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Book Review

The United States Patent Reform Quagmire: A Balanced Proposal

INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT. By Adam B. Jaffe & Josh Lerner. 2004. Princeton, New Jersey: Princeton University Press. Pp. ix, 236.

Reviewed by Michael S. Mireles, Jr.^{*}

[I]n the space of less than a decade, we converted the weapon that a patent represents from something like a handgun or a pocket knife into a bazooka, and then started handing out the bazookas to pretty much anyone who asked for one The result has been a dangerous and expensive arms' race, which now undermines rather than fosters the crucial process of technological innovation (p. 35).

INTRODUCTION

The United States Constitution empowers Congress to enact a patent law to secure in inventors the right to their discoveries for a limited time to promote the progress of the useful arts.¹ The Constitution recognizes that in order to provide an incentive for inventors to create new inventions the government must create a property right in the intangible invention;² thus, federal patent law recognizes a patent holder's right to exclude others from making, using, or selling a patented invention.³ Without this property right, it is feared

^{*} NEED BIO INFORMATION

1. U.S. CONST. art. I, § 8, cl. 8.

2. *See id.*

3. *See* 35 U.S.C. § 271 (2000); Rebecca S. Eisenberg, *Patents and the*

that there will not be a sufficient incentive for inventors to invent because the public nature of information goods enables others to easily free ride on the efforts of the inventor, and thus the inventor will be unable to recoup her investment in the development of that invention.⁴ As such, patent law is a key driver behind technological innovation in the United States.⁵

Notwithstanding the understood purpose of patent law, it is unclear whether United States patent law and policy actually achieves this purpose, or even if patent law and policy is necessary to achieve the purported goal of the United States patent system—to promote the progress of the useful arts. Some would argue that the government should pay people or companies to invent or provide prizes to those that invent; others argue that a first mover advantage coupled with trade secret protection is a sufficient incentive to innovate.⁶ Those arguments are beyond the scope of this review, but are important to keep in mind as proposals to reform patent law are considered. This review addresses the former question—whether United States patent policy effectively provides an incentive for invention, or perhaps even more critically, is United States patent policy standing in the way of the its purported purpose, the progress of useful arts.

The question of patent reform is not new and has been the recent subject of much debate. Some questions of patent

Progress of Science: Exclusive Rights and Experimental Use, 56 U. CHI. L. REV. 1017, 1024-26 (1989).

4. ROGER E. SCHECHTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS* 8 (2003) [hereinafter *INTELLECTUAL PROPERTY*]. The patent system provides another benefit by increasing the storehouse of public knowledge by requiring a patentee to provide an enabling disclosure of the invention. See 35 U.S.C. § 112 (2000); see also *Brenner v. Manson*, 383 U.S. 519, 534 (1966) (“The basic *quid pro quo* contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility.”); JANICE M. MUELLER, *AN INTRODUCTION TO PATENT LAW* 22 (2003). But see generally Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315 (2004) (arguing against use of social contract theory as basis for patent grant and proposing the use of a regulatory theory).

5. See generally John R. Allison & Mark A. Lemley, *The Growing Complexity of the United States Patent System*, 82 B.U. L. REV. 77 (2002) (concluding that a theory of heightened patent value due to the increasing importance of patents explains several trends existing between patents issued between 1976 and 1978, and 1996 and 1998).

6. Eisenberg, *supra* note 3, at 1026-27; Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 288 (1977).

reform are driven by the quest for global patent law harmonization, which raises issues concerning United States law and policy versus those of other countries.⁷ Other questions are driven by whether United States patent policy is operating at its most efficient level—promoting innovation while maintaining a rich public domain. Questions concerning global patent harmonization often raise fundamental issues about the United States' concerns with protecting the small inventor or company—the idealized driver of innovation in the United States economy. And, as discussed in this review, the issues concerning protecting small inventors and companies, as well as related questions of protectionism, loom large.

Another recurring theme in United States patent law and policy reform debates is the quest for certainty. Inherently, patent protection itself is uncertain. The very nature of attempting to reduce the intangible invention into words describing the boundaries of the patentably distinct material is immensely difficult and fraught with uncertainty.⁸ The effort to then apply the words delineating the scope of the protection of the intangible back to a tangible accused infringing device or practice, let alone its equivalent, injects another layer of uncertainty. Moreover, a body of law, which by definition attempts to protect the unknown, must be uncertain. Further compounding the lack of certainty is the very technical nature of what is being protected—often a new technology which is not completely understood by those skilled in the art, let alone judges, attorneys and juries. Finally, the social and economic values of a patented invention are unclear.

For these reasons, patent reform is currently a very

7. Cf. John F. Duffy, *Harmony and Diversity in Global Patent Law*, 17 BERKELEY TECH. L.J. 685 (2002) (arguing that while there have been problems with each country having its own patent system, the total effect of diversity leads to advancement in innovation).

8. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 535 U.S. 722, 731 (2002).

An invention exists most importantly as a tangible structure or a series of drawings. A verbal portrayal is usually an afterthought written to satisfy the requirements of patent law. This conversion of machine to words allows for unintended idea gaps which cannot be satisfactorily filled. Often the invention is novel and words do not exist to describe it. The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words, but words for things.

Id. (quoting *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)).

popular topic. Critics point to a purported expanding definition of patent eligible subject matter,⁹ a weakening of the enablement requirement,¹⁰ the slow death of the experimental use exception,¹¹ patent law trumping antitrust law,¹² and generally higher rates of patents upheld and infringed at the appellate level.¹³ Adding fuel to the fire of reform are clear examples of inventions that are neither new nor nonobvious as required by the patent statutes, but which are nonetheless covered by granted patents and are even being litigated. The two most notable examples are Smucker's patent covering the peanut butter and jelly sandwich¹⁴ and Amazon's one click patent.¹⁵

The most recent questions of patent reform ask whether patent rights are too strong and too easy to obtain, and thus impede innovation rather than promote it. For example, a conundrum of patent law, particularly with more recently patentable technologies such as software and biotechnology, is that the patent right may be needed as an incentive to create the invention, but access to that patented invention may be needed by others to continue to innovate.¹⁶ Finding the most efficient balance in patent law between invention in the first instance and access for further innovation is difficult. The practical answer to the problem is transferring rights, which generally works well, but avoids, and does not solve, the balance question.¹⁷

9. John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. ILL. L. REV. 305, 305 (2001).

10. See generally Dale L. Carlson, Katarzyna Przychodzen & Petra Scamborova, *Patent Linchpin for the 21st century? – Best mode Revisited*, 87 J. PAT. & TRADEMARK OFF. SOC'Y 89, 94 (2005).

11. See generally Natalie M. Derzko, *In Search of a Compromised Solution to the Problem Arising From Patenting Biomedical Research Tools*, 20 SANTA CLARA COMPUTER & HIGH TECH. L.J. 347 (2004).

