



8-6-2012

Reforming Software Patents

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REFORMING SOFTWARE PATENTS¹

Colleen Chien²

Abstract

While many believe the patent system has hit a historic and unprecedented low, discontent with patents is nothing new. In 1966, a Presidential Commission recommended prohibiting software patents because of the PTO's inability to vet them. In 1883, the Supreme Court railed against "speculative schemers who make it their business to watch the advancing wave of improvement and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax." In 1836, the Ruggles Report documented how lax patent standards, "encourag[ed] fraudulent speculators in patent rights, deluging the entire country with worthless monopolies, and laying the foundation for endless litigation." In short, the problems that now confront the patent system are well-known. What is less well-known, however, is that many of the very reforms being considered - abolishing certain types of patents, fee-shifting, and an increasing maintenance fees for example - have been called for and in many cases tried before, under similar and different conditions. In fact, agrarian design patents were "abolished," according to a recent historical account, but by tweaking the standard for granting a design patent, rather than by outlawing patents relevant to a specific industry. Fee-shifting has been the norm in many European countries and in certain US contexts - and the theory and evidence indicate that it works best when low-odds cases can be identified ahead of time and the loser is not judgment proof - predicates that, given the unpredictability of patent litigation and the use of shell companies to bring patent litigation, cannot always be satisfied. During this historic moment, what can the past teach the present and the future about how to solve the software patent crisis? Based on my research, quite a lot. History teaches away from broad based legislative reform and towards, narrowly tailored, incremental reform. For example rather than trying to enact an independent invention defense, patent reformers could consider bolstering protection for users, which are in some situations protected in other countries and in the US in the case of medical method patents, by encouraging courts to stay cases brought against them rather than the manufacturer. Rather than pushing for new changes to the law, patent targets could pool information and prior art and capture economies of scale in taking advantage of the multiple ways a patent can be challenged after issuance. These and other suggestions and available historical and empirical evidence about what has been tried, what has worked, and what has not, are detailed in this paper.

¹ © 2012 Colleen V. Chien, colleenchien@gmail.com. Final draft to be published in 2012 Houston Law Review. Thanks to David Olson, Eric Goldman, Michael Risch, Mark Lemley, and David Schwartz, and participants and audiences at the 2012 Santa Fe IP Law Institute, 2012 Salishan Conference, 2012 Princeton "Patent Success or Failure" conference, and Stanford Law School for their comments, Lex Machina, RPX Corporation, and Gazelle Technologies for sharing data, and to Gerald Wong, Lee-Ann Smith Freeman, Nicole Shanahan, and Kevin Isaacson for their excellent research assistance, and Dirk Calcoen for his support.

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INTRODUCTION

The patent system is in crisis. Though supposed to “promote the progress of [] the useful arts,”³ the patent system is routinely now blamed for doing the opposite. The increasingly widespread, legal practice of buying or developing patents and using them for assertion and licensing,⁴ rather than for making products⁵ (“patent trolling”) is typically blamed.

These developments have led the mainstream press and lawmakers to compare patent enforcement to “shakedown” efforts by organized criminals.⁶ Patent trolling is now being seen as a business model to be outlawed, or at least regulated.⁷ Proposals to abolish software patents have become mainstream,⁸ and patent holders have been excoriated in the halls of Congress for suing technology users like the Red Cross for soliciting charitable contributions on the Internet⁹ and going after companies like Costco and McDonald’s.¹⁰ Patent wars between competitors have raised a host of other issues. In 2012, Google spent \$12.5B to buy Motorola Mobility and its patents,¹¹ and \$5.2B in 2011 on R&D.¹² In 2011, Apple spent \$2.4B on R&D¹³ but contributed

³ See U. S. Const., Art. I, §8, cl. 8.

⁴ For example, Colleen Chien, NPEs and the ND California, Address at the Northern District of California Judicial Conference 9 (April 26, 2012), (reporting data provided by RPX Corp. that indicates that 55% of new suits from January 1, 2012 to April 8, 2012 have been brought by companies that do not practice their patents – non-practicing entities (“NPEs”)).

⁵ Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 328 (2010) (PAEs are “entities . . . focused on the enforcement, rather than the active development or commercialization of their patents.”), accord, FTC *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* 8 n.5 (Mar. 2011), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>. Unlike the more popular term “NPE,” “PAE” excludes startups and others who seek to commercialize their technology.

⁶ See, e.g., Ryan Davis, *Cisco, Others Tell Lawmakers to Keep NPEs Out of ITC*, Law360 (July 18, 2012), http://www.law360.com/ip/articles/360428?nl_pk=bbc3d26f-4bfd-4165-97b0-226125cbf024&utm_source=newsletter&utm_medium=email&utm_campaign=ip (quoting Rep. Zoe Lofgren as referring to patent enforcement as a “shakedown situation.”), see also remarks of Chris Sacca in *This American Life*, Episode 441: When Patents Attack! transcript available at <http://www.thisamericanlife.org/radio-archives/episode/441/transcript>.

⁷ Introductory remarks of Representative Goodlatte, Hearing on the ITC and Patent Disputes before the House of Representatives Judiciary Committee on Intellectual Property, Competition, and the Internet Subcommittee. July 18, 2012 <add link to transcript when available> <add parenthetical re: same>.

⁸ See, e.g., Oversight of the United States Patent and Trademark Office: Implementation of the Leahy-Smith America Invents Act and International Harmonization Efforts, Comments of Sen. Dianne Feinstein, June 20, 2012 <add link, parenthetical to same>.

⁹ 157 CONG. REC. H4480, H4496 (Statement of Rep. Crowley) (legislative history in the House of the America Invents Act), available at http://www.uspto.gov/aia_implementation/20110623-debate_hr_1249_h4480-h4505.pdf. (hereinafter referred to as “House AIA History.”) *Ziarno v. Am. Red Cross*, No. 99 C 3430 (N.D. Ill. June 28, 2001).

¹⁰ House AIA History, supra note ___ at H4496 (statement of Rep. Grimm). See, e.g., *Kelora Systems, LLC v. Target Corporation et al.*, (N.D. Cal., Aug. 29, 2011, C 11-02284 CW LB) 2011 WL 6000759 (Costco); *GeoTag Inc v. Starbucks Corp et al.*, No. 2:10-cv-00572-TJW (McDonald’s).

¹¹ Google Official Blog, *We’ve acquired Motorola Mobility*, <http://googleblog.blogspot.com/2012/05/weve-acquired-motorola-mobility.html> (last visited May 24, 2012); Jenna Wortham, *Google Closes \$12.5 Billion Deal to Buy Motorola Mobility*, New York Times (May 22, 2012), available at <http://bits.blogs.nytimes.com/2012/05/22/google-closes-12-5-billion-deal-to-buy-motorola-mobility>. Google has since said that of the \$12.5B, \$5.5were for patents, see Phil Goldstein, *Google: Motorola’s Patents Worth \$5.5B*, Fierce Wireless (July 25, 2012), available at <http://www.fiercewireless.com/story/google-motorolas-patents-worth-55b/2012-07-25>.

more, approximately \$2.6B, to a single transaction to buy patents from Nortel.¹⁴

The patent system, it seems, has hit a historic low, at least in the public eye.

