E Wars — Episode One: The Patent Menace*

by
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With the advent of the Information Age and the consequent transformation of our society, information companies have recognized the importance of protecting their business methodologies. As with any technological revolution, competition between the players is intense, and in this new arena of business, competitors have turned patents into a weapon of choice. Thus, businesses need new strategies to avoid becoming unnecessary casualties in this war.

I. Patent Fundamentals

Companies use patents to protect their technological advances and their market share. Patents give patentees the absolute right to exclude others from making, using, and selling their patented idea, as set forth in the patent claims.[1] Devices, chemicals, and other tangible advances are traditionally open to patent protection without question, but the door to the patentability of software and business methods remained shut until the Federal Circuit's 1998 decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc*.[2] The *State Street* opinion removed historical and procedural restrictions on business method and software patents, subjecting them to the same requirements as the more traditional mechanical, chemical, and electrical inventions.[3] Although software patents were issued prior to the *State*

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1. 35 U.S.C. § 154(a)(1) (2000). Importation of infringing products also violates the rights of the patent holder.

2. 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied,* 525 U.S. 1093 (1999).

3. *Id.* at 1375. The Federal Circuit reaffirmed *State Street* in AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 1358 (Fed. Cir.), *cert. denied*, 528 U.S. 946 (1999) and clarified that any computer-implemented invention is patentable subject matter.

Street decision, those applications were forced to navigate through a complicated mosaic of case law and Patent Office interpretation. *State Street* greatly simplified the analysis. General guidelines for obtaining a patent are set forth in Appendix A.

With the door wide open, patent application filings increased dramatically, particularly in new technological areas.[4] E-commerce companies and their engineers began using patents to protect their less tangible investments. Bricks-and-mortar companies also understood the power of these new patents and jumped on the bandwagon, seeking patent protection for their own Internet, software, and e-commerce innovations. As a result, the number of patent applications filed in Class 705, the chief class number for business method patent applications in the U.S. Patent and Trademark Office (Patent Office), tripled from approximately 2,700 filings in 1999 to 7,000 in 2000 and over 10,000 filings in 2001.[5] To handle the rapid increase in software and business method applications after *State Street*, the Patent Office increased the number of patent examiners in Class 705 from twelve in 1997 to thirty-eight in 2000.[6]

With the rise in the number of patents and the growing importance of e-commerce, came a rise in lawsuits as companies began to exploit this new opportunity more fully. Some of these business method patent lawsuits included:

> • *Priceline.com, Inc. v. Microsoft Corp. and Expedia, Inc.*, in which online retailer, Priceline.com, brought an action against Expedia's Hotel Price Matcher service, alleging infringement of Priceline.com's "reverse auction" method and system for Internet purchases.[7]
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> • *Amazon.com, Inc. v. BarnesandNoble.com, Inc.*, in which online retailer, Amazon.com, filed suit alleging infringement of its "one-click" method and system for making a purchase over the Internet.[8] Amazon.com's motion for preliminary injunction against BarnesandNoble.com's "Express Lane" feature was soon thereafter granted. BarnesandNoble.com was forced to "design around"

4. *See* United States Patent and Trademark Office, *White Paper on Automated Financial or Management Data Processing Methods (Business Methods)*, § III(D) (2000), *available at* http://www.uspto.gov/web/menu/busmethp/class705.htm (last visited Jan. 27, 2003).

5. *Id.* at § III(D), *available at* http://www.uspto.gov/web/menu/pbmethod/applicationfiling.htm.

6. *Id.* at § IV(c)(1), *available at* http://www.uspto.gov/web/menu/busmethp/transition.htm.

7. No. 99-CV-01991 (D. Conn. filed Oct. 13, 1999). The case was based on U.S. Patent No. 5,794,207 (issued August 11, 1998). The parties later settled the case.

8. No. C99-1695P (W.D. Wash. filed Oct. 21, 1999).

the "one-click" patent by creating a "double-click," non-infringing alternative.[9] The Federal Circuit later held that Amazon.com was not entitled to injunctive relief, and vacated the District Court's preliminary injunction order.[10]

• *Winston v. Ask Jeeves, Inc.,* in which two MIT professors brought an action against an online question-and-answer website alleging infringement of natural language patents.[11]

• *Fantasy Sports Properties*, *Inc. v. Sportsline.com, Inc*., *Yahoo! Inc., Sandbox.com, Inc., and ESPN/Starwave Partners;*[12] *Fantasy Sports Properties*, *Inc. v. Gannett Co.,*[13] and *Fantasy Sports Properties, Inc. v. Time Warner, Inc. and News Digital Media, Inc.*,[14] in which a publisher of computerized interactive fantasy sports games (FantasySports.com) brought an action against various Internet and entertainment companies alleging patent infringement by their operation of websites featuring fantasy football games allegedly covered by FantasySports.com's patent.

These suits illustrate the diversity of technical areas under dispute. Many additional suits on business method and e-commerce patents are also pending.

Previous avenues for the protection of software-related inventions included copyright and trade secret protection. These avenues, however, do not offer the strong protection accorded by a patent: a monopoly right of twenty years from the filing date. A copyright, although relatively easy to obtain, covers the expression of an idea, such as the particular program code and

9. Amazon.com, Inc. v. BarnesandNoble.com, Inc., 73 F. Supp. 2d 1228 (W.D. Wash. Dec. 1, 1999). Amazon's patent is U.S. Patent No. 5,960,411 (issued September 28, 1999).

10. Amazon.com, Inc. v. BarnesandNoble.com, Inc., 239 F.3d 1343 (Fed. Cir. 2001). The parties announced a confidential settlement of the case on March 6, 2002. Karen Gullo, *Amazon Settles 'One Click' Patent Case With Barnes & Noble*, BLOOMBERG NEWS (March 6, 2002).

11. No. 99-CV-12584 (D. Mass. filed Dec. 20, 1999). The case involved U.S. Patent Nos. 5,404,295 (issued April 4, 1995) and 5,309,359 (issued May 3, 1994).

