

State Street Revisited

A Funny Thing Happened to the Business Method Patent on the Way to the U.S. PTO

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In *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*,¹ the United States Court of Appeals for the Federal Circuit ("CAFC") affirmed that business methods were patentable subject matter under 35 U.S.C. § 101² and are therefore eligible to receive a United States patent.³ *State Street* is often regarded as confirming, once and for all, that under the law of the United States almost any man-made thing is eligible for patent protection. Recently, in *Amazon.com, Inc. v. BarnesandNoble.com, Inc.*,⁴ the CAFC clarified the process by which business method patents and applications should be evaluated for patentability under U.S. patent law.

I. *State Street* (or The Flood Gates Have Opened)

Although the *State Street* decision is often credited with opening (or at least widening) the door to new areas of patentable subject matter, several key Supreme Court decisions formed a critical foundation for *State Street*. More specifically, one of the key precursors to *State Street* was *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). In *Chakrabarty*, the U.S. Supreme Court determined that a microbiologist was entitled to a patent on a genetically engineered bacterium that could digest components of crude oil. The patent application was initially rejected by the U. S. Patent and Trademark Office ("PTO") because living things were not considered patentable subject matter under 35 U.S.C. § 101. Justice Burger, speaking for the five-justice majority, noted that "[t]he laws of nature, physical phenomena, and abstract ideas have been held not patentable. Thus, a new mineral discovered in the earth or a new plant found in the wild is not patentable. Likewise, Einstein could not patent his celebrated law that $E = mc^2$; nor could Newton have patented the law of gravity." *Id.* (citations omitted). The Court, however, sustained the patent reasoning that the microorganism was not a product of nature, but rather was "a product of human ingenuity." *Id.* It was this very basic, but important reasoning which foreshadowed current judicial thinking regarding the patentability of business methods.

Another key decision which helped set the stage for *State Street* was *Diamond v. Diehr*, 450 U.S. 175 (1981).

Diehr involved the patenting of a computer-controlled synthetic rubber curing process. The patent claimed, for example, "repetitively calculating in the computer, at frequent intervals during each cure, the Arrhenius equation for reaction time during the cure, which is ' $\ln v = CZ + x$ '." *Id.* at 181 n.5.⁵ The PTO had rejected the claim because the Arrhenius equation, like all other mathematical equations, was considered to be an equivalent to a law of nature and therefore could not be the subject of a patent. Justice Rehnquist, writing for the majority, reasoned that:

[T]he [applicants] here do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of curing synthetic rubber. Their process admittedly employs a well-known mathematical equation, but they do not seek to preempt the use of that equation. Rather, they seek only to foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process. *Id.* at 187.

Justice Rehnquist further wrote "that a claim drawn to subject matter otherwise statutory [under 35 U.S.C. § 101] does not become non-statutory simply because it uses a mathematical formula, computer program, or digital computer." *Id.*

In *State Street*, the patented business system at issue involved a "Hub and Spoke" financial model that uses specialized computer software to enable mutual funds to

pool their assets in order to get (1) the advantage of large-scale economics and leverage, and (2) the tax benefits of being organized as a partnership. The CAFC specifically held that a computer-implemented financial system (i.e., a method of doing business) was appropriate statutory subject matter. While *State Street* is often, and correctly, identified as confirming the patentability of business methods, the decision also further confirms the potential patent protection for computer software inventions. See *State Street*, 149 F.3d at 1375 ("For purposes of our analysis,... claim 1 [of the patent] is directed to a machine programmed with the Hub and Spoke software and admittedly produces a 'useful, concrete, and tangible result.' This renders it statutory matter....") (citation omitted, italics added). With some notable exceptions (i.e., laws of nature, natural phenomena and abstract ideas),⁶ *State Street* and its predecessors arguably have made "anything under the sun that is made by man" eligible subject matter for a U.S. patent. Five days after, and in reference to, the decision in *State Street*, Judge Clevenger of the CAFC stated that "virtually anything is patentable."⁷ The U.S. Supreme Court has declined to review *State Street*.

There has been some criticism of the *State Street* decision. For example, a November 2000 American Intellectual Property Law Association ("AIPLA") White Paper cites several critics who offer a variety of anti-business method patent arguments, including that the patent term is overly long for these type of patents and that most are obvious in light of prior art.⁸ In response to those concerns and criticisms, the American Intellectual Property Law Association (AIPLA) recommends that business methods with useful, concrete, or tangible results, including Internet and software implemented business methods, should receive the same treatment under the patent laws as other technologies. *Id.* at 1.