Yet discontent with patents is nothing new. In 2006, Justices of the Supreme Court criticized the use of patents “to charge exorbitant fees” of productive companies.¹⁵ In 1994, at hearings held by the Patent and Trademark Office (PTO), software patents were described by a startup executive as “defensive and an infuriating waste of our technical talent and financial resources.”¹⁶ Most programmers that testified about software patents testified against them.¹⁷ In 1967, a Presidential Commission opposed granting software patents because of the PTO’s inability to vet them.¹⁸

Fears that patents are hurting, rather than helping, innovation go back further. In 1883, the Supreme Court railed against “speculative schemers who make it their business to watch the advancing wave of improvement and [] lay a heavy tax.”¹⁹ Five years before that, Senator Christancy complained to Congress about “patent-sharks [who] [] procure an assignment of [a] [] useless patent, and at once proceed to levy black-mail [] upon any man who has ever manufactured or sold, or even used, the later and valuable invention; and hundred[s], at least, among the innocent users, choose to compromise rather than run the risk of ruin from lawsuits; [] millions are thus filched and extorted from the people every year.”²⁰ In 1836, the Ruggles Report

¹² Google, Inc., Annual Report (Form 10-K), (Jan 26, 2012), *available at* <http://www.sec.gov/Archives/edgar/data/1288776/000119312512025336/d260164d10k.htm> (reporting an R&D expenditure of \$5.2B in 2011). [update with 2012 data if available pre-publication]

¹³ Apple, Inc., Annual Report (Form 10-K), (Oct. 26, 2011), *available at* <http://www.sec.gov/Archives/edgar/data/320193/000119312511282113/d220209d10k.htm> (reporting an R&D expenditure of \$2.4B in fiscal year 2011 (ending September 30, 2011)).

¹⁴ Apple, Inc., Quarterly Report (Form 10-Q), (July 20, 2011), *available at* <http://www.sec.gov/Archives/edgar/data/320193/000119312511192493/d10q.htm> (“On June 27, 2011, the Company, as part of a consortium, participated in the acquisition of Nortel’s patent portfolio for an overall purchase price of \$4.5 billion, of which the Company’s contribution will be approximately \$2.6 billion.”).

¹⁵ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396, 126 S.Ct. 1837, 1842 (2006) (Kennedy concurrence (joined by Justices Stevens, Souter, and Breyer)).

¹⁶ UNITED STATES PATENT AND TRADEMARK OFFICE, PUBLIC HEARING ON USE OF THE PATENT SYSTEM TO PROTECT SOFTWARE-RELATED INVENTIONS AT SAN JOSE, CALIFORNIA -- JANUARY 26-27, 1994, 48 (1994), *available at* <http://www.uspto.gov/web/offices/com/hearings/software/sanjose/sjhrng.pdf> [hereinafter SAN JOSE HEARING].

¹⁷ UNITED STATES PATENT AND TRADEMARK OFFICE, PUBLIC HEARING ON USE OF THE PATENT SYSTEM TO PROTECT SOFTWARE-RELATED INVENTIONS AT ARLINGTON, VIRGINIA -- FEBRUARY 10-11, 1994 (1994), *available at* <http://www.uspto.gov/web/offices/com/hearings/software/arlinton/vahrng.pdf> [hereinafter VIRGINIA HEARING] [the SAN JOSE HEARING and the VIRGINIA HEARING will be referred to collectively as SOFTWARE PATENT HEARINGS], at 90-91. Commissioner Bruce Lehmann stated: “There is no question about it that the lawyers seem to very much in favor of patent protection. Companies tend to be somewhat split, and programmers who’ve testified, though not all, a majority of them have testified against it.” Accord, independent analysis “SW Patent Hearings Sorted.xls” (finding that only 2 out of 13 software engineers testified in favor of software patents).

¹⁸ THE PRESIDENT’S COMMISSION ON THE PATENT SYSTEM, “TO PROMOTE THE PROGRESS OF . . . USEFUL ARTS, at 21, Report to the Senate Judiciary Committee, S. Doc. No. 5, 90th Cong., 1st Sess. (GPO 1967). (“The Patent Office now cannot examine applications for programs because of the lack of a classification technique and the requisite search files. Even if these were available, reliable searches would not be feasible or economic because of the tremendous amount of prior art being generated. Without this search, the patenting of programs would be tantamount to mere registration.”).

¹⁹ *Atlantic Works v. Brady*, 107 U.S. 192, 200, 2 S.Ct. 225, 231 (1883).

²⁰ 8 CONG. REC. 307-308 (1878) (Statement of Sen. Christancy).

documented how lax patent standards, “encourag[ed] fraudulent speculators in patent rights, deluging the entire country with worthless monopolies, and laying the foundation for endless litigation.”²¹ American patent nuisance lawsuits date back to the early 1790s.²² In 1601, British parliamentarians complained excessively about “royal monopolies”²³ in the House of Commons.²⁴

Thus, many of the problems, real or perceived, that currently confront the patent system are familiar and well-known. In both modern and historical times, large numbers of colorably infringed patents, oftentimes held by entities that do not make products, have been asserted against users and makers of technology. Less well-known, however, is that many of the very reforms which are now being proposed have been called for and in many cases tried before, in response to both similar and different conditions.

For example, those dissatisfied with the current patent system have recently demanded shifting costs to losing plaintiffs,²⁵ creating an independent invention defense,²⁶ and the end of software patents.²⁷ Not for the first time. Beginning in the 1880s, farmer groups lobbied for the creation of an innocent user defense, fee-shifting provisions that would deter frivolous claims, and eliminating certain patents, all in response to demands made by patent-holders of agrarian patents.²⁸

Patent reformers also now press for reducing damages²⁹ and increasing the fees patent owners must pay to keep their patents active,³⁰ effectively reducing their term.³¹ Just like in the late 1800s, when railroad companies sued en masse by patent purchasers in the pushed to change how damages were calculated and impose renewal fees on granted patents.³²

Recent and related history and experiences are also instructive. In the past decade, Congress and the PTO have extensively regulated business method patents.³³ The courts and Congress have changed nearly every aspect of patent law – its remedies, procedure, and substance.³⁴ Nuisance lawsuits date back to Justinian times,³⁵ and in the US, efforts to curb

²¹ Senate Report Accompanying Senate Bill No. 239, 24th Cong., 1st Sess. (April 28, 1836).

²² Described in Robert P. Merges, *The Trouble With Trolls: Innovation, Rent-Seeking, And Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1592 (2009). Many of the problems were related to the registration - rather than examination - based system in place at the time.