12. See generally Daniel J. Gifford, *Antitrust's Troubled Relations with Intellectual Property*, 87 MINN. L. REV. 1695 (2003).

13. Mark D. Janis, *Rethinking Reexamination: Toward a Viable Administrative Revocation System for US Patent Law*, 11 Harv. J.L. & Tech. 1, 9 (1997).

14. U.S. Patent No. 6,004,596 (issued Dec. 21, 1999).

15. U.S. Patent No. 5,960,411 (issued Sept. 28, 1999).

16. See PAUL A. DAVID, THE ECONOMIC LOGIC OF "OPEN SCIENCE" AND THE BALANCE BETWEEN PRIVATE PROPERTY RIGHTS AND THE PUBLIC DOMAIN IN SCIENTIFIC DATA AND INFORMATION: A PRIMER 9–10 (Stanford Inst. for Econ. Policy Research, Discussion Paper No. 02-30,2003), at <http://siepr.stanford.edu/papers/pdf/02-30.pdf> (last visited Mar. 5, 2005).

17. Empirical evidence of whether patents are impeding innovation and

Proposals on patent reform have come from many fronts including the Federal Trade Commission,¹⁸ the United States Patent and Trademark Office (USPTO),¹⁹ and the National Academy of Sciences.²⁰ In *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation and Progress, and What To Do About It*, economists Adam Jaffee and Josh Lerner rely upon over two decades of research concerning innovation policy to paint a picture of the problem and offer balanced proposals for reform. Their ambitious analysis of the problem and their proposals for reform are thoughtful and beautifully written. While some may disagree at the margins with the characterization of the problem, as well as with the proposals for reform, the work advances understanding of the issues related to United States patent reform and provides a glimpse into problems associated with global harmonization efforts.

The authors in an urgent yet cautious voice argue that the patent system is not functioning properly and has tipped toward creating and enforcing patent rights that are too strong and may impede innovation (pp. 34-35). The authors are cautious because they recognize the importance of the patent system in promoting innovation (35-51), including the presumption that patents are valid and must be invalidated by clear and convincing evidence (pp. 192-95), and that the strength of the patent right has ebbed and flowed often based on public opinion (ch. 3).²¹ The authors trace the patent debate from monopolies granted by the Queen of England for products and services that were clearly not new and nonobvious to

whether parties are unable to efficiently transfer rights has been difficult to collect in the biotechnology industry. *See id.* at 13-16. The current evidence indicates that parties are sometimes solving the problem of access through transferring rights. *Id.*

18. FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003), at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> (last visited Apr. 8, 2005).

19. U.S. PATENT & TRADEMARK OFFICE, THE 21ST CENTURY STRATEGIC PLAN (2003), at <http://www.uspto.gov/web/offices/com/strat21/stratplan03feb2003.pdf> (last visited Apr. 10, 2005).

20. NAT'L RESEARCH COUNCIL, NAT'L ACAD. OF SCI., A PATENT SYSTEM FOR THE 21ST CENTURY (Stephen A. Merrill et al. eds., 2004), at <http://www.nap.edu/html/patentsystem/0309089107.pdf> (last visited Apr. 10, 2005).

21. *See generally* Mark D. Janis, *Patent Abolitionism*, 17 BERKELEY TECH. L. J. 899 (2002) (arguing that proposals for dramatic patent law reform should be viewed with skepticism in light of the history of the reform debate).

England's 16th Century patent system that involved a burdensome and corrupt multi-stage process for obtaining a patent (pp. 80-90). The authors continue with the 19th Century reform of the English patent system which drove the industrial revolution, and the Dutch abolition of their patent system (pp. 80-90). The authors recognize that the problems of today are not new and that the process of understanding the problems and proposing solutions to them should be informed by the lessons of history (p. 79). Such lessons include the principle that there are no easy solutions to the problems of running a patent system because of the inherent trade off between burdening commerce, competitors, and other inventors and rewarding inventors (p.79). Also included is the idea that the process of change in the patent system resembles a pendulum which all too often swings too far in one direction thereby creating new problems (p. 79).

The authors argue that the United States, through two administrative changes, has swung the pendulum to the direction of patent rights, which are too strong and impede innovation. First, Congress took funds from the USPTO, depriving it of much needed resources resulting in poor patent quality (ch. 5). Second, Congress created the United States Court of Appeals for the Federal Circuit (CAFC), which has greatly expanded patentable eligible subject matter and strengthened the patent right (ch. 4). The combination of the effect of these two changes—strengthening patent rights and weakening the standards for granting patents—along with the effect of such changes manifesting in critically important industries to the United States economy, has created a “perfect storm,’ a complex and intensifying policy mess rather than a gently swinging pendulum” (p. 97). The authors’ proposals provide a multi-step process to ensure better patent quality through the creation of incentives to allow third parties to bring information concerning prior art to the USPTO and allow judges to determine issues concerning validity instead of juries (ch. 7). This essay will examine and review the authors’ arguments concerning why patent reform is necessary and their proposals for fixing the problem.

I. JAFFE AND LERNER: WHY DO WE NEED PATENT REFORM?

The authors argue that patent law reform is necessary because a primary institutional mechanism to promote

innovation—the patent system—is likely stifling innovation. According to the authors, the USPTO is issuing patents that do not meet the requisite minimal levels of patentability established by statutory and case law (p. 11). Patents are granted for innovations that are not novel and/or nonobvious, that is, the inventions already are in the public domain or would be obvious to one of ordinary skill in the particular art. Second, patent holders are more likely to bring an infringement suit based on a questionable patent against a potential infringer because courts are more likely to find that patent valid and infringed (pp. 13-16).

Compounding the problem, potential infringers are less likely to challenge the patent in court because of the cost and are more likely to take a license, thus diverting resources that could be used for further innovation (pp. 13-16). Smaller companies may be unable to innovate because of a crowded field of patents and true innovators may be threatened with questionable patents held by companies that are not innovating (pp. 13-16). Firms may have to raise the price of their products or services or may even abandon specific research agendas to develop particular products because of the litigation and licensing costs associated with developing those products (pp.16-19). This could mean higher prices for consumers because of fewer substitutes and fewer products and services to meet their needs (pp. 40-41). As a result of greater patenting and the greater likelihood that patents will be enforced, the innovation process could be stifled because of a web of uncertain patent rights, threat of litigation, and protracted licensing negotiations (p. 59). Rather than providing incentives to promote innovation, the patent system is encouraging wasteful conduct and is failing to promote innovation (p. 2).

In exploring the cause of these issues, the authors discussed two pieces of legislation enacted by Congress that do not directly modify the substantive patent law and appear, at first blush, to be merely administrative changes: changing the USPTO into an entity run by fees instead of tax dollars and creating the CAFC (chs. 4-5).