12. 103 F. Supp. 2d 886 (E.D. Va. 2000). The Federal Circuit affirmed the grant of summary judgment against Fantasy Sports Properties to Yahoo! and ESPN, but the action against Sportsline was remanded and is now awaiting a retrial. Fantasy Sports Properties, Inc. v. Sportsline.com, 287 F.3d 1108 (Fed. Cir. 2002). The claims against Sandbox, Inc. were dismissed by the District Court on September 28, 2000. All three of these cases involved U.S. Patent No. 4,918,603 (issued April 17, 1990).

13. No. 99-CV-2139 (E.D. Va. filed Dec. 30, 1999). This case was later settled by the parties.

14. No. 00-CV-179 (E.D. Va. filed Mar. 13, 2000).

close equivalents, but it does not cover the underlying idea itself regardless of the particular expression.[15] For example, Borland International successfully duplicated many of the commands in Lotus Development Corporation's popular 1-2-3 spreadsheet program and overcame Lotus' charge of copyright infringement.[16] Had Lotus sought and obtained patent protection for this software innovation, it may have had a much stronger case against its competitor.

Trade secret protection works well in industries in which companies are capable of shielding their techniques or processes from outsiders, such as chemical processes and computer object code. For a piece of information to be a trade secret it must, by definition, be a secret, and not be subject to public knowledge.[17] Technological secrets, however, are almost impossible to keep when a business must operate in a mass consumer, global marketplace. Competitors can more easily reverse engineer software and Internet inventions, particularly since many in the computer industry believe in the open sharing of software code without resort to intellectual property protection.

Patent protection provides greater protection because businesses no longer need to keep the software or Internet inventions secret after filing applications for patents covering those innovations. The patent holder fully discloses enough information in the patent application to teach others how to implement and practice the invention; in return, the patent applicant, upon grant of a patent, receives a limited monopoly on the making, use, sale, and importation of the product or process.[18]

Patents give the patent owner the right to exclude others from using the claimed invention and close equivalents[19] for a period of twenty years from the filing date.[20] A patentee can obtain an injunction against a competitor, prohibiting that competitor from infringing the patent on the claimed inven-

15. *See* Computer Associates Intern, Inc., v. Altai, Inc. 982 F.2d 693, 703 (2d Cir. 1992).

16. *See* Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807, 810 (1st Cir. 1995), *aff'd*, 516 U.S. 233 (1996) (affirmed by an equally divided Court).

17. *See, e.g*. Uniform Trade Secrets Act § 1(4) (1985), 14 U.L.A. 286 (Supp. 1987), *available at* http://www.law.upenn.edu/bll/ulc/fnact99/1980s/utsa85.pdf ("information . . . not being generally known to, and not being readily ascertainable by proper means by, other persons").

18. Markman v. Westview Instruments, 517 U.S. 370, 373 (1996).

19. 35 U.S.C. § 154(a)(1) (2000).

20. *Id*. § 154(a)(2). The twenty-year term from patent application filing replaced the well-known seventeen-year term from patent issuance in effect since 1861. The patent monopoly now lasts from the day of patent issuance until the twentieth anniversary of the first patent application filing date relied upon for priority.

tion.[21] Thus, the patent right of exclusion can be employed to stop a competitor cold, requiring immediate cessation of operations, re-engineering or settlement. Additionally, the patentee may recover monetary damages in the form of a reasonable royalty or lost profits due to the infringer's past activities, and may force future payment of royalties during the life of the patent.[22] In exceptional situations, the patentee may recover treble damages as well as attorney's fees.[23] Patent damage awards in the tens and hundreds of millions of dollars are becoming common.[24] Contrasted with the generally more limited damages of copyright and trade secret, patent damages pack quite a punch.[25]

II. Attacks on Patents

Although patents are powerful, they are nonetheless subject to challenge. In general, there is a presumption that patent examiners, during the course of their duty, have acted properly in reviewing and allowing a patent application to issue as a patent. To overcome this presumption of patent validity at trial requires clear and convincing evidence. Despite the Patent Office's imprimatur, a chief argument levied against e-commerce and business method patents is that they fail to satisfy the patentability threshold requirements of novelty and non-obviousness, as set forth in 35 U.S.C. §§ 102-103.[26] For example, defendants may allege that the invention was not new or novel; one cannot obtain a patent on something already publicly known.[27] Likewise, a patent cannot be directed to a trivial or obvious variation of what is known;[28] the advancement over the prior art must instead be material enough that the invention constitutes at least some leap in technology.

Accordingly, a party charged with patent infringement tries to find evidence of prior use of the claimed invention in order to discredit the patent,

21. 35 U.S.C. § 283 (2000); *see* Amazon.com, Inc. v. BarnesandNoble.com, Inc., 239 F.3d 1343, 1350 (Fed. Cir. 2001).

22. 35 U.S.C. § 284 (2000).

23. *Id.* § 284-85.

24. Ted D. Lee & Michelle Evans, *The Charade: Trying a Patent Case to All "Three" Juries*, 8 Tex. Intell. Prop. L.J. 1, 9 (1999).

25. *See* 17 U.S.C. § 1009(d) (2000). For copyright infringement claims, claimants receive actual damages or statutory damages only, which are generally small in comparison to patent damages.

26. 35 U.S.C. § 102-03 (2000); *see also* Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform,* 14 Berkeley Tech. L. J. 577, 589 (1999).

27. 35 U.S.C. § 102(a).

28. *Id.* § 103(a).

i.e., demonstrate use before the priority date of the patent.[29] When searching patent databases or the technical literature, one may uncover documents that predate the priority date. Such a discovery may result in a dismissal or settlement of the litigation. Because business method patents are so new, however, searchers and patent examiners encounter difficulty reviewing the prior art in this area.[30] As more databases become available to investigate the prior art, however, more avenues of defense are added to an alleged patent infringement claim.

