

ABUSING INTELLECTUAL PROPERTY RIGHTS IN CYBERSPACE: PATENT MISUSE REVISITED

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“[W]e are still at the dawn of the Information Age, and much more remains to be done to grasp its potential. We should use technology to advance our oldest and deepest values”¹

I. INTRODUCTION

In today’s dot com world, many players are spending large sums on acquiring electronic commerce (“e-commerce”) patents. Most of these patents are a little bit software patent, a little bit business method patent, and likely invalid. There is indeed growing concern among commentators that the United States Patent Office is issuing an ever-increasing number of invalid patents. Of course, this statement is legally incorrect because a patent, once issued, is presumed to be valid,² which is one of the problems, indeed. Reality demonstrates that many e-commerce patents are not objectively valid and are emerging from prosecution enjoying the same presumption of validity that all patents enjoy. In fact, many business method and software patents that have been issued are likely not valid, or have been demonstrated to be invalid.³

For example, Priceline.com received a United States patent on

1. Press Release, William Jefferson Clinton, Release of the E-commerce Working Group’s Final Report (Jan. 16, 2001), *available at* http://clinton5.nara.gov/library/hot_releases/Jan_16_2001_2.html.

2. 35 U.S.C. § 282 (2001).

3. For discussion of some suspect patents, see Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad For Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263, 268 (2000) (citing U.S. Patent No. 5,761,857 (issued June 9, 1998)); 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 (2000); John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. REV. 1139, 1161-62 (1999) (citing U.S. Patent No. 5,668,736 (issued Sept. 16, 1997)); Seth Schulman, *Software Patents Tangle The Web*, TECH. REV., Mar./Apr. 2000, at <http://www.techreview.com/articles/shulman0300.asp> (explaining the Compton patent on multimedia, which later had none of its forty-one claims emerge from reexamination).

pricing, selling and exercising options to purchase airline tickets.⁴ This patent purports to give Priceline.com the exclusive right to what is known as a Dutch auction,⁵ something that is hardly new or unobvious. In fact, the '127 patent explains in its specification :

Until now, however, there has been no acceptable way to minimize the risk of fluctuations in airline ticket prices. In particular, as far as we are aware, options to purchase airline tickets have never been sold. Moreover, no systems have been developed for determining prices for options on airline tickets, and keeping track of the sale and exercise of those options.⁶

Apparently, the fact that a Dutch auction has never been done online makes this particular business method patentable.⁷ Patentability, however, should not be such an easy question for this and other business method patents. Business method patents such as the Priceline.com patent are centered on a method of conducting business, which is patentable—if at all—simply because of its method of implementation.

Since the dawn of the Internet age, we have increasingly become confronted with the nagging question presented by the Priceline.com Dutch auction patent and countless others. When should business method patents be granted to a method that requires the use of Internet technology; or put another way, when should e-commerce patents be granted? This question requires careful consideration of both novelty and obviousness, and we must reflect upon whether patent protection should extend to an old business method that has new or revitalized relevance given the speed of computers and the interconnectivity of those computers through a global communications network. As evidenced by the

4. U.S. Patent No. 5,797,127 (issued Aug. 18, 1998) (“Method, apparatus, and program for pricing, selling, and exercising options to purchase airline tickets.”)

5. For an explanation of what a Dutch auction is, see the following helpful websites: Kate Reynolds, *Auction Types—Dutch*, AGORICS, INC., at <http://www.agorics.com/~agorics/auctions/auction3.html> (1996); *Dutch Auction*, EBAY, at <http://pages.ebay.com/help/basics/g-dutch-auction.html> (last visited Feb. 1, 2002).

6. See *supra* note 4.

7. While it is true that long felt need in the industry is a consideration to be taken into account when determining obviousness, see *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582 (Fed. Cir. 1996); *Graham v. John Deere Co.*, 383 U.S. 1 (1966), no amount of long felt need can override what is otherwise a straightforward case of obviousness.

Priceline.com Dutch auction patent, the method of doing business is patentable simply because up until the dawn of the Internet age, it was inconceivable that one could “minimize the risk of fluctuations in airline ticket prices” in a manner that would allow for meaningful commercial exploitation. Such an answer, however, begs the essential question of whether the patentability requirements have been sufficiently met. Given the state of the art in technology leading up to the creation of the World Wide Web, it would stretch the imagination to believe that a Dutch auction, as carried out by Priceline.com, could withstand the rigors of an unbiased and fully informed obviousness inquiry.

In all fairness to the United States Patent Office, they are certainly not solely to blame for the explosion of e-commerce patents. Likewise, it is also not to blame for the number of invalid software and business method patents that are being issued. The Patent Office is attempting to engage in more rigorous examination of such patents,⁸ but even these laudable improvements are falling short of the mark. One reason for this problem is that the patent examining corps is simply too overworked and does not have the proper resources to examine patent applications in a manner likely to lead to the weeding out of patents that ought not see the light of day. The real problem, however, is best summarized by a 1999 survey conducted by Greg Aharonian, which revealed that fifty percent of all patent applications cited no prior art at all.⁹ Likewise, Mr. Aharonian estimates that somewhere between fifty and seventy percent of software patents would likely not issue if the examiners were to conduct prior art searches of both Patent Office archives and databases readily available but not accessible within the confines of the Patent Office.¹⁰

There is nothing inherently immoral or evil about software patents, business method patents, or e-commerce patents. The patent laws strike a delicate balance between innovation on the one hand and exploitation and capitalism on the other. Without providing the requisite level of economic incentive, we cannot

8. For the Revised Examination Guidelines for Computer Implemented Inventions, see UNITED STATES PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2106 (8th ed. 2001), available at http://www.uspto.gov/web/offices/pac/mpep/mpep_e8_2100.pdf [hereinafter MPEP].

9. See Schulman, *supra* note 3.

10. *Id.*

anticipate that inventors and entrepreneurs would be able to engage in the full-time research and development required to produce the level of innovation that we have become accustomed to: the level of innovation deemed appropriate and necessary by our founding fathers and those who preceded them. Nevertheless, the delicate balance of the patent laws can be unnecessarily upset and taken advantage of when the United States Patent & Trademark Office ("USPTO") is issuing patents that it ought not because they do not meet the patentability requirements of novelty and non-obviousness. Given the cutbacks facing the USPTO,¹¹ the increased number of patent applications,¹² and the lack of significant prior art in the computer software and business method fields,¹³ we may not be able to rely upon the USPTO to conduct the rigorous examination that should occur prior to patent issuance.

A change is necessary to ensure that issued software, business method and e-commerce patents properly enjoy the presumption of validity. I have previously advocated for the enactment of a duty to search prior art before filing a patent application.¹⁴ This duty, however, is not the only solution. This paper will discuss whether enforcement and licensing of these patents without first conducting a prior art search should be considered patent misuse. Toward that end, Part II of this article will explain how the Internet works, including the obligatory examples of why the Internet and the World Wide Web are better than sliced bread, baseball and apple pie. Part III will then explain in a nutshell the fundamentals of patent law. This explanation will be achieved by exploring the patent grant, the role of the USPTO and the basic requirements for patentability. Part IV will then detail the history of software patents,

11. Clifton Brown, *Funding Remains Issue for U.S. Patent & Trademark Office: A Push for Less Fee Withholding*, CORP. L. TIMES, Jan. 2002, at 24.

12. See Eugene R. Quinn, Jr., *Using Alternative Dispute Resolution to Resolve Patent Litigation: A Survey of Patent Litigators*, 3 MARQ. INTELL. PROP. L. REV. 77, 106 (1999).

13. The primary prior art used in the examination process is prior United States Patents. Unfortunately, however, the patenting of both software and business methods is a relatively new phenomenon, as will be discussed *infra*. This means that there are relatively few United States Patents available in these fields. Moreover, with respect to business method patents, the bulk of the available knowledge resides solely with the companies employing those methods. This leads to the inescapable conclusion that there is very little prior art being used to measure the validity of new software and business method patents, which will tend to produce inferior results, or put another way, more invalid patents.

14. See Eugene R. Quinn, Jr., *The Proliferation of E-commerce Patents: Don't Blame the PTO*, RUTGERS COMPUTER & TECH. L.J. (2001) (forthcoming Mar. 2002).

business method patents and the rise of what I call e-commerce patents. Part V will then explore the law of patent misuse. Part VI will explain why it may be appropriate to expand patent misuse and breathe new life into that doctrine, particularly with respect to e-commerce patents. Finally, Part VII will act as a brief conclusion.

II. UNDERSTANDING THE INTERNET

A. *E-commerce Myths, Realities and Bedtime Stories*

In April of 1998 the U.S. Department of Commerce issued a report, entitled *The Emerging Digital Economy*,¹⁵ which discussed the virtues of the Internet, the World Wide Web and electronic commerce in general. One of the more interesting portions of the report was found in the conclusion, entitled *Challenges Ahead*, where the Department of Commerce quite clearly and unambiguously compared the “digital revolution” to the American Industrial Revolution:

As with any major societal transformation, the digital economy will foster change and some upheaval. The Industrial Revolution brought great economic and social benefit, but it also brought about massive dislocations of people, increased industrial pollution, unhealthy child labor and unsafe work environments. . . .

. . . . The good news is that the net economic growth anticipated by this digital revolution will likely create more jobs than those that are lost. Further, the jobs created are likely to be higher-skilled and higher-paying than those that will be displaced . . .

. . . . If . . . public policy issues can be resolved, and electronic commerce is allowed to flourish, the digital economy could accelerate world economic growth well into the next century.¹⁶

More recently, on January 15, 2000, the Department of Commerce issued a report, entitled *Leadership for the New Millennium: Delivering on Digital Progress and Prosperity*,¹⁷ which was

15. U.S. DEPT. OF COMMERCE, THE EMERGING DIGITAL ECONOMY REPORT (Apr. 15, 1998), available at <http://www.ecommerce.gov/viewhtml.htm>.

16. *Id.* at Chapter Eight, *Challenges Ahead*, available at <http://www.ecommerce.gov/danc8.htm>.

17. U.S. WORKING GROUP ON ELECTRONIC COMMERCE, U.S. DEPT. OF COMMERCE, THIRD ANNUAL REPORT (Jan. 16, 2001), available at

the third and final report in the series. This latest government report once again sings the praises of the Internet and the World Wide Web, but also provides remarkable predictions for the near term growth of e-commerce. The report puts the past and future into perspective:

Perhaps the most visible symbol of the IT-related changes over the last eight years is e-commerce. In 1993, when the Clinton-Gore Administration took office there was no appreciable business activity online. In December 1995, when the White House Electronic Commerce Working Group first convened, commerce on the Internet was just beginning and its potential was not widely recognized. Sales generated by the World Wide Web that year totaled just over \$435 million. Since then, business-to-consumer and business-to-business e-commerce has skyrocketed. Some estimates suggest that business-to-consumer e-commerce will total some \$61 billion or more in 2000. Some sources suggest that business-to-business e-commerce will exceed \$184 billion in 2000. Although estimates vary, there is strong consensus about continued further growth. Business-to-consumer e-commerce could swell to between \$75 billion and \$144 billion in 2003. Business-to-business e-commerce could reach between \$634 billion and \$3.9 trillion. Already approximately 3 in 5 companies are using e-commerce to some extent and a further 20 percent say they intend to do so in the future. By 2003 some 80 percent of all business-to-business transactions could occur online.

