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What the General Intellectual Property Practitioner Should Know about Patenting Business Methods

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I. Introduction

In the last couple of years, companies have been filing a phenomenal volume of patent applications with the U.S. Patent & Trademark Office (PTO), and the PTO has been issuing a patents in record numbers. During fiscal 1998, the PTO processed an estimated 203,000 patent applications, and issued a record 154,579 new patents.[1] This recent rise in patent applications can be attributed in part to three factors: the Federal Circuit's July 1998 decision in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*;[2] the rise of the Internet; and greater patent savviness among companies.

The *State Street* case afforded the Federal Circuit the occasion, in declaring the patentability of Signature Financial Group's "hub and spoke" method and system for managing mutual funds, to narrow the scope of the prohibition on patenting "mathematical algorithms" and to lay permanently to rest the already moribund prohibition on patenting "methods of doing business." Although many patents had issued covering methods of doing business before the *State Street* decision, that decision greatly increased the awareness of the possibility of patenting methods of doing business or "business models." This new awareness, coupled with the meteoric rise of the Internet in the last few years and the new business models that it has engendered, has led to a rising tsunami of patent applications seeking to cover new business paradigms and methods. Because most modern business models are implemented and managed through software systems, there has been a corresponding rise in the filing of so-called "software patents." Indeed, the patent at issue in *State Street* was a software-based method and system for managing mutual funds.

In the months since the *State Street* decision was handed down on July 23, 1998, the effect of that decision on the numbers and types of patent applications filed has been both swift and palpable. The Acting Commissioner of the PTO, Q. Todd Dickinson, stated recently that in the past year the number of applications with claims similar to those at issue in State Street increased over 40 percent. He also reported that during fiscal year 1998, the PTO expected to issue over 300 "business method" type software patents.[3] Indeed, the number of issued software patents in general has skyrocketed. Software patents are examined in the PTO's data processing and computers and communications group. That group had the largest increase in issued patents last year, up 40% to 22,930 issued patents. "Internet"

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1 Brenda Sandburg, "Speed Over Substance?", *The Recorder* (Feb. 2, 1999) 1, 1.

2 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 119 S. Ct. 851 (1999).

3 Sandburg, *supra* note 1, at 14.

patents also escalated from nine issued in fiscal 1991 to 1,595 in fiscal 1998.[4] In 1998 alone, there was an increase of more than 500% in the number of Internet-related patents over 1997.[5]

Although patents are generally a more expensive form of intellectual property protection than copyrights and trade secrets, patents afford a much stronger legal monopoly to the rights holder. In particular, independent development, which is a defense to both copyright and trade secret infringement, is not a defense to patent infringement. And patented technology may not be lawfully appropriated through legitimate reverse engineering, as trade secret protected technology may be. Patents have also become increasingly attractive as a means to protect software-related inventions in addition to copyrights in view of the facts that (i) copyright protection for software, especially computer program user interfaces, has contracted over the last few years,[6] and (ii) a copyright cannot protect the functions *per se* that are implemented by the software,[7] whereas a patent can.

From a business perspective, there are at least three reasons to seek patents:

1. Offensive Reasons. Patents may be used "offensively" to protect one's technology or markets. A patent grants the holder the right to exclude others from making, using, selling, or offering to sell the patented invention.[8] A patent holder may therefore use its patents offensively either to stop others by injunction[9] from practicing its patented invention and reserve the market for the patented invention exclusively unto itself, or to "tax" its competitors who practice the invention by granting a license in return for some form of compensation.

4 *Id.* In conjunction with the increase in applications, the PTO added 725 new examiners last year, bringing the total staff of examiners to 2,594. The PTO plans to add another 1,200 examiners in the next two years. *Id.* Twenty new examiners were recently hired for the division responsible for reviewing most electronic commerce patents. Theresa Riordan, "New Technology Revives Old Debate," *New York Times* on the Web (Jan. 4, 1999).

5 James Evans, "Pushing for 'Net Monopolies: Patenting How Cyberspace Works Leads to 'Gold Rush,' Straining PTO," *San Francisco Daily Journal* (Jan. 27, 1999) 1, 1. According to a search of the PTO's patent database based on the keyword "Internet," 509 patents were granted in 1998, whereas only 90 such patents were issued in 1997. In 1996, there were 38 such patents, and in 1995 there were 18. *Id.*

6 *See generally* David Hayes, "A Comprehensive Current Analysis of Software 'Look and Feel' Protection," *1997 Intellectual Property Update* (J. Wiley & Sons, Inc., 1997).

7 "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b).

8 35 U.S.C. § 271(a).

9 *Id.* § 283.

2. Defensive Reasons. Patents may also be used "defensively" against others who hold patents in a number of ways. For example, in the event a plaintiff asserts a patent infringement claim against a company, that company may gain a stronger position in the dispute if it is able to assert some patents of its own back against the plaintiff. Alternatively, such patents may be traded as a "bargaining chip" in some form of cross license to settle the dispute (or to avoid a dispute in the first instance), or to reduce the amount the defendant has to pay the plaintiff to induce a settlement. In addition, obtaining patents on a company's product may make a potential competitor more reticent to copy the product, or at least certain features of the product, that may afford a competitive advantage.

3. Market Reasons. Finally, there are various market reasons that patents may be advantageous to obtain. For example, being able to state in marketing and promotional literature or advertising that a product is patented may increase the perception in the customer's mind that the product is particularly innovative or cutting edge, and therefore perhaps more desirable than a competing product. A good patent portfolio can affect the market valuation of a company. For example, the stock of Open Market, Inc. leapt to new records on the news that the PTO had granted it three patents relating to secure online credit card payments.[10] Patent protection is increasingly a factor considered by investors such as venture capitalists in deciding whether to invest in a company, especially in the early stages. Cross licenses of patent portfolios with a competitor may give a company "design freedom" that enables it to design its products with less fear of patent infringement issues, thereby enhancing its market strength or position.

Part II of this article discusses the jurisprudence relating to the patentability of mathematical algorithms and methods of doing business leading up to the *State Street* decision, and analyzes in detail the rulings of the *State Street* decision and a more recent decision of the Federal Circuit following *State Street*. Part III then sets forth a synopsis of a number of "business method" patents that have been issued by the PTO (especially within the last year) in a number of industries, particularly the financial, Internet and e-commerce industries, and notes some of the more significant litigation or enforcement efforts that have been generated with respect to some of the more famous (or infamous) of these patents.

10 Rex Crum, "Open Market, Inc. will not pursue patent cases—yet," Business Dateline; *Boston Business Journal*, Vol. 18, No. 4, Mar. 6, 1998; "Open Market Snags Patents; Rivals Unfazed," *Internet World*, Mar. 9, 1998.