Third party attack of patents is available through a so-called re-examination proceeding within the Patent Office.[31] In this proceeding, the scope of a patent's claims are challenged by the submission of references, such as other patents or written materials, that were not considered by the original examiner.[32] Re-examination rules permit anonymous attacks, allowing a surreptitious challenge by a patent licensee, for example, should discretion be desired.[33] After being notified of a re-examination request filing, the patent owner may address the challenge.[34] When the re-examination proceeding is terminated, the subject patent is either invalidated in full, invalidated in part with claims amended to narrow their scope, or left intact and perceived as being stronger.[35] A re-examination may be employed to stay a pending litigation while the scope of the challenged claims is resolved. Patentees, upon becoming aware of potentially damaging references, may decide to file a re-examination request on their own behalf, giving them a procedural advantage over a challenger in responding to the Patent Office's findings.

A related procedural mechanism for patentees is a reissue proceeding, through which the patentees may narrow or broaden the scope of their patent claims, providing support within the contours of the patent exists.[36] There are two primary differences between re-examinations and reissues. First, re-examinations cannot broaden claim coverage, but reissues can.[37] Second, whereas re-examinations can be filed throughout a patent's term,[38] broaden-

29. Since a patentee may rely upon a previous patent for support (e.g., a prior related, foreign or provisional filing), one must investigate the procedural history to ascertain a patent's effective filing date for priority purposes.

30. Merges, *supra* note 26, at 589-90.

31. *See* 35 U.S.C. § 302 (2000).

32. *Id.*; 37 C.F.R. § 1.501(a) (2001).

33. 37 C.F.R. § 1.501(b).

34. 37 C.F.R. § 1.530(b) (2001).

35. Kenneth R. Adamo, *Patent Reexamination,* 58 CHI.-KENT. L. REV. 59, 66 (1981).

36. 35 U.S.C. § 251 (2000).

37. 37 C.F.R. § 1.530(j).

38. *Id.* § 1.501(a).

ing reissues must be filed within two years of patent issuance.[39] A broadening reissue allows a patentee to modify claim language that is too narrow or to otherwise clarify the claims. Thus, a broadening reissue brings more material within the scope of the patent claims, allowing the patentee to bring a wider range of infringement suits under the patent. Narrowing reissues, as with re-examinations, may be filed at any time during the patent term.[40]

III. New Business Method Patent Defense

In late 1999, former President Clinton signed into law the American Inventor Protection Act (AIPA), a portion of which is codified as 35 U.S.C. § 273, and set forth in full in Appendix B.[41] This new statute is intended to provide companies with a defense to an alleged infringement of a business method patent, provided the company charged began using the claimed business method at least one year before to the filing date of the patent application.[42] This statutory weapon is for defensive use only.[43] It is intended to protect companies that did not seek their own patent protection prior to *State Street*, relying instead on other mechanisms such as trade secret protection.[44] Asserting the defense that the company's use predated the patent, in and of itself, does not invalidate the asserted patent;[45] independent evidence is required to challenge patent validity. Furthermore, an unsuccessful use of this defense leaves the accused infringer open to an exceptional case determination and attorney's fees.[46]

Although the intent of the business method patent defense was to protect certain sectors of industry, particularly companies in the financial sector,[47]

39. 35 U.S.C. § 251. Publication of an issued patent puts the public on notice as to the scope of protection covered by the claims. Since broadening reissues alter this assumption, there is a time limitation to bring this action. This notice function is also served by the publication of information as to the filing of a reissue or re-examination.

40. *Id.*

41. American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 stat. 1001 (codified as amended in scattered sections of 35 U.S.C.).

42. 35 U.S.C. § 273(b)(1) (2000).

43. *Id.*

44. Cong. Rec. S13258 (daily ed. Oct. 27, 1999).

45. 35 U.S.C. § 273(b)(9) (2000).

46. *Id.* § 273(b)(8).

47. *See* United States Patent and Trademark Office, Business Method Patent Initiative: An Action Plan (2000), *available at* http://www.uspto.gov/web/offices/com/sol/actionplan.html (last visited Jan. 27, 2003). Banks and other financial institutions, in view of the historical ambiguity of patent eligibility until *State Street*, assumed that no patent protection was available for their various business methodologies. These methodologies were usually software-based and

against these new patents, the full contours of this new law are not yet understood and are thus far untested in the courts. For example, the meaning of the phrase "business method" and the determination of what constitutes the requisite business activities under the AIPA are vague and subject to broad interpretation.[48] Lawyers could, therefore, argue that the subject matter of their clients' patent suits involve some economic or commercial advantage in line with the AIPA's intent. Should the statute be interpreted this broadly, counsel should consider this defense for non-e-commerce industries as well.

One longstanding argument against the patenting of software and business methods is that the existing structure of the patent laws is inadequate considering the length of time needed to obtain a patent. Thus, patents on these technologies could be outdated after a few years. On March 9, 2000, Jeff Bezos, CEO of Amazon.com, fired the latest salvo by publishing a list of suggestions for restructuring the Patent Office for software and business method patents. The list called for a shortened term of three to five years and for a public comment period just prior to issuance of these patents, enabling others to contest the patent application prior to issuance.[49] Although such proposals have an air of reasonableness, further restrictions on the already limited patent rights have left most companies and intellectual property attorneys disinterested.

Criticism of the Patent Office's handling of business method patents continued to grow. In response, on March 29, 2000, the Patent Office announced a new "Action Plan" for bolstering the quality of the examination for business method patents.[50] In particular, all such inventions now receive a

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were developed over the past decades. Believing that patent protection was unavailable, financial institutions instead tried to protect these innovations as trade secrets. With *State Street* and the flood of patent applications on "new" business paradigms, the old assumptions have been washed away, revealing a very different patent landscape. Therefore, financial institutions demanded legislation that would protect their methodologies from suits based on the new patents.