It is understandable that today some may be skeptical about comparing the digital economy with the American Industrial Revolution. Numerous Internet companies are defunct, and countless others are clinging to life. Excite@Home recently sold its Blue Mountain Arts to American Greetings for \$35 million in cash,¹⁸ which may not seem paltry until you realize that Excite@Home acquired Blue Mountain Arts in 1999 for \$780 million.¹⁹ Even those Internet companies that are recognized as the

<http://www.ecommerce.gov/ecomnews/ecommerce2000annual.pdf>.

18. Jim Hu, *American Greetings Buys Excite Unit*, CNET NEWS.COM, Sept. 13, 2001, at <http://news.com.com/2100-1023-272977.html>.

19. Sandeep Junnarkar, *Excite@Home Buys Online Greeting Card Site for \$780 Million*, CNET NEWS.COM, Oct. 25, 1999, at <http://news.com.com/2100-1040-231860.html>.

elite, such as Amazon.com, are having difficulty turning a profit.²⁰ In the good old days of the Internet, e-businesses were able to thrive on ever increasing deficits and no realistic plan for becoming profitable in the foreseeable future. These good old days of the Internet, while not a distant memory by any real-world definition, are quite distant digital memories.

To be sure, the growth of the technology companies that make up the NASDAQ has been curtailed. The naysayers and prophets of doom, who are peddling the collapse of both tech companies and e-business alike, greatly exaggerate the early demise of the industry. The technology industry will undoubtedly go through restructuring, but technology does not stand still, and Americans are unlikely to have their thirst for high tech gadgets quenched any time soon. This truth is most certainly evidenced by the fact that in 2000, nearly forty-two percent of American households were connected to the Internet—up sharply from the twenty-six percent that were connected in 1998.²¹ Quite simply, the Internet and the World Wide Web are now a way of life for many Americans, and there is no reason to believe that the rapid, dynamic and unbridled growth of the Internet will come to an end any time soon, or ever. Undoubtedly, however, e-businesses will mature out of necessity. Profits will increasingly matter to investors, and chief executive officers everywhere will learn that the World Wide Web is a tool to be exploited and does not in and of itself provide the silver bullet that will allow the closing of brick and mortar stores and the cessation of real-world customer service and support.

B. The Technology That Makes the Internet Work

Unfortunately, because of the nature of the Internet, it is exceedingly difficult to define what the Internet is with any precision or accuracy. Many courts have tried to provide a meaningful structural definition for this dynamic communications medium. The best such attempt still remains the description

20. On January 22, 2002, Amazon.com, the world's leading online retailer, showed its first profit (albeit of only one cent per share) since its inception in 1995. Charles Abrams, *Commentary: An E-Tailing Milestone*, CNET NEWS.COM, Jan. 23, 2002, at <http://news.com.com/2009-1017-821238.html>.

21. NAT'L TELECOMM. AND INFO. ADMIN., DEPT. OF COMMERCE, *FALLING THROUGH THE NET: TOWARD DIGITAL INCLUSION*, Oct. 2000, available at <http://www.ntia.doc.gov/ntiahome/fttn00/contents00.html>; graph available at <http://www.ntia.doc.gov/ntiahome/fttn00/chartI-3.htm>.

provided in 1996 by the court in *American Civil Liberties Union v. Reno*,²² defining the Internet as follows:

The Internet is not a physical or tangible entity, but rather a giant network which interconnects innumerable smaller groups of linked computer networks. It is thus a network of networks. This is best understood if one considers what a linked group of computers—referred to here as a “network”—is, and what it does. Small networks are now ubiquitous (and are often called “local area networks”). For example, in many United States Courthouses, computers are linked to each other for the purpose of exchanging files and messages (and to share equipment such as printers). These are networks.²³

Unfortunately, this definition, while actually quite good, is not extremely useful for those who are not already familiar with computers. Creating an even further problem is that any definition of the Internet may well become inappropriate as time passes and technology advances. This is true because so much of the Internet’s substance depends on state-of-the-art technology and its implementation.

The Internet is a redundant series of linked computers over which information travels.²⁴ In essence, the Internet is a giant network that connects vast numbers of smaller groups of linked computer networks. The nature of the Internet makes it very difficult, if not nearly impossible, to determine the number of computers that are linked together.²⁵ The computers and networks that together make up the Internet are owned by private individuals, public companies, universities, non-profit organizations, and governments. Each of the aforementioned groups have different needs for the technology and—therefore—will use, access, and exploit the Internet in a number of different ways. The result is a decentralized, and sometimes chaotic, global medium of communication that knows no jurisdictional or geographic boundaries.²⁶ This communications medium allows any

22. 929 F.Supp. 824 (E.D. Pa. 1996).

23. *Id.* at 830-31.

24. *Cyberspace Communications, Inc. v. Engler*, 55 F.Supp. 2d 737, 745 (E.D. Mich. 1999) (citing *Am. Libraries Ass’n v. Pataki*, 969 F.Supp. 160, 164, 171 (S.D.N.Y.1997)).

25. *ACLU v. Reno*, 31 F.Supp.2d 473, 481 (E.D. Pa. 1999).

26. Llewellyn Joseph Gibbons, *No Regulation, Government Regulation, or Self-Regulation: Social Enforcement or Social Contracting for Governance in Cyberspace*, 6 CORNELL J.L. & PUB. POL’Y 475, 486 (1997). For a more detailed treatment of

of the literally tens of millions of people with Internet access to simultaneously, and almost instantaneously, exchange information.²⁷ This instant gratification means that people all over the world can communicate with digital neighbors, some of whom are next door, and some of whom are on the other side of the globe. In addition, e-merchants are able to be open twenty-four hours, seven days a week. With ever-increasing numbers of Internet users and e-customers, the ability to do e-business is fast becoming a prerequisite for real-world companies that attempt to grow with the economic times.

While being open twenty-four hours, seven days a week and having a reliable, easy-to-use web presence is critical for any business, those that wish to rise to the top and define the next generation of e-business are increasingly attempting to exploit intellectual property rights in cyberspace. This truth should, however, come as no surprise to those specializing in intellectual property law, or to those who are students of the business world. Intellectual property has always proved to be a highly efficient barrier to entry. By its very nature, intellectual property rights are exclusive, which means that intellectual property rights provide the holder of those rights with the opportunity to prevent others from engaging in a certain behavior. In terms of the patent grant, the exclusive right allows the patent-right holder to prevent others from making, using, selling and/or importing a product that is covered by the patent.²⁸

Internet jurisdictional issues, see Eugene R. Quinn, Jr., *The Evolution of Internet Jurisdiction: What a Long Strange Trip It Has Been*, 2000 SYRACUSE L. & TECH. J. 1 (2000), available at <http://www.law.syr.edu/studentlife/pdf/article.pdf> (last visited Feb. 1, 2002).

27. *ACLU*, 31 F.Supp. 2d at 482.

28. See 35 U.S.C. § 154(a)(1) (2001); 35 U.S.C. § 271 (2001). Courts have consistently held that the patent holder's reward, his exclusive right to practice an invention, is unlimited by the law. The only limits on the patent holder's exercise of its exclusive rights are created by the demand for the product embodied in the invention. See, e.g., *King Instruments Corp. v. Perego*, 65 F.3d 941, 950 (Fed. Cir. 1995), cert. denied, 517 U.S. 1188 (1996) ("Thus, the Patent Act creates an incentive for innovation. The economic rewards during the period of exclusivity are the carrot. The patent owner expends resources in expectation of receiving this reward. Upon grant of the patent, the only limitation on the size of the carrot should be the dictates of the marketplace."); *United States v. Studiengesellschaft Kohle, m.b.H.*, 670 F.2d 1122, 1129 (D.C. Cir. 1981) ("The patent gives [the holder] the unlimited right to exclude others from utilizing its process."); *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 215 (1980) ("the essence of a patent grant is the right to exclude others from profiting by the patented invention.").

Perhaps the most direct evidence supporting the proposition that corporate America is increasingly attempting to exploit intellectual property rights in cyberspace is the long delay a patent applicant faces when seeking to obtain a business method patent.²⁹ These long delays are due to the sheer number of business method patent applications filed in the Patent Office, and they certainly evidence corporate interest in this new form of intellectual property right.³⁰

III. UNDERSTANDING THE FUNDAMENTALS OF PATENT LAW

A. *General Introduction to the Patent Grant & the USPTO*

A patent is a legal right granted by the United States government to inventors of new, useful, and non-obvious inventions.³¹ The authority to grant patents is bestowed upon the United States Congress³² by the Constitution, which gives Congress “the power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the

29. Despite what the USPTO proclaims, patent attorneys who draft and prosecute business method and e-commerce patents advise their clients that they must be willing to patiently wait for anywhere between two to four years before they will receive a first office action from the examiner assigned to the patent application.

30. Up until the landmark decision of the United States Court of Appeals for the Federal Circuit in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999), business method patents were considered unpatentable. For further discussion of the genesis of both business method patents see *infra* Part IV(B).

31. 35 U.S.C. § 101 (2001) (new and useful); 35 U.S.C. § 103 (2001) (non-obvious).

32. Under the authority of the United States Constitution the Congress has from time to time enacted various laws relating to patents. *E.g.*, The American Inventors Protection Act, Pub. L. No. 106-113, 113 Stat. 1501A-552 (1999); Act of July 19, 1952, ch. 950, 66 Stat. 792; Act of Apr. 10, 1790, ch. 7, 1 Stat. 109. The first Congress enacted the first Patent Act in 1790. *See* Act of Apr. 10, 1790, ch. 7, 1 stat. 109. The Patent Act, which has undergone several major revisions since its enactment, had its last major revision in 1952. *See* Act of July 19, 1952, ch. 950, 66 Stat. 792. More recently, the Patent Act was revised in several significant ways by the enactment of the American Inventor's Protection Act, which was enacted into law on November 29, 1999 as Public Law 106-113. The USPTO maintains a Web site devoted to explaining this legislation and how it changed Title 35. *See* United States Patent and Trademark Office, *American Inventor's Protection Act*, at <http://www.uspto.gov/web/offices/dcom/olia/aipa/index.htm> (last visited Feb. 1, 2002). The site also contains the full text of the enacted legislation. *Id.*

exclusive Right to their respective Writings and Discoveries”³³ To patent attorneys, this clause of the Constitution will forever be known as the Patent Clause. For attorneys specializing in copyright law, this clause is known as the Copyright Clause. It is better, perhaps, to recognize that our founding fathers deemed intellectual property rights so fundamentally important to the success and stability of our new country that these rights were written into the Constitution, a document not generally known for its length or specificity.