II. The State Street Decision and Its Impact

Section 101 of the patent statute defines patentable subject matter as follows: "Whoever 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."[11] Although this language is quite broad, the courts have developed a number of doctrines that limit the scope of what is potentially patentable. Two of the most difficult of these doctrines that developed over the years—both of which were at issue in the State Street case—were the "mathematical algorithm" and the "business method" exceptions to patentable subject matter.

A. History of the Mathematical Algorithm Exception

The mathematical algorithm exception has been particularly troublesome with respect to software patents, and the PTO has in the past used this doctrine to reject many software patent applications on subject matter grounds. The mathematical algorithm exception was first addressed by the Supreme Court in its 1972 decision in *Gottschalk v. Benson*,[12] which held unpatentable a method for converting binary coded decimal numbers into binary numbers. The Court concluded that the recited process was too abstract, and identified "transformation" of material to a different state as the "clue to patentability" for a process that does not include a particular machine.[13]

Six years later, in *Parker v. Flook*,[14] the Supreme Court held unpatentable a method of updating alarm limits in a chemical refining process, where the limits were computed using specific mathematical equations. The Court defined an approach to determining whether patentable subject matter is present in an invention that involves a mathematical algorithm. Specifically, the Court held that the claims should be reviewed without the mathematical algorithm or formula to determine whether patentable subject matter remains.[15]

Flook led to a series of inconsistent cases attempting to apply its approach. In a string of decisions between 1978 and 1982, the Court of Customs & Patent Appeals (the predecessor to the Federal Circuit) elaborated a test for determining whether patentable subject matter is present in an invention involving a mathematical algorithm. This test, which became known as the "Freeman-Walter-Abele" test (the FWA test) after the three decisions that developed it,[16] was articulated as follows:

11 35 U.S.C. § 101.

12 409 U.S. 63 (1972).

13 *Id.* at 70.

14 437 U.S. 584 (1978).

15 *Id.* at 591-92.

16 *In re Freeman*, 573 F.2d 1237 (C.C.P.A. 1978); *In re Walter*, 618 F.2d 758 (C.C.P.A. 1980); *In re Abele*, 684 F.2d 902 (C.C.P.A. 1982).

> First, the claim is analyzed to determine whether a mathematical algorithm is directly or indirectly recited. Next, if a mathematical algorithm is found, the claim as a whole is further analyzed to determine whether the algorithm is "applied in any manner to physical elements or process steps," and if it is, it "passes muster under § 101."[17]

While the FWA test was being developed, the Supreme Court in 1981 decided the very well known case of *Diamond v. Diehr*,[18] which held patentable a computer controlled method of curing rubber that involved monitoring the curing process using a well known equation based on mold temperature. The Court stated, "[A] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program or digital computer."[19] The Court emphasized that the claim as a whole, including the mathematical formula, must be considered when determining patentable subject matter. In an important ruling, the Court generalized the categories of nonpatentable subject matter as follows: "Excluded from such patent protection are the laws of nature, physical phenomena and abstract ideas."[20] The court thus signaled that the scope of patentable subject matter is very broad, and the mere fact that a mathematical algorithm or formula is part of an invention should not disqualify that invention from patenting unless the claims sought are directed solely to an abstract idea.

After several years of confusing application of the FWA test in the courts, in 1994 the Federal Circuit began to initiate the end of the FWA test. In *In re Alappat*,[21] the court held patentable an invention directed toward producing a smooth waveform display on a rasterizer monitor using a series of mathematical calculations. The court concluded that the invention constituted a patentable practical application of an abstract idea (a mathematical algorithm, formula, or calculation) because it produced "a useful, concrete and tangible result"[22]—the smooth waveform.

In response to the Federal Circuit's continued emphasis on the patentability of software and computer related inventions, in 1996 the PTO issued its "Examination Guidelines for Computer Related Inventions" (the "Computer Guidelines").[23] The Computer Guidelines

17 *In re Pardo*, 684 F.2d 912, 915 (C.C.P.A. 1982) (citing *In re Abele*, 684 F.2d 902 (C.C.P.A. 1982)). In a very short period of time after the FWA test was first articulated, the C.C.P.A. attempted to "clarify" that the FWA test was not the exclusive test for detecting unpatentable subject matter. *In re Meyer*, 688 F.2d 789, 796 (C.C.P.A. 1982).

18 450 U.S. 175 (1981).

19 *Id.* at 187.

20 *Id.* at 185.

21 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

22 *Id.* at 1544.

23 61 Fed. Reg. 7478-7492 (Feb. 28, 1996).

articulate a complex procedure in which claims are first classified into various categories, then analyzed for patentability based on a number of different tests. The Computer Guidelines establish a number of "safe harbors" of patentable subject matter for computer related inventions that require either (i) physical acts manipulating tangible objects to be performed outside the computer or (ii) measurements or data about physical objects to be transformed into computer data and manipulated.

B. The State Street Ruling on Mathematical Algorithms

At issue in the *State Street* case was a patent directed to a data processing system for implementing an investment structure identified by the proprietary name "Hub and Spoke," in which mutual funds (Spokes) pool their assets in an investment portfolio (Hub) organized as a partnership. This investment structure was designed to provide the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.[24]

The patented system allowed an administrator to monitor and record the financial information flow and make all calculations necessary for maintaining a partner fund financial services configuration. In particular, the system provided means for a daily allocation of assets for two or more Spokes that are invested in the same Hub. It determined the percentage share that each Spoke maintained in the Hub, while taking into consideration daily changes both in the value of the Hub's investment securities and in the concomitant amount of each Spoke's assets. In determining daily changes, the system allowed for the allocation among the Spokes of the Hub's daily income, expenses, and net realized and unrealized gain or loss, calculating each day's total investments based on the concept of a book capital account. This method enabled the determination of a true asset value of each Spoke and accurate calculation of allocation ratios between or among the Spokes. The system also tracked all the relevant data determined on a daily basis for the Hub and each Spoke, so that aggregate year end income, expenses, and capital gain or loss could be determined for accounting and for tax purposes for the Hub and, as a result, for each publicly traded Spoke. [25]

The district court determined that the patent was invalid because the claims fell into both the "mathematical algorithm" and the "business method" exceptions to patentable subject matter. On appeal, the Federal Circuit reversed. The Federal Circuit began its analysis by quoting the Supreme Court's Diehr holding that there are only three general categories of unpatentable subject matter—"laws of nature, natural phenomena, and abstract ideas."[26] The court announced a new test of statutory subject matter for inventions including mathematical algorithms:

24 *State Street*, 149 F.3d at 1370.

25 *Id.* at 1371.

26 *Diehr*, 450 U.S. at 185.

> Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not "useful." From a practical standpoint, this means that to be patentable an algorithm must be applied in a "useful" way.[27]

In perhaps the most significant portion of its decision, the court held that transformation of data could be a sufficient practical application of an algorithm to qualify for patenting:

> Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.[28]

Thus, the court ruled that transformations achieved by the application of an algorithm need not be limited to changes in physical matter in order to qualify the invention employing the algorithm as patentable subject matter. The court stated that "the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not product a 'useful, concrete and tangible result.'"[29] The requirement that the "useful" result of the algorithm be "concrete and tangible" was apparently satisfied by the fact that the share price of one of the Spoke funds was "momentarily fixed for recording and reporting purposes."[30]

Finally, the court expressly disavowed the FWA test, concluding that the FWA test "has little, if any, applicability to determining the presence of statutory subject matter."[31]

Interestingly, although the court mentioned in passing in a footnote the PTO's Computer Guidelines,[32] the court did not endorse the approach taken by the Computer Guidelines, and, indeed, appears implicitly to have rejected the approach of determining patentability by first making a determination of which category the claims of a patent fall into: "The question of whether a claim encompasses statutory subject matter should not focus on

27 *State Street*, 149 F.3d at 1373.

28 *Id.*

29 *Id.* at 1374.

30 *Id.* at 1373.

31 *Id.* at 1374.

32 *Id.* at 1375 n.8.

which of the four categories of subject matter a claim is directed to—process, machine, manufacture, or composition of matter—but rather on the essential characteristics of the subject matter, in particular, its practical utility."[33]

C. The State Street Ruling on Methods of Doing Business

The second basis on which the district court invalidated the patent at issue in *State Street* was on the "business methods" exception to patentable subject matter. In the second sentence of the portion of its opinion dealing with this ruling by the district court, the Federal Circuit stated that "[w]e take this opportunity to lay this ill-conceived exception to rest."[34] The court noted that the business method exception had never had firm legal standing to begin with, for it had "never been invoked by this court, or the CCPA, to deem an invention unpatentable. Application of this particular exception has always been preceded by a ruling based on some clearer concept of Title 35 or, more commonly, application of the abstract idea exception based on finding a mathematical algorithm."[35] Accordingly, the court concluded that [w]hether claims are directed to subject matter within § 101 should not turn on whether the claimed subject matter does 'business' instead of something else."[36]

Even before *State Street*, the PTO had itself decided to abandon rejecting patent applications on grounds that they were directed to methods of doing business. In particular, the Computer Guidelines stated: "Office personnel have had difficulty in properly treating claims directed to methods of doing business. Claims should not be categorized as methods of doing business. Instead such claims should be treated like any other process claims."[37] In conjunction with issuance of the Computer Guidelines, the PTO also deleted from the *Manual of Patent Examining Procedures* a paragraph stating that a method of doing business can be rejected as not being within the statutory classes.[38]

In sum, the "business methods" exception has now been removed by both the courts and the PTO as a potential hurdle to obtaining a patent.

33 Id. at 1375.

34 *Id.*

35 *Id.* The court noted that even the case frequently cited as establishing the business method exception to statutory subject matter, *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908), did not rely on the exception to strike the patent. In that case, the patent was found invalid for lack of novelty and invention, not because it was improper subject matter for a patent. *State Street*, 149 F.3d at 1376.

36 *Id.* at 1377.

37 61 Fed. Reg. 7478, 7479 (Feb. 28, 1996).

38 The deleted paragraph was a former paragraph of § 706.03(a) of the pre-1996 version of the *Manual of Patent Examining Procedures*.

D. State Street's Progeny—The Excel Communications Case

In April of 1999, the Federal Circuit took the opportunity to follow and strengthen the reasoning of the *State Street* case, overturning a district court's ruling that a patent was directed to an unpatentable mathematical algorithm. In *AT&T Corp. v. Excel Communications, Inc.*,[39] AT&T was the holder of a patent on a method for adding an indicator to a message record used for long-distance telephone call billing. When a caller makes a direct dialed long distance call, an "automatic message account" (AMA) message record relating to that call is generated by the telephone switch, which contains fields of information such as the originating and terminating telephone numbers and the length of time of the call.[40]

AT&T's patent related to the addition of a data field into the AMA message record to indicate whether a call involves a particular primary interexchange carrier (PIC) handling a long distance call through its switching facilities. The PIC indicator can exist in several forms, such as a code which identifies the call recipient's PIC, a flag which shows that the recipient's PIC is or is not a particular PIC, or a flag that identifies the recipient's and the caller's PICs as being the same. The PIC therefore enables interexchange carriers to provide differential billing for calls on the basis of the identified PIC.[41]

The method claims asserted by AT&T against Excel Communications included the step of "generating a message record for an interexchange call between an originating subscriber and a terminating subscriber" and the step of adding a PIC indicator to the message record having a value determined in one of various ways.[42] The district court concluded that the method claims of the patent implicitly recited a mathematical algorithm, and that, although the claims required the use of switches and computers, the use of such facilities to perform a non-substantive change in the PIC data's format could not serve to convert non-patentable subject matter into patentable subject matter.[43]

On appeal, the Federal Circuit reversed. As in the State Street case, the Federal Circuit began its analysis of the mathematical algorithm issue by noting that, under *Diehr*, there are only three categories of unpatentable subject matter: "Laws of nature, natural phenomena, and abstract ideas."[44] The Court invoked the *State Street* decision's formulation "that a mathematical algorithm may be an integral part of patentable subject matter such as a machine or process if the claimed invention as a whole is applied in a 'useful' manner."[45]

39 172 F.3d 1352 (Fed. Cir. 1999).

40 *Id.* at 1354.

41 *Id.* at 1353-54.

42 *Id.* at 1354.

43 *Id.* at 1355.

44 *Id* (quoting *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

45 *State Street*, 172 F.3d at 1357.

Although the *State Street* decision involved claims directed to an apparatus, the *Excel Communications* court noted that the same mathematical algorithm analysis should apply to claims directed to a *method*: "Whether stated implicitly or explicitly, we consider the scope of § 101 to be the same regardless of the form—machine or process—in which a particular claim is drafted."[46]

Applying its analysis, the Court noted that the claimed process in the patent applied a mathematical algorithm (Boolean algebra) to the subscribers' and recipients' PIC data to determine the value of the PIC indicator. "The PIC indicator represents information about the call recipient's PIC, a useful, non-abstract result that facilitates differential billing of longdistance calls made by an [interexchange carrier's] subscriber. Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101."[47]

Excel Communications argued that the method claims of the patent nevertheless constituted unpatentable subject matter because there was no "physical transformation" of the data from one state into another. The Federal Circuit rejected this argument, noting that "physical transformation" is "not an invariable requirement" for a claim involving a mathematical algorithm to be patentable, "but merely one example of how a mathematical algorithm may bring about a useful application."[48] The Court noted that a requirement of physical transformation might be implied from the second part of the old FWA test. As in the State Street decision, however, the Court noted that there was little, if anything, left of the FWA test.[49]

Because the claimed methods, although involving the use of a mathematical algorithm to compute the PIC indicator, applied that algorithm "in a practical manner to produce a useful result"[50] in the form of differential billing of long distance calls, the Federal Circuit ruled that the claims were, as a matter of law, directed toward patentable subject matter.[51] The Court therefore remanded the case to the district court for further proceedings to determine whether the claims satisfied the other requirements for patentability, such as novelty and non-obviousness.[52]

46 *Id.* at 1357.