48. On April 3, 2001, a Bill (H.R. 1332) was introduced, entitled the "Business Method Patent Improvement Act of 2001," which attempted to clarify the meaning of the term "business method," e.g., a method or "computer-assisted implementation . . . designed for or utilized in the practice, administration, or management of an enterprise." Business Method Patent Improvement Act of 2001, H.R. 1332, 107th Cong. (2001). This legislation has not gone beyond the committee stage.

49. Jeff Bezos, *An Open Letter from Jeff Bezos on the Subject of Patents*, *at* http://www.oreilly.com/news/amazon_patents.html (last visited Jan. 27, 2003). *See also* James Gleick, *Patently Absurd*, N.Y. TIMES MAGAZINE, Mar 12, 2000 *available at* http://www.around.com/patent.html (arguing that patent protection and litigation are becoming increasingly out of control, and that a restructuring of the Patent Office is therefore needed).

50. Business Method Patent Initiative: An Action Plan (2000), *supra* note 47.

mandatory second review by a second patent examiner prior to issuance.[51] Despite the Patent Office's intense efforts to remedy the perceived problems, criticism is likely to increase as more business method patents are issued and are enforced.[52]

Despite the repeated cries of unfairness by those in the e-commerce industry about the perceived influx of unjustified barriers to their new modes of commerce, the patent system, as now implemented, is ready and able to meet the challenge of this new technology. As with any new technological advance, competitors attack and criticize pioneer patent filers. Many years ago Alexander Graham Bell and the Wright brothers had to litigate extensively against those who contested their patents. It is the same today. But software and business methodologies that fail to meet the requisite patentability requirements of novelty and nonobviousness will fail at the application stage, under re-examination, or in litigation.[53]

IV. The Problem of Prior Art Searching

Despite the self-correcting mechanisms that are designed to avoid and void invalid patents, searching for prior art in the software and business method arts is problematic. Most technological innovations have histories exemplified in series of patents demonstrating successive improvements;

51. *Id*. This second review focuses on "compliance with search requirements, reasons for allowance, and a determination whether the scope of the claims should be reconsidered." White Paper on Automated Financial or Management Data Processing Methods (Business Methods), *supra* note 4, Executive Summary, *available at* http://www.uspto.gov/web/menu/busmethp/index.html.

52. In fact, software and business method patenting efforts have greatly increased in both Europe and Japan, despite the bans on business patents in both locales. Article 52 of the European Patent Convention (EPC), *available at* http://www.european-patent-office/news/pressrel/2000-8-18-e.htm (last updated Mar. 6, 2002) (As per the EPC, the governing law for the European Patent Organization, "methods for doing business, programs for computers, etc., are *as such* explicitly excluded from patentability" (emphasis in original), but "a product or a method which is of a technical character" incorporating a business method or computer program "may be patentable."); Implementation Guidelines for Inventions in Specific Fields, Japanese Patent Office, *available at* http://www.jpo.go.jp/infoe/txt/soft-e.txt (last visited Aug. 30, 2002). Therefore, it is clear that these issues are now global in scope.

53. Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, James Rogan's Testimony Before House Judiciary Subcommittee on Intellectual Property, *available at* http://www.uspto.gov/web/offices/com/speeches/househrg2002.htm (last modified April 11, 2002). On April 11, 2002, the Patent Office reported a 45% allowance rate on patent applications in Class 705, down from roughly 55% a year earlier.

software and business methodologies have no such histories.[54] Patent examiners, accordingly, have little or no readily available and categorized patent documentation for these new methodologies.[55] These new patent paradigms are, therefore, *sui generis*, and there is no repertoire of prior patents to cite against them.[56] Thus patent examiners can only find the prior art - if any - needed to attack software and business method patents elsewhere.[57]

Until recently, patent examiners had difficulty accessing particular written materials, such as software manuals and journal articles, that bear on the patentability criteria of novelty and nonobviousness. Since inventors have no duty to search the art themselves (although they must report any pertinent information of which they are presently aware), the full responsibility of searching for prior art usually falls on the patent examiners.[58] With many business methodologies, companies treat proprietary systems and methods as trade secrets; thus no public documentation exists that describes the details of the ideas or their implementation.[59] Despite the hue and cry by many against the obviousness of software and business method patents, surprisingly few people have challenged them.[60] Perhaps, as litigation matures in this new arena and databases and search engines become more powerful and comprehensive, litigants will successfully challenge these patents.

The Patent Office website provides a free database for patent searching at http://www.uspto.gov. In addition, IBM offers searching on its Intellectual Property Network website, www.delphion.com (formerly www.patents.ibm.com). There one can search a broad range of patent information, from U.S.

54. Peter Toren, *An Idea Whose Time Has Come: Patenting Software and Business Methods*, 10 BUS. L TODAY 32, 41 (2001).

55. *See* Merges, *supra* note 26, at 589-90.

56. *Id*.

57. *Id*.

58. To avoid later challenges to their patent and prior to assertion of the patent against others, patentees should diligently forward any references that could compromise the patent to their patent attorneys. This information will enable the attorneys to better distinguish the invention prior to issuance rather than compromise a subsequent lawsuit. Although this duty to submit does not extend beyond patent issuance, patentees may later employ re-examinations and narrowing reissues to distinguish problematic references, as discussed *supra* at notes 31-40 and in the accompanying text.

59. *See* Merges, *supra* note 26, at 589-90 and accompanying text; Kevin M. Baird, *Business Method Patents: Chaos at the USPTO or Business as Usual?,* 2001 J. TECH. L. & POL'Y 347, 351-55 (2001).

60. A website invokes the power of the Internet in order to help with such prior art searches. BountyQuest.com offers bounties (rewards) to prior art "hunters" who discover and submit prior art references undermining the validity of a posted patent. *See* BountyQuest, http://www.bountyquest.com (last visited Jan. 27, 2003).

patents to European patents and published applications, Japanese Abstracts, and publications of the World Intellectual Property Organization, Patent Cooperation Treaty, and International Patent Documentation Center. Numerous other databases offer similar search capabilities.[61]

V. RECOMMENDATIONS

Considering the intense competitiveness of the e-commerce industry, as well as most other industries, companies should consider patent protection for most innovations at the outset. Companies may take various steps to maximize the offensive power of patents and to minimize attacks by competitors who are aware of the power of patents in their industries.