The right conferred by the patent grant is, in the language of the statute and of the grant itself, “the right to exclude others from making, using, offering for sale, or selling” the invention in the United States or “importing” the invention into the United States.³⁴ The patent owner enjoys this exclusive right for a term of twenty years from the date on which the patent application is filed in the United States Patent & Trademark Office (“USPTO” or “PTO”).³⁵ The role of the PTO³⁶ is to examine and, if appropriate, grant

33. U.S. CONST. art. I, § 8, cl. 8.

34. See 35 U.S.C. § 154(a)(1) (2001), which states:

Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.

See also 35 U.S.C. § 271(a), which states:

Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

35. See 35 U.S.C. § 154(a)(2), which states:

Subject to the payment of fees under this title, such grant shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed in the United States or, if the application contains a specific reference to an earlier filed application or applications under section 120, 121, or 365(c) of this title, from the date on which the earliest such application was filed.

36. The U.S. Patent and Trademark Office (“USPTO”) is a non-commercial federal entity and one of fourteen bureaus in the Department of Commerce (“DOC”). United States Patent and Trademark Office, *Our Business: An Introduction to the PTO*, at <http://www.uspto.gov/web/menu/intro.html> (last visited Feb. 1, 2002). The office occupies a combined total of over 1,400,000 square feet in numerous buildings in Arlington, Virginia and employs over 5,000 full time

patents for the protection of inventions.³⁷ In discharging its patent-related duties, the Patent and Trademark Office examines applications and grants patents on inventions when applicants are entitled to them. It publishes and disseminates patent information, records assignments of patents, maintains search files of U.S. and foreign patents, and maintains a search room for public use in examining issued patents and records. It supplies copies of patents and official records to the public. The PTO will only issue a patent if all of the following patentability requirements are met: (1) utility, (2) novelty, (3) nonobviousness, and (4) adequate description.³⁸

B. Patentable Subject Matter in General — 35 U.S.C. § 101

Perhaps the first, and certainly the most basic, question with respect to patentability is whether or not the claimed invention consists of patentable subject matter. In other words, is the claimed invention something that the patent laws are designed to protect? In this regard, section 101 of Title 35 states, “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.”³⁹

The Legislative History of the 1952 Patent Act inform us that Congress intended the patentable subject matter referred to in section 101 to “include anything under the sun that is made by man.”⁴⁰

Given that Congress intended everything made by man to be patentable it is sometimes more helpful when discussing patentable subject matter to search for that which cannot be patented. In this regard, the U.S. Supreme Court has repeatedly and consistently

equivalent staff to support its major functions, which include the examination and issuance of patents and the examination and registration of trademarks. *Id.*

37. The USPTO is also charged with the duty of examining and registering trademarks. The PTO is split up into two offices, the Patent Office and the Trademark Office. *Id.* In order to practice in front of the Patent Office it is necessary to take and pass the Patent Bar Examination, and the only individuals allowed to sit for the examination are those with a scientific education. There is, however, no similar examination given by the Trademark Office, and any attorney admitted to practice in any state may practice before the Trademark Office.

38. See *infra* sections III.B to III.G.

39. 35 U.S.C. § 101 (2001).

40. S. REP. NO. 82-1979, 2d Sess., at 5 (1952); H.R. REP. NO. 82-1923, 2d Sess., at 6 (1952); *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

stated that there are only three categories of subject matter for which one may not obtain patent protection: (1) laws of nature, (2) natural phenomena, and (3) abstract ideas.⁴¹ In elaborating on this point the Supreme Court has explained:

[A] new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that $E=mc^2$; nor could Newton have patented the law of gravity. Such discoveries are “manifestations of . . . nature, free to all men and reserved exclusively to none.”⁴²

Today, there are few questions with respect to patentable subject matter. From time to time, the PTO does attempt to breathe new life into rejections for want of patentable subject matter, but ultimately the legislative history and the guidance of the Supreme Court is clear.

C. The Utility Requirement — 35 U.S.C. § 101

To satisfy the requirements of section 101, a patentee must not only demonstrate that the subject matter of the invention is patentable, but he must also demonstrate that the claimed invention is “useful” for some purpose.⁴³ This statement of utility, while necessary, can be made either explicitly or implicitly.⁴⁴ The utility requirement finds its foundation in the belief that an invention that is inoperative is not a “useful” invention within the meaning of section 101 and, therefore, does not deserve patent protection.⁴⁵ For a claimed invention to violate the utility requirement it must be “totally incapable of achieving a useful result.”⁴⁶ Therefore, an invention that is at least partially useful will pass muster under section 101, and the PTO will not issue a utility rejection.⁴⁷

41. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981) (“Excluded from such patent protection are laws of nature, natural phenomena, and abstract ideas. An idea of itself is not patentable. A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.”) (citations and quotation marks omitted); *Chakrabarty*, 447 U.S. at 309.

42. *Chakrabarty*, 447 U.S. at 309.

43. 35 U.S.C. § 101 (2001).

44. *Id.*

45. *Brooktree Corp. v. Advanced Micro Devices*, 977 F.2d 1555, 1571 (Fed. Cir. 1992).

46. *Id.*

47. *See MPEP*, *supra* note 8, § 2107(II) (B).

Notwithstanding the extremely low utility hurdle, claimed inventions can and do fail the utility requirement. An invention that fails the utility requirement does so for one of two reasons. First, an applicant can fail to identify any specific utility for the invention or fail to disclose enough information about the invention to make its utility immediately apparent to those familiar with the technological field of the invention. Second, the applicant's asserted utility for the invention may not be credible.⁴⁸ A good example of the latter is an invention claiming to be a perpetual motion machine.⁴⁹

It is important to remember, however, that the PTO has the initial burden of challenging the applicant's assertion of utility. This is true because the applicant's assertion of utility in the disclosure will be initially presumed to be correct.⁵⁰ "Only [if] the PTO provides evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince [the PTO] of the invention's asserted utility."⁵¹

An assertion by the patentee regarding utility will be credible unless: (1) the logic underlying the assertion is seriously flawed, or (2) the facts upon which the assertion is based are inconsistent with the logic underlying the assertion.⁵² Credibility as used in this context refers to the reliability of the statement based on the logic and facts that are offered by the applicant to support the assertion of utility. One situation where an assertion of utility would not be considered credible is where a person of ordinary skill would consider the assertion to be incredible in view of contemporary knowledge, and where the applicant has not provided any information to counter that which the contemporary knowledge suggests.⁵³ Again, a perpetual motion machine is a good example.

48. See *Brenner v. Manson*, 383 U.S. 519, 530-31 (1966); MPEP, *supra* note 8, § 2107(II)(B)(1)(ii).

49. See MPEP, *supra* note 8, § 2107.01(II), § 608.03 ("With the exception of cases involving perpetual motion, a model is not ordinarily required by the Office to demonstrate the operativeness of a device."), and § 706.03(a).

50. *In re Brana*, 51 F.3d 1560, 1566 (Fed. Cir. 1995) (citing *In re Bundy*, 642 F.2d 430, 433 (C.C.P.A. 1981)); see also MPEP, *supra* note 8, § 2164.07.

51. *Brana*, 51 F.3d at 1566.

52. MPEP, *supra* note 8, §§ 706.03, 2107.01(II).

53. MPEP, *supra* note 8, § 2107.10(II)(C)(2)(ii).

D. The Novelty Requirement — 35 U.S.C. § 102

Despite the impression given by the low hurdle presented by the first two patentability requirements, not every invention is patentable. One of the most common problems for applications is section 102,⁵⁴ which sets forth the doctrine of anticipation by requiring novelty of invention. Essentially, section 102 requires the applicant for the patent to demonstrate that the invention is new. Absolute “newness” is not required, but those who are first to invent must soon thereafter file for a patent application or risk the loss of patent rights.⁵⁵ In order to understand the requirements of

54. 35 U.S.C. § 102 (2001) states:

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor’s certificate, by the applicant or his legal representative or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor’s certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant’s invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

55. A detailed discussion of novelty is beyond the scope of this paper. Those familiar with patent law will appreciate the numerous nuances associated with a true understanding of novelty. For purposes of this article it will be sufficient for the reader to understand that, generally speaking, in order for a patent to issue the invention embodied by the patent application must be new (i.e., one that has not been made previously). For a more detailed exposition of the novelty requirement, see 1 DONALD S. CHISUM, CHISUM ON PATENTS § 3.01 *et seq.* (2001).

section 102, it will be helpful to explore the concept of anticipation in a little detail.

1. *Anticipation Generally*

A claim is said to be “anticipated” if comparison of the claimed invention with a prior art reference reveals that each and every element in the claim under attack is shown or described, organized, and functioning in substantially the same manner as in the prior art reference.⁵⁶ Anticipation is perhaps most easily understood as the converse of infringement: “that which infringes, if later, would anticipate, if earlier.”⁵⁷ As Judge Hand explained:

No doctrine of the patent law is better established than that a prior patent or other publication to be an anticipation must bear within its four corners adequate directions for the practice of the patent invalidated. If the earlier disclosure offers no more than a starting point for further experiments, if its teaching will sometimes succeed and sometimes fail, if it does not inform the art without more how to practice the new invention, it has not correspondingly enriched the store of common knowledge, and it is not an anticipation.⁵⁸

2. *Anticipation Test*

The standard for anticipation is a rigorous one; requiring that every element of the claimed invention, as arranged in the claim, be disclosed either specifically or inherently by a single prior art reference.⁵⁹ Every element of the challenged claim need not be expressly delineated in a single prior art reference, but may be inherently disclosed by prior art if “the prior art necessarily functions in accordance with the limitations” of the challenged claim.⁶⁰ However, if the court must go beyond a single prior art

56. *In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986).

57. *Knapp v. Morss*, 150 U.S. 221, 228 (1893).

58. *Dewey & Almy Chem. Co. v. Mimex Co.*, 124 F.2d 986, 989 (2d Cir. 1942) (Hand, J.).

59. *See Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576-77 (Fed. Cir. 1991); *Lindemann Maschinenfabrik GMBH, v. Am. Hoist and Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

60. *King*, 801 F.2d at 1326; *see also Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991), *cert. denied*, 506 U.S. 817 (1992).

reference, the proper challenge is under section 103 for obviousness, not section 102 for novelty.⁶¹ A reference will, however, anticipate a claim if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention.⁶²

E. The Nonobviousness Requirement — 35 U.S.C. § 103

Obviousness is a critical element to patentability. In essence, even if the applicant can demonstrate patentable subject matter, utility and novelty, the patent will not issue if the invention is trivial. In order to determine if an invention is trivial it is necessary to see if there was motivation in the prior art to do what the inventor has done. If the prior art does not explicitly, and with identity of elements, teach the invention, the patent applicant may still be thwarted if there are a number of references that, when combined, would produce the claimed invention. In order to determine whether an invention is obvious we must turn to section 103 of Title 35, which states:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b) [Regarding biotechnological patents]

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

61. *Scripps*, 927 F.2d at 1577.