²³ As patents were called then.

²⁴ Thomas B. Nachbar, *Monopoly, Mercantilism, and Intellectual Property* 91 Va. L. Rev. 1313 (2005) at *20-21.

²⁵ E.g. through the introduction of the 2012 SHIELD Act, described infra, at Section ____.

²⁶ Described infra, at Section ____.

²⁷ Described infra, at Section ____.

²⁸ Described infra, at Section ____.

²⁹ See, e.g., FEDERAL TRADE COMMISSION, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* Chapter 4 (2011) (describing and advocating for the continued evolution of damages law in order for the judicial remedy “to replicate the market reward”).

³⁰ See, e.g., proposals from Gerard Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1813, 1836-37 (2007) (describing increased maintenance fees as a “dormancy tax”) and others, infra at Section ____.

³¹ See, e.g. www.defendinnovation.org (advocating that software patents be limited to a five-year term).

³² Described infra, at Section ____.

³³ Described infra, at Section ____.

³⁴ Described infra, at Section ____.

perceived litigation abuses, primarily in tort law, have been ongoing for decades.³⁶

Some of these efforts have worked, others have failed. But virtually every idea currently proposed has been tried before, in some version. Collectively, these historic and more recent efforts, and how they have fared, represent a rich data source of experiments to fix the patent system. Studying them provides a context for understanding the current situation, why certain proposals have failed, and which ones are likely to succeed. Upon reflection, they reveal the different roles institutions have played, in both initiating and implementing reform and a host of other lessons.

During this historic moment, what can be learned about the nature of the current technology patent crisis and how to resolve it? Based on the research described below regarding what has been tried, what has worked, and what hasn't, I believe, quite a lot. Pausing to reflect can help policymakers avoid the mistakes the past, illuminate the paths they should be exploring, and be mindful of current progress. The benefit of hindsight is substantial where, as here, there are strong parallels between the past and present.

The Federal Circuit's *State Street* decision confirming the patentability of business method patents was decided in 1998. From 2005 to 2012, Congress debated and finally passed a new patent law,³⁷ and the Supreme Court and Federal Circuit changed many aspects of patent law.³⁸ Patent reform in both venues continues.³⁹

According to a recent account, the agrarian patent crisis started when functional design patents were created by the PTO and Congress around 1869.⁴⁰ It took about 30 years for this patent crisis to develop and resolve, through a combination of PTO and legislative acts.⁴¹ There was a significant push for railroad patent reform around the same time. About twelve years elapsed between two seminal patent cases⁴² that set and changed the balance of power involving

³⁵ See Werner Pfennigstorf, *The European Experience With Attorney Fee Shifting*, 47 LAW & CONTEMP. PROBS. 37 (1984) (describing the origins of fee-shifting rules in Europe and frivolous litigation in the Justinian era, around 400 A.D.). See also Robert P. Merges, *The Trouble With Trolls: Innovation, Rent-Seeking, And Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1592 (2009). According to Robert Merges, nuisance patent lawsuits in the U.S. date back to the late 1790s, when patents were in effect registered rather than examined.

³⁶ See, e.g., Theodore Eisenberg and Geoffrey Miller, *The English vs. The American Rule on Attorneys Fees: An Empirical Study of Attorney Fee Clauses in Publicly-Held Companies' Contracts (November 9, 2010)*, NYU Law and Economics Research Paper No. 10-52, available at SSRN: <http://ssrn.com/abstract=1706054>. See also Ronen Avraham, and John Golden, *From PI to IP: Yet Another Unexpected Effect of Tort Reform* (July 12, 2012). U of Texas Law, Law and Econ Research Paper No. 211. Available at SSRN: <http://ssrn.com/abstract=1878966> or <http://dx.doi.org/10.2139/ssrn.1878966> (discussing the parallels between tort reform and patent reform and the dynamic of same.)

³⁷ Joe Matal, A Guide to the Legislative History of the America Invents Act: Part I of II, 21 Fed. Cir. B.J. 435 (2012), (Part I), at 438 available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2064740.

³⁸ Described infra, at Section ____.

³⁹ Described infra, at Section ____.

⁴⁰ Described in Magliocca, Barnyards, supra note ____ at 1820-21, and infra, Section ____.

⁴¹ *Id.*

⁴² *Sayles v. Chicago and NW Ry Co.*, 21 F. Cas. 600 (1871), aff'd by *Railway Company v. Sayles*, 99 U.S. 554, 556-57 (1878) (affirming a pro-patentee doctrine for deciding damages, the doctrine of savings), and *Atlantic Works v. Brady*, 107 U.S. 192 (1883), 199-200 (in dicta, condemning "speculative schemers" who used "patented monopolies[] to lay a heavy tax upon the industry of the country without contributing anything to the real advancement of the art.").

disputes between railroads and the patent holders that demanded royalties from them.

To be sure, historical and modern eras differ. In the late 1800s, the Patent Office played a substantive policy-making role,⁴³ the International Trade Commission (ITC) was not a major patent venue,⁴⁴ and competitors tended not to engage in sustained patent wars. There was no Federal Circuit.⁴⁵

But the similarities are striking. Each patent crisis evolved in part in response to a surge in patenting⁴⁶ driven by rapid economic growth in at least part of the economy. Each generated many thoughtful, substantive proposals to change substantive law that were never enacted. They all generated great anxiety for specific sectors of the economy; the agrarian and railroad crises were resolved through changes to the patent system that largely left other sectors of the economy intact. Much progress was achieved outside the halls of Congress, and in the courts, the PTO, and through self-help. Applying a lens that is informed by these historical lessons provides a different and constructive view of modern-day reforms. It casts skepticism on broad-based reforms that are popular but hard to tailor narrowly. It highlights both the need for judicial and legislative reform and the importance of self-help, including capturing economies of scale, coordinating strategies and sharing information, and resisting the divide and conquer strategies of patent speculators, to advance the interests of consumers and companies.

Section I describes three features commonly associated with the current and past patent crises: (1) too many trivial patents, held by (2) specialized and invulnerable patent plaintiffs (3) that bring cases for their nuisance value. Section II summarizes the development and resolution of the agrarian and railroad patent crises. Section III discusses several groups of current proposals, including: (1) reducing the number of software patents by abolishing them, (2) bolstering patent defenses through an independent invention defense, and (3) changing the economics of patent litigation, including through fee-shifting, as well as (4) self-help attempts; their historical counterparts, and what past experiences can teach.

Section I: What's the Problem?

The use of patents to extract settlements or exclude competitors is perfectly legal and nothing new. So is the opportunistic use of patents to accomplish the same aims. Indeed, Robert Merges cites as historical examples of patent rent-seeking: nuisance suits based on patents after the 1793 patent act, agricultural patents in the 1860s and 1870s,⁴⁷ railroad patents of around the same time, and automobile patents in the early 1900s.⁴⁸ The rent-seeking comes in the pattern of

⁴³ One example of the PTO's authority is described in Gerard N. Magliocca, *Ornamental Design and Incremental Innovation*, 86 MARQ. L. REV. 845, 850-851 (2003) (recounting successful efforts by the Patent Commissioner to lobby Congress regarding design patents, with the result that Congress "just deferred.") the.