A. Logbooks

As with any innovation, it is useful for inventors to maintain an inventor's notebook or other log of developments, thereby providing evidence of conception, reduction to practice, and any commercialization of their inventions prior to the filing of a patent application. Because the interpretation and scope of the AIPA is unclear at present, all companies should consider implementing a procedure for employees to record their creative efforts. This documentation will establish the dates of conception, implementation, and commercialization. Companies seeking a patent could also use this information as evidence in a patent interference proceeding in which two separate inventors claim priority of inventorship.

Ideally, these logs should be updated in a bound volume within which inventors would enter sequential observations and notations. The pages should be witnessed or otherwise time-stamped each day (or on a periodic basis) to assure the authenticity of the dates. In litigation, an inventor's logbook often makes or breaks a case. The chief documentation problem for e-commerce companies is instituting a regimented patent program within a generally unregimented organization. Alternatively, since e-mails are a growing medium of discourse and discussion, saved e-mails may demonstrate dates of discovery, provided that the company follows adequate time-stamping protocols.

The logbook's content need not be exhaustive, but should be sufficiently detailed to educate one skilled in the area about how to implement the procedure or construct the machine. Problems that were encountered and alternative ways to practice the invention should also be included. All of these facts could facilitate the preparation of a patent application by describing to either

61. The problems of prior art searching and additional databases are also discussed in Raymond Van Dyke, *Software Patents Offer Opportunities and Obstacles*, NAT'L L.J., May 24, 1999, at C19; and Raymond Van Dyke, *File Not found: The Controversy in Software Patents and the Search for Prior Art,* Conference Proceedings in the Joint Meetings of New York, New Jersey, Connecticut and Philadelphia Property Law Associations, IV34-IV36 (April 17, 1996).

inside or outside counsel the underlying problem and how the invention solves that problem. Appendix C sets forth a general list of questions for inventors to address in their logbooks and in disclosure materials (to submit to their patent attorneys).

B. Provisional Patenting

In this fast-moving business world, time is of the essence. This is doubly true in patenting. The details of an invention may be part of a product release, posted on a conference or standards website, sold, offered for sale, or otherwise publicized. In view of product launches and other time-intensive demands on inventor/developers, companies without an in-house patent system are often hard-pressed to prepare or assist in the preparation of a patent application.

The Patent Office allows inventors to file a provisional patent application[62] before public dissemination, thereby securing a filing date in advance of the public release. In effect, a provisional patent application is an informal patent application, permitting last-minute patent application filings to preserve priority rights, particularly foreign rights for U.S. inventors. Other than a few minor requirements at filing, the provisional patent filings' chief requirement is that the applicant must convert the provisional patent application to a full patent application within one year.[63] Similarly, if the applicant desires any foreign rights based upon that priority date, the applicant must apply for foreign patent rights within the one-year period.[64]

Because business methodologies evolve rapidly, companies may employ a series of provisional, or even full, patent applications to cover successive developments. The company should include flowcharts and other drawings to describe and illustrate the best and alternate modes of practicing the invention, and also should provide an enabling disclosure.

C. Foreign Patenting

Given the increasing globalization of commerce, patentees may not be satisfied with U.S. patent rights alone. Due to differing filing rules in foreign countries, however, companies must take greater care when publicizing their inventions. To preserve foreign filing rights, it is crucial that an inventor file a patent application, whether provisional or full, prior to any public disclosure. Since many inventors and companies consider patenting their technology relatively late in the development process—frequently on the verge of disclosure or sale—the attempt to preserve patent rights often triggers a crisis.

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62. 35 U.S.C. § 111(b) (2000).

63. *Id.* § 111(b)(5).

64. 35 U.S.C. § 102(b) (2000).

If foreign patent rights are not a concern or have been lost due to public disclosure, U.S. patent law still gives an inventor a one-year grace period from a sale or disclosure date to file a full-utility patent application.[65] Failure to file a patent application in a timely manner, however, constitutes a dedication of that technology to the world, including competitors.

Although many countries do not officially permit business method patents at present, in time, many will. Therefore, when foreign filing considerations arise, the inventor may wish to postpone making filing decisions in order to give the patent offices within applicable countries more time. This may also delay much of the capital outlay required for the foreign patent application expenses.

VI. Drafting Patent Claims in Anticipation of Infringement Litigation

Patent claims establish the "metes and bounds" of the territory that the inventor claims from the vast realm of available ideas.[66] Infringement of patent claims can be direct or indirect. Direct, or literal, infringement occurs when the infringer practices every element of a single claim.[67] For example, a manufacturer making or selling products covered by one or more claims in another's patent literally infringes the patent if it duplicates each element of the claim. Similarly, a company practicing each step of a patented method would literally infringe one or more method claims within a patent.

There are two types of indirect infringement: contributory infringement and inducement infringement. Contributory infringement occurs when someone sells a product (a product constituting less than all of the claim elements, but nonetheless embodying a material part of a claimed invention) knowing that the product is especially made or adapted for an infringing use.[68] Inducement infringement occurs when one party actively aids or abets another party in literally infringing a patent.[69] For example, inducement infringement can occur by enclosing instructions on how to utilize a non-infringing product in a patented combination or how to practice a patented method. In general, proving indirect infringement is more difficult than proving direct infringement.

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65. *Id.*

66. Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257 (Fed. Cir. 1989).

67. *See, e.g.*, Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449, 1454 (Fed. Cir. 1998) (stating a "literal infringement requires the accused device contain each limitation of the claim exactly; any deviation precludes a finding of literal infringement").

68. 35 U.S.C. § 271(c) (2000).

69. *Id.* § 271(b); *see also* Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1306 (Fed. Cir. 1999), *cert. denied,* 528 U.S. 1115 (2000).