47 *Id.* at *1358.

48 *Id.*

49 *Id.* at 1359.

50 *Id.* at 1360.

51 *Id.* at 1361.

52 *Id.*

E. The Impact of the State Street Decision & the Problem of Trade Secrecy

The *State Street* case and its progeny bring up to date the requirement that, to be patentable, an invention involving a mathematical algorithm must claim a practical application of that algorithm or use of the algorithm to effect a transformation. Under *State Street*, the transformation can be one of mere data (information or numbers), and the claims of the patent need not specifically recite an invention in which the data is acquired from an external, real-world source, or that affects an external physical entity in the real world. All that is required for patentability is a practical application of a process or algorithm that produces a useful, concrete and tangible result. This evolution of the "transformation" test is a much better fit with today's computer/software-based technology infrastructure, and paves a clear path for the granting of patents on Internet and other software related inventions.

In addition, the *State Street* court's rejection of the business method exception was expressed in unqualified terms. In particular, the court's analysis of that exception does not seem to impose any requirement that business methods be tied to an "implementation" in a computer or other system (although in modern times they often will be computer implemented) in order to be patentable. Accordingly, it may now be possible to patent "pure" methods of doing business, at least to the extent such methods are claimed in a way as to produce a useful, concrete and tangible result, rather than a claim as an abstract idea (such as franchising *per se*).

In the months since *State Street* was decided and the Supreme Court denied certiorari, it has become apparent that its impact has been and will continue to be profound. The decision is causing many businesses to seek patent protection for methods and procedures they may consider to be novel to them, but which in fact may have been practiced by others for years. As noted in Part III of this article, business method patent activity in the electronic commerce and Internet markets has been particularly active in the last year.

Ordinarily, such methods and procedures would not qualify for patent protection if they were already known in the prior art. However, many companies have heretofore chosen to maintain their practices and procedures as confidential, rendering them of little use for defeating the patent applications of second-comers. Section 102(g) of the patent statute allows one to invalidate a patent where the technology at issue was previously invented by someone other than the patent applicant, but only where the prior invention was not "abandoned, suppressed or concealed." There is a substantial risk that business methods which have been kept as trade secrets will be deemed to have been "suppressed or concealed" and therefore not qualify as prior art to defeat a patent application on such method by a second-comer who has independently invented such method[53]—often as adapted for use in the online world.

53 *See generally* Stuart Meyer, "Suppression and Concealment of Inventions: A Software Vendor's Nightmare Named 102(g)," *Fenwick & West Intellectual Property Bulletin 3* (Fall 1997).

In the 1997 case of *OddzOn Products, Inc. v. Just Toys, Inc.*, the Federal Circuit observed that "the patent laws have not generally recognized as prior art that which is not accessible to the public."[54] Of particular concern to companies who have kept their business methods secret heretofore, the Federal Circuit went on to state: "[W]hen the possessor of secret art (art that has been abandoned, suppressed, or concealed) that predates the critical date is faced with a later-filed patent, the later-filed patent should not be invalidated in the face of this 'prior' art, which has not been made available to the public. Thus, prior, but non-public inventors yield to later inventors who utilize the patent system."[55]

In an earlier decision, *Checkpoint Systems, Inc. v. ITC*,[56] the Federal Circuit held that the technology on which a patent application was never filed was not abandoned, suppressed or concealed because the public received "the benefit of the knowledge"[57] of such technology through commercialization. The issue of whether commercializing a technology while maintaining it as secret should be viewed as suppression or concealment has not been fully fleshed out in the courts. Although some cases suggest that merely commercializing a product is sufficient to show that any invention therein has not been suppressed or concealed,[58] there is enough contrary authority to give companies that elect not to file a patent application on trade secret technology concern.[59] Even if commercializing a product based on a trade secret technology is sufficient to avoid suppression or concealment, it is less clear whether a company utilizing an internal trade secret business method will be deemed to have given the public sufficient "benefit of the learning" of the trade secret to avoid a finding of suppression or concealment.

In sum, in view of the foregoing issue of suppression and concealment, the *State Street* decision and its progency place increased tension on companies trying to decide whether to maintain their business practices as trade secrets or to seek to patent or otherwise disclose them so as to preclude someone else from obtaining exclusionary rights to such practices. All companies should conduct a careful review to determine which of their business practices might be patentable, which deserve to be maintained as trade secrets, and which should intentionally not be maintained as trade secrets so as to preclude others from obtaining corresponding patent protection.

54 122 F.3d 1396, 1402 (Fed. Cir. 1997).

55 *Id.*

56 F.3d 756 (Fed. Cir. 1995).

57 *Id.* at 763.

58 In a decision handed down before the creation of the Federal Circuit, the Seventh Circuit held that "noninforming public uses" are to be distinguished from truly "secret uses," in that the latter represent suppression and concealment while the former do not. *Dunlop Holdings Limited v. Ram Golf Corp.*, 524 F.2d 33 (7th Cir. 1975). Unfortunately, the Federal Circuit's decisions on related issues have declined to address, much less adopt, the *Dunlop* analysis. Meyer, *supra* note 53, at 5.

59 Meyer, *supra* note 38, at 5.

III. Some Sample Business Method Patents

To aid those companies considering patent protection for business methods in the wake of *State Street*, this Part summarizes a number of business method patents that have issued in recent years, both before and after the State Street decision. As will be apparent, plenty of business method patents were being issued by the PTO even before *State Street* was decided. However, as the *State Street* decision has acted as a catalyst to expand the awareness of the possibility of business method patents, one can expect to see these types of patents sought by a broader range of companies and in ever growing numbers. The patents have been grouped by industry or application.

A. Financial Patents

4,346,442
Title: "Securities Brokerage-Cash Management System"
Priority Filing Date: July 29, 1980
Issue Date: Aug. 24, 1982
Held By: Merrill Lynch, Pierce, Fenner & Smith Incorporated (New York, N.Y.)
Synopsis: Covers a system implementing the Merrill Lynch "Cash Management Account," which supervises, integrates, and coordinates a margin securities brokerage account, participation in one or more short term money market or comparable funds, and subscriber-initiated use of a transaction charge card and/or checks. When a subscriber makes an expenditure, such as by charge card, check or cash advance, the expenditure is applied serially on a hierarchical basis against the subscriber's free credit balance, short term investments, and the lendable equity in his or her securities account. On a periodic basis (such as daily), credit card purchases, checks, securities and deposit transactions are verified and employed to compute an updated credit limit for each subscriber. The short term investment position of each account is modified as necessary to permit money market or comparable earned yields on the account's free credit cash balance.