⁴⁴ Not until the ITC was modernized under the 1974 Trade Act did it become so. Described in Chien, *Patently Protectionist? An Empirical Analysis of Patent Cases at the International Trade Commission*, 50 WM. & Mary L. Rev. 63 (2008).

⁴⁵ The Federal Circuit was created under the Federal Courts Improvement Act of 1982, which merged the United States Court of Customs and Patent Appeals and the appellate division of the United States Court of Claims.

⁴⁶ Described *infra*, at note _____. [reference the patent numbers and description re: name]

⁴⁷ Gerard Magliocca's paper, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809 (2007) provides an excellent recent description, drawing upon historical and primary accounts.

⁴⁸ Merges, *supra* note____, at 1592-1596.

assertion: often through the use of older patents,⁴⁹ in cases in which copying is not alleged, and based on a technology in which the defendant has already invested considerable resources, thereby maximizing holdup. Today's smartphone patent "wars" have been predated by patent "wars" over airplanes,⁵⁰ diapers,⁵¹ and sewing machines.⁵² Others have compared the current disputes over technology patents to historical disputes over telegraph, aircraft, semiconductors, radio, and 3G cell phone patents.⁵³

Some of these comparisons are inapposite. Smartphone technology, for example is covered by an estimated 250,000 patents⁵⁴ and the subject of numerous court battles between a diverse set of practicing companies, non-practicing entities, competitors, and others around the world, with diverse stakes and business models.⁵⁵ The sewing machine patent wars, in contrast, resolved with a patent pool involving just nine patents and four members.⁵⁶ The historical airplane and automobile patent incidents involved single patent "extorters," namely the Wright Brothers and George Selden, and their tactics to have their patents extended and applied broadly.⁵⁷

Yet two historical precedents have much to offer. In the late 1800's, according to

⁴⁹ Cf Hayter, *supra* note ___, at 62-63 (describing the practice of agrarian patent rings of buying up "old claims, or 'bottom' patent," getting them reissued or continued, and asserting them en masse), Congressional Testimony *infra* note ___ (describing same in the railroad context), and Brian Love, *supra* note ___ (same).

⁵⁰ Of the early 1900s, described, *e.g.*, in http://www.centennialofflight.gov/essay/Wright_Bros/Patent_Battles/WR12.htm

⁵¹ Of the 1980s, described, *e.g.*, in Fred Warshofsky, *THE PATENT WARS* (Wiley & Sons 1994), pp. 18-28 (also discussing the microprocessor and related patent wars)

⁵² Petra Moser and Ryan Lampe, *Do patent pools encourage innovation? Evidence from the 19th-century sewing machine industry* (NBER 2009), (describing the Sewing Machine "Wars" of 1846-1856), at p.7 available at <http://www.nber.org/papers/w15061>.

⁵³ See presentation of David Kappos, at Princeton Conference, *Patent Success or Failure*, available at <https://citp.princeton.edu/event/patent-success-or-failure/> <the prespos aren't posted yet>

⁵⁴ RPX Corp., Registration Statement (Form S-1), at 59 (Sept. 2, 2011), available at <http://www.sec.gov/Archives/edgar/data/1509432/000119312511240287/ds1.htm> ("Based on our research, we believe there are more than 250,000 active patents relevant to today's smartphones . . .").

⁵⁵ See, *e.g.*, Layne-Farrar, Anne, *The Brothers Grimm Book of Business Models: A Survey of Literature and Developments in Patent Acquisition and Litigation* (March 21, 2012), available at SSRN: <http://ssrn.com/abstract=2030323> (listing a variety of business models and 24 disputes brought in 4Q2011-1Q2012 in a variety of venues); Florian Mueller, "List of 50+ Apple-Samsung lawsuits in 10 countries", *Foss Patents*, Apr. 28, 2012, <http://www.fosspatents.com/2012/04/list-of-50-apple-samsung-lawsuits-in-10.html> (listing 50+ suits between Samsung and Apple alone, in multiple venues) (last visited May, 27, 2012). Martin Kenney & Bryan Pon, *Structuring the Smartphone Industry: Is the Mobile Internet OS Platform Key?*, 11 J. Ind. Compet. & Trade 239 (2011) (describing the number of players in the smartphone industry and the diversity of their stakes).

⁵⁶ Ryan Lampe & Petra Moser, *Do Patent Pools Encourage Innovation? Evidence from the 19th-Century Sewing Machine Industry* 7, Appendix A (June 8, 2010), available at SSRN: <http://ssrn.com/abstract=1308997>, Singer, Wheeler & Wilson, Grover & Baker, and Elias Howe were its members).

⁵⁷ See Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 889-90 (1990). Similarly, the "Telephone patent war" that some have tried to compare to the current situation focused on two patents held by inventor Alexander Graham Bell. See Kenneth Lustig, *No, the Patent System is Not Broken*, FORBES LEADERSHIP FORUM, Feb. 9, 2012, available at <http://www.forbes.com/sites/forbesleadershipforum/2012/02/09/no-the-patent-system-is-not-broken/> (last visited May 30, 2012); see also *Overland Telephone Company v. American Bell Telephone Company*, 126 U.S. 1 (1888). In contrast to reforming the patent system generally, patent "reform" efforts were focused on addressing problematic patents specifically, for example by opposing extensions to their terms.

Congressional record and historical accounts, the patenting of agricultural tools produced a “flood” of patents until “practically every device or tool that the farmer had” was covered by a patent.⁵⁸ Patents covered “the most insignificant things” and there were “so many patents to different people on the same article” that “farmers had neither the time, money, nor skill ‘to wade through the vast labyrinth’” of patent rights.⁵⁹ Patentees sold their patents to patent “royalty agents” that would demand fees from farmers,⁶⁰ who, due to their lack of experience with patent law, financing, and access to skillful representation⁶¹ were easier to collect from than manufacturers and more willing to pay royalty fees to escape costly litigation.⁶² Patents were also used anticompetitively by patent “rings,” groups of manufacturers that controlled various essential articles and used various tactics to get their patents reissued with broadened scope.⁶³ They used their patents to “drive out competitors by compelling them either to sell or assign their patents or pay a royalty fee for every article manufactured.”⁶⁴

During the same era, according to the chief historian of this period in patent history Steven Usselman, the railroad industry was “besieged” by lawsuits brought by “avaricious patent agents”⁶⁵ who bought up patents.⁶⁶ Railroad managers themselves initially sought few patents, not because they did not innovate but because the industry was “so dynamic that railroad managers assumed they would profit more from the open exchange of technical information than they would by securing exclusive rights to specific inventions.”⁶⁷ This led to extensive infringement, sometimes willful.⁶⁸ Companies were taken by surprise as the increasing complexity of railroad technology exposed them to lawsuits over their use of technology “that they had assumed either had become generic or were covered by patents for which they had paid a nominal fee.”⁶⁹

⁵⁸ Earl W. Hayter, *The Patent System and Agrarian Discontent, 1875-1888*, 34 MISS. VALLEY HIST’L. REV. 1 (1947) 59, 61.