When preparing a patent application, the patent attorney must take into account the nature of the technology in question and how best to deal with the possibility of future infringement. For example, in the telecommunications art, drafting claims to a telecommunications system alone could hinder a literal infringement charge against a manufacturer of a subcomponent that is incorporated within an overall system. Similarly, in the software arts, the software user may be the only party infringing patent method claims. Consumers of one's product, however, are normally not desirable targets of a patent infringement suit. Therefore, a patent attorney should draft claims to cover the particular component or device, thereby providing a literal infringement charge against the actual manufacturer. Some options to accomplish this task in the telecommunications field, for example, include using a telecommunications switch, a diskette, a server containing a program, or a methodology practiced by a manufacturer or other culpable company. Furthermore, infringement occurring in multiple and/or foreign jurisdictions complicates the equation. These complex issues clearly demonstrate the need for a competent patent attorney skilled in technology and claim drafting.

VII. Drafting Patent Claims in Light of the Doctrine of Equivalents

As a general rule in infringement suits, courts determine whether the accused device "performs substantially the same function in substantially the same way to obtain the same result" as the patented device.[70] Infringement may nonetheless exist, even though the requirements of literal infringement are not satisfied, if the claimed and accused elements are equivalent. In other words, infringement may still occur even if some claim element is not practiced exactly.

The doctrine of equivalents is an equitable doctrine that protects against situations in which minor changes are made to the claimed invention to avoid literal infringement. Thus, the doctrine of equivalents must be applied to each element of the patent claim instead of to the invention as a whole.[71] The Federal Circuit has consistently held that equivalency is at odds with the basic premise of patent law that the claims measure the patent grant, thereby preventing claim expansion to encompass more than a mere insubstantial change.[72] Also, where applicable, "prosecution history estoppel" prevents expansion of the patent claims to cover an equivalent structure relinquished

70. *See* Graver Tank & MFG Co. v. Linde Air Prods. Co., 339 U.S. 605, 608 (1950); Atlas Powder Co. v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 1579 (Fed. Cir. 1984).

71. *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29-30 (1997).

72. *Id*. at 29.

during prosecution, whether the relinquishment occurred by claim amendment or by arguments made to the Patent and Trademark Office.[73]

Another form of equivalence, set forth in 35 U.S.C. § 112(6), contrasts with the judicially-created doctrine of equivalents. Under the statute, a claim element may recite so-called means-plus-function language or step-plus-function language, instead of reciting a structure.[74] For example, a claim element may use "means for transmitting" instead of a transmitter. In recent years, however, the Federal Circuit has significantly reduced the scope of the equivalents encompassed by means/step-plus-function elements to cover only those structures explicitly set forth in the patent disclosure.[75] This reduction in scope can be problematic for many e-commerce inventions because there is usually no "structure" involved. Thus, it is increasingly important to explicitly set forth the alternative embodiments for practicing the invention in the patent application. Such explicitness creates more chances to make a literal infringement argument rather than relying on an equivalence argument at trial. Further, alternative claim structures should not only be employed to attack infringement from different angles, but also to help protect against future judicial interpretations restricting claim coverage. Again, the assistance of a skilled patent attorney at the patent drafting and prosecution stages is crucial because such assistance, or lack thereof, forms the framework for subsequent litigation.

VIII. Defending Infringement Claims

When confronted with a complaint for infringement of a software or business method patent, the patent attorney should take immediate action. First, he or she should analyze the allegedly infringing claims, ascertaining their scope as to whether they actually or arguably cover the device, system, or method. Although business method patents get considerable attention and short, catchy titles, what the patent actually claims is key and is usually more limited than what the press and critics allege. Second, the patent attorney should determine if the new business method defense applies and, if so, gather substantiating evidence. Finally, the attorney should begin a patent and literature search for potentially-invalidating references that could provide a tool for settlement. Because competition may be intense and injunctive relief is available to patentees, patent attorneys should consider business alternatives immediately.

Naturally, e-commerce companies, as well as brick-and-mortar companies, may research their competition to prepare for such attacks and even go on the offensive by searching prior art and instituting re-examinations. In-

73. *See* Warner-Jenkinson, 520 U.S. at 30-31; *see also* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 535 U.S. 722 (2002) (considering interaction between doctrine of equivalents and prosecution history estoppel).

74. 35 U.S.C. § 112 (2000).

75. *See In re* Donaldson Co., 16 F.3d 1189, 1195 (Fed. Cir. 1994).

house counsel should carefully monitor the rapidly changing landscape for threats by reviewing, among other items, the weekly patent issuances published by the Patent Office. General guidelines for filing and defending against software and business method lawsuits are set forth in Appendices D and E.

IX. Conclusion

Recognizing a new opportunity, companies now aggressively seek patent protection for their software and business methods to increase the value of their portfolios and their prospectuses. Since some of the early patent filings have been issued, these software and business method patents are being asserted against competitors. The e-commerce and software industries are evolving so rapidly that companies should file patent applications on new innovations early and often, thereby preserving the earliest possible filing dates for inventions and for subsequent lawsuit purposes. The growing shakeout in the e-commerce industry and the need to garner market advantage make patents a choice weapon, especially considering the potential for treble damages in patent litigation. A portfolio of patents in a particular industry, such as those being acquired by Priceline.com, Amazon.com and Microsoft, gives companies a competitive edge beyond market dominance. For example, these portfolios enable superior licensing and cross-licensing positions and, if necessary, injunctive relief. As with any burgeoning industry, the competition is fierce as companies vie to become the standard, such as Microsoft's Windows® for operating systems. Second place means corporate diminution and even death. For e-commerce businesses in particular, the patent war has just begun.

