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DECEMBER 12, 2008

Bilski: The End of Mental Methods?

*by **Royal W. Craig**, **Jed R. Spencer**, **Christopher F. Lonegro**, and **Kyle E. Conklin***

- *The Federal Circuit rejects the current test for patentability of processes and adopts a narrower standard.*

- *Patent protection for business methods must somehow be tied to a machine or the true purpose of the method must transform an article or data to a different state or thing.*

In a recent appeal from a Board of Patent Appeals decision, the Federal Circuit affirmed the Board's rejection of a patent application's claims directed to a process for hedging risk in commodities markets because the claims were not patent-eligible under § 101. *In re Bilski*, No. 2007-1130, at 32 (Fed. Cir. Oct. 30, 2008).

This is significant because in its decision, the Federal Circuit rejected the broader *State Street-Alappat* test (i.e., a claim is patentable if it produces a useful, concrete, and tangible result) as the determinative test for patentability, and expressly recognized that its prior precedent relying on such analysis is now invalid. *Id.* at 23. Instead, the Federal Circuit reverted to the older, narrower, "machine-or-transformation" test in which the process must either be tied to a particular machine, or in some way transform an article or data. *Id.* at 15. In effect, the modern business method line of precedent has been wholly excised, and only time will tell what will grow back in its place.

Background

The original Patent Act (1793) as authored by Thomas Jefferson defined the scope of patentable subject matter as "any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement [thereof]." Act of Feb. 21, 1793, ch.11, §1, 1 Stat. 318. The early Supreme Court interpreted this to exclude laws of nature, physical phenomena, and abstract ideas, which were not eligible because they are discovered rather than invented. *Funk Seed Co. v. Kalo Co.* , 333 U.S. 127, 130, 76 USPQ 280, 281 (1948); *O'Reilly v. Morse*, 15 How. 61, 112-121 (1853); *Le Roy v. Tatham*, 14 How. 155, 175 (1852).

Lower courts took the position that "methods of doing business" were unpatentable abstract ideas. Thus, early cases such as *Hotel Security Checking Co. v. Lorraine Co.* , 160 F. 467 (2d Cir. 1908) (bookkeeping system to prevent embezzlement by waiters), and *Joseph E. Seagram & Sons v. Marzell*, 180 F.2d 26 (D.C. Cir. 1950) (blind testing whiskey blends for consumer preference) are credited for creating the original "business method exception" by which methods of doing business were deemed unpatentable.

The advent of software temporarily changed this trend. Early software was simple assembly language running on a processor, and early software patent cases viewed it as abstract math. Thus, in *Gottschalk v Benson*, 409 U.S. 63 (1972), the Supreme Court held that an algorithm to convert binary-coded decimal numbers into true

binary numbers was an abstract idea, and abstract ideas are not patentable. In *Parker v. Flook*, 437 U.S. 584 (1978), the Supreme Court held that a method for updating an alarm limit in a catalytic conversion process was not patentable.
However, software began to evolve and its complexity grew to include user-interfaces, networked applications, communication protocols, etc. By the late 1980s, many different types of software patent applications were being filed. The U.S. Supreme Court decisions in *Diamond v. Diehr*, 450 U.S. 175, 209 USPQ 1 (1981) and *Diamond v. Bradley*, 450 U.S. 381, 209 USPQ 97 (1981) changed the view that software was simple math, holding that that the execution of a process controlled by running a computer program was patentable. By 1989, the Patent Office was issuing patents for any new software so long as it was not based solely on a math algorithm. The open door spurred an increasing volume of applications. For example, 4569 software patents issued in 1994, 6142 in 1995, and 7000 in 1996.

Then came *State Street Bank v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998), 47 USPQ2d 1596: a Federal Circuit decision on a software-related patent that reached far beyond software. The patent claimed a data processing system for pooling mutual fund assets in a central "hub." The Massachusetts District Court had granted summary judgment of invalidity on two separate grounds: (1) the claims are merely an algorithm; (2) the claims fall into the business method exception. The Federal Circuit disagreed, distinguishing an algorithm from "the transformation of data . . . by a machine through a series of mathematical calculations into a final share price," and ruled that the latter constitutes a *practical application* of a mathematical algorithm, formula, or calculation because it produces "a useful, concrete and tangible result." In its next breath, the Federal Circuit obliterated the longstanding business method exception to patentability. Relying heavily on the sentiment that anything under the sun made by man is patentable, the court took "this opportunity to lay this ill-conceived exception to rest." *Id.* at 1375.