⁵⁹ *Id.*, at 63.

⁶⁰ *Id.*, at 61.

⁶¹ *Id.*, at 64.

⁶² *Id.*, at 61.

⁶³ *Id.* at 62 (citing Arguments before the Committee on Patents, Senate Miscellaneous Documents, No. 50, 45 Cong., 2 Sess., 362-63; Prairie Farmer, XLIV (1873), 297; Buck, Granger Movement, 118-19).

⁶⁴ *Id.* at 63. See also *id.* at 65 (citing some farmers were subjected to multiple royalty demands on the same tool.).

⁶⁵ Steven W. Usselman and Richard R. John, *Patent Politics: Intellectual Property, the Railroad Industry, and the Problem of Monopoly*, 18 J. Policy Hist. 96, 99 (2006); STEVEN W. USSELMAN, REGULATING RAILROAD INNOVATION: BUSINESS, TECHNOLOGY, AND POLITICS IN AMERICA, 1840-1920, at 116 (2002) [hereinafter REGULATING RAILROAD] (describing the activities of patent dealers Chittenden and Sayles who bought up patents and sued a whole industry based on them in particular).

⁶⁶ “There is now growing up a class of men in the country who, when they find an invention in successful use, go to the Patent Office and rake over all the patent files to see if they can find an old patent which will supersede the later successful one, and then buy it up for a mere nominal sum. After obtaining a reissue, if needed, they commence an onslaught on legitimate business.” U.S. Senate, *Arguments before the Committees on Patents of the Senate and the House of Representatives in Support of and Suggesting Amendments to Bills (S. 300 and H.R. 1612) to Amend the Statutes in Relation to Patents, and for Other Purposes*, 45th Cong., 2d Sess., miscellaneous document no. 50, 304 [hereinafter Arguments before the Committees] (statement of Mr. Hyde).

⁶⁷ *Id.* at 104. While railroads did not compete on patents, they did compete on other government-granted privileges over, for example, particular rights of way.

⁶⁸ *Id.* at 106-107. (“[i]f a patentee asked for an unreasonable price or there was a dispute over priority between multiple patentees, the railroads were more than willing to refuse any fee and simply infringe the patent.”).

⁶⁹ *Id.* at 105.

Modern and historic suits also had similar motivations. These days, patent assertion entities serve a market need by overcoming the obstacles to patent monetization and providing a “path to liquidity” for invention assets.⁷⁰ The growth in railroad litigation was fueled in large part by the challenges faced by independent inventors in getting support for their inventions, due to the sophistication and built-in advantages of the railroads. For example, “[i]f railroad managers detected a conflict between two patented inventions, they might refuse to purchase either one, confident they could fend off an infringement suit by contending that the ownership of the product or process in question remained in dispute.”⁷¹

While distinct, the patent disputes over agrarian, railroad, and modern technology patents present a common story, that a practice and an industry has formed to exploit three basic facts:

A. Pervasive and Inadvertent Infringement of Patents Covering the Basic Building Blocks of the Economy

The patenting of incremental inventions, historically and recently, has led to inadvertent infringement across industries that make and use technology. There are now a growing number of software and computer patents.⁷² Many cover small improvements to the basic building blocks of commerce. Individuals and companies have recently been sued over their use of social media,⁷³ internet solicitations,⁷⁴ and pop-up advertising.⁷⁵ A century ago, railroads were sued over paints, lubricants, office machinery, and electrical equipment.⁷⁶ Basic farm tools were covered by numerous patents; according to a historical account, “there were as many as 20 patents on an ordinary coal stove, 647 on a corn planter, 378 on a corn sheller, and 6,211 on the different parts of a plow.”⁷⁷ The result in each case: pervasive and inadvertent infringement of patents that cover the basic building blocks of the economy, by businesses that make and use technology. There has also historically been systemic underenforcement, due to the high cost of assertion by practicing entities.⁷⁸ The sheer number of patents has made certain market-based

⁷⁰ Described, *e.g.*, in Chien, *Of Trolls*, *supra* note ___, at 108.

⁷¹ Usselman and John, *supra* note ___ at 105.

⁷² For modern patent proliferation, see Figure 1. Historically: “By the end of the Civil War, the number of railroad-specific patents had increased from fifty per year to more than five hundred.” Usselman and John, *supra* note ___, at 104. Hayter, *supra* note ___, at 61 (documenting the increase in agricultural patents from 400 in 1863 to 1800 in 1866).

⁷³ *EveryMD v. Rick Santorum, Mitt Romney, Newt Gingrich, et al.*, No. CV12-01623 (C.D. Cal. filed Feb. 27, 2012), available at <http://www.patentlyo.com/files/everymdcomplaintasfiled022712-1.pdf>.

⁷⁴ *Ziaro v. Am. Red Cross*, No. 99 C 3430 (N.D. Ill. June 28, 2001).

⁷⁵ Stephanie Olsen, *Patent owner stakes claim in Net ad suit*, CNET NEWS, Jan. 7, 2004, http://news.cnet.com/2100-1024_3-5136909.html (last visited May 28, 2012).