5,712,984
Title: "System for Funding Future Workers' Compensation Losses"
Priority Filing Date: Feb. 6, 1991
Issue Date: Jan. 27, 1998
Held By: Risk Data Corp. (Irvine, Calif.)
Synopsis: Covers a method for funding future losses incurred by an insurance carrier on workers' compensation claims. Historical workers' compensation claim data is gathered from insurance carriers, and a number of statistical models are generated to identify claim characteristics that are significant in affecting claim costs. The models are installed on a computer to which the insurance carrier downloads data files containing data on the carrier's active workers' compensation claims. The computer

determines significant characteristics of each of the active claims and applies the statistical models to formulate an individual cost prediction for each claim, then transfers funds to a loss reserve account based on the individual cost prediction for each particular active claim. Balancing of the respective reserve amounts computed for active claims can be achieved by use of a hypothetical fund which transfers reserve money from overpredicted claims to the reserves of underpredicted claims. An aggregate reserve amount is calculated for all the carrier's active claims, which is used to set a loss reserve account maintained by the carrier to fund future losses incurred on those claims. Premiums for a client of the insurer may also be set based upon the total individual cost predictions for all active claims of the client.

5,724,523
Title: "Electronic Income Tax Refund System Utilizing the Tax Refund to Underwrite Issuance of a Secured Credit Card"
Priority Filing Date: Feb. 21, 1988
Issue Date: Mar. 3, 1998
Held By: Beneficial Franchise Company, Inc. (Wilmington, Del.)
Synopsis: Covers a method and system for utilizing a tax refund as collateral for the issuance of a secured credit card. A tax filer desiring to have a credit card issued that is secured by collateral causes a tax preparer to prepare a tax return for electronic filing. The tax preparer opens a deposit and loan account and a collateral account at a financial institution. The tax preparer transmits the tax return electronically to the tax collecting authority, and at the same time authorizes payment of all or part of the tax refund from the deposit and loan account into the collateral account to collateralize the credit card, and authorizes the tax collecting authority to transfer the tax refund into the deposit and loan account to repay the loan.

5,806,048
Title: "Open End Mutual Fund Securitization Process"
Priority Filing Date: Oct. 12, 1995
Issue Date: Sept. 8, 1998
Held By: Mopex, Inc. (New York, N.Y.)
Synopsis: Covers a method for securitizing an open end mutual fund to permit the trading of open end mutual funds and linked derivative securities without having to calculate the price of the shares based on the net asset value of the open end mutual funds (which calculations can be done as a practical matter only at discrete times, such as the end of the day). A targeted individual open end mutual fund or group of open end mutual funds is selected and a new security is created (called a "closed end fund of funds"), which will invest substantially all of its assets in the targeted open end mutual fund shares. The targeted open end mutual fund shares are selected as those having a risk/return performance which is superior to the risk/return performance of all securities having a predefined benchmark performance over a

predetermined period of time. Information about the targeted mutual fund shares (such as dividends, capital gains and income received) is stored and used to determine in real time the price of the new security on the basis of a user-defined method of weighing the targeted mutual fund shares, such as an "equally priced" method (all of the prices are added up and divided by the total number of securities), a "capitalization weighted" method (based upon the price of the security times the number of shares outstanding), or a "geometrically weighted" method (uses a more complicated averaging of share prices). The calculated price is output in real time.

B. Electronic Commerce Patents

1. Advertising Methods

5,794,210
Title: "Attention Brokerage"
Priority Filing Date: Dec. 11, 1995
Issue Date: Aug. 11, 1998
Held By: Cybergold, Inc. (Berkeley, Calif.)
Synopsis: Covers a method for compensating computer users for paying attention to an advertisement or other "negatively priced" information distributed over a computer network such as the Internet. "Attention Brokerage" is the business of brokering the buying and selling of the "attention" of users, in which an attention broker offers negatively priced information (information for which the user gets compensated for paying attention to) from an information provider through a visual link (such as the Cybergold coin), then compensates the user after the user has paid attention to the negatively priced information in a prescribed way (such as reading an advertisement, filling out a survey, taking an attention test, or the like). Software agents may negotiate over the delivery of an item of negatively priced information and the associated compensation. The method allows advertisers to take advantage of "Orthogonal Sponsorship," which means detachment of messages from program content (in contradistinction to sponsorship of a television program, for example) and explicitly targeting messages to an audience, such as by demographics or through software agents that actively seek out users on a digital network by comparing stored user profiles with the characteristics of the negatively priced information being offered.

5,799,285
Title: "Secure System for Electronic Selling"
Priority Filing Date: June 7, 1996
Issue Date: Aug. 25, 1998
Held By: Edwin E. Klingman (San Gregorio, Cal.)
Synopsis: Covers a method and system for enabling a small seller to register to sell goods through a third party distributor, such as through an electronic "classified

advertisement" system of the distributor. The seller retrieves a registration form from the distributor through the Internet, fills out the form with identifying information, then obtains from the distributor a toll free telephone number. The seller establishes a toll telephone connection with the distributor, uploads its input registration data and its product through the telephone connection to the distributor's system. After uploading, the uploaded product is then offered for sale to the general public through the distributor's system.

5,848,396
Title: "Method and Apparatus for Determining Behavioral Profile of a Computer User"
Priority Filing Date: Apr. 26, 1996
Issue Date: Dec. 8, 1998
Held By: Originally issued to Freedom of Information, Inc. (Cambridge, Mass.); now held by Be Free Inc.
Synopsis: Covers a method and system for targeting information to users by determining their behavioral profiles. Information, such as stock quotes, sports scores, and weather reports, is transmitted to users over a network, and their responsive activity is recorded, including physical activity (such as clickthroughs) and specific responses to the information, from which psychographic user profiles are developed using a regression analysis. The user profiles provide an indication of categories of interest to the users and display format preferences for each category. After repeated analyses and refinements of the profiles over time, the adjusted user profiles become better targeted to users having an interest in particular information, and can then be used to target advertisements or other information to those most likely to be interested in them.
Enforcement: In Dec. 1998, Be Free denied that it had any plans to file a slew of lawsuits against potential infringers of the patent, stating that it preferred to create "strategic relationships" through licensing of the patent.[60]

5,855,008
Title: "Attention Brokerage"
Priority Filing Date: Dec. 11, 1995
Issue Date: Dec. 29, 1998
Held By: Cybergold, Inc. (Berkeley, Calif.)
Synopsis: Covers a method for compensating computer users for releasing personal privacy information about themselves. An information provider issues a request to a user to access the user's personal information stored on the user's computer, together with the requester's identity, a description of the data requested, and the requester's intentions with respect to use of the data. The user may consent to release of the

60 "PTO Issues Patent for Technology Used to Profile Web Users and Customize Ads," *BNA's Electronic Commerce & Law Report* (Dec. 23, 1998) 1414, 1414.

data, either expressly or by an automated decision (such as through a software agent) based on criteria set in advance by the user. If consent is granted, the personal information is then communicated back to the requester. The user may be compensated for such release, and this method may be used in conjunction with the more general methods of compensating users for paying attention to advertisements or other "negatively priced" information claimed in Cybergold's U.S. Pat. No. 5,794,210 discussed above.