62. *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995); *In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985); *In re LeGrice*, 301 F.2d 929, 939 (C.C.P.A. 1962).

1. *Obviousness Generally*

A patent may not be obtained if it contains only obvious differences from prior art. An invention is obvious if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. “[T]he obviousness inquiry is highly fact-specific and not susceptible to per se rules.”⁶³ A Defendant cannot simply present evidence of anticipation and then say, “ditto” to establish obviousness.⁶⁴ Nevertheless, for a patent to be nonobvious it must display “ingenuity beyond the compass” of a person of ordinary skill in the art.⁶⁵

2. *The Obviousness Factors — A Factual Inquiry*

The obviousness determination is based on four factual inquiries, outlined in *B.F. Goodrich Co. v. Aircraft Braking Systems Corp.*:

(1) the differences between the prior art and challenged claims, (2) the level of ordinary skill in the field of the pertinent art at the time of plaintiff’s invention, (3) what one possessing that level of skill would have deemed to be obvious from the prior art reference, and (4) objective evidence of obviousness or nonobviousness.⁶⁶

Notwithstanding these factual inquiries, objective evidence of obviousness or nonobviousness *must* also be considered before reaching a conclusion on obviousness. Objective evidence includes: (1) the commercial success of the invention, (2) whether the invention satisfied a long-felt need in the industry, (3) failure of others to find a solution to the problem at hand, and (4) unexpected results.⁶⁷

63. *Litton Sys., Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1567 (Fed. Cir. 1996).

64. *See Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 299, 303 (Fed. Cir. 1995) (noting that evidence of anticipation does not equate with evidence of obviousness).

65. *Kirsch Mfg. Co. v. Gould Mersereau Co.*, 6 F.2d 793, 794 (2d Cir. 1925) (Learned Hand, J.).

66. *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582 (Fed. Cir. 1996); *see Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *Hoover Group*, 66 F.3d at 303.

67. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987); *see also B.F. Goodrich*, 72 F.3d at 1582.

In determining what would have been obvious to a person of ordinary skill in the art, the decision-maker may examine the following factors: (1) type of problems encountered in the art; (2) prior art solutions to those problems; (3) rapidity with which innovations are made; (4) sophistication of the technology; (5) educational level of the inventor; and (6) educational level of active workers in the field.⁶⁸

When faced with the question of whether e-commerce patents should issue, obviousness is the major hurdle for the patent application to overcome. This is true because given the new and fast developing technology that makes up the Internet, and given the relative infancy of business method patents, rarely will it be the case that the exact e-commerce solution has significant, or any, prior art patents.

F. Description Requirement — 35 U.S.C. § 112

*1. The Enablement and Best Mode Requirements —
35 U.S.C. § 112, ¶ 1.*

The crux of the description requirement, which is embodied in 35 U.S.C. § 112, is the enablement requirement and the best mode requirement. Both the enablement and best mode requirements can be found in the first paragraph of section 112, which states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The enablement requirement requires the inventor to describe his or her invention in a manner that would allow others in the industry to make and use the invention. "Enablement looks to placing the subject matter of the claims generally in the possession of the public."⁶⁹

68. *Env'tl. Designs v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984).

69. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1532 (Fed. Cir. 1987).

The best mode requirement requires the inventor to disclose his or her preferred way of carrying out the invention at the time the patent application is filed. There is no requirement that the inventor's preferred embodiment be updated as the patent application works its way through the PTO. Best mode looks to whether specific instrumentalities and techniques have been developed by the inventor and are known to him, at the time of filing, as the best way of carrying out the invention.⁷⁰

Thus, the enablement requirement looks to the objective knowledge of one of ordinary skill in the art, while the best mode inquiry is a subjective, factual one—looking to the state of the mind of the inventor.

G. Adequate Description Requirement — 35 U.S.C. § 112, ¶ 2

The other important aspect of the description requirement is found in the second paragraph of 35 U.S.C. § 112, which states: “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” This requirement is perhaps the most fundamental requirement of patentability. It is the claims that define the invention, and those claims must describe the invention in adequate detail.

IV. THE HISTORY OF E-COMMERCE PATENTS

In order to understand the concerns of some in the Internet industry regarding e-commerce patents, it is first necessary to explore the history of e-commerce patents. This history begins with the patentability of computer software, proceeds to the business method exception, and then ultimately finds itself looking at the intersection of the two: the creation of e-commerce patents.

A. The History of Software Patents

1. The Evolution Begins — Gottschalk v. Benson

Since the United States Supreme Court addressed the patentability of computer software in *Gottschalk v. Benson*,⁷¹ there

70. *Id.*; *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 927 (Fed. Cir. 1990).

71. 409 U.S. 63 (1972).

has been considerable change in the law surrounding whether computer software is entitled to patent protection. In *Benson*, the Court was faced with an invention that was described by the patent itself as being related to the “processing of data by program and more particularly to the programmed conversion of numerical information” in general-purpose digital computers.⁷² The applicants for the patent claimed a method for converting binary-coded decimal numerals into pure binary numerals. However, the claims in the patent application were not limited to any particular art or technology, any particular apparatus or machinery, or any particular end use.⁷³ Quite to the contrary, the claims of the patent application itself purported to cover any use of the claimed method in a general-purpose digital computer of any type.⁷⁴ The fact that the claims did not have any type of limitation on use weighed heavily on the minds of the Justices and certainly dictated the outcome of the case.

In beginning its analysis of whether computer software deserves patent protection, the Court began by recognizing that “[w]hile a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.”⁷⁵ The *Benson* Court also recalled the familiar and often cited language found in its decision in *Funk Bros. Seed Co. v. Kalo Inoculant Co.*:⁷⁶

He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.⁷⁷

Nevertheless, despite the fact that the patent claims in question were related to a process that employed a mathematical formula to achieve the end goal, the Court went on to hold that the mathematical formula involved in this case had no substantial practical application except in connection with a digital

72. *Id.* at 64.

73. *Id.*

74. *Id.*

75. *Id.* at 67 (citing *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939)).

76. 333 U.S. 127 (1948).

77. *Gottschalk*, 409 U.S. at 67 (citing *Funk Bros. Seed Co. v. Kalo Co.*, 333 U.S. 127, 130 (1948)).

computer.⁷⁸ Such a determination necessarily meant, in the opinion of the Supreme Court, that if the patent were to be valid, it would completely preempt the mathematical formula—the practical effect being the protection of the algorithm in and of itself,⁷⁹ something that could not be tolerated. Therefore, the patent in question, a patent on the conversion of binary code into pure binary numbers, could not and did not stand. The effect of the *Benson* decision was to prevent the patenting of all computer software, at least at this time.

2. *Rethinking Patentability* — *Diamond v. Diehr*

Almost a decade after the *Benson* decision, the Supreme Court in *Diamond v. Diehr*⁸⁰ first recognized that a computer program might indeed be deserving of patent protection under the appropriate circumstances. The patent in question in *Diehr* claimed a method of operating a molding press during the production of rubber articles.⁸¹ The inventors asserted that their method ensured that the articles would remain in the press for the appropriate length of time. In finding this software patentable, the Supreme Court explained:

a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer.⁸²

....

[a] process is not unpatentable simply because it contains a law of nature or a mathematical algorithm. It is now commonplace that an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection. As Justice Stone explained four decades ago: “While a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.”⁸³

....

78. *Benson*, 409 U.S. at 71.

79. *Id.* at 72.

80. 450 U.S. 175 (1981).

81. *Diehr*, 450 U.S. at 177.

82. *Id.* at 176.

83. *Id.* at 187-88 (internal citations omitted).

... [The equation used in the claimed method] is not patentable in isolation, but when a process for curing rubber is devised which incorporates in it a more efficient solution of the equation, that process is at the very least not barred at the threshold by § 101.⁸⁴

The effect of the *Diehr* decision was to open the door for the possibility that some computer programs were entitled to patent protection. For this reason, *Diehr* can be thought of as a significant departure from *Benson*, and the first significant step toward the patentability of business method and electronic commerce patents.

3. *Federal Circuit Evolution — From Freeman-Walter-Abele to Alappat & Beyond*

For some time after the *Diehr* decision, when faced with the question of whether a computer program deserved patent protection, the United States Court of Appeals for the Federal Circuit applied what was known as the *Freeman-Walter-Abele* test. This test was applied when it was necessary to determine whether a computer program was patentable subject matter pursuant to 35 U.S.C. § 101. The *Freeman-Walter-Abele* test was succinctly set forth by the Federal Circuit in *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*⁸⁵ as follows:

It is first determined whether a mathematical algorithm is recited directly or indirectly in the claim. If so, it is next determined whether the claimed invention as a whole is no more than the algorithm itself; that is, whether the claim is directed to a mathematical algorithm that is not applied to or limited by physical elements or process steps. Such claims are nonstatutory. However, when the mathematical algorithm is applied in one or more steps of an otherwise statutory process claim, or one or more elements of an otherwise statutory apparatus claim, the requirements of section 101 are met.⁸⁶

Several years after *Arrhythmia*, however, the Federal Circuit seemed to abandon the *Freeman-Walter-Abele* test when, sitting en banc in *In re Alappat*,⁸⁷ the court did not apply the *Freeman-Walter-Abele* test to determine if the computer software in question was

84. *Id.* at 188 (internal citations omitted).

85. 958 F.2d 1053 (Fed. Cir. 1992).

86. *Id.* at 1058.

87. 33 F.3d 1526 (Fed. Cir. 1994).

patentable. Instead, the Federal Circuit opted to apply the mathematical subject matter exception, explaining:

[T]he proper inquiry in dealing with the so called mathematical subject matter exception to § 101 alleged herein is to see whether the claimed subject matter as a whole is a disembodied mathematical concept, whether categorized as a mathematical formula, mathematical equation, mathematical algorithm, or the like, which in essence represents nothing more than a “law of nature,” “natural phenomenon,” or “abstract idea.” If so, *Diehr* precludes the patenting of that subject matter.⁸⁸

Also of particular importance from *Alappat* is the Federal Circuit’s attempt to explain prior Supreme Court decisions regarding software patents. In this regard, the Federal Circuit stated:

[A]t the core of the [Supreme] Court’s analysis in each of these cases lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection.⁸⁹

While the *Alappat* court may well have wished the Supreme Court decisions to be quite so simple, the truth of the matter is that previous Supreme Court decisions were not at all easy to reconcile. It seems clear that the Court was addressing each case on a case-by-case basis, which did not lead to a cohesive and well thought out approach to dealing with software patents. The Federal Circuit, on the other hand, was over time fine tuning its analysis and developing a coherent approach, which was designed to yield consistency and lay the foundation upon which similar cases could be decided. This expansion of patentability also recognized the changing face of technology and began to answer the growing corporate desire to patent software.

Shortly after the Federal Circuit, sitting *en banc*, impliedly did away with the *Freeman-Walter-Abele* test in *Alappat*, a three-judge panel applied the *Freeman-Walter-Abele* test in *In re Trovato*.⁹⁰ This controversial decision did not last long. The Federal Circuit—

88. *Id.* at 1544.