APPENDIX A

CHECKLIST FOR OBTAINING A PATENT

1. Ascertain State of the Art in Pertinent Technology:
   - Perform prior art search of:
     a. online databases: www.USPTO.GOV, www.delphion.com;
     b. Patent Office records, U.S. and foreign; and
     c. Technical journals, manuals and other documentation.
   - Have inventor(s) review uncovered documentation.
   - Initial searching may be done in-house by inventor(s).
   - Determine viability of patent in view of uncovered art.
   - Engage firm for independent final search and opinion.
2. Engage Patent Attorney to Prepare Patent Application:
   - Forward written description of new invention and uncovered references to attorney for review.
   - Consider alternate variations of invention to include in the application in order to protect against design-around by competition.
   - If public disclosure is imminent due to product release, sale, offer to sell, website posting, or other release of inventive concept, then consult a patent attorney immediately to file provisional patent application. This action will preserve a priority date for the invention and will preserve foreign filing rights.
   - If invention is already released, then file U.S. patent application within one year of release and determine if foreign rights are lost.
   - In general, make sure the description of the invention in the patent application is detailed enough to teach another skilled in the same area of expertise how to practice the invention.
   - Forward to attorney any questions regarding the description and claim drafting.
   - Provide names, home addresses, and citizenship of inventor(s) for patent filing.
   - Determine ownership of patent rights for assignment.
   - Note that Patent Office fees are reduced for "small entities": individuals and companies with fewer than 500 employees.[76]
   - Determine if foreign patenting is available and desirable from a business perspective.
   - Be aware that the patent application may be subject to publication, e.g., if foreign rights are sought; if no foreign patents, however, then applicant can opt out of publication, thereby maintaining the application in secrecy until patent issuance.
3. Prosecution Stage of a Patent Application:
   - Rebut/overcome arguments of Patent Office.
   - Note that initial action from Patent Office is generally a rejection.

76. *See* DH Tech. v. Synergystex Int'l, Inc., 154 F.3d 1333, 1339 (Fed. Cir. 1998); *see also* 35 U.S.C. § 41(a) (2000) (discussing patent filing fees).

- Amend claims to obtain allowance only if necessary.
- Upon receipt of a final action, consider the range of response options available.
- After final action, consider filing continuation application if unable to convince examiner to allow the application.
- Determine viability of patent application in view of references cited by U.S. patent examiner and scope of allowed claims; if scope is too narrow, then the patent may not have much commercial value.
- Note that arguments and amendments used to distinguish client's patent from other references and to obtain allowance can be used against client later in litigation under the doctrine of prosecution history estoppel.
- Consider coordinating prosecution of U.S. case with corresponding foreign application(s).
- Note that after the allowance and payment of the issue fee, the patent issues and becomes public.
- Remember that the patent monopoly rights accrue on the day of issuance.
- Prior to patent issuance, consider filing further applications to cover additional, newly-discovered and related features in a continuation-in-part patent application.

4. Post-Issuance:
   - Remember that maintenance fees are due by the 4th, 8th and 12th anniversaries of patent issuance to keep patent in force, particularly if generating royalties.[77]
   - Periodically evaluate value of patent in view of marketplace.

77. *See* 37 C.F.R. § 1.362(e) (2001); 35 U.S.C. § 41(b) (2000).

APPENDIX B

THE AMERICAN INVENTOR PROTECTION ACT

35 U.S.C. § 273. DEFENSE TO INFRINGEMENT BASED ON EARLIER INVENTOR

(a) DEFINITIONS – For purposes of this section –

(1) the terms 'commercially used' and 'commercial use' mean use of a method in the United States, so long as such use is in connection with an internal commercial use or an actual arms-length sale or other arms-length commercial transfer of a useful end result, whether or not the subject matter at issue is accessible to or otherwise known to the public, except that the subject matter for which commercial marketing or use is subject to a pre-marketing regulatory review period during which the safety or efficacy of the subject matter is established, including any period specified in section 156(g), shall be deemed 'commercially used' and in 'commercial use' during such regulatory review period;

(2) in the case of activities performed by a nonprofit research laboratory, or nonprofit entity such as a university, research center, or hospital, a use for which the public is the intended beneficiary shall be considered to be a use described in paragraph (1), except that the use –

(A) may be inserted as a defense under this section only for continued use by and in the laboratory or nonprofit entity; and

(B) may not be asserted as a defense with respect to any subsequent commercialization or use outside such laboratory or nonprofit entity;

(3) the term 'method' means a method of doing or conducting business; and

(4) the 'effective filing date' of a patent is the earlier of the actual filing date of the application for the patent or the filing date of any earlier United States, foreign, or international application to which the subject matter at issue is entitled under section 119, 120, or 365 of this title.

(b) DEFENSE TO INFRINGEMENT –

(1) IN GENERAL – It shall be a defense to an action for infringement under section 271 of this title with respect to any subject matter that would otherwise infringe one or more claims for a method in the patent being asserted against a person, if such person had, acting in good faith, actually reduced the subject matter to practice at least one year before the effective filing date of such patent, and commercially used the subject matter before the effective filing date of such patent.

(2) EXHAUSTION OF RIGHT – The sale or other disposition of a useful end product produced by a patent method, by a person entitled to assert a defense under this section with respect to that useful end result shall exhaust the patent owner's rights under the patent to the extent such rights would have been exhausted had such sale or other disposition been made by the patent owner.

(3) LIMITATIONS AND QUALIFICATIONS OF DEFENSE – The defense to infringement under this section is subject to the following:

(A) PATENT – A person may not assert the defense under this section unless the invention for which the defense is asserted is for a method.

(B) DERIVATION – A person may not assert the defense under this section if the subject matter on which the defense is based was derived from the patentee or persons in privity with the patentee.

(C) NOT A GENERAL LICENSE – The defense asserted by a person under this section is not a general license under all claims of the patent at issue, but extends only to the specific subject matter claimed in the patent with respect to which the person can assert a defense under this chapter, except that the defense shall also extend to variations in the quantity or volume of use of the claimed subject matter, and to improvements in the claimed subject matter that do not infringe additional specifically claimed subject matter of the patent.

(4) BURDEN OF PROOF – A person asserting the defense under this section shall have the burden of establishing the defense by clear and convincing evidence.