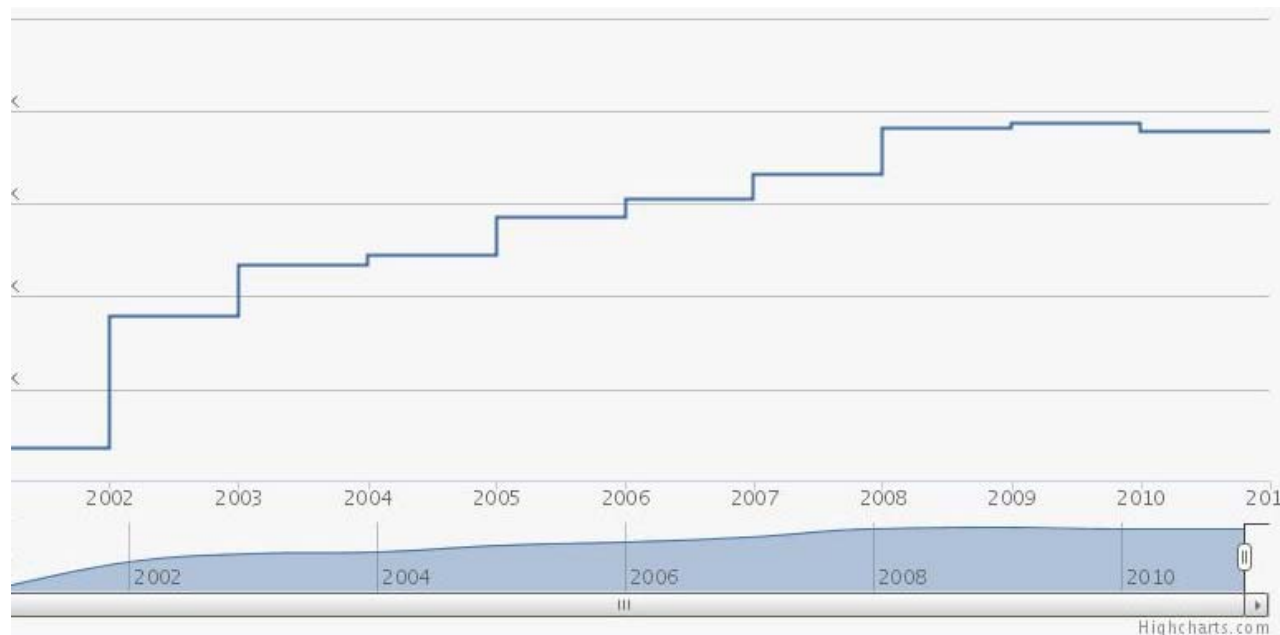
⁷⁶ Usselman and John, *supra* note ___, at 104.

⁷⁷ See Hayter, *infra* note ____, at 63, FN 13. (“It was claimed there were as many as 20 patents on an ordinary coal stove, 647 on a corn planter, 378 on a corn sheller, and 6,211 on the different parts of a plow.”) (citing 8 CONG. REC. at 269, 307, 1372.).

⁷⁸ Described, *e.g.*, in Chien, *Predicting Patent Litigation*, 90 Tex. L.Rev. 283, 291- (2011) (HENRY CHESBROUGH, EMERGING SECONDARY MARKETS FOR INTELLECTUAL PROPERTY: US AND JAPAN COMPARISONS 31 (2006) (citing David J. Teece, *Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy*, 15 RES. POL’Y 285 (1986)), available at <http://www.inpit.go.jp/blob/katsuyo/pdf/download/H17esm-e.pdf>.

solutions, such as patent clearance⁷⁹ economically unfeasible.

**Figure 1: 2001-2011 US Patent Software Applications
(Keywords: “Computer” and “Software” in the Spec)**



Source: Author Analysis, Using Cambia’s PatentLens

B. Specialized and Invulnerable Patent Plaintiffs

In both historical and contemporary times, patent plaintiffs have enjoyed the benefits of specialization. Modern patents have been transferred to outside entities that do not practice them.⁸⁰ Likewise agricultural inventors transferred patents to “royalty agents,” who split the proceeds from assertion with them.⁸¹ This revenue-sharing model has been used by modern patent assertion entities (PAEs) such as Acacia⁸² that focus wholly on the monetization of patents

⁷⁹ Described, e.g., in Chien, *Predicting Patent Litigation*, 90 Tex. L.Rev. 283 (2011). See also James Bessen & Michael J. Meurer, *Lessons for Patent Policy from Empirical Research on Patent Litigation*, 9 LEWIS & CLARK L. REV. 1 (2005).

⁸⁰ Described, e.g. in Chien, *Arms Race*, supra note __, at Abstract.

⁸¹ Hayter, supra note __, at 61 (“They could either collect damages from producers for infringing their patents, which they seldom chose to do, for litigation with corporations was expensive, or they could take the other alternative and collect royalty fees from purchasers. Since these articles were purchased by farmers who were much easier to collect from than manufacturers, the royalty agents began to visit the rural areas during the period under discussion.”).

⁸² Acacia Research Group LLC, 2012 Presentation, available at <http://acaciatechnologies.com/ACTGPresentation1stQtr2012.pdf>, p.5 (last visited May 28,2012) (stating “Acacia partners with patent owners (50/50)”).

rather than the commercialization of technology. Past railroad suits were brought by inventors as well as “patent speculators.”⁸³ In an incident eerily reminiscent of the public statement of embarrassment by a Yahoo! engineer that his former employer was suing Facebook in 2012,⁸⁴ a railroad company issued a “contrite” apology that its patent had fallen into the hands of a patent dealer, to those threatened with litigation over it, in 1869.⁸⁵

In both eras, patent “speculators” have turned being out of the market into an advantage.⁸⁶ Unlike companies who sell products, specialized plaintiffs are invulnerable to counter accusations of infringement, distractions from the core business, and reputational and brand damage among consumers. PAEs and patent speculators don’t have to abide by industry norms which have traditionally favored patent stalemate rather than war.⁸⁷ By focusing solely on patent assertion, PAEs can enjoy economies of scale⁸⁸ and reduce the risks of assertion including through financing mechanisms⁸⁹ built, for example, around contingency fee lawyers.⁹⁰ While practicing companies typically want freedom to operate, patent assertion entities enjoy freedom to litigate, and therefore gain leverage by pursuing high-stakes injunctions and damages.

When practicing companies sue competitors opportunistically, they may also enjoy have special advantages, for example “ultra powerful” standards essential patents. In the late 1800s, suits by George Westinghouse based on patents over his air-brakes, which quickly became an industry standard, “deeply troubled” policymakers.⁹¹ The infringement may be unavoidable: recently, both houses of Congress held hearings addressing the potentially unfair use of patents

⁸³ U.S. Senate, “Arguments Before the Committees on Patents of the Senate and the House of Representatives in Support of and Suggesting Amendments to Bills (S. 300 and H.R. 1612) to Amend the Statutes in Relation to Patents, and for Other Purposes,” 45th Cong., 2d sess., miscellaneous document no. 50, 79 (Mr. Hyde).

⁸⁴ Andy Baio, *A Patent Lie: How Yahoo Weaponized My Work*, WIRED EPICENTER, Mar. 13, 2012, <http://www.wired.com/epicenter/2012/03/opinion-baio-yahoo-patent-lie/> (last visited May 28, 2012).

⁸⁵ REGULATING RAILROAD, *supra* note __, at 116, FN 61 (Had this transfer been avoided “he certainly would have granted permission to use the device without charge throughout the system.”).

⁸⁶ In other words, the business model of “Being Infringed,” see Markus G. Reitzig, Joachim Henkel, and Christopher Heath, *On Sharks, Trolls, and Other Patent Animals - 'Being Infringed' as a Normatively Induced Innovation Exploitation Strategy*, available at SSRN: <http://ssrn.com/abstract=885914>.

⁸⁷ See Chien, *Arms Race* (describing the historic patent peace that has prevented companies from driving each other out of business with patents, even though they probably could).