The Intellectual Property Owners Association ("IPO") offers a similar sentiment regarding criticism of business method patents. According to Ronald E. Myrick, President of the IPO, "[t]he central point of the unanimous IPO Board statement is that Congress should not legislate in the area of business method patents at the present time. . . . Patents for business methods should have the same scope of protection as patents granted for other inventions."⁹

Despite certain criticism, however, there has been a subsequent and dramatic increase in the number of business method related patent applications submitted to the PTO. For example, there has been an eight-fold increase in business method patent applications between 1997 and 2000, and a nearly three-fold increase between 1999 and 2000.¹⁰

II. The Progeny (or When it Rains, It Pours)

To date, there has been one significant CAFC case that has directly addressed the holding of *State Street*. In *AT&T Corp. v. Excel Communications, Inc.*, the CAFC refined its *State Street* holding.¹¹ In *AT&T*, the business method at

issue involved a process for adding a data field into telephone billing records that identifies the long-distance telephone service carrier of the person receiving a long-distance call. This information enables long distance service providers to offer differential (i.e., lower or preferred) billing rates when both parties to a long distance call have the same long-distance carrier. It would thus encourage people who make frequent long distance calls to one another to use the same carrier.

The CAFC made three important points in its decision. First, the Court affirmed that algorithms, otherwise unpatentable, could be patented provided they are applied in a useful way or tied to "a useful, concrete and tangible result."¹² Second, "the court eliminated any distinctions between processes and machines for determining compliance with 35 U.S.C. § 101."¹³ Finally, the court made clear that there is no absolute "physical transformation" requirement for an algorithm to be patentable subject matter.¹⁴

The *AT&T* decision does not limit the holding of *State Street*. If anything, it has clarified and, to some extent, expanded the scope of what can be considered a business method. In conjunction with *State Street*, *AT&T* has somewhat eased the potential administrative obstacles for obtaining a business method (or software) patent by making it much easier to successfully traverse a rejection under 35 U.S.C. § 101. In the litigation context, *State Street* and *AT&T*, may make it more difficult to dispute the subject matter eligibility of a business method patent under 35 U.S.C. § 101. As the number of business method patents increases, however, so does the overall amount of litigation regardless of whether one particular aspect of litigation may decrease.

III. Limitations on *State Street* (or It had to Stop Somewhere)

After *State Street* and *AT&T*, there seems to be relatively little non-patentable subject matter under U.S. patent law. The excitement (or fear, depending on one's viewpoint) over the seemingly unbridled expansion of the bounds of 35 U.S.C. § 101 has been tempered as of late, however, with the lifting of the preliminary injunction order in *Amazon.com, Inc. v. BarnesandNoble.com, Inc.*¹⁵

At issue in the case is Amazon.com's U.S. Patent No. 5,960,411 (the "'411 patent") for a "one-click" Internet shopping method. The "one click" shopping methods relates to Internet or on-line shopping. The "one-click" method allows a shopper to purchase, pay for, and designate delivery method and destination using only a single action (i.e., by pressing the button of a computer mouse only once) because the billing and shipping information has been previously stored on the seller's server. Traditional methods (known as "shopping cart" models) may require considerably more time and multiple mouse and/or key stroke actions to purchase an item. Amazon.com had filed suit in district court against BarnesandNoble.com for willful

infringement, among other things, and had won a preliminary injunction¹⁶ preventing BarnesandNoble.com's use of an allegedly infringing "one-click" ordering system.¹⁷

In February 2001, the CAFC set aside the preliminary injunction issued by the district court. In doing so, the CAFC clearly delineated a process by which business method patents and applications should be evaluated for validity.¹⁸ The Court confirmed that "Amazon[.com] has made the showing that it is likely to succeed at trial on the infringement case."¹⁹ The CAFC went on to find, however, that the district court who had issued the injunction had "fail[ed] to recognize that [BarnesandNoble.com] had raised a substantial question of invalidity of the asserted claims in view of the prior art references."²⁰ In short, therefore, the CAFC seemed to have little doubt the patent claims were infringed, but vacated the injunction because the CAFC questioned whether the patent should have ever issued in view of the prior art.