II. FLEECING THE USPTO

Why is the USPTO issuing patents for inventions that do not meet the standards that must be met as required by law, specifically Title 35 of the U.S. Code and binding Supreme Court and CAFC case law? The law has not changed

substantially in the last twenty years—novelty and nonobviousness are still the gatekeepers to patentability,²² the guardians of the public domain. The authors argue that Congress, in the early 1990s, changed the structure of fees charged by the USPTO and the financing of the USPTO. Congress treated the USPTO as an entity that is maintained by the fees it collects from its clients, the patent applicants (p. 11). As a result of this shift, the USPTO views itself as an organization whose purpose is to benefit its customers—again, the patent applicants (p. 11). Patent applicants simply want one thing, an issued patent (p. 11). Moreover, the shift has created incentives for the USPTO to process applications quickly and for the lowest cost, which consequently results in lower quality issued patents and patents that should not have been issued in the first place (p. 11). As a result, patent applicants have an incentive to file patent applications covering inventions that are likely not new and/or nonobvious (p. 11). Coupled with an increase in applications because of CAFC rulings expanding patent eligible subject matter, the examiners at the USPTO are unable to conduct a meaningful review of patent applications (p. 20). Accordingly, examiners often will have an incomplete body of prior art to compare to the asserted claims in the patent application (pp.139-42).²³ Additionally, the USPTO is particularly bad at performing prior art searches for new industries because there are few issued patents and the USPTO does a very poor job of accessing other prior art such as scientific journals and informal know how (pp. 141-42).

Moreover, instead of allowing the USPTO to keep the fees it generates, Congress has been siphoning off fees from the USPTO (p. 20). Empirical evidence appears to support an argument that weakening patent standards and a rise in the number of applications has led to an increase in issued patents and applications for patents (pp. 11-12). The number of patents granted per year roughly tripled between 1983 and 2002, from 62,000 per year to 177,000 per year, as compared to annual increases of less than one percent for the years between 1930 and 1982 (pp. 11-12). Moreover, due to the cumulative and overlapping nature of the process of developing a new product

22. 35 U.S.C. §§ 102, 103 (2000).

23. See generally Jay P. Kesau, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763 (2002) (offers proposals to bridge the information gap between patent examiners and the patent applicant and her competitors).

in new technological fields, such as biotechnology and semiconductors, the problem is compounded as parties may have to obtain licenses to multiple potentially questionable patents to develop a product (pp. 59 -68).

Very few would argue that the USPTO has not been fleeced by Congress, which has resulted in a number of patents of questionable validity. Recently, Congress has reacted to concerns relating to the funding of the USPTO and has passed the Consolidated Appropriations Act, 2005.²⁴ The Act allows the USPTO to increase the fees it charges to fund goals of the USPTO, including hiring a large number of new examiners.²⁵ President Bush's 2006 budget submitted to Congress provides for \$1.703 billion to operate the Patent and Trademark Office which allows the "PTO full access to its fee collections in 2006."²⁶ The question of whether the funding will continue to flow and will be used wisely remains to be seen.

III. CAFC

The second question presented by Jaffe and Lerner is why patent owners are more likely to bring an infringement suit, have their patent upheld by a court, and obtain a large monetary award for infringement. The authors argue that the problem has been caused by Congress' creation in 1982 of a specialized appellate court, the CAFC (ch. 4).²⁷ The CAFC is tasked with hearing almost all appeals from the district courts,

24. Consolidated Appropriations Act, 2005, Pub. L. No. 108-447, 118 Stat. 2809 (2004). The Act enacted "fee increases averaging 15-20 percent . . . [and] provides that these fee changes will expire after two years." Hayden Gregory, *Congress Increases PTO User Fees and Provides Substantial Additional Funding for the PTO*, LEGISLATIVE NEWSLETTER (ABA Section of Intellectual Prop. Law), Nov. 22, 2004 (email newsletter) (on file with author).

25. John Schoen, *US Patent Office Swamped by Backlog*, MSNBC NEWS, Apr. 27, 2004, at <http://www.msnbc.msn.com/id/4788834/> (last visited Mar. 20, 2005).

26. DEP'T OF COMMERCE, U.S. PATENT AND TRADEMARK OFFICE: FEDERAL FUNDS (2005), *available at* <http://www.aipla.org/html/reports/2005/PTO2006Budget.pdf> (last visited Apr. 10, 2005); OFFICE OF MGMT. AND BUDGET, BUDGET OF THE UNITED STATES GOVERNMENT: FISCAL YEAR 2006, at 75 (2005), *available at* <http://www.whitehouse.gov/omb/budget/fy2006/pdf/budget/commerce.pdf> (last visited Apr. 10, 2005).

27. See generally Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035 (2003) (arguing that CAFC is poorly equipped for fact finding which has led to an institutional design that is inefficient and produces technologically questionable decisions in individual cases).

the International Trade Commission, and the Board of Patent Appeals and Interferences concerning patents.²⁸ Prior to the formation of the CAFC, each regional circuit heard appeals from patent cases filed in district courts in each respective region (p. 98). The authors assert that the CAFC has made it easier for applicants to receive patents, patent owners to enforce their patents, courts to uphold patents as valid, and patent owners to receive large monetary awards from infringement, and is thus decidedly pro-patent (ch. 4). Specifically, the authors argue the CAFC has encouraged the filing of patents by expanding the scope of patent eligible subject matter to include business methods, software, and some biotechnology products and processes; weakening the standards of novelty and nonobviousness for granting patents; and improving the enforceability of the patents making those patents more commercially valuable (pp. 110-25). The authors cite statistical evidence that demonstrates that in the first four years of the CAFC's operation, the patent holder won sixty-eight percent of patent cases (p. 106). The sixty-eight percent success rate is higher than the success rate that patentees obtained in the Tenth Circuit, the most pro-patent circuit under the past system (p. 106). Thus, according to the authors, the CAFC did not standardize patent practice, but instead shifted patent practice to be more pro-patent (p. 106). The authors also point to the fact that "[p]rior to the creation of the CAFC, about [thirty] percent of the patents were found to be valid and infringed at the district court level. After the creation of the CAFC, the percentage of award upheld rose to over [fifty-five] percent" (p. 106). Moreover, according to the authors:

Whereas the circuit courts had affirmed [sixty-two] percent of district-court findings of patent infringement in the three decades before the creation of the CAFC, the CAFC in its first eight years affirmed [ninety] percent of such decisions. On the other hand, when the district court had found that a patent was invalid or not infringed—thereby denying the patentee enforcement of the patent—the circuits had reversed only [twelve] percent of the cases. In the first eight years of the Federal Circuit, [twenty-eight] percent of these cases were reversed (pp. 105-06).