⁸⁸ See Chien, *Forbes* (2011) (“They sue multiple defendants at the same time. They use the same patents over and over again. They show up in the same courtrooms, using the same set of counsel. Trolls capture economies of scale in litigation, and lower their committed capital by using contingent fee lawyers. Though trolls don’t make anything, this may be their real “product:” a safer, cheaper way to monetize patents.”).

⁸⁹ *Id.* Chien, *Forbes* (2011); see also Tom Ewing, *Introducing the patent privateers*, *IAM Magazine*, Jan/Feb 2011, at 31.

⁹⁰ For a description of this phenomenon, see William Gallaher, *Trademark and Copyright Enforcement in the Shadow of IP Law* (September 2, 2011). *Santa Clara Computer and High Technology Law Journal*, Vol. 28, 2012, available at SSRN: <http://ssrn.com/abstract=1990588>; see also Schwartz, David L., *The Rise of Contingent Fee Representation in Patent Litigation* (March 23, 2012). *Alabama Law Review*, Forthcoming, available at SSRN: <http://ssrn.com/abstract=1990651>.

⁹¹ Usselman and Richard, *supra* note __ at 108, (“The public clamor for air brakes became intense, and legislation mandating their installation was seriously debated not only in several states but also in Congress. Seizing the moment, Westinghouse negotiated lucrative air-brake contracts with several large railroads, and sued others for patent infringement. Westinghouse’s conduct deeply troubled [the Railroad Commissioner].”)

essential to complying with a standard.⁹²

C. Settlements Driven By the Cost of Avoiding Legal costs and Remedies, Rather Than the Economic Value of The Patent (“patent nuisance fee economics”)

Historical and modern patentees have also relied on “patent nuisance fee economics,” a term I use to describe the incentive that exists to assert patents not because they are economically valuable but because defending against a patent demand can be expensive, and therefore induces settlement.⁹³ This model takes advantage of the reality that if a lawsuit is threatened or filed, it’s often cheaper to settle than pay litigation expenses, even if the case appears to be weak.⁹⁴ If theasserter has a large patent portfolio, the cost of evaluating it, even for the owner, has been described as a “a mind-boggling, budget-busting exercise to try to figure [] out with any degree of accuracy at all.”⁹⁵ By agreeing to settle, the painful exercise of determining on a patent-by-patent basis what products infringe what patent claims and their validity, as well as the appropriate royalty, as a court would, can largely, though not completely, be avoided.

In the late 1800s, patent agents demanded payments from farmers for articles the farmers had purchased or made themselves.⁹⁶ Thousands of cases were filed on behalf of single patentees, in venues inconvenient for their targets. In one example, attorneys reportedly prepared for more than 4,000 cases in Iowa on behalf of a single patentee with the likely result that “unwary and unsuspecting farmers” would pay the nuisance fee rather than “be dragged one hundred fifty miles away from their homes, at great inconvenience and expense.”⁹⁷ Most farmers were too poor to mount any investigation or defense against the alleged patent rights,⁹⁸ and settled.⁹⁹

“Cost of defense” tactics have been utilized recently as well. In *Eon-Net LP v. Flagstar*

⁹² See Senate Judiciary Committee, July 11, 2012 Hearing on “Oversight of the Impact on Competition of Exclusion Orderes to enforces Standards-essential Patents,”<http://www.judiciary.senate.gov/hearings/hearing.cfm?id=45dca2a38e7309da19dce3a4cc06b817> ; House Judiciary Committee, Subcommittee on Intellectual Property, Competition and the Internet, July 18, 2012 Hearing on “ “The International Trade Commission and Patent Disputes”http://judiciary.house.gov/hearings/Hearings%202012/hear_07182012.html.

⁹³Inspired by David Rosenberg & Steven Shavell, *A Model in Which Suits Are Brought for Their Nuisance Value*, 5 Int'l Rev. L. & Econ. 3 (1985).

⁹⁴ Two excellent papers that discuss why and how IP lawyers bring cases even when they are weak are: William T. Gallagher, , *Trademark and Copyright Enforcement in the Shadow of IP Law* (September 2, 2011), Santa Clara Computer and High Technology Law Journal, Vol. 28, 2012, and David L. Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation* (March 23, 2012), Alabama Law Review, Forthcoming. available at <http://ssrn.com/abstract=1990651>.

⁹⁵ *Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy: Hearing Before the Fed. Trade Comm'n*, supra note __, at 743 (statement of Fred Telecky, General Patent Counsel for Texas Instruments).

⁹⁶ Hayter, supra note __, at 65-66.

⁹⁷ *Id.* at 68 (describing Arguments before the Committee on Patents, Senate Miscellaneous Documents, No. 50, 45 Cong., 2 Sess., 362-63; Prairie Farmer, XLIV (1873), 297; Buck, Granger Movement, 118-19).

⁹⁸ Magliocca, *Blackberries*, supra note __, at 1824.

⁹⁹ *Id.* at 1823-24 (citing 11 CONG. REC. 1973 (1881) (statement of Sen. Voorhees: "The manufacturing company will stand on its legal rights and go into litigation quite as cheerfully as the other side, while the plain people of the country shrink from law, and justly so, as they would from contagion, small-pox, or any other great calamity.")).

Bancorp,¹⁰⁰ the Federal Circuit affirmed an award of attorney’s fees in a case that displayed ““indicia of extortion”” where a non-practicing entity filed a large number of cases in order to “exploit[] the high cost to defend complex litigation to extract a nuisance value settlement.” Each complaint was followed by a “demand for a quick settlement at a price far lower than the cost of litigation... based on the defendant’s annual sales: \$25,000 for sales less than \$3,000,000; \$50,000 for sales between \$3,000,000 and \$20,000,000; and \$75,000 for sales between \$20,000,000 and \$100,000,000.”¹⁰¹ Judge Davis of the Eastern District of Texas has singled out “plaintiffs who file cases with extremely weak infringement positions in order to settle for less than the cost of defense and have no intention of taking the case to trial. Such a practice is an abuse of the judicial system and threatens the integrity of and respect for the courts.”¹⁰²

Section II: How the Crises Arose and Resolved in the Past

A. How the Crises Arose

How did the historical crises arise? In the case of agrarian patents, according to a recent account, in 1869, the start of the agrarian patent crisis was the Patent Office’s creation of a new kind of design patent that enabled applicants to protect incremental functional designs. The change was codified by Congress the next year.¹⁰³ Contemporary accounts blamed the patent office and its “laxity in administering the law” and practice of granting patents on “trifling modifications...not entitled to protection.”¹⁰⁴ By 1874, groups sympathetic to farmer’s causes called on Congress to change the law.¹⁰⁵

Patent demands became so pervasive that in farmers found that they could not escape the patent system: “it is in our boots, it is in our clothes, it is in the tools we work with, in the buggy we ride in, in the harness on the horse, in the whip we strike him with. It is to be found in our fences, our gates, in our pumps, in our kitchen, in our food, and finally in our coffin.”¹⁰⁶

In the case of railroads, the “new economic order” brought by industrial development put pressure on many governmental institutions, including the patent system. The expanding economy generated a surge of patent activity that the patent office had a hard time keeping with and “significantly increasing the success rate of would-be patent holders.”¹⁰⁷ Similar things could be said of the digital revolution. The growing backlog has recently driven calls for more PTO fees to be allocated to hiring examiners, rather than diverted to other activities. Just as the

¹⁰⁰ *Eon-Net LP v. Flagstar Bancorp*, 653 F. 3d 1314 (Fed. Cir. 2011), available at <http://www.cafc.uscourts.gov/images/stories/opinions-orders/09-1308.pdf>.