89. *Id.* at 1543.

90. 42 F.3d 1376 (Fed. Cir. 1994).

acting *en banc*—withdrew the panel decision,⁹¹ lending further support to the death of the *Freeman-Walter-Abele* test. While the court did not mention the *Freeman-Walter-Abele* test, it did cite *Alappat* and made it clear that the *Alappat* test should be applied to determine whether computer software is patentable. The court explained that *Alappat* had been decided by an *en banc* panel and reiterated that a computer program is entitled to patent protection provided all of the requirements set forth in Title 35 are met. The court went on to briefly and directly explain:

Consistent with *Alappat*, the proposed [PTO] guidelines direct patent examiners to apply all of the requirements of Title 35 when examining applications claiming computer software instead of rejecting such applications under section 101.

On consideration of the combined petition for rehearing and suggestion for rehearing in banc,

IT IS ORDERED that the combined petition for rehearing and suggestion for rehearing in banc is accepted; that the judgment of this court entered on December 19, 1994 is vacated; and that the opinion accompanying the judgment, *In re Trovato*, 42 F.3d 1376, 33 USPQ2d 1194 (Fed. Cir. 1994), is withdrawn.

IT IS FURTHER ORDERED that the decisions of the Board of Patent Appeals and Interferences are vacated, sua sponte, and the case is remanded for reconsideration in light of *Alappat* and any new guidelines adopted by the Patent and Trademark Office for examination of computer-implemented inventions.⁹²

While the Federal Circuit did not mention the mathematical subject matter exception that was formulated in *Alappat*, it does seem clear from the court's language that the mathematical subject matter exception is the rule, to the exclusion of the *Freeman-Walter-Abele* test.

Belief that the *Freeman-Walter-Abele* test was fading into the background and becoming a thing of the past was bolstered when the Federal Circuit decided *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*⁹³ In that case, the Federal Circuit announced the so-called mathematical algorithm exception:

91. *In re Trovato*, 60 F.3d 807, 807 (Fed. Cir. 1995).

92. *Id.* at 807 (internal citations omitted and emphasis added).

93. 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999).

The Supreme Court has identified three categories of subject matter that are unpatentable, namely “laws of nature, natural phenomena, and abstract ideas.” Of particular relevance to this case, the Court has held that mathematical algorithms are not patentable subject matter to the extent that they are merely abstract ideas. In *Diehr*, the Court explained that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, i.e., “a useful, concrete and tangible result.”

Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not “useful.”⁹⁴

Subsequently, the Federal Circuit acknowledged that “[a]fter *Diehr* and *Chakrabarty*, the *Freeman-Walter-Abele* test has little, if any, applicability to determining the presence of statutory subject matter.”⁹⁵ Ultimately, the Federal Circuit held the business method software patentable because it constituted “a practical application of a mathematical algorithm, formula, or calculation, [that] produces a useful, concrete and tangible result”⁹⁶

Shortly after the Federal Circuit’s landmark decision in *State Street Bank*, the court once again addressed the issue of patentability of computer software, and rather than contract the breadth of the *State Street Bank* decision, the court used the opportunity to broaden and solidify its position with respect to the patentability of software. In *AT&T Corp. v. Excel Communications, Inc.*,⁹⁷ the Federal Circuit reaffirmed its decisions in *State Street Bank* and *Alappat*. In so doing, the *AT&T* Court explained:

This court recently pointed out that any step-by-step process, be it electronic, chemical, or mechanical, involves an “algorithm” in the broad sense of the term. Because § 101 includes processes as a category of patentable subject matter, the judicially-defined proscription against patenting of a “mathematical algorithm,” to the extent such a proscription still exists, is narrowly limited to mathematical algorithms in the abstract.⁹⁸

94. *State St. Bank*, 149 F.3d at 1373 (citations omitted).

95. *Id.* at 1374.

96. *Id.* at 1373.

97. 172 F.3d 1352 (Fed. Cir. 1999), *cert. denied*, 528 U.S. 946 (1999).

98. *Id.* at 1356 (citations omitted).

The Court further explained that the *Alappat* inquiry, which is the relevant test when determining patentability if the claimed matter involves an algorithm,

requires an examination of the contested claims to see if the claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a “law of nature” or an “abstract idea,” or if the mathematical concept has been reduced to some practical application rendering it “useful.” In *Alappat*, we held that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display.⁹⁹

Any lingering doubt that the *Freeman-Walter-Abele* test was dead was put to rest as a result of the court’s decision in *AT&T Corp. v. Excel Communications, Inc.* This death of the *Freeman-Walter-Abele* test is of particular importance because in order for software to be patentable under that test, the algorithms in question were required to be applied to or limited by physical elements or process steps. Under the mathematical algorithm exception, no such requirement exists, which will only work to expand the patentability for software programs.¹⁰⁰ The focus of the patentability inquiry, at least insofar as computer software is involved, is now on whether the mathematical algorithms, formulas, or calculations in question produce a “useful, concrete and tangible result.”¹⁰¹ This shift to a result based inquiry should once and for all lay to rest the question of whether computer software is in fact patentable subject matter under 35 U.S.C. § 101.¹⁰²

4. *The End of the Business Method Exception to Patentability*

In *State Street Bank*,¹⁰³ the Federal Circuit unceremoniously and categorically did away with what had previously been known as the “business method exception to patentability.”¹⁰⁴ The business method exception was a judicially created exception to patentability that, when invoked, would render an invention

99. *Id.* at 1357 (citations omitted).

100. *Id.*

101. *Id.*

102. *Id.* at 1358.

103. 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999).

104. *Id.* at 1375-77.

unpatentable simply because the subject matter covered in the patent consisted of a method of doing business.¹⁰⁵ In casting away the business method exception the Federal Circuit stated:

We take this opportunity to lay this ill-conceived exception to rest. Since its inception, the “business method” exception has merely represented the application of some general, but no longer applicable legal principle, perhaps arising out of the “requirement for invention”—which was eliminated by § 103. Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method.¹⁰⁶

Laying to rest the business method exception, however, was not in reality what the Federal Circuit accomplished in *State Street Bank*. To the contrary, the Federal Circuit went out of its way to explain that the business method exception had really never existed in the first place.¹⁰⁷ The Court explained that neither it nor its predecessor court, the C.C.P.A., had ever applied the business method exception.¹⁰⁸ Furthermore, the court explained that the cases often relied upon as supporting the business method exemption, *In re Maucorps*¹⁰⁹ and *In re Meyer*,¹¹⁰ were both rendered prior to the Supreme Court’s decision in *Diehr* and prior to the Federal Circuit abandoning the *Freeman-Walter-Abele* test.¹¹¹ Moreover, the court pointed out that the often-cited *Maucorps* and *Meyer* cases did not address whether business method patents were patentable subject matter under some phantom doctrine related only to business methods.¹¹² To be sure, these cases did indeed deal with business method patents, but the C.C.P.A. did not rely on the so-called business method exception. Rather, the C.C.P.A. found the inventions unpatentable under the mathematical exception.¹¹³

105. *Id.*

106. *Id.* at 1357 (citations omitted).

107. *Id.*

108. *Id.*; see also Rinaldo Del Gallo, III, *Are ‘Methods of Doing Business’ Finally Out of Business as a Statutory Rejection?*, 38 IDEA 403, 435 (1998).

109. 609 F.2d 481 (C.C.P.A. 1979) (dealing with a business methodology for deciding how salesmen “should best handles respective customers”).

110. 688 F.2d 789 (C.C.P.A. 1982) (involving a system for aiding a neurologist in diagnosing patients).

111. *State St. Bank*, 149 F.3d at 1376, n.14.

112. *Id.* at 1376.

113. *Id.*

B. The Rise of E-commerce Patents

As already discussed, an e-commerce patent is nothing more than a software patent that has application to the Internet.

E-businesses are increasingly attempting to exploit patent rights in cyberspace. This truth should come as no surprise to those specializing in intellectual property law, or to those who are students of the business world. Obtaining patents has always been a highly efficient way to erect barriers to entry and thereby protect market share, to the extent possible. By its very nature, the patent grant is exclusive, which means that patents provide the owner of the exclusive right with the opportunity to prevent others from engaging in a certain behavior—namely competitive behavior.

Ordinarily, it is not a significant problem that the exclusive rights conveyed by a patent can, and do, frequently lead to an artificial, restricted, and anticompetitive market. In order to encourage the level of invention that we require as a society, we deem the limited exclusivity of the patent grant to be on one hand loathesome, and on the other hand incredibly necessary. It is because of the latter, the necessity of invention, that we tolerate the limited exclusivity embodied by patents.

The question becomes, “why do e-commerce patents pose a threat any more pronounced than does any other type of patent?” In an ideal world, one in which the requirements for patentability are adhered to, business method and e-commerce patents would not pose any unique threat. The unique threat that the new economy is facing is not because of any failing in the delicate balance struck by the patent laws, but rather because that delicate balance is being thrown askew. The PTO is overwhelmed with applications seeking the protection of business method patents, yet at the same time the PTO has little or no meaningful prior art to judge the allegedly patentable inventions that are being submitted by applicants. This, together with the fact that there is no duty to conduct a search prior to filing a patent application,¹¹⁴ and certainly no duty to search prior to initiating a patent infringement suit, leads to inefficient prosecution and the issuance of patents

114. 37 C.F.R. § 1.56 requires a duty of candor of all those substantively involved with the prosecution of a patent. What Rule 56 does not require, however, is the patent applicant, or anyone involved in the prosecution of the patent application, to conduct a patent search and/or otherwise look for prior art. For more detailed treatment of the lack of a duty to search, and a proposal that suggests the adoption of a duty to search, see Quinn, *supra* note 14.

that do not objectively meet the critical requirements of patentability.¹¹⁵

A mere glance at some of the issued e-commerce patents leads one to the inescapable conclusion that something is amiss. For example, as already discussed, it is indeed hard to understand why Priceline.com was able to obtain US Patent No. 5,797,127 on a Dutch auction conducted via use of Internet technology.¹¹⁶ Likewise, it is difficult to understand why Mob Shop, Inc.¹¹⁷ was able to obtain a United States patent on what the company calls “demand aggregation,”¹¹⁸ which is nothing more than cooperative buying. As the issued patent explains:

This invention allows sellers conveniently to offer “Demand-Based Pricing”, that is, prices which go down as the volume of units sold in any given offer goes up. A seller can therefor offer volume discounts to buyers acting as a group, even when the buyers may not have any formal relationship with one another.¹¹⁹

Mob Shop apparently has no plans to bring any infringement suit to enforce their exclusive right with respect to cooperative buying, but they do plan on licensing the invention to other e-businesses that utilize group-buying techniques.¹²⁰ Mob Shop’s plan not to enforce its patent rights by way of an infringement suit indicates the heart of the problem created by the proliferation of e-commerce patents. One can speculate that Mob Shop has ruled out enforcement by way of litigation because it fears that its patent would not survive the inevitable invalidity defense. Nevertheless, it is going to use the presumption of validity to attempt to extract licensing payments. It is this type of “legalized licensing extortion”¹²¹ that threatens entrepreneurship in the new digital

115. These requirements, set forth in Part III of this article, are: (1) patentable subject matter; (2) utility; (3) novelty; (4) non-obviousness; and (5) adequate description. *See supra* Part III and accompanying notes.