(5) ABANDONMENT OF USE – A person who has abandoned commercial use of subject matter may not rely on activities performed before the date of such abandonment in establishing a defense under this section with respect to actions taken after the date of such abandonment.

(6) PERSONAL DEFENSE – The defense under this section may be asserted only by the person who performed the acts necessary to establish the defense and, except for any transfer to the patent owner, the right to assert the defense shall not be licensed or assigned or transferred to another person except as an ancillary and subordinate part of a good faith assignment or transfer for other reasons of the entire enterprise or line of business to which the defense relates.

(7) LIMITATION ON SITES – A defense under this section, when acquired as part of a good faith assignment or transfer of an entire enterprise or line of business to which the defense relates, may only be asserted for uses at sites where the subject matter that would otherwise infringe one or more of the claims is in use before the later of the effective filing date of the patent or the date of the assignment or transfer of such enterprise or line of business.

(8) UNSUCCESSFUL ASSERTION OF DEFENSE – If the defense under this section is pleaded by a person who is found to infringe the patent and who subsequently fails to demonstrate a reasonable basis for asserting the defense, the court shall find the case exceptional for the purpose of awarding attorney fees under section 285 of this title.

(9) INVALIDITY – A patent shall not be deemed to be invalid under section 102 and 103 of this title solely because a defense is raised or established under this section.

APPENDIX C

PATENT DISCLOSURE CHECKLIST

- Describe in general the current state of the art within which the present invention is employed.
- What problems does the present invention address within the current state of the art? What are the objectives of the invention?
- Describe in detail how the invention operates. Provide illustrations where appropriate to demonstrate a preferred implementation.
- Describe in detail alternative embodiments for practicing the invention.
- Provide names, residence addresses, and nationality for each inventor.
- Provide name, phone number, and e-mail address of contact person(s) to discuss invention with outside counsel.
- Forward corporate assignment information to outside counsel: full legal name of corporation and state of incorporation.
- Preserve a logbook, e-mails, and other inventor documentation for many years to support patent challenges and possible litigation.

APPENDIX D

CHECKLIST FOR FILING A LAWSUIT FOR PATENT INFRINGEMENT

1. Pre-Lawsuit Research and Considerations:
   - Select competent counsel to coordinate pre-lawsuit and trial activities.
   - Determine what the competition is doing:
     a. monitor their patenting activities;
     b. watch your own product lines for new competitors; and
     c. determine potential royalties/damages.
   - Evaluate scope of patent claims for assertion.
   - Review prosecution history of subject patent(s) to ascertain any limitations, particularly in cases of application of doctrine of equivalence; analyze all claim and other amendments and the reasons therefor.
   - Apply claims and any amendments/limitations to suspected infringing product/process to determine whether infringement exists and whether it is direct or indirect.
   - Determine whom to sue: manufacturers, users, domestic companies, foreign companies.
   - Determine venue options for filing suit (weigh advantages of home district, other convenient location, or district with advantageous procedural rules such as rocket docket).
   - Obtain opinion of competent counsel regarding patent validity and infringement.
   - Consider re-issuance of subject patent, if within two years of issuance, to modify claims to better cover infringement by competitor.
   - Take care when sending cease and desist letters to potentially infringing companies to not overtly threaten a lawsuit, thereby inviting a declaratory judgment action against you.
   - Consider using trial consultants and mock juries to analyze your position.
2. Filing the Patent Lawsuit:
   - File suit, generally in "home" jurisdiction or in infringer's locale.
   - Consider court dockets and timeliness of trial; choose a fast court (rocket docket) or a slow one depending upon overall objectives.
   - Note potential for motions to transfer venue by opposing side.
   - Consider filing in International Trade Commission, which denies the importation of infringing goods.
   - Use pretrial and summary judgment motions effectively.
   - Prepare for *Markman* hearing to ascertain the interpretation of the claim.
   - Attempt to settle.
3. The Trial:
   - Ask for a jury, because juries generally favor patentees.

- Prepare fact and expert witnesses and inventor(s) for direct and cross examination.
- Prepare rebuttals to defendant's fact and expert witnesses.
- Prepare demonstration exhibits.
- Attempt to show willful infringement for enhanced damages and attorney's fees.
- Make appropriate objections and motions to preserve issues on appeal.

4. Appeal to the Federal Circuit:
   - Note that patent appeals will be to this specialized court.
   - Select competent counsel for appeal.

APPENDIX E

CHECKLIST FOR DEFENDING AGAINST AN INFRINGEMENT LAWSUIT

1. Pre-Lawsuit and Post-Filing Research and Considerations:
   - Determine what competition is doing:
     a. monitor their patenting activities;
     b. watch your own product lines for new competitors; and
     c. determine potential royalties/damages if sued.
   - Evaluate scope of patent claims being asserted.
   - Review prosecution history of subject patent(s) to ascertain any limitations, particularly in cases of application of doctrine of equivalence; analyze all claim and other amendments and the reasons therefor.
   - Apply claims and any amendments/limitations to company product/process to determine whether infringement exists and whether it is direct or indirect.
   - Obtain opinion by competent counsel regarding patent validity and infringement.
   - Consider challenging others' patents through re-examination.
   - If pre-filing threat of infringement suit becomes overt, then consider filing declaratory judgment action to obtain home court advantage.
2. Defending the Patent Lawsuit:
   - Consider seeking a transfer of venue to home or neutral jurisdiction.
   - Use pretrial and summary judgment motions effectively.
   - Prepare for *Markman* hearing to ascertain the interpretation of the claim.
   - Attempt to settle.
3. The Trial:
   - Prepare fact and expert witnesses and inventor(s) for direct and cross examination.
   - Prepare rebuttals to patentee's fact and expert witnesses.
   - Prepare demonstration exhibits.
   - Rebut patentee's attempt to show willful infringement (if necessary, produce counsel opinion of non-infringement).
   - Make appropriate motions to preserve issues on appeal.
4. Appeal to the Federal Circuit:
   - Note that patent appeals will be to this specialized court.
   - Select competent counsel for appeal.