¹⁰¹ *Id.* at 1326-1327.

¹⁰² *Raylon LLC v. Complis Data Innovations, et al.*, 6:09cv355, 356, 357 (E.D. Tex. Mar. 9, 2011). On the filing of weak cases in IP cases, see Gallagher, *supra* note ___, generally. See also Schwartz, *Contingent Litigation*, *supra* note ___ (noting that the strength or weakness of a case is in the eye of the beholders, with plaintiffs and defendants holding widely divergent views).

¹⁰³ Magliocca, Barnyards, *supra* note ___ at 1820. See *Ex parte Crane*, C.D. 7 (1869), reprinted in HECTOR T. FENTON, *THE LAW OF PATENTS FOR DESIGNS* 225 (Philadelphia, Campbell ed. 1889). At the time, the Patent Office played an expanded role in the patent system. (cite/paraphrase)

¹⁰⁴ Hayter, *supra* note ___ at 65-66.

¹⁰⁵ Hayter, *supra* note ___ at 77 (describing the National Grange convention) and 78 (discussing other farmer interest groups).

¹⁰⁶ Hayter, *supra* note ___ at 64 (citing an 1879 farmer statement).

¹⁰⁷ Usselman and John, *supra* note ___ at 99 (2006).

large number of patent applications did in the late 1800s.¹⁰⁸ Patent demands brought by practicing companies and patent outsiders alike and high-profile suits involving double-acting and air brakes, sleeper cars, and a variety of railroad safety equipment caused the railroads great anxiety and drove them to get organized.

Through their specialized industry groups such as the Eastern and Western Railroad Associations (the ERA and WRA), the railroads hired patent attorneys and coordinated defense efforts for the entire industry. These efforts included lobbying Congress and the courts, settling cases, and other forms of self-help.¹⁰⁹

B. How the Crises Resolved

In the name of agrarian patent reform, an innocent user defense was introduced in several forms¹¹⁰ to curb the “[harassment of] people with vexatious suits about that of which they never could by any possibility have had knowledge.”¹¹¹ Another amendment would shift fees to plaintiffs if the economic value of their suit was low or they lost in order to discourage frivolous suits and end, “wholesale raiding upon innocent people.”¹¹² Schemes to eliminate injunctive relief for certain patents and set the licensing rate *ex ante*, by statute¹¹³ or in connection with the issuance or payment of renewal of patents were also proposed.¹¹⁴ Railroads pressed for a statute

¹⁰⁸ *Id.* at 102 (“Patent commissioners grumbled about the financial drain [other priorities] posed: they would have preferred to use funds to hire more patent examiners.”).

¹⁰⁹ Described *supra*, Section ____.

¹¹⁰ Sen. Windom’s Proposal: “No recovery of damages or costs shall be had against the defendant in any suit brought for the alleged infringement of a patent by the use of any patented device, process, invention, or discovery, if it shall appear that the defendant purchased the same for his own private use from the manufacturer thereof or from a dealer engaged in the open sale of the same, unless it shall also appear that the defendant at the time of such purchase had knowledge or actual notice of the existence of such patent.” 8 CG 269. An alternative version of this reform would have eliminated liability for innocent consumers of patented products. The National Grange petitioned Congress to “amend the patent laws of America as to make the manufacturer or vendor alone responsible for infringement in the sale of patented articles.” 10 Cong. Rec. 101, 102 (1880) (statement of Sen. Butler introducing the petition).

¹¹¹ “Now, the object of this amendment is to prevent the oppression and the great injustice that is being perpetrated upon hundreds of thousands of innocent people by means of the patent law... I want to free [the user] from such harassing and vexatious suits. Give the patentee his full redress against the vender, against the manufacturer, or against the man who has knowledge of the patent, but do not send him into every farmhouse and cottage in this country to harass the people with vexatious suits about that of which they never could by any possibility have had knowledge. That is the object of this amendment.” 8 Cong. Rec 269 (1879).

¹¹² The proposal: “[i]f the plaintiff shall not recover the sum of \$20 or over, the court shall adjudge him to pay his own costs, unless it shall also appear that the defendant at the time of such purchase, manufacture, or practical application, had knowledge or actual notice of the existence of such patent.” 8 Cong. Rec. 652, 660 (1879). Senator Windom explained that the purpose of the change would be to “[c]ompel these men to give security for costs and then inform them that such suits must be conducted at their own expense, and we shall hear no more of wholesale raiding upon innocent people.” 8 Cong Rec 303 (1879) (Sen. Windom).

¹¹³ Senator Christiancy proposed “[t]here is still another class of cases in which, for patents hereafter to be issued, to prevent extortion, some rate of compensation should be fixed by the statute . . . when the infringement consists in using the thing patented.” 8 CONG. REC. 291, 308 (1878).

¹¹⁴ “A number of state granges proposed that, when patents were issued or renewed, a definite royalty fee be set and paid to the patentee; in return for this payment could construct and sell such improved machines and thus bring them into immediate use.” Hayter, *supra* note __, at 77. (citing Iowa State Grange, Proceedings, IV (1873), 44-45; Michigan State Grange, Proceedings, II (1875), 42; Kansas State Grange, Proceedings (Topeka), VIaII (1880), 8).

of limitations on claims of infringement.¹¹⁵ There was a proposal to adopt European style renewal fees on granted patents.¹¹⁶ A new way of calculating damages – by using an established license fee or profits from sales and doing away with a legal principle called the doctrine of savings – was suggested.¹¹⁷

The railroads and other supporters of patent reform expended significant money and time to convince Congress to change patent law.¹¹⁸

1. What Didn't Work: Broad, Substantive Legislative Proposals Across the Patent System

Most of these legislative proposals failed. They failed because, in solving the problems of farmers and railroads, they would, it was perceived, create problems for other parts of the patent system. It appeared for example, and rightly so, that “patent reforms brought forth by the railroad were done for the railroads [sic] self-interest.”¹¹⁹ Likewise, the “hardship” experienced by farmers was seen “hardly a sufficient justification[] for abolishing that system of patents which has accomplished so much in this country.”¹²⁰ Fee-shifting proposals were rejected as unfairly punishing patentees with lawful claims, but low damages.¹²¹ Suggestions to reform damages