The authors then point to a few CAFC decisions and suggest the implications of those decisions (pp. 110-125). First, the authors assert that the CAFC has boosted patent holder's rights to receive injunctive relieve and damages for past

28. See *id.* at 1037 n.2 (describing the jurisdictional range of the CAFC).

infringement (pp. 110-15). The CAFC has increased the ability to obtain substantial damages with help from the Supreme Court, by making it easier for awardees to increase their damages by interest (pp. 110-11). The CAFC has also encouraged the use of the lost profits standard instead of the reasonable royalty standard to determine past damages, and allowed patentees to receive the sum of damages calculated from lost profits and reasonable royalty standards (pp. 110-11). The CAFC has allowed patentees to receive preliminary injunctions notwithstanding the commercial nature of the harm because the calculation or payment of damages was uncertain enough to “render the harm due to infringement essentially irreversible” (p. 111). According to the authors, the prospect of huge damage awards and sweeping injunctive relief coupled with poor patent quality, leads to great pressures on parties to settle their disputes (p. 114). The problem with this is “the firm that pays royalties for an invalid patent suffers [and] receives less of the rewards for its own discovery than it deserves” (p. 115). As an additional matter,

the firm’s peers may be hurt: had the first firm chosen to fight the infringement suit, and the patent been struck down as invalid, then the patent-holder would be unable to pursue others in the industry . . . [T]he decision to settle can actually make it harder for others to challenge the asserted patent, because the patent-holder can use the fact that the first firm settled as evidence of the validity of the patent (p. 115).

The authors argue that this raises the cost of introducing new products, and thus the cost of the entire innovation process is raised resulting in less innovation (p. 115).²⁹

The authors use the presumption of irreparable harm to demonstrate that the CAFC has made it easier for patentees to obtain preliminary injunctions, which demonstrates that the CAFC is pro-patent (pp. 110-15). The authors do not propose removing the presumption of irreparable harm.³⁰ This position can be viewed as consistent with the authors’ positions that the clear and convincing standard for proving invalidity should be retained as long as the quality of examination improves (pp. 192-95). Moreover, the determination of whether a preliminary injunction should issue is a decision made by the judge, which

29. See also Kesan, *supra* note 23, at 767-68 (outlining six costs to society because of the issuance of bad patents).

30. See generally Mark D. Janis, *Reforming Patent Validity Litigation: The “Dubious Preponderance”*, 19 BERKELEY TECH L.J. 923 (2004) (criticizing the FTC’s proposal to change standard to preponderance standard).

is also consistent with the authors' general position that judges make more decisions concerning patent validity. The presumption of irreparable harm flows from the determination by the district court that a clear showing of likelihood of success on validity and infringement is proven.³¹ Assuming patents that are not questionable are issued, the rationale for the grant of the presumption is a defensible one. The rationale for the presumption is that the term of the patent is finite, patent expiration is not suspended during litigation, the passage of time can cause harm which cannot be remedied, and the opportunity to practice an invention during a likely lengthy patent litigation may tempt infringers.³² Moreover, "[t]he nature of the patent grant thus weighs against holding that monetary damages will always suffice to make the patentee whole, for the principal value of a patent is its statutory right to exclude."³³

Second, the authors assert that the CAFC has expanded the number of things that can be patented (pp. 115-19). The authors do note that the tendency towards expansion originates with the Supreme Court, particularly in the *Diamond v. Chakrabarty*³⁴ opinion and the oft mentioned quote that "anything under the sun that is made by man"³⁵ should be worthy of patent protection (p. 115).

However, the authors state that the CAFC opened the doors to the patentability of software too far by allowing the patenting of a software program run on a generalized computer, rather than a specialized device (pp. 115-16). The CAFC made this decision in light of the Supreme Court's *Diamond v. Diehr*³⁶ case, which expanded the patentability to include a process to cure rubber that relied upon the application of computer software (p. 116).³⁷ The CAFC cleared up the issue of whether business methods could be patentable,³⁸ which led to the patenting of methods that

31. *Smith Int'l, Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 1581 (Fed. Cir. 1983).

32. *H.H Robertson, Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 390 (Fed. Cir. 1987).

33. *Id.*

34. 447 U.S. 303 (1980).

35. *Id.* at 309.

36. 450 U.S. 175 (1981).

37. *Id.* at 190-93.

38. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1377 (Fed. Cir. 1998).

already existed in the public domain or at least were held secret by third parties. The statutory language of 35 U.S.C. § 101³⁹ is incredibly broad with very few limitations. Although the CAFC expanded patentable subject matter, it did so after receiving strong signals from the Supreme Court. In particular, the Supreme Court noted the extremely broad language and clear legislative history of 35 U.S.C. § 101.⁴⁰

The USPTO had a difficult time becoming knowledgeable about the state of the prior art in the financial industry, which led to the passage of the American Inventors Protection Act.⁴¹ This Act provides an infringement exception for businesses that utilized business methods prior to the filing of a patent on those methods.⁴² The authors' desire to improve examination standards does not include the argument that business methods, biotechnology, or software should not be patentable. Indeed, the authors note that a distinction should not be made between types of subject matter, but instead the policy question should be whether the patent system is encouraging the development of new products and services (pp. 199-200). Business methods require the investment of time and money to develop and may need patent protection to protect against free-riding (pp. 199-200). However, very few will argue against ensuring that only patents that are novel and nonobvious should issue.

Third, the CAFC also appears willing to consider patents non-obvious even in the light of a substantial amount of prior art (p. 120). Specifically, the authors argue that the CAFC has placed a greater emphasis on so-called secondary considerations in determining whether an invention is non-obvious (p. 120). Moreover, the authors point to several cases upholding patents as non-obvious because of a lack of a suggestion to combine the prior art references (p. 122). The authors argue that those decisions "suggest that any patent application that entails a common sense combination of two previously well-known ideas must be granted, unless there is an explicit previous description of the particular combination that is described in the application" (pp. 122-23). The authors

39. 35 U.S.C. § 101 (2000).

40. *See* Chakrabarty, 447 U.S. at 308; *see also* Diehr, 450 U.S. at 181.

41. American Inventors Protection Act of 1999, Pub.L. 106-113, Div. B, § 1000(a)(9) [Title IV (§§ 4001 to 4808)], 113 Stat. 1536, 1501A-552 (codified at various sections of 35 U.S.C. (2000)).