116. A more detailed analysis of the Priceline.com Dutch auction patent can be found in Part I of this article.

117. Mob Shop was formerly called, “Accompany.” Carolyn Said, *Innovative Web Retailer Mercata Folds*, S.F. CHRON., Jan. 5, 2001, at B1, *available at* 2001 WL 3391359.

118. U.S. Patent No. 6,269,343 (issued July 31, 2001) (“On-line marketing system and method”).

119. *Id.*

120. Press Release, Mob Shop, Inc., Mob Shop Inc. Receives Group Purchasing Patent (Aug. 1, 2001), *available at* <http://www.accompany.com/pr080101.htm>.

121. I do not wish to question in any way the legitimate practice of licensing technology. In a free market we must have rights that can be traded. In the first

economy. Even before opening a new business, Internet entrepreneurs will be forced not only to go through the trials and tribulations associate with opening any new enterprise, but they will also face a growing number of questionable patents. The owners of these questionable patents will seek royalties, which will work the same evil as over-burdensome business taxation. At some point, it may be easier for the would-be Internet entrepreneur to decide against doing business in cyberspace—an outcome that would be detrimental to our economy and in direct opposition to governmental policy; including our patent policy, which favors and encourages entrepreneurial spirit.

There are, of course, other examples of highly questionable e-commerce patents, including a number of Amazon.com patents. Indeed, it is difficult to understand why Amazon.com was able to obtain U.S. Patent No. 6,029,141,¹²² regarding an on-line customer referral system known in the e-commerce world as either an affiliate program or an associates program. While the '141 patent may raise some eyebrows, Amazon.com has received the most attention with their one-click patent, U.S. Patent No. 5,960,411.¹²³ The '411 patent is quite simply titled, "Method and system for placing a purchase order via a communications network," and is directed to a method and system for "single action" ordering of items via a communications network, such as the Internet.¹²⁴ In the Federal Circuit's decision in *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*,¹²⁵ Judge Clevenger succinctly explained what the '411 patent covers:

The '411 patent describes a method and system in which a consumer can complete a purchase order for an item via an electronic network using only a "single action," such as the click of a computer mouse button on the client computer system. Amazon developed the patent to cope with what it considered to be frustrations presented by

instance this requires a right (i.e., a patent) and in the second instance it requires a regime through which one to one negotiation and reallocation of rights can take place. There are many legitimate reasons for licensing technology and know-how. When referring to "legalized licensing extortion" I mean to call into question the two step business practice of obtaining a highly questionable patent and then licensing the so-called innovation without any belief that the patent is objectively valid and deserving of the presumption of validity.

122. U.S. Patent No. 6,029,141 (issued Feb. 22, 2000) [hereinafter '141].

123. U.S. Patent No. 5,960,411 (issued Sept. 28, 1999) [hereinafter '411].

124. *Id.*

125. 239 F.3d. 1343 (Fed. Cir. 2001).

what is known as the “shopping cart model” purchase system for electronic commerce purchasing events. In previous incarnations of the shopping cart model, a purchaser using a client computer system (such as a personal computer executing a web browser program) could select an item from an electronic catalog, typically by clicking on an “Add to Shopping Cart” icon, thereby placing the item in the “virtual” shopping cart. Other items from the catalog could be added to the shopping cart in the same manner. When the shopper completed the selecting process, the electronic commercial event would move to the check-out counter, so to speak. Then, information regarding the purchaser’s identity, billing and shipping addresses, and credit payment method would be inserted into the transactional information base by the soon-to-be purchaser. Finally, the purchaser would “click” on a button displayed on the screen or somehow issue a command to execute the completed order, and the server computer system would verify and store the information concerning the transaction.¹²⁶

It seems hardly possible that such a patent could meet the requirements for patentability. It would appear as if the Amazon.com one-click patent was nothing more than the computerized version of running a tab, or perhaps the computerized version of having a standing order for the shipment of goods.¹²⁷ Why should such an old and routine business practice deserve new life and exclusive rights simply because it can now be carried out via the Internet? Surely prior art for such an invention must include both business models, computer technology and communication technology. Why then were these related and relevant fields not combined to lead to a rejection?

Notwithstanding the serious questions associated with whether such a quasi-invention should be entitled to patent protection, in *Amazon.com v. Barnesandnoble.com*, the Federal Circuit was faced with a situation where Barnesandnoble.com was appealing the issuance of a preliminary injunction entered against them.¹²⁸ The Federal Circuit, after going through the claims and prosecution history, agreed with Amazon.com that Barnesandnoble.com was

126. *Id.* at 1347.

127. *Id.* at 1348.

128. *Id.* The district court’s decision ordering the preliminary injunction can be found at *Amazon.com, Inc., v. Barnesandnoble.com, Inc.*, 73 F.Supp. 2d 1228 (W.D. Wash. 1999).

operating within the claims of the '411 patent.¹²⁹ The court, however, agreed with Barnesandnoble.com that there was indeed a very strong case supporting invalidity.¹³⁰ For this reason, the Federal Circuit refused to uphold the preliminary injunction.¹³¹ Although the denial of a preliminary injunction certainly does not speak to the ultimate merits of the invalidity defense proffered by Barnesandnoble.com, it does bring into substantial doubt the viability of the Amazon.com one-click patent. Of particular importance is the fact that Barnesandnoble.com was able to locate no fewer than four pieces of prior art that were directly on point and not considered in the original prosecution.¹³² Yet, the Amazon.com one-click patent carried into the litigation the presumption of validity, a very powerful sword in the hands of the patent owner.

V. UNDERSTANDING PATENT MISUSE

The term "patent misuse" refers to specific types of prohibited behavior engaged in by the owner of the patent rights. Patent misuse is an affirmative defense that recognizes that it is possible for a patent owner to abuse the exclusive right enjoyed as a result of the issuance of a patent.¹³³ As an affirmative defense, patent misuse cannot be used as a sword, but can only be used as a shield by an alleged infringer if and when the patent owner seeks to enforce the exclusive right of the patent in a patent infringement suit.¹³⁴ Once a patent infringement suit is initiated, the alleged infringer, in order to successfully rely upon the patent misuse defense, must "show that the patentee has impermissibly broadened the 'physical or temporal scope' of the patent grant with anticompetitive effect."¹³⁵ If the alleged infringer can demonstrate that the patent owner did engage in prohibited behavior, the patent will be unenforceable despite the fact that it is

129. *Amazon.com*, 239 F.3d at 1357.

130. *Id.* at 1359-60 ("When the heft of the asserted prior art is assessed in light of the correct legal standards, we conclude that BN has mounted a serious challenge to the validity of Amazon's patent.").

131. *Id.* at 1366.

132. *Id.* at 1360-66.

133. *Va. Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 868-69 (Fed. Cir. 1997).

134. *Id.* at 868.

135. *Windsurfing Int'l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001 (Fed. Cir. 1986); *see also* *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 343 (1971).

valid.¹³⁶ In this respect, patent misuse is similar to the doctrine of inequitable conduct,¹³⁷ which also works to make an entire patent unenforceable.¹³⁸

The taint placed upon the patent by misuse, however, does not necessarily require the patent be held unenforceable for all time. Patent misuse merely prevents the owner of the patent from recovering for infringement for the duration of the misuse.¹³⁹ In this respect, patent misuse is dissimilar to inequitable conduct. To be sure, inequitable conduct may find itself at the foundation of the underlying patent misuse defense, but inequitable conduct is unlike patent misuse in that once it has been determined that there was inequitable conduct during the prosecution of the patent, the patent is irretrievably unenforceable.¹⁴⁰

Over the years courts have identified several prohibited practices that constitute per se patent misuse, including: (1) tying

136. See *Morton Salt Co. v. G.S. Suppinger Co.*, 314 U.S. 488, 492-93 (1942); see also *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998) (“Patent misuse arises in equity, and a holding of misuse renders the patent unenforceable until the misuse is purged; it does not, of itself, invalidate the patent.”).

137. Patent misuse is an equitable doctrine and, therefore, it is no great surprise that it is similar in many ways to inequitable conduct. See *U.S. Gypsum Co. v. Nat’l Gypsum Co.*, 352 U.S. 457, 465 (1957) (providing that patent misuse “is an extension of the equitable doctrine of ‘unclean hands’ to the patent field”), *reh’g denied*, 353 U.S. 932 (1957).

138. The doctrine of inequitable conduct stems from 37 C.F.R. § 1.56, which is commonly referred to simply as Rule 56. Rule 56 sets forth the duty of candor placed upon the inventors and any individual substantially involved in the preparation or prosecution of the patent application. By its express terms Rule 56 requires all those substantively involved in the preparation and prosecution of a patent application must disclose to the Patent Office all information they are aware of that is material to the examination of the application. 37 C.F.R. § 1.56(a). Those substantively involved in the prosecution of a patent are: (1) Each inventor named in the application; (2) Each attorney or agent who prepares or prosecutes the application; and (3) Every other person who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application. §§ 1.56(c)(1)-(3). Failure to comply with the requirements of Rule 56 means that the entire patent is unenforceable. § 1.56(a). For a more detailed explanation of inequitable conduct, see *Quinn*, *supra* note 14.

139. It is possible to regain the right to recover for infringement, but the patent owner bears the burden of meeting two requirements: (1) the improper practice must be fully abandoned; and (2) the consequences of the improper practice must be fully dissipated. If the patent owner meets this burden the patent misuse will be purged and, the patent owner will once again be able to exercise exclusive control of that which is covered by the patent. See *B.B. Chem. Co. v. Ellis*, 314 U.S. 495, 498 (1942); see also *In re Yarn Processing Patent Validity Litig.*, 472 F.Supp. 180, 183-84 (D.C. Fla. 1979).

140. *Skil Corp. v. Lucerne Prods., Inc.*, 489 F.Supp. 1129, 1161-62 (D.C. Ohio 1980).

agreements, where the patent owner requires in the license agreement that the licensee of the patent also purchase a separable, staple good;¹⁴¹ and (2) arrangements that allow the patent owner to effectively extend the term of the patent, thereby requiring royalty payments after the patent term has expired.¹⁴² In 1988, however, Congress enacted legislation that insulates certain behavior of the patent owner, thereby making it impossible for patent misuse to apply.¹⁴³ The behavior Congress sought to legitimize and take from the reach of a patent misuse defense was the refusal to license¹⁴⁴ and tying arrangements in the absence of market power.¹⁴⁵ While at first glance these actions may seem anticompetitive and deserving of the mantle of patent misuse, this safe harbor provided for by Congress recognizes the essence of a patent, which is the right to exclude.