2. Sale of Goods & Services

4,528,643
Title: "System for Reproducing Information in Material Objects at a Point of Sale Location"
Priority Filing Date: Jan. 10, 1983
Issue Date: July 9, 1985
Held By: Originally issued to FPDC, Inc. (Oklahoma City, Okla.); purchased by E-Data Corp. (of Connecticut, formerly known as Interactive Gift Express).
Synopsis: Covers methods and a system for reproducing digitized information from a remote location, such as music, movies, video games, and news stories, in material objects such as a tapes, video discs, and paper at a point of sale location. A catalog code identifying material to be reproduced is sent to an information manufacturing machine, together with an authorization code authorizing the reproduction. The information manufacturing machine then reproduces the authorized information in a material object at the point of sale.
Litigation: E-Data brought infringement actions based on this patent against a host of companies, including CompuServe, Broderbund Software and Intuit Inc., alleging that it covered the sale and downloading of music, software, and other digitized information through the Web. In May 1998, U.S. district judge Barbara Jones of the S.D.N.Y. ruled that the claims of the patent cover only a computer kiosk in a retail outlet that accessed controlled information confined to a central computer. Under her ruling, to infringe the patent, a customer must go into a store and use a machine dedicated to reproducing digitized information stored on a database not available to the general public. On Mar. 12, 1999, the parties filed a stipulated dismissal of the district court case, which allowed the case to be appealed to the Federal Circuit. Pursuant to the stipulation, the Federal Circuit may remand the case to the district court for further proceedings only if the Federal Circuit determines Judge Jones misconstrued *all five* of the following elements that she determined to be required by the patent for infringement:

- A point-of-sale location, also known as a retail outlet
- A material product
- An information manufacturing machine, sometimes called a computer

- An authorization code to request a product
- A requirement that the information be provided to or stored in the computer before the customer makes a request for the product.[61]

RE34,915 (originally 4,882,675)
Title: "Paperless System for Distributing, Redeeming and Clearing Merchandise Coupons"
Priority Filing Date: Nov. 26, 1984
Issue Date: Nov. 21, 1989
Held By: Originally patent issued to Steven Nichtberger (New Rochelle, N.Y.); reissue patent held by Coupco, Inc. (New Rochelle, N.Y.)
Synopsis: Discloses a paperless system for issuing and redeeming electronic in-store coupons. An electronic display (such as kiosk) shows coupons valid for use in a particular store. When a customer makes a selection of coupons from the display, the selection is recorded. At the store checkout station, the customer is identified as the one who made the selection of coupons, such as by scanning a special card used with the system. The items purchased in the store by the customer are recorded, and any matches between the coupons selected and the items purchased are determined electronically. The customer is immediately credited in accordance with the terms of the matched coupons.

5,191,573
Title: "Method for Transmitting a Desired Digital Video or Audio Signal"
Priority Filing Date: June 13, 1988
Issue Date: Mar. 2, 1993
Held By: Originally issued to Arthur R. Hair (Pittsburgh, Penn.); apparently now held by Sightsound.com.
Synopsis: Covers a general method for transmitting digital content such as audio, video and other digital information on demand. Money is transferred by a telecommunications line to a first party who controls the desired digital content stored on the first party's computer by a second party desiring to purchase the content. The first and second party's computers are connected via a telecommunications line and the desired content is transmitted to the second party's computer. Storage of the content on the second party's computer allows the content to be searched by the second party and the desired content selected for playback in any desired combination.
Enforcement: In January 1999, a company called Sightsound.com asserted this and the 5,675,734 patent below against MP3.com and GoodNoise Corp., claiming that these patents cover the sale of audio or video recordings in download fashion over the

61 James Evans, "Last Try for 'Net Commerce Patent: Demand for Licenses Seems Near Death, but E-Data Isn't Yielding," *San Francisco Daily Journal* (Apr. 21, 1999) 1, 6.

Internet and offering a license for a royalty of 1% of the total price charged to customers for a download transaction. GoodNoise reportedly indicated a willingness to take a license.[62]

5,675,734
Title: "Method for Transmitting Desired Digital Video or Audio Signals"
Priority Filing Date: June 13, 1988
Issue Date: Oct. 7, 1997
Held By: Originally issued to Arthur R. Hair (Pittsburgh, Penn.); apparently now held by Sightsound.com.
Synopsis: Contains correlative system claims for a system that implements the general method for transmitting digital content on demand claimed in U.S. Pat. No. 5,191,573 described above.
Enforcement: In January 1999, a company called Sightsound.com asserted this and the 5,191,573 patent above against MP3.com and GoodNoise Corp. See note above.

5,692,132
Title: "System and Method for Conducting Cashless Transactions on a Computer Network"
Priority Filing Date: June 7, 1995
Issue Date: Nov. 25, 1997
Held By: MasterCard International, Inc. (New York, N.Y.)
Synopsis: Covers a method and system for conducting cashless transactions (especially small amount transactions) through the Internet using an electronic purse built into a customer's computer. A financial service provider (FSP) supplies cashless transaction software to the customer and manages the cashless transaction service. The customer identifies to the FSP issuer banks with which the customer would like to be registered. The FSP loads an amount, such as $25, in the customer's electronic purse and, at a later time, settles with the customer's issuer bank, which bills the customer for the amount of the load. The user thereafter may initiate cashless network transactions to be paid out of the electronic purse. If the balance in the electronic purse is less than the transaction amount, the customer is given an option to reload the purse, or the purse can be programmed for an automatic reload. The issuer bank is informed by the FSP of the reload and the bank bills the customer for the increase.

62 See Denise Caruso, "Digital Commerce: Concern is Growing Over People and Companies That Are Stockpiling Patents to be Used as Competitive Weapons," *New York Times* (Feb. 1, 1999) C4, C4; news item of Jan. 29, 1999 from The Content Factory via COMTEX titled "Sightsound.com's e-music patent."