42. 35 U.S.C. § 273 (2000).

do not advocate for an elimination of the use of “secondary considerations” or the “suggestion or motivation to combine” test. The use of the “suggestion or motivation to combine” test is designed to prevent the use of hindsight construction in determining patentability.⁴³ In other words, almost anything is obvious after someone shows it to you—arguably that is just a part of human nature. The “suggestion or motivation to combine” test attempts to inject certainty, understandability, and applicability into suits determined by judges and juries.⁴⁴ Generally, suggestion or motivation does not have to explicitly appear in a prior art reference, but also can be derived from the knowledge of those skilled in the art, including an Examiner’s personal knowledge.⁴⁵ Recent Federal Circuit cases have, however, required that the knowledge of those skilled in the art must be somehow explicitly noted (pp. 122-23). This makes sense because an accused infringer could merely pay an expert willing to state that a suggestion or motivation is present in the knowledge of those skilled in the art, and the question would degenerate into a credibility assessment.

Finally, the CAFC is increasingly relying upon juries in patent cases (p. 123). According to the authors, the use of juries in patent cases was historically rare because of judicial skepticism that juries could understand complex technical, legal, and business issues and the difficulty of appellate review of the unexpressed reasoning of juries versus having the reasoning of a district court judge expressed in an order (p. 124). Additionally, and importantly, many patent attorneys believe juries are too sympathetic to patent holders (p. 124). Indeed, one study found that in 299 cases between 1989 and 1996, juries found patents to be valid over two-thirds of the time (p. 125). In contrast, when judges ruled the patent holder was upheld less than forty-seven percent of the time (p. 125). Another study found that between 1999 and 2000, juries were

43. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

44. *Id.*

45. *Id.*; *In re Oetiker*, 977 F.2d 1443, 1448 (Fed. Cir. 1992) (Nies, C.J., concurring) (“Such suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same or similar problem which it addresses.”); *see also* PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2145(X)(A) (8th ed. 2001), available at <http://www.uspto.gov/web/offices/pac/mpep/index.html> (last visited Apr. 10, 2005).

two times as likely to uphold patents as were judges (p. 125).⁴⁶

Jaffe and Lerner's proposed solutions to the asserted problems do not go so far as to advocate for abolition of the CAFC. First, notwithstanding the effect of purported undesirable and unintended consequences flowing from its decisions, it is important to note that the CAFC was created for a good reason. Second, the CAFC is fulfilling its purpose of creating a uniform body of patent law.⁴⁷ Third, the CAFC has issued many opinions that attempt to limit the scope of patents, and several doctrines operate to curb the enforcement of dubious patents.

The CAFC was created at a time when the United States was very concerned about its competitive position compared with Japan. In the late 1970s and early 1980s, the United States was no longer viewed as an innovator. Some believed that part of the problem with the United States' overall innovation process was the uncertainty in the enforceability of patents.⁴⁸ District court and appellate court judges, when confronted with patents, often viewed the patent as an impermissible monopoly and would find the patent invalid or construe the claims so narrowly there could be no infringement.⁴⁹ Each regional circuit in the United States developed its own patent law with some circuits exhibiting more patent-friendly behavior than others.

The story is told of then-Second Circuit Court of Appeals Judge Thurgood Marshall when he was visiting senators in preparation for his confirmation hearing as President Johnson's nominee to the Supreme Court. One well-known senator asked Judge Marshall what his views were on patents. The Judge reportedly responded, "I haven't given patents much thought, Senator, because I'm from the Second Circuit and as

46. See also Kimberly A. Moore, *Jury Demands: Who's Asking?*, 17 BERKELEY TECH. L.J. 847, 874 (2002).

47. See R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1174 (2004) (stating that, while the CAFC has not been an unqualified success, it is moving in the right direction). For updated evidence, see CLAIMCONSTRUCTION.COM: A RESEARCH PROJECT ON THE INTERPRETATION OF PATENT LANGUAGE, at www.claimconstruction.com (last visited Feb. 25, 2005).

48. See *The Sixth Annual Judicial Conference of The United States Court of Customs and Patent Appeals*, 84 F.R.D. 429, 471-75 (May 9, 1979) (comments of Robert Benson).

49. See Simone A. Rose, *Patent "Monopolyphobia": A Means of Extinguishing the Fountainhead?*, 49 CASE W. RES. L. REV. 509, 527 (1999).

you know we don't uphold patents in the Second Circuit."⁵⁰

Thus, simply filing a declaratory judgment action of noninfringement or invalidity practically guaranteed victory in the case. For example, between 1953-1977, patents were found valid and infringed on appeal in less than ten percent of the cases heard in the Eighth Circuit (p. 100). In the Tenth Circuit, this number was almost sixty percent (p. 100). Thus forum shopping led to a system where the validity, enforceability and scope of patents were always in question. This degree of uncertainty fails to provide incentives to invent. Inventors and capitalists were unsure of whether to invest in the research and development of a particular product or even bear the costs of prosecuting a patent because it was unclear whether they will recoup the money invested in creation of that product.

The CAFC has, by its very formation, created greater certainty in the patent law.⁵¹ While some may disagree with the outcomes of its decisions, the benefit of having one appellate court interpret and apply patent law is much more desirable than twelve courts with different positions. This is particularly true because the Supreme Court rarely grants a writ of certiorari on a patent case.⁵² Furthermore, CAFC decisions concerning claim construction have increased the certainty associated with that art. The anticipated *en banc* decision of the CAFC, *Phillips v. AWH*,⁵³ will provide additional guidance in claim construction. Moreover, the CAFC, in a quest for more certainty, attempted to reign in the doctrine of equivalents in the *Festo* case.⁵⁴ However, the Supreme Court

50. Hon. Gerald J. Mossinghoff, *The Creation of the Federal Circuit*, in DONALD S. CHISUM, ET AL., PRINCIPLES OF PATENT LAW 29-30 (1998).

51. See *id.* at 30; see also Prepared Remarks of James E. Rogan, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, at the Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy (Feb. 6, 2002), available at www.ftc.gov/opp/intellect/rogan.htm (last visited Feb. 25 2005). Rogan stated that one of the developments in the last 20 years that has affected patent policy was "the establishment of the [CAFC]. The existence of a court of national jurisdiction for cases involving patents has been an invaluable tool. By reducing jurisdictional conflicts that had preceded the court's formation, the [CAFC] has made for a more stable patent system." *Id.*

52. See Jared Goff, *The Unpredictable Scope of the Waiver Resulting from the Advice-of-Counsel Defense to Willful Patent Infringement*, 1998 BYU L. REV. 213, 216 (1998).

53. 376 F.3d 1382 (Fed. Cir. 2004) (granting *en banc* rehearing).

54. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722,

curtailed the effect of the CAFC's attempt to limit the scope of patents with prosecution history estoppel.⁵⁵ The CAFC has also limited the strength of patents with other doctrines, including the disclosure dedication rule of *Johnson and Johnston Associates v. R.E. Service Co.*⁵⁶ and the prosecution laches doctrine of *Symbol Technologies, Inc. v. Lemelson Medical, Education & Research Foundation, Ltd.*⁵⁷ However, according to the decision in *Independent Service Organizations Antitrust Litigation v. Xerox*,⁵⁸ and much to the ire of the antitrust bar, the CAFC has apparently favored patents over the antitrust law in allowing the patentee the right to a unilateral refusal to sell or license without an inquiry into subjective motivation.⁵⁹ Notably, in the refusal to deal context, a patentee may be subject to antitrust liability and treble damages if (1) the patentee's acquisition of the litigated patents involved willful fraud on the Patent Office,⁶⁰ or (2) the patentee's infringement cause of action was a "mere sham to cover what is actually no more than an attempt to interfere directly with the business relationships of a competitor."⁶¹ The *Xerox* decision may have led to the Supreme Court's decision in *Holmes Group, Inc. v. Vornado Air Circulation Systems, Inc.*,⁶² which created uncertainty by allowing patent counterclaims to be heard in regional circuits instead of the CAFC. Commentators have made several proposals to change the result of the *Vornado* decision and the inconsistency it creates.⁶³ A recent CAFC case provides some deference to the antitrust law by holding that there is a presumption of market

727-28 (2002).

55. *Id.* at 732.

56. 285 F.3d 1046, 1054 (Fed. Cir. 2002) (holding that which is disclosed, but not claimed, is dedicated to the public domain).

57. 277 F.3d 1361, 1366 (Fed. Cir. 2002).

58. 203 F.3d 1322 (Fed. Cir. 2000).

59. *See id.*

60. *Id.* at 1326 (citing *Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177 (1965)).

61. *Id.* (citing *E. R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 144 (1961)).

62. 535 U.S. 826 (2002).

63. *See generally* Christopher A. Cotropia, "Arising Under" Jurisdiction and Uniformity in Patent Law, 9 MICH. TELECOMM. TECH. L. REV. 253 (2003); Elizabeth I. Rogers, *The Phoenix Precedents: The Unexpected Rebirth of Regional Circuit Jurisdiction Over Patent Appeals and the Need For a Considered Congressional Response*, 16 HARV. J. L. & TECH. 411 (2003).

power in a patent.⁶⁴ Finally, it is important to note that the defense of inequitable conduct that renders a patent unenforceable may deter undesired conduct, such as an attempt to enforce dubious patents.

IV. JAFFE AND LERNER: IT IS BROKEN—HOW DO WE FIX IT?

A. PROBLEMS WITH PATENT REFORM

A clear “fix” to the patent system is a meaningful pre-grant opposition system that allows third parties to produce relevant prior art without penalizing the third party in later litigation.⁶⁵ Instead, we have a reexamination system that, notwithstanding several updates, is rendered ineffective by a limited number of issues covered in the reexamination process, ambiguities surrounding the litigation process, the prominent role given to examiners in reviewing their own work, and the fact that if you initiate the inter partes reexamination process and fail, your ability to challenge the patent in court are greatly restricted (p. 155). The relatively new inter partes reexamination procedure was only used six times in the first three years the procedure was available (p. 155). Why don’t we have a meaningful pre-grant opposition system? The authors assert that the reason is unreasonable concern with harming small firms (pp. 156-57). First, applicants would not be able to rely on trade secret law if their applications are published. Second, large firms may harass small firms by frequently opposing their patent applications, which can make it difficult for small firms to build their patent portfolios.⁶⁶ These arguments, according to the authors, are flawed and have been used by commentators such as Oliver North and G. Gordon Liddy to derail any meaningful reform (p. 157).

The authors rely on a body of work called “political

64. See generally *Independent Ink, Inc. v. Illinois Tool Works, Inc.*, 396 F.3d 1342 (Fed. Cir. 2005).

65. See generally Allan M. Soobert, *Breaking New Grounds in Administrative Revocation of U.S. Patents: A Proposition for Opposition and Beyond*, 14 SANTA CLARA COMPUTER & HIGH TECH. L.J. 63 (1998).

66. But see Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1300 (2003) (reporting that over 40% of interferences are filed by the party that is first to invent and last to file, but small inventors are not particularly benefiting from the first to invent system).

economy,” which emphasizes the danger of “capture” of government programs to explain why patent reform is not happening (p. 160).

The theory of regulatory capture suggests that groups who have three shared characteristics will capture and control programs that create economic benefits: They stand to gain substantial benefits[;] [t]heir collective political activity is not too difficult to arrange[;] [and] [t]he parties who are most affected by their actions are highly dispersed and find it difficult to organize (p.160).

According to the authors, several characteristics of the patent system that make capture likely are the complexity of the laws; the negative effects of bad patent policy are diffuse and difficult to see and understand; the policy debate concerning the “small inventor”; and lack of a common language between practitioners and scholars (pp. 160-61). Moreover, the patent bar has proven to be a powerful lobby advocating against change; small capital-constrained firms do not have the resources for lobbying efforts; the adverse consequences of a poorly functioning patent system are diffuse and indirect; and finally, the ultimate party harmed, the consumer, does not understand the adverse consequences of more expensive products due to litigation and royalties, and products that were either not brought to market or delayed in being brought to market (pp. 168-69).

Having identified the problems with the current patent system, the authors focus their proposals for reform on the ease of obtaining a patent at the USPTO and the likelihood of success in enforcing a patent in the courts (pp. 170-71). The authors begin their analysis by setting forth the conceptual framework and basis of their proposals (pp. 170-71). First, the authors set out three generally agreed upon goals for the patent system. These include: (a) improving patent quality by ensuring that only inventions that are truly novel and nonobvious are patented, that the patent procurement process is quick and reliable, and that the patents that are issued provide an adequate property right to protect investment in the invention; (b) reducing uncertainty, which includes the uncertainty that innovators have that an unknown or untested patent will be asserted against them; and (c) keeping costs under control (pp. 171-172). Second, the authors assert that there are some very basic truths about patent reform. According to the authors, patent examination will never be perfect. Better examination will require more resources, and since most patents are worthless and unimportant, throwing

more money at the examination process is generally not helpful.

In spite of this truth, the authors disagree with Mark Lemley's "rational ignorance" theory, which posits that society is rationally choosing to remain ignorant about which patents should be granted and that it is reasonably efficient to accept poor examination quality and let courts sort out the validity of the patents that truly matter (p. 174).⁶⁷ Instead, the authors believe that the current patent system is not working in an acceptably efficient manner (p. 175). In particular, they believe the intangible cost of low quality patents does not just include the cost of litigation, but also includes uncertainty created by overlapping dubious patents which reduces the incentive to invest in innovation (p. 175). Moreover, the loss of products and services that never make it to market because of an abandoned development due to threatened litigation or licensing costs is high (p. 175).⁶⁸

In addition, issuing bad patents encourages bad applications to be filed. Potential litigants also respond to how courts behave, that is if courts make it easier to enforce patents, litigants will file more law suits. There is also a need for a strong incentive to get more information to the PTO to prevent the issuance of patents that would not have issued if that information was before the PTO.⁶⁹ And finally, an improved recalibration of the system can be achieved with "a better balance between rapid approval of good applications and

67. See also Shubha Ghosh & Jay Kesan, *What Do Patents Purchase? In Search of Optimal Ignorance in the Patent Office*, 40 HOUS. L. REV. 1219 (2004) (criticizing rational ignorance theory); John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform*, 17 BERKELEY TECH. L.J. 727 (2002) (criticizing rational ignorance theory). For a discussion of the theory see Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495 (2001).