Generally speaking, there are two separate types of prohibited activity that can lead to a finding of patent misuse. First, if a patent owner engages in conduct that violates the antitrust laws, and the antitrust violation is sufficiently related to the patent in question in the infringement action, the patent owner will be unable to seek redress and the patent will be unenforceable as a result of patent misuse.¹⁴⁶ The second type of patent misuse occurs when the patent owner seeks to extend the exclusive rights beyond those guaranteed by the patent grant. This extension of rights theory is sometimes referred to as the “extension of the monopoly” doctrine, and will come into play when the patent owner engages in conduct that impermissibly broadens the physical or temporal scope of the patent rights granted.¹⁴⁷ Calling this form of patent misuse an

141. *See* Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488, 491-92 (1942).

142. *See* Brulotte v. Thys Co., 379 U.S. 29, 32-33 (1964).

143. In relevant part, 35 U.S.C. § 271(d) (2001) states:

(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following . . . (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.

144. 35 U.S.C. § 271(d)(4) (2001).

145. 35 U.S.C. § 271(d)(5) (2001).

146. *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998).

147. *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 343

extension of the monopoly, however, is dangerous because it perpetuates a myth; namely that a patent is a monopoly. Chief Judge Markey, the first Chief Judge of the Court of Appeals for the Federal Circuit, time and time again reprimanded scholars, attorneys and fellow judges for characterizing a patent grant as the conferment of a monopoly. In *Carl Schenck, A.G. v. Nortron Corp.*,¹⁴⁸ Judge Markey stated:

Nortron begins its file wrapper estoppel argument with “Patents are an exception to the general rule against monopolies . . .”. A patent, under the statute, is property. 35 U.S.C. § 261. Nowhere in any statute is a patent described as a monopoly. The patent right is but the right to exclude others, the very definition of “property.” That the property right represented by a patent, like other property rights, may be used in a scheme violative of antitrust laws creates no “conflict” between laws establishing any of those property rights and the antitrust laws. The antitrust laws, enacted long after the original patent laws, deal with appropriation of what should belong to others. A valid patent gives the public what it did not earlier have. Patents are valid or invalid under the statute, 35 U.S.C. It is but an obfuscation to refer to a patent as “the patent monopoly” or to describe a patent as an “exception to the general rule against monopolies.” That description, moreover, is irrelevant when considering patent questions, including the question of estoppel predicated on prosecution history.¹⁴⁹

Moreover, it is a simple truth that a monopoly can only exist if there is an existing market. To characterize a patent as a monopoly without first questioning whether there is a market for the patent is to put the cart before the horse. To be sure, those patents that are litigated are litigated because there is money at stake and, therefore, have a likely market. Nevertheless, there are undoubtedly a large number of patents that could never possibly have any market and could never be considered to yield a monopoly. It does no good to perpetuate the myth that all patents are monopolies. It is simply not true.¹⁵⁰

(1971); *Morton Salt Co. v. G.S. Suppinger Co.*, 314 U.S. 488, 492 (1942).

148. 713 F.2d 782 (Fed. Cir. 1983).

149. *Id.* at 786 n.3.

150. *See Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1367 (Fed. Cir. 1984) (“The patent system, which antedated the Sherman Act by a century, is not an ‘exception’ to the antitrust laws, and patent rights are not legal

Nevertheless, it is important to understand that if the patent owner's conduct does rise to the level of an antitrust violation, it will constitute patent misuse. A patent owner who brings an infringement suit, however, may be subject to antitrust liability for the anticompetitive effects of the suit if and only if the alleged infringer is able to prove: (1) that the asserted patent was obtained through knowing and willful fraud; or (2) that the infringement suit was a mere sham.¹⁵¹

In order to determine if a patent was obtained through knowing and willful fraud one may be tempted to look for inequitable conduct. The knowing and willful fraud that will rise to the level of an antitrust violation is conduct that is far more severe than inequitable conduct. This type of fraud is known as *Walker Process* fraud.¹⁵² Consistent with the Supreme Court's analysis in *Walker Process*, as well as Justice Harlan's concurring opinion, the Federal Circuit and its predecessor, the C.C.P.A., has distinguished inequitable conduct from *Walker Process* fraud, explaining that inequitable conduct is a broader, more inclusive concept than the common law fraud needed to support a *Walker Process* fraud counterclaim.¹⁵³ In *Norton v. Curtiss*,¹⁵⁴ the C.C.P.A. distinguished inequitable conduct from *Walker Process* fraud by explaining that:

the concept of 'fraud' has most often been used by the courts, in general, to refer to a type of conduct so reprehensible that it could alone form the basis of an actionable wrong (e.g., the common law action for deceit) Because severe penalties are usually meted out to the party found guilty of such conduct, technical

monopolies in the antitrust sense of that word."), *cert. denied*, 469 U.S. 821 (1984); *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1160 n.8 (6th Cir. 1978) ("The loose application of the pejorative term 'monopoly,' to the property right of exclusion represented by a patent, can be misleading. Unchecked it can destroy the constitutional and statutory scheme reflected in the patent system.").

151. *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068 (Fed. Cir. 1998).

152. *See Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172 (1965).

153. *See, e.g., Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556, 1563 (Fed.Cir. 1989); *FMC Corp. v. Manitowoc Co.*, 835 F.2d 1411, 1417-18 (Fed.Cir. 1987); *Argus Chem. Corp. v. Fibre Glass-Evercoat Co.*, 812 F.2d 1381, 1384-85 (Fed. Cir. 1987); *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 1559 (Fed. Cir. 1984) ("Conduct before the PTO that may render a patent unenforceable is broader than common law fraud.").

154. 433 F.2d 779 (C.C.P.A. 1970).

fraud¹⁵⁵ is generally held not to exist unless the following indispensable elements are found to be present: (1) a representation of a material fact, (2) the falsity of that representation, (3) the intent to deceive or, at least, a state of mind so reckless as to the consequences that it is held to be the equivalent of intent (scienter), (4) a justifiable reliance upon the misrepresentation by the party deceived which induces him to act thereon, and (5) injury to the party deceived as a result of his reliance on the misrepresentation.¹⁵⁶

Inequitable conduct is indeed a lesser offense than common law fraud and will not support antitrust liability. As a result, it is exceedingly difficult to demonstrate patent misuse under a theory that relies upon the knowing and willful enforcement of an otherwise invalid patent.

If the alleged infringer is not able to prove *Walker Process* fraud they may attempt to demonstrate that the infringement suit was a mere sham. To demonstrate that the litigation is a mere sham, the alleged infringer will need to show that the lawsuit is objectively baseless in the sense that no reasonable litigant could realistically expect its success on the merits.¹⁵⁷ If an objective litigant could possibly conclude that the suit is reasonably calculated to elicit a favorable outcome, the suit cannot be considered a sham.¹⁵⁸ It will likewise be necessary for the alleged infringer to demonstrate that the litigation was brought for no reason other than attempting to directly interfere with the business relationships of a competitor.¹⁵⁹ Given this strict, unforgiving requirement, it is easy to see how difficult—if not impossible—it is to demonstrate sham litigation.

Courts, however, have never required a defendant raising the patent misuse defense to first establish that an antitrust violation has occurred;¹⁶⁰ such a prerequisite is not envisioned by the

155. We understand from the enumeration of elements that the term “technical fraud” was used by the court to mean common law fraud.

156. *Norton*, 433 F.2d at 792-94 and n.12 (citation omitted).

157. *Prof'l Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60-61 (1993).

158. *Id.*

159. *See Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068 (Fed. Cir. 1998) (quoting *E. R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 144 (1961)).

160. *See C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998) (“Patent misuse is viewed as a broader wrong than antitrust violation because of the economic power that may be derived from the patentee’s right to exclude. Thus misuse may arise when the conditions of antitrust violation are not met.”).

defense. In *Morton Salt Co. v. Suppinger Co.*,¹⁶¹ the Supreme Court stressed that:

[i]t is the adverse effect upon the public interest of a successful infringement suit in conjunction with the patentee's course of conduct which disqualifies him to maintain the suit, regardless of whether the particular defendant has suffered from the misuse of the patent It is unnecessary to decide whether respondent has violated the Clayton Act, for we conclude that in any event the maintenance of the present suit to restrain petitioner's manufacture or sale of the alleged infringing machine is contrary to public policy.¹⁶²

The Supreme Court has echoed this understanding on several other occasions, explaining each time that the condemnation of patent misuse does not depend upon the showing of an antitrust violation in the first instance.¹⁶³

Similarly, the alleged infringer who is seeking to rely upon the defense of misuse does not need to establish standing in the antitrust sense.¹⁶⁴ This is true because the true focus of the misuse inquiry is not personal in nature, but rather revolves around the

161. 314 U.S. 488 (1942).

162. *Id.* at 494.

163. In *Transparent-Wrap Machinery Corp. v. Stokes & Smith*, 329 U.S. 637, 641 (1947), the Court explained:

The requirement that a licensee under a patent use an unpatented material or device with the patent might violate the antitrust laws but for the attempted protection of the patent. *Id.* The condemnation of the practice, however, does not depend on such a showing. Though control of the unpatented article or device falls short of a prohibited restraint of trade or monopoly, it will not be sanctioned. For it is the tendency in that direction which condemns the practice and which, if approved by a court either through enjoining infringement or enforcing the covenant, would receive a powerful impetus.

Likewise, in *Zenith Radio Corp v. Hazeltine Research, Inc.*, 395 U.S. 100, 140 (1969), the Court succinctly stated, "if there was such patent misuse, it does not necessarily follow that the misuse embodies the ingredients of a violation of either section 1 or section 2 of the Sherman Act." *Id.*

164. In determining whether a particular plaintiff has standing in antitrust sense courts consider, on a case by case basis, the following factors: (1) the motive of the defendant; (2) whether plaintiff's injury was of a type the antitrust laws were designed to prevent; (3) the directness of the causal link between the violation and the injury; (4) the extent to which abstract speculation underlies the allegations of injury; and (5) the risk of duplicate recoveries or complex apportionment of damages should the plaintiff be permitted damages. *See Associated Gen. Contractors v. Ca. State Council of Carpenters*, 459 U.S. 519, 537-45 (1983).

harm to the public interest created by the enforcement of patents tainted by loathsome conduct.¹⁶⁵ The patent misuse doctrine, as an extension of the equitable doctrine of unclean hands, allows a court of equity to refuse to lend its support to enforce of a patent that has been misused. Patent misuse arose as an equitable defense available to the accused infringer, from the desire to restrain practices that did not in themselves violate any law, but that drew anticompetitive strength from the patent right, and thus were deemed to be contrary to public policy.¹⁶⁶ This aspect of the patent misuse defense differs significantly from the justifications upon which antitrust laws are founded. Antitrust laws seek to level the playing field by freeing the market from “unfair” competition.¹⁶⁷ In so doing, the antitrust laws work to increase competition, thereby allowing free market economics to rule corporate behavior. The patent grant, however, gives to the patent owner the right to exclude all others from making, using, selling, or importing an invention. By its very nature, the patent grant provides a framework through which a patent owner can frustrate a free and competitive market. Therefore, the question with respect to patent misuse cannot be whether the free market competition has been curtailed in a manner that is “unfair,” but rather whether public policy forbids the patent owner from engaging in conduct that stretches the granted patent rights beyond what has been intended.