5,794,207

Title: "Method and Apparatus for a Cryptographically Assisted Commercial Network System Designed to Facilitate Buyer-Driven Conditional Purchase Offers"

Priority Filing Date: Sept. 4, 1996

Issue Date: Aug. 11, 1998

Held By: Originally issued to Walker Asset Management Limited Partnership (Stamford, Conn.; purchased by priceline.com Inc. (Stamford, Conn.)

Synopsis: Covers "reverse auctions" or buyer-driven electronic methods of conducting commerce. Buyers issue conditional purchase offers to a central computer by specifying the type and description of goods desired and any other conditions, which conditional offers are made to potentially interested sellers. Sellers review the purchase offers and may bind the buyer to a transaction by accepting the purchase offer of the buyer. Also covers technology for securing the transactions, authenticating users, verifying funds availability, and managing the payment system between the buyer and seller automatically. The technology described in the patent is used on the priceline.com Web site, which allows a consumer to name his or her own price for airline tickets or other goods and services, and allows sellers to electronically decide whether to accept the consumer's bid.

Litigation: On December 1, 1998, an individual named Thomas Woolston received his own patent on reverse auctioning and filed an interference claim in the PTO, alleging that he was the first to invent a computerized reverse auction.[63] Priceline.com's filing for its initial public offering acknowledges that losing the interference could have dire consequences for its business.[64]

5,802,497

Title: "Method and Apparatus for Conducting Computerized Commerce"

Priority Filing Date: July 10, 1995

Issue Date: Sept. 1, 1998

Held By: Digital Equipment Corporation (Maynard, Mass.)

Synopsis: Covers a system and method to allow charging for services and information at prices best measured in fractions of a penny. The transactions are conducted among a consumer, an electronic broker of "scrips" (electronic currency) and a vendor. A consumer purchases scrips from a broker computer through a consumer computer. The scrips carry encrypted information that is decipherable only by the computer which originated the scrip, so the originating computer can invalidate the scrip when it accepts it for processing to avoid unauthorized reuse of funds. The purchased

63 Scott Thurm, "Inventor Disputes Key Auction Patent Held by Priceline," *Wall Street Journal*, Jan. 13, 1999, at B2.

64 Tim Clark, "Priceline.com dismisses patent challenge," CNETY NEWS.COM, Jan. 13, 1999, *http://www/news.com/News/Item/textonly/0,25,30881,00;.html?pfv*.

broker scrips are transmitted to the consumer computer. When the consumer wishes to make a purchase from a database of products stored in the vendor computer, a scrip is transmitted from the consumer computer to the broker computer and validated by the broker computer. The validated scrip is then exchanged at the broker computer for a vendor scrip, which is transmitted to the vendor computer and validated by the vendor computer to pay for the product. The purchased product is then transmitted to the consumer.

5,835,896
Title: "Method and System for Processing and Transmitting Electronic Auction Information"
Priority Filing Date: Mar. 29, 1996
Issue Date: Nov. 10, 1998
Held By: Onsale, Inc. (Menlo Park, Calif.)
Synopsis: Covers a system for conducting an online, multi-person interactive auction without using a human auctioneer. A catalog page from a merchandise database describing merchandise for sale is displayed to potential customers. Customers view the merchandise page and send bids across the network for purchasing the merchandise. Software running on a host computer receives the bids, determines whether they are valid, and, if so, enters them in a bid database. After the auction closes, the successful bidder is notified by e-mail so the purchase transaction can be consummated.
Enforcement: On April 12, 1999, Onsale announced a licensing program for the patent and that it had begun notifying known potential infringers of Onsale's rights.[65]

5,897,620
Title: "Method and Apparatus for the Sale of Airline-Specified Flight Tickets"
Priority Filing Date: July 8, 1997
Issue Date: Apr. 27, 1999
Held By: priceline.com Inc. (Stamford, Conn.)
Synopsis: Covers an online method for selling airline tickets which provides travelers with reduced airfare in return for flight-time flexibility, and permits airlines to fill seats that would have otherwise gone unbooked. The user views and selects from a listing of special fares for air travel to a specified destination from a specified departure location. The airline commits to provide a seat on a flight that satisfies the requested departure and destination locations, but does not specify a departure time. The departure time is specified at a later time, depending upon the availability of seats on particular flights which the airline desires to fill. Various methods and systems for matching an unspecified-time ticket with a flight are also disclosed.

65 News item of Apr. 12, 1999 from Business Wire titled "Onsale Launches Intellectual Property Licensing Program; Onsale Receives Its First Patent in Online Auctions."

3. Incentive Award Programs

5,689,100
Title: "Debit Card System and Method for Implementing Incentive Award Program"
Priority Filing Date: Mar. 21, 1996
Issue Date: Nov. 18, 1997
Held By: Martiz, Inc. (Fenton, Mo.)
Synopsis: Covers a method and system for implementing an incentive award program which employs debit cards issued by participating (authorized) merchants. The debit cards are used in a credit/debit network which is also utilized by nonparticipating (nonauthorized) merchants. Authorized merchants issue debit cards to member customers that can be used to redeem incentive awards to pay for transactions initiated by the customers. When a customer initiates a debit transaction with a merchant, the merchant sends the initiating account number of the debit card, the merchant's identification data, and the amount of the transaction to a computer, which determines whether the transaction has been initiated by an authorized merchant and by a customer having a sufficient balance in the customer's corresponding award account to cover the transaction. The transaction is invalidated if the initiating merchant is not an authorized merchant, if the debit card account is not an authorized account number, or if the award account is insufficient to cover the amount of the initiated transaction.

4. Credit Card Transactions

5,715,399
Title: "Secure Method and System for Communicating a List of Credit Card Numbers Over a Non-Secure Network
Priority Filing Date: May 30, 1995
Issue Date: Feb. 3, 1998
Held By: Amazon.Com, Inc. (Seattle, Wash.)
Synopsis: Covers a method and system for securely reporting to a customer over a non-secure network one or more credit card numbers that a merchant has on file for the customer. The credit card numbers the merchant has on file for the customer are retrieved from a database, a portion of each credit card number (such as the last four digits) is extracted, and only the portions are transmitted to the customer. The customer can then confirm in a return message that a specific one of the credit card numbers on file with the merchant should be used in charging a transaction. Because only a portion of the credit card numbers are included in any message transmitted, a third party cannot discover the customer's complete credit card numbers.