Subject matter eligibility was not at issue in *Amazon.com*; namely, the CAFC's focus was not whether the '411 patent was directed to eligible subject matter under 35 U.S.C. § 101. Rather, the Court evaluated the patent under the novelty (35 U.S.C. § 102) and non-obviousness (35 U.S.C. § 103) provisions of the U.S. patent statute. By not focusing on eligibility under section 101, the CAFC in *Amazon.com* seemingly suggests that the proper inquiry as to the validity of business method patents should be the other provisions of the patent statute (e.g., sections 102 and 103). That the CAFC did not question the subject matter eligibility of Amazon.com's patent perhaps indicates that "at least as far as the Federal Circuit is concerned, the innate patentability of subject matter of this type is non-issue, and that such subject matter should be treated as any other subject matter [sh]ould be."²¹

Amazon.com does not provide a new evaluative framework for business method patents; it instead focuses attention on the framework that has existed within the PTO since February 1996 and that was subsequently embraced by the CAFC in *State Street*. For example, the 1996 revision to the Manual of Patent Examining Procedures ("MPEP") removed an express prohibition against business method patents because they were not statutory subject matter. *State Street*, 149 F.3d at 1377.²² Also, the PTO has recently begun an effort for more intensive prior art,

novelty and non-obviousness evaluations of business method patents. The validity of business method patents does not currently appear to involve a significant evaluation of subject matter eligibility within the PTO.²³ It is, however, the subject of debate as to the PTO should hold business methods to a higher level of scrutiny under, for example, 35 U.S.C. §§ 102, 103 and 112, than other types of statutory subject matter. *Id.* at 37.

Considering the CAFC's statement in *State Street* that "[w]hether the [business method] patent's claims are too broad is not to be judged under section 101, but rather under sections 102,²⁴ 103²⁵ and 112,²⁶" the validity evaluation in *Amazon.com* should not be overly surprising. *Id.*

Moreover, in November 2001, the Japanese Patent Office ("JPO") notified both Amazon.com and Signature Financial Group (the patent holder in *State Street*) that it planned to reject both companies' Japanese patent applications. "In both cases, the [JPO] found 'prior art' - evidence that others had the idea first. ... We decided that the technology could be easily invented from [the] prior art."²⁷ Two salient points should be noted. First, the applications were not, apparently, rejected in Japan for being non-eligible subject matter. Second, the rejections are based on the Japanese equivalents of 35 U.S.C. §§ 102 and 103. It appears, therefore, that the JPO has used an approach similar to the one adopted by the CAFC for evaluating business method patents.

IV. Conclusion

State Street has "open[ed] the floodgates of patent filings and litigation²⁸ in the business method area. . . ."²⁹ While nearly three years after *State Street*, "anything under the sun that is made by man" is arguably eligible subject matter, it now appears that limitations on business method patents will focus on compliance with other sections of the U.S. patent statutes, including sections 102, 103 and 112. This evaluative approach toward business methods appears to be the natural progression followed by other emerging technologies and their relationship with the U.S. patent laws.³⁰

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1. 149 F.3d 1368 (Fed. Cir. 1998).

2. 35 U.S.C. § 101 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 therefor, subject to the conditions and requirements of this title."

3. *Id.* at 1375 ("[B]usiness methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method.").

4. 239 F.3d 1343 (Fed. Cir. 2001).

5. The Arrhenius equation is a well-known chemical equation that correlates the cure time (v), cure temperature (Z) and activation constant (C) for a particular batch of rubber during a curing process.

6. *Diamond v. Diehr*, 450 U.S. at 185.

7. *Hughes Aircraft Co. v. United States*, 148 F.3d 1384, 1385 (Fed. Cir. 1998). In *Hughes Aircraft*, the CAFC denied an in