When an action alleged to constitute patent misuse is neither per se patent misuse, nor specifically excluded from being misuse

165. *Skil Corp. v. Lucerne Prods., Inc.*, 489 F.Supp. 1129, 1162 (D.C. Ohio 1980); *see also* Joel R. Bennett, *Patent Misuse: Must an Alleged Infringer Prove an Antitrust Violation?*, 17 *AIPLA Q. J.* 1, 10 (1989).

166. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1427 (Fed. Cir. 1997); *see also* *Senza-Gel Corp. v. Seiffhart*, 803 F.2d 661, 668 n.10 (Fed. Cir. 1986).

167. A detailed discussion of the antitrust laws is well beyond the scope of this article. Suffice it to say, however, that the antitrust laws are intended to prevent the type of competition that legislators and judges have deemed “unfair,” whether that be because of a conspiracy to restrain trade (*see* 15 U.S.C. § 1 (2001)), because of market size and power (*see* 15 U.S.C. § 2 (2001)) or for any number of other actions that have effects that are more anticompetitive than procompetitive. The antitrust laws, however, do not prohibit the formation of a monopoly through “fair” means, such as superior business acumen and/or a superior product. Readers interested in learning more about the antitrust laws in general may find the following sources helpful: Candice Jones et al., *Antitrust Violations*, 38 *AM. CRIM. L. REV.* 431 (2001); Thomas A. Piraino, Jr., *A Proposed Antitrust Approach to Collaborations Among Competitors*, 86 *IOWA L. REV.* 1137 (2001); Sheila F. Anthony, *Antitrust and Intellectual Property Law: From Adversaries to Partners*, 28 *AIPLA Q. J.* 1 (2000); E. Thomas Sullivan, *The Confluence of Antitrust and Intellectual Property at the New Century*, 1 *MINN. INTEL. PROP. REV.* 1 (2000).

by 35 U.S.C. § 271(d), a court must determine if that practice is “reasonably within the patent grant, i.e., that it relates to subject matter within the scope of the patent claims.”¹⁶⁸ If the alleged action is reasonably within the patent grant, the practice cannot have the effect of broadening the scope of the patent claims and is not patent misuse.¹⁶⁹ If, on the other hand, the practice has the effect of extending the patent owners exclusive rights, and it does so with an anticompetitive effect, the conduct must then be analyzed in accordance with what is known as the “rule of reason.” Under the rule of reason, “the finder of fact must decide whether the questioned practice imposes an unreasonable restraint on competition, taking into account a variety of factors, including specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint’s history, nature, and effect.”¹⁷⁰ The rule of reason, therefore, seeks to determine “whether the challenged agreement is one that promotes competition or one that suppresses competition.”¹⁷¹ As the Supreme Court has explained, “[t]he true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.”¹⁷² When rule of reason analysis is engaged, however, it makes disposition of the case on summary judgment difficult, which in turn ensures a long, expensive trial.

VI. A PROPOSAL FOR PATENT MISUSE IN THE NEW TECHNOLOGICAL ERA

The questions surrounding business method patents and the USPTO’s inability to effectively prevent the issuance of highly suspect patents, leaves one searching for answers. The USPTO, however, is not to blame for our current state of affairs. To be quite honest, even the patent applicants are not to blame; they are merely exercising the rights they have under the current structure—rules which enable the proliferation of dubious patents.

A duty to search, if enforced, would require patent applicants

168. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992).

169. *Id.*

170. *State Oil Co. v. Kahn*, 522 U.S. 3, 10 (1997) (citing *Ariz. v. Maricopa County Med. Soc.*, 457 U.S. 332, 343 & n.13 (1982)).

171. *Nat’l Soc’y of Prof’l Eng’rs v. United States*, 435 U.S. 679, 691 (1978).

172. *Id.*

to satisfy for themselves that their claimed invention is worthy of the mantle of patent protection.¹⁷³ In the absence of a duty to search, another alternative may be to consider changing our understanding of patent misuse. While some may think it preferable to allow some questionable patents to issue, rather than have every patent owner subject to the duty to search, why should those seeking redress in the form of a patent infringement suit be able to fire the first litigation shot without satisfying for themselves that they possess a property right worthy of protection? Likewise, why should holders of e-commerce patents be entitled to engage in legalized licensing extortion?

Critics will undoubtedly say that e-commerce patent owners do justify for themselves that they are holders of a worthy exclusive right, and they are merely relying upon the resultant presumption of validity. This is true, of course, but the reasoning becomes circular. A patent owner can get a patent without any effort to demonstrate that they are entitled to such an exclusive right. That same patent owner is then allowed to claim fair reliance upon the presumption of validity simply because the patent emerged from prosecution. The search for truth seems to be missing. Is the invention worthy of protection? That is the question. Hiding behind legal niceties and presumptions is not intellectually satisfying, particular in a world where the peanut butter and jelly sandwich was patented in December 1999,¹⁷⁴ and toast was patented several months later.¹⁷⁵

As discussed earlier, it is exceedingly difficult to prove that a patent has been misused. This is particularly true after the Supreme Court clarified the meaning of sham litigation in *National Society of Professional Engineers v. United States*.¹⁷⁶ Nevertheless, if we are going to continue to encourage entrepreneurship and innovation in the e-commerce realm something must be done. One of the easiest things to do would be to recognize this as a new type of patent misuse. Perhaps it is too onerous to force all patent applicants to conduct a prior art search. As already explained, a patent neither ensures a market nor creates a monopoly. A patent

173. See *supra* note 114 and accompanying text.

174. See U.S. Patent No. 6,004,596 (issued Dec. 19, 1999) (“Sealed crustless sandwich”).

175. See U.S. Patent No. 6,080,436 (issued June 27, 2000) (“Bread refreshing method”).

176. 435 U.S. 679 (1978).

dangles only the hope of, and opportunity for achieving, monopoly profits. Many patents, however, are never going to enjoy market success. Those patents that do enjoy market success are, therefore, a small subset of all patents that are issued. For these patents, it seems particularly appropriate that the patent owner have the obligation to not use these exclusive rights in such a way to unnecessarily curtail free market economics.

We tolerate patents because of a perceived societal benefit from increased innovation. We recognize that free market economics will be skewed because of the exclusive rights conveyed by the issued patent. The question, however, is to what extent are we willing to accept the burdens placed upon us by innovations that seem hardly worthy of the mantle of patent protection?

To discourage the legalized licensing extortion that threatens to curtail entrepreneurship in cyberspace we must rethink the policy that all patents are presumed valid. Experience has demonstrated that the Patent Office is currently incapable of ensuring that only worthy inventions are granted patent protection. Until it can be demonstrated that the Patent Office is capable of the rigorous examination of e-commerce patents that would ferret out the worthy from the unworthy applications, some action must be taken to protect e-business entrepreneurs from a most unjustified form of business taxation: the private tax imposed by holders of dubious e-commerce patents.

In order to accomplish the eradication of legalized licensing extortion, I propose that we consider as patent misuse the attempt to license an e-commerce patent without first conducting a thorough search of all relevant prior art. Likewise, another misuse would include initiating a patent infringement suit without a similar prior art search. If we do go down this path, however, we must realize that recognizing a new form of patent misuse will do no good in deterrence if it can only be raised as an affirmative defense to a patent infringement action.

VII. CONCLUSION

In the mind of businesspeople, a patent—like all forms of intellectual property—is nothing more than a barrier to entry that can, in most cases, provide a head start. Any company that has a highly developed plan for unearthing, cultivating, protecting and exploiting intellectual property rights can build a patent portfolio that can, and will, make competitors think twice about entering

their marketplace. This truth necessarily means that there are significant societal costs associated with the granting of any patent, even under the best of circumstances and with the most onerous prosecution. We have, however, determined that in order to encourage innovation we will not only accept but also embrace some form of limited exclusivity. Therefore, we as a society are willing to accept the burdens placed upon us so long as we are able to derive benefit in the form of the patent *quid pro quo*.

Unfortunately, because a patent enjoys a presumption of validity once it is issued, even patents that are clearly invalid on their face act as barriers to entry. Worse yet, these same patents, once issued, can be used as a significant deterrent to those individuals and companies interested in conducting commerce via the Internet. Facing the reality that as much as eighty percent of business-to-business e-commerce will be conducted via the Internet in 2003, we do not have the luxury of missing a step by granting exclusive rights where none should exist. To grant exclusive rights where they do not belong—in the e-commerce realm, in particular—would be horribly unjustified and could lead to the potential creation of mega-monopolies¹⁷⁷ that control a piece of every transaction conducted via the Internet.

There will, of course, be some question as to what level of search is required in order to insulate a patent owner from an assertion of misuse. This is hardly a reason to forego such an alternative. Trademark practitioners routinely acquire searches from such companies as Thompson & Thompson prior to filing a trademark application. A trademark search, together with competent legal advice, can be a defense to damages in a trademark infringement action.¹⁷⁸ A similar standard should be applied to determine whether a patent search is reasonable. In fact, this is not a new concept even for patent practitioners, who are undoubtedly intimately familiar with the fact that would-be infringers can escape liability for increased damages if they rely upon the opinions of competent counsel when they are told that

177. While it is true that a patent does not ensure a market and, thereby, does not ensure a monopoly, a patent certainly dangles the opportunity to achieve monopoly profits if there is a market and if the patent is pioneering. What we do know of e-commerce is that there is a market, it is growing at a phenomenal rate, and many e-commerce patents are issued on the most basic of business models, which means that the most fundamental businesses are indeed pioneering in a sense.

178. *Nalpac, Ltd. v. Corning Glass Works*, 784 F.2d 752, 756 (6th Cir. 1986).

their device does not infringe.¹⁷⁹

As President Clinton explained in January of 2001, “we are still at the dawn of the Information Age, and much more remains to be done to grasp its potential.”¹⁸⁰ Adhering to patent rules and policy that work fine on paper, but are flawed in practice, is far too dangerous a proposition—particularly at the dawn of the Information Age. Noted scholar and law professor, Lawrence Lessig, says that e-commerce patents are the single greatest threat to innovation in cyberspace.¹⁸¹ Time will certainly tell whether that is true, but early signs are not encouraging for new e-business entrepreneurs.

179. *Delta-X Corp. v. Baker Hughes Prod. Tools, Inc.*, 984 F.2d 410, 414 (Fed. Cir. 1993); *Ortho Pharm. Corp. v. Smith*, 959 F.2d 936, 944 (Fed. Cir. 1992).

180. See Clinton, *supra* note 1.

181. See David Syrowik & John LeRoy, *Finding the Right Balance: Business Method Patents Generate Controversy and Legal Attention*, 80 MICH. B.J. 48 (July 2001).