68. See generally Joseph Farrell & Robert P. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help*, 19 BERKELEY TECH. L.J. 943 (2004) (arguing that litigation is a poor substitute for adequate patent examination at the USPTO and suggest better funding for the USPTO, higher standards for initial review, better incentives for applicants to find and disclose prior art information, and the creation of a cheap and workable administrative post-issue review).

69. The authors recognize that providing an opportunity for competitors to present information to defeat a patent can "gum up the works" (p. 177). Competitors will be opportunistic and attempt to delay a potentially valid patent and that will increase the cost, uncertainty, and delay for valid patent applications (p. 177).

reliable rejection of bad ones, and do it without dramatically increased resources” by paying attention to the incentives that different reforms create for desirable and undesirable behavior (p. 178).

B. MULTIPLE-TIERED SYSTEM OF REVIEWING PATENTS

To balance the need to bring in more information with the fact that most patents are unimportant, the authors propose a multi-tiered system of reviewing patents and patent applications (pp. 179-81). Accordingly, patents that are unimportant and unlikely to be the subject of litigation would receive the current examination practice (p. 181). For the more important patents, parties would have an incentive and opportunities to bring information to the USPTO, and the USPTO would at least be able to make an informed, if not always the correct, decision of validity on patents (p. 181). First, the application process would proceed as it currently operates; the applicant files their application and the examiner reviews it (p. 180). Second, prior to issuance of the patent, a public notice of the intention to issue the patent would be followed by an opportunity in which third parties could submit relevant prior art (p. 180). This “pre-grant opposition” would only allow the submission of prior art and does not give a third party the opportunity to argue their case or use legal discovery to produce additional evidence of prior art (p. 180). Third, assuming the patent issues, there is an opportunity to file a request for a reexamination (p. 180). The request must have a stated basis, and the request may be denied by the USPTO (p. 180). If allowed, an independent examiner would undertake the reexamination with the opportunity for third parties to make arguments regarding patentability (p. 180).

C. THE PRE-GRANT OPPOSITION PROCEEDING

The pre-grant opposition proceeding, similar to the trademark opposition procedure, allows parties an opportunity to present relevant information to the Patent Office. The current patent system does not provide any meaningful opportunity for third parties to provide information to the USPTO (p. 182). For example, under USPTO rules, a third party can protest a filed, but unpublished application by arguing grounds related to patentability. However, the protest has to be filed before the application is published by the

USPTO.⁷⁰ Thus, third parties must submit an argument that the patent is invalid without knowing what invention is claimed in the patent application, unless they somehow independently obtain this information—perhaps through trade secret misappropriation (p. 182). Moreover, the limited proposal by the authors merely allows the opportunity to present information—not gum up the system with legal argument and posturing (p. 182). The most important tactical concern is what will be the legal effect of providing prior art to the examiner if the examiner decides to issue the patent notwithstanding the prior art. More succinctly, how does this affect the issue of legal validity of the patent in a future forum? Generally, new prior art not before the examiner during examination is very persuasive evidence of the invalidity of the patent in court (p. 182). Moreover, the decision of the court is closer to a final decision than an administrative decision of the USPTO. Most litigation attorneys and patent prosecutors will likely counsel against using a pre-grant opposition if there is the danger of a legal presumption that the patent is valid in light of that prior art. The authors argue that there should be no legal presumption regarding the validity of the patent over the art provided by the outside party, thus there should not be a concern over “wasting good stuff” on an examiner (p. 183). This, however, does not give any deference to the decision of the examiner. The authors argue this is warranted because the third party has not had the opportunity to make any express arguments (p. 183).

D. THE POST-GRANT THIRD PARTY REEXAMINATION

The second prong of the authors’ approach to improve the quality of issued patents is the opportunity for a meaningful third party reexamination (p. 184).⁷¹ This meaningful third

70. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE, *supra* note 45, § 1901.04.

71. See generally Mark D. Janis, *Rethinking Reexamination: Toward a Viable Administrative Revocation System for US Patent Law*, 11 HARV. J. L. & TECH. 1 (1997) (proposing adoption of a model based on the U.S. trademark system inter partes administration procedures or the European Patent Convention post-grant opposition practice); see also Bronwyn H. Hall & Dietmar Harhoff, *Post-Grant Reviews in the US Patent System—Design Choices and Expected Impact*, 19 BERKELEY TECH. L.J. 989 (2004) (The article discusses how U.S. patent quality has been deteriorating and “reviewing the impact of post-grant review mechanisms as advocated by the policy review boards.”).

party reexamination is balanced against a desire to ensure that competitors are not strategically using the process to delay or obstruct the granting of a patent (p. 184). The meaningful third party examination also ensures that resources are only expended on a few patents and that there is an opportunity for outside information to be brought to the USPTO's attention (p. 184). According to the authors, the current reexamination system's rules are tipped too far toward protecting against strategic use of the system to delay the granting of the patent (p. 187). Some of those rules include: a right to appeal if the reexamination results in a withdrawn patent grant, but not if the patent is not withdrawn; the party initiating the reexamination is prohibited from making any argument concerning validity that could have been made in the reexamination in a future litigation; and the only evidence concerning validity that can be produced are patents and printed publications (p. 187). The authors argue that in order to ensure that there are proper incentives to bring information to the USPTO and prohibit strategic use designed to delay a patent grant, the following proposals should be adopted: third parties should be able to bring forth any factual evidence and not be limited to patents and printed publications; parties should only be barred from making specific arguments made to the USPTO during the reexamination in future litigation; reexaminations should be only conducted by a group of reexaminers; and the patentee and challenger should have the right to appeal the USPTO's decision (p. 188). Finally, the authors assert that there should be a "non-trivial" fee, such as \$50,000, to initiate a reexamination, and that if the challenge is successful, the patent applicant should pay that fee along with the challenger's legal fees (pp. 188-89). If the challenge is not successful, the authors argue that the challenger should reimburse the applicant's costs of defending the patent (p. 189).

