

The *Bilski* decision did not provide fireworks, but it did provide guidance. By holding that the "machine-or-transformation" test articulated by the Federal Circuit is an "important clue" and "investigative tool" for deciding patent eligibility, the Supreme Court established the "machine-or-transformation" test as something close to a safe harbor of patent eligibility. In addition, by confirming the merit of its prior decisions in *Benson*, *Flook*, and *Diehr*, the Supreme Court confirmed that the existence of tangible/physical subject matter in patent claims assists in establishing patent eligibility. While providing guidance, however, the *Bilski* decision also left many issues unresolved. These issues are left for determination by patent examiners, district courts, and courts of appeal, frequently on a case-by-case basis, as the law continues to evolve with respect to method patents. ■

Endnotes

1. *See* Bilski v. Kappos, No. 08-964, 561 U.S. ____ (2010).
2. 409 U.S. 63, 67 (1972).
3. 437 U.S. 584 (1978).
4. 450 U.S. 175 (1981).
5. *See Bilski*, 561 U.S. ____, slip op. at 8.
6. *See id.* at 10.
7. 35 U.S.C. § 101 (emphasis added).
8. *See* Gottschalk v. Benson, 409 U.S. 63, 67 (1972) ("Phenomena of nature, thought just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work"); *see* Bilski v. Kappos, No. 08-964, 561 U.S. ____, slip op. at 5 (2010).
9. *See Bilski*, 561 U.S. ____, slip op. at 6.
10. *See id.* at 8.
11. *See id.* at 11.
12. See *id*. at 10.
13. See *id*. at 13.
14. 409 U.S. 63 (1972).
15. *See id*. at 70.
16. *Id.* at 72.
17. *See id.* at 67.
18 Gottschalk v. Benson, 409 U.S. 63, 72-73 (1972).
19. 437 U.S. 584 (1978).
20. *See id.* at 591.

21. 450 U.S. 175 (1981).

22. *See* Diamond v. Diehr, 450 U.S. 175, 192–93 (1981).

23. *See* Diamond v. Diehr, 450 U.S. 175, 187 (1981).

24. 545 F.3d 943 (Fed. Cir. 2008).

25. *See* Bilski v. Kappos, No. 08-964, 561 U.S. ____, slip op. at 16 (2010).

26. Interim Guidelines for Determining Patent Eligibility for Process Claims in View of *Bilski v. Kappos*, July 27, 2010 (*available at* http://www.gpo.gov/fdsys/pkg/FR-2010-07-27/pdf/2010-18424.pdf).