5. Information Systems

5,528,490
Title: "Electronic Catalog System and Method"
Priority Filing Date: Apr. 10, 1992
Issue Date: June 18, 1996
Held By: Charles E. Hill & Associates, Inc.
Synopsis: Covers a method and system for maintaining the currency of an electronic catalog that is distributed between a vendor's main computer and a customer's remote computer. Both variable data (such as product dimensions and cost information) and constant data (such as graphics and textual information) about the vendor's products are stored in the memory of the vendor's main computer, together with the revision level of the constant data. Only the constant data of the catalog is stored in the memory of the customer's remote computer, together with the revision level of the constant data stored in the customer's computer. The customer browses the constant data of the catalog and selects a product. The revision level of the customer's constant data is transmitted to the main computer and compared with the revision level of the constant data in the main computer. If the customer's constant data needs updating, the updated constant data is transmitted from the main computer to the customer's computer, together with the variable data related to the selected product. The process can be set so that the connection and disconnection of the customer's computer to the main computer occurs automatically, so the customer cannot tie up the vendor's computer by remaining logged in.

5,778,367
Title: "Automated On-Line Information Service and Directory, Particularly for the World Wide Web"
Priority Filing Date: Dec. 14, 1995
Issue Date: July 7, 1998
Held By: Network Engineering Software, Inc. (San Jose, Calif.)
Synopsis: Covers a method for providing a dynamic information system available through the Web in which the information content is entirely user-controlled. Users may post "mini" homepages on the system that are freely searchable by others. The method consists of receiving requests from users to electronically publish information and accepting such information, allowing the users to classify their information to facilitate searching, storing the information in classified and searchable form, password protecting the entries, then making the entries freely accessible on a computer network, searching the entries in response to user requests, and delivering entries to users in a hardware-independent page description language. Users are allowed to update their entries by supplying a correct password.

Enforcement: On Mar. 23, 1999, Network Engineering sued eBay Inc. (operator of the eBay on-line auction) on this patent.[66]

5,806,043
Title: "Method for Providing Customer On-Line Support Via Prepaid Internet Access"
Priority Filing Date: Nov. 6, 1995
Issue Date: Sept. 8, 1998
Held By: Interactive Media Works, LLC (Overland Park, Kan.)
Synopsis: Covers a method for providing a sponsor-paid Internet connect time allotment to a customer of the sponsor's products for online help relating to those products. The sponsor provides Internet access software and a PIN number to the user along with the product upon purchase. The PIN number allows the customer to log on to an Internet entry server using the access software, from which the customer is then automatically hot-linked directly to an Internet domain of the sponsor. The customer is allowed to access help on-line in the Internet domain of the sponsor by inputting help queries and receiving help answers. Alternatively, the customer may be allowed to choose to utilize the sponsor-paid Internet connect time allotment to access other Internet sites via the Internet entry server and the sponsor-provided access software. Upon reaching the hot-linked Internet domain of the sponsor, the customer may be conducted through a guided tour of the domain, or asked to answer a series of questions to register the purchased product.

C. General Business Methods

4,890,228
Title: "Electronic Income Tax Refund Early Payment System"
Priority Filing Date: Jan. 21, 1988
Issue Date: Dec. 26, 1989
Held By: Beneficial Management Corp. (Peapack, N.J.)
Synopsis: Covers a method and system for giving an immediate tax refund to a taxpayer through a short term loan from a credit institution in the amount of the expected refund until the actual refund from the tax collecting authority is received. The tax preparer prepares an electronic tax return for the taxpayer and at the same time processes a loan application to create an electronic deposit/loan account for the taxpayer at an authorized credit institution. As soon as the tax return is electronically filed, an initial refund payment is made to the taxpayer from the loan account. In due course, the tax collecting authority processes the return and transfers the refund by electronic transfer directly to the deposit/loan account at the authorized credit

66 News item of Mar. 23, 1999 from Newswire titled "Network Engineering Software, Inc. Files Patent Infringements Suit Against eBay."

institution to repay the loan. Any refund in excess of the initial refund payment is then forwarded to the taxpayer.

5,802,493
Title: "Method and Apparatus for Generating a Proposal Response"
Priority Filing Date: Dec. 7, 1994
Issue Date: Sept. 1, 1998
Held By: Aetna Life Insurance Co. (Hartford, Conn.)
Synopsis: Covers a method and system for automatically generating a response to a request for proposal (RFP) or other questionnaire by matching the questions in the RFP with questions that have previously been answered by the respondent in other responses. The method is useful for companies such as heath insurance companies that receive large number of solicitations from consultants who deal directly with insured organizations or employers. Questions in the RFP are broken down into individual questions, and relevant input parameters (such as product, financial arrangement, market, and consultant) are associated with the questions. A database of previously answered questions and associated stored responses is searched to locate matches that substantially match either the text or input parameters of the RFP questions. The stored responses for the matches are then used as responses to the corresponding RFP questions and assembled into a response document.

5,809,478
Title: "Method for Accessing and Evaluating Information for Processing an Application for Insurance"
Priority Filing Date: Dec. 8, 1995
Issue Date: Sept. 15, 1998
Held By: Allstate Insurance Company (Northbrook, Ill.)
Synopsis: Covers a method for gathering information needed (such as driving records, credit records, and name and address records) to complete a risk evaluation of an application for insurance from disparate vendor data sources that may use incompatible formats for receiving requests for such data. A main computer receives a request to process an application, determines whether additional information is needed to process the application, and, if so, requests such information by issuing data orders to a data warehouse computer. The data warehouse computer applies a series of vendor templates to the orders for data to place the orders in a format required by the particular data vendor to whom each order will be directly, sends the formatted orders to the appropriate data vendors, receives the data from the data vendors in response to the orders, matches the received data with the orders, and delivers the matched data to the main computer for further processing of the corresponding application.

5,851,117
Title: "Building Block Training Systems and Training Methods"
Priority Filing Date: Apr. 23, 1997
Issue Date: Dec. 22, 1998
Held By: The Butcher Company (Marlborough, Mass.)
Synopsis: Covers a method for training janitors in which the janitor is given written training materials divided into sections, with each section containing instructions limited to a specific physical job function to be performed in a facility, and each section containing illustrations of what is to be done, illustrations of what is not to be skipped, and illustrations of what is to be avoided in performing the cleaning functions. The trainer shows the janitor a section of the training materials while telling the janitor about each step pictorially depicted in the materials. The trainer shows the janitor how to perform each pictorially depicted step, has the janitor perform the step in the presence of the trainer while the trainer coaches, and has the janitor tell the trainer about the step while referring to the document.

IV. Conclusion

The *State Street* decision (and the Supreme Court's affirmance thereof), together with the *Excel Communications* decision, crystallize the Supreme Court's ruling in 1980 that Congress intended the subject matter of the patent statute to extend to "anything under the sun that is made by man."[67] As a consequence, *all* types of companies, particularly those that would not traditionally have considered patent protection, should now do so. Regardless of one's philosophical belief about whether software and/or methods of doing business *should* be patentable, it is apparent that these types of patents are here to stay for the foreseeable future, and one must choose either to join the system or risk being steam-rolled by it.

67 *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

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