This opened the floodgates to over eight thousand business method applications in 2000, and the numbers have grown at 20% per year ever since.

The Bilski Case

The Bilski patent application is directed to a method of hedging the quantity risk inherent in certain commodities markets. Quantity risk is the risk that the future supply or demand for a given commodity will be higher or lower than predicted (as opposed to the price risk, which is the risk that the price at a future time will be higher or lower than expected.) Claim 1, which is representative, describes a method of hedging quantity risk by initiating a transaction between a commodity consumer and a commodity provider at a fixed rate, identifying another market participant having a counter risk position to the consumer, and initiating a transaction between the commodity producer and the other market participant, thus balancing the provider's risk in the position taken with the consumer. There is no mention of software or computers.

The patent examiner rejected the application because the invention was not implemented by a specific apparatus but instead merely manipulated an abstract idea to solve a purely mathematical problem without limitation to the practical application. Therefore, the examiner concluded, the invention was not directed at the technical arts and thus not patentable subject matter. The Board of Patent Appeals affirmed the Examiner's rejection.

Ultimately, the Board applied the (then current) PTO patentable subject matter guidelines, which state that to be patentable, an invention must fall within one of the 35 USC §101 categories: a process, machine, manufacture, or composition of matter. Further, under the guidelines, inventions that are practical applications of a law of nature, natural phenomena, or an abstract idea are patentable and can be identified as those inventions that physically transform an article into another state or thing or that produce a useful, concrete, and tangible result. However, a practical application of a law of nature, natural phenomena, or abstract idea is not patentable if it preempts every substantial practical application of that law of nature, natural phenomena, or abstract idea.

Applying these criteria to the Bilski application, the Board first determined that there is no distinct test as to the applicability of an invention to the technical arts, reversing the examiner's rejection to the extent that it relied on this language. The

Board then concluded that a method is not unpatentable simply because it can be performed in the absence of a machine if there is a transformation of physical subject matter from one state to another. The Board next looked to determined if such a transformation occurred under the Bilski method, concluding that the only transformation that occurred was of the non-physical financial risks and legal liabilities of the participants and that the claims were thus non-statutory under this test. The Board also determined that the claims constituted an abstract idea devoid of practical implementation and failed to produce a concrete and tangible result and were thus non-statutory on this basis as well. Bilski appealed the Board's negative decision to the Court of Appeals for the Federal Circuit, which affirmed the Board's decision, but changed the underlying patentability test. Regarding the application's claims, the Federal Circuit held that the claims were ineligible for patent protection because they did not transform any physical object or substance — manipulating legal obligations and business risks is not a patentable transformation. No. 2007-1130, at 28 (Fed. Cir. Oct. 30, 2008). The Federal Circuit noted that the claims were directed to the "mental and mathematical process of identifying transactions that would hedge risk," and the physical step of consummating these transactions did not render the claims patentable. Id. at 30.

What this means for business method patents

Under the current Federal Circuit's machine-or-transformation test, to be eligible for protection under § 101, a business method or process must now be "tied to a particular machine or apparatus," or the process must transform a particular article into a different state or thing. *In re Bilski,* No. 2007-1130, at 10. The machine-or-transformation claim limitation must be meaningful, and such limitation must not be insignificant extra-solution activity. *Id.* at 24. Accordingly, the transformation must be closely related to the purpose of the claim. Thus, a process for a chemical or physical transformation of physical objects or substances is patent-eligible subject matter. Merely gathering data is not. Using the data to create something may be, but the Federal Circuit has left the detailed application for another day. The Federal Circuit also declined to elaborate on the machine implementation prong and on when the use of a computer satisfies this prong because the Bilski claims didn't involve machine implementation. Id. at 24.

For pending business method applications, the future is not so clear; it remains to be seen how the PTO will apply the Federal Circuit's new standard. At the very least, examiners will be applying greater scrutiny to determine whether and how the method transforms an article and whether that transformation is closely related to the purpose(s) of the claims.

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