The proposed fee structure would likely impact small inventors and companies unable to pay that amount when presented with a challenge. The \$50,000 fee coupled with the prospect of paying your own as well as the opponent's legal fees is a tremendous burden which may serve to provide a disincentive to pursue a patent or abandon a patent. This in turn could lead to less investment in innovation as firms are unable to obtain reimbursement for their research and development costs. Indeed, the authors admit that "the knowledge that this expensive and unattractive prospect likely

lies at the end of the road will discourage marginal applicants from filing patent applications in the first place” (p. 189). Finding the appropriate amount of cost to initiate the reexamination while providing the proper incentives and disincentives is also particularly difficult because of the difference in value or potential value of different types of innovations such as pharmaceuticals. The prospect of delaying the issuance of a patent on a pharmaceutical that serves as a substitute to another pharmaceutical that is covered by a patent could mean millions of dollars in market share for a period of time. The fee structure may need to be staggered for different types of innovations and perhaps small inventors or companies could be excluded from operation of the legal fees provision making the loser bear the winner’s fees.

Finally, the authors also add that the initial examination should be improved through a rethinking of the goals of the USPTO and the definition of productivity along with additional funding necessary to hire, retain, and train examiners and update its information systems (p. 191). Unquestionably, these reforms would improve the quality of reexamination.

E. JUDGES INSTEAD OF JURIES

The second prong of analysis presented by the authors includes addressing the CAFC’s unbalanced attitude toward protecting patent rights. First, the authors attack the presumption of validity accorded to patents which dictates that the challenger must prove the invalidity of patent by clear and convincing evidence (p. 192). The logic underpinning this rule is that the decision making accorded to administrative bodies should be given some weight (p. 193). However, given the authors’ prior arguments concerning the poor quality of issued patents and the “Rational Ignorance principal,” the authors assert that there is a strong argument for eradicating the presumption (p. 193). However, the authors do not push the argument that far and recognize the patent grant must be worth something otherwise investors would not invest in new technologies because there would not be even a nominal guarantee that they would be able to recoup their investment in the technology and the procurement of the patent (pp. 193-94). As a result, the authors argue that keeping the presumption intact is prudent if their prior proposals concerning pre-grant oppositions and reexamination are

adopted (p. 194).⁷² The presumption will carry more meaning when examiners have relevant prior art to consider during examination and third parties will have had the meaningful opportunity to challenge the patent (p. 194).

Second, the authors assert that difficult technical evidence along with the clear and convincing burden of proof standard makes it likely that a jury will be more likely to find in favor of a patentee (pp. 195-96). The common argument in defense of jurors is that it is fair to be judged by your peers instead of a judge, a principle of Anglo-American law (p. 196). However, this concept bears less weight because a jury of a patentee's peers is likely other scientists, engineers, or experienced members of a particular business, not your member of the general public (p. 196). The authors assert that judges are more used to technical evidence and have a greater ability to sort through that evidence in comparison to the lay juror, and can appoint a special master to serve as an expert (p. 196). The authors further argue that there is no good distinction between mandating that judges should interpret claims and not juries, but then leave technical decisions concerning novelty and nonobviousness to juries and not judges (p. 196). The judge could construe the obviousness and novelty of a patented invention and leave the ultimate question of obviousness and novelty to the jury as is essentially done with infringement (pp. 196-97). Judges likely have a higher education level than the average jury member and thus, may be better suited to understand the complexities of patent law and the technology at issue.⁷³ There is little doubt that that would be true for special masters. This proposal would likely lead to more predictability in patent litigation, and may reduce the likelihood that a jury may be swayed by a persuasive theme at trial surrounding the toils of the inventor.

V. JAFFE AND LERNER'S FINAL THOUGHTS

The authors also address the argument that patent law should be tailored to specific technologies (p. 198). The authors offer compelling arguments against such proposals and assert

72. This is contrary to the position proposed by the Federal Trade Commission. See FED. TRADE COMM'N, *supra* note 18, at 8.

73. Cf. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996) (holding that claim construction is a question of law to be decided by the judge and is not subject to a Seventh Amendment guarantee that a jury will determine the meaning of claim terms).

the better solution is to repair the system as a whole, particularly with software and business methods, where the prior art is in the hands of industry members and not readily accessible to patent examiners (pp. 199-200). The authors review specific innovations such as business methods, and argue no distinction should be made between inventions brought forth through the use of science versus a method of doing business (p. 199). The proper policy question is whether the patent system is encouraging the development of new products and processes (pp. 199-200). Business methods require the investment of time and money to develop and may require patent protection to prevent free riding (p. 200). The problems with the issuance of software patents stems from a difficulty in allowing claims to issue on innovations that are not new or nonobvious (p. 200). This problem is not specific to software (p. 203). Similarly, for biotechnology research tools, if the tool is novel and nonobvious then the patent should issue (p. 203). It is not unreasonable to require a royalty in that situation (p. 203). Finally, the authors argue that differential treatment between technologies is very difficult to implement and “there will be an inevitable tendency for people to position themselves to get the most favorable treatment” (p. 204). The authors point to current gaming of the patent system made possible by Congress’s willingness to pass technology-specific laws such as the inclusion, in President Bush’s domestic security legislation, of a provision protecting a vaccine made by a pharmaceutical company (pp. 204-05). This provision became law notwithstanding the current fact that neither anyone on Capitol Hill or in the White House is willing to admit inserting it into a domestic security bill (p. 205). This behavior would only intensify with presumptions treating technologies differently (p. 205).

CONCLUSION

Jaffe and Lerner offer a balanced, thoughtful analysis of the patent system and reform efforts. While recognizing the importance that certain and strong patent rights provide, the authors offer proposals which will greatly improve the quality of patents and provide the necessary certainty that inventors and investors require to invest time and money in researching and developing new innovations. Their two tiered approach to solve the problems of the patent system attacks the current system at its weakest points: the issuance of weak patent

grants from the USPTO and the liberal upholding of the validity of weak patents. The implementation of a pre-grant opposition proceeding, allowing for admission of additional relevant prior art for consideration by the examiner, would certainly reduce the issuance of weak patents. Moreover, the post grant reexamination proceeding would allow for a further review of weak patents, while preventing abuse of the system by competitors of the patent holder. Based on this system for the USPTO, the CAFC's presumption of validity for issued patents will carry more meaning. In addition, their second tier for solving the patent system would have the CAFC rely on more determinations by a judge rather than a relatively unsophisticated jury. This will provide truer results in cases questioning a patent's validity. The proposed plan's only weakness can be found in practical applications of certain ideas. For example, the "non-trivial" fee for initiating a post grant reexamination might actually lead to abuse by certain parties while also preventing genuine claims from being brought forth. However, by taking into account the goal intended by reform of the current patent system and the interests of inventors, businesses, and the Congress, the authors' recalibration of the current system would rectify many of the current patent system's problems without destabilizing the very purposes of the system.