- banc rehearing petition regarding the scope and application of the "Doctrine of Equivalents" to claims that are amended during the patent application process. Judge Clevenger, joined by Judge Gajarsa, made this remark in dissent.
8. *AIPLA White Paper, Patenting Business Methods*, 5-6, available at <http://www.aipla.org/html/whitepaper2.html> (November 27, 2000) (citations omitted).
 9. *Business Method Patents: Oversight Hearings Before the House Judiciary Subcommittee on Courts, the Internet, and Intellectual Property*, 107th Cong., available at http://www.house.gov/judiciary/myrick_040401.htm and <http://www.ipo.org/BusinessMethodTestimony.htm> (April 4, 2001) (Statement of Ronald E. Myrick, President of the IPO).
 10. These figures are based on applications to PTO technology class 705. Class 705 is the primary, but not only, technology classification for business method patent applications. See Jeffrey A. Berkowitz, et al., *Business Methods Patent Practice Workshop*, 1-9 n.17, Patent Resource Group (2001) (hereinafter "Business Methods Workshop").
 11. 172 F.3d 1352 (Fed. Cir. 1999).
 12. *Id.* at 1357 (citing *State Street*, 149 F.3d at 1373).
 13. *Business Methods Workshop*, at 2-23 (citing *AT&T* at 1357 ("Whether stated implicitly or explicitly, we [the CAFC] consider the scope of [35 U.S.C.] § 101 to be the same regardless of the form-machine or process-in which a particular claim is drafted.")).
 14. *AT&T*, 172 F.3d at 1358 ("[A physical transformation] is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application."). A physical transformation requirement would necessitate that a mathematical algorithm be tied to the conversion of the patent's subject matter from one state into another.
 15. 239 F.3d 1343 (Fed. Cir. 2001).
 16. In order to get a preliminary injunction the moving party is required to show: "(1) a reasonable likelihood of success on the merits; (2) irreparable harm if an injunction is not granted; (3) a balance of hardships tipping in its favor; and (4) the injunction's favorable impact on the public interest." *Amazon.com*, 239 F.3d at 1350.
 17. *Amazon.com* and *BarnesandNoble.com* are competing high-profile on-line book and music retailers. When *Amazon.com* obtained the preliminary injunction (which was in place from December 1, 1999 until February 14, 2001), it "effectively stopp[ed] *BarnesandNoble.com* from using the one-click methodology during the 1999 holiday season (and, as it turned out, through the 2000 holiday season as well)." Scott M. Alter, *The Effect of the "One-Click" Patent and Reversal of the Amazon.com Decision: What Does it Mean for "Business Method" Patents?*, 8 *Intellectual Property Today*, 36 (April 2001) (hereinafter "Alter article").
 18. It should be noted that while *Amazon.com* discusses the proper evaluative process that should be applied to the consideration of the patentability of a business method patent, the decision never mentions, addresses or cites *State Street*.
 19. *Amazon.com*, 239 F.3d at 1358.
 20. *Id.* at 1359.
 21. *Alter article*, 8 *INTELLECTUAL PROPERTY TODAY* at 37.
 22. As was pointed out in *State Street*, "[t]he business method exception has never been invoked by [the CAFC], or the CCPA, to deem an invention unpatentable." *Id.* at 1375. Further, the 1996 Examination Guidelines for Computer Related Inventions stated: "...Claims should not be categorized as methods of doing business. Instead such claims should be treated like any other process claims." *Id.* at 1377.
 23. See *Alderman paper*, at 37, n. 22 (discussing the PTO White Paper entitled: *Automated Financial Or Management Data Processing Methods (Business Methods)*, at <http://www.uspto.gov/web/menu/busmethp/index.html>).
 24. 35 U.S.C. § 102 is the novelty provision of the U.S. patent law. Section 102 provides in pertinent part that "[a] person shall be entitled to a patent unless-
 - (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
 - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
 - (c) he has abandoned the invention, or
 - (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States. ..." (Sections (e), (f) and (g) have been omitted).
 25. 35 U.S.C. § 103 is the non-obviousness provision of the U.S. patent law. According to Section 103(a), "[a] patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."
 26. 35 U.S.C. 6 112 contains the specification requirements of the U.S. patent law. In pertinent part, § 112 requires that:
 - "[¶ 1] [t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention:
 - "[¶ 2] The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
 - "[¶ 3] A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.
 - "[¶ 6] An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." (Paragraphs four and five have been omitted).
 27. Stephen Lawson, *The Standard.com: Japan Set to Reject Amazon Patent*, at <http://biz.yahoo.com/st/010514/24439.html> (May 14, 2001) (quoting Kenichiro Natsumi, deputy director of the JPO's Technology Research Division).
 28. As of December 13, 2000, there have been at least 41 business method patent cases initiated since *State Street*. *Business Methods Workshop*, at 9-2 through 9-4.
 29. *Alter article*, 8 *INTELLECTUAL PROPERTY TODAY* at 36.
 30. *Alter article*, 8 *INTELLECTUAL PROPERTY TODAY* at 37-8 (stating that [t]his [phenomenon occurred when, for example, people were first obtaining patents in both the software and biotech areas.]). The phenomenon was also identified as being part of the progressive interrelationship between law and technology. *AT&T*, 172 F.3d at 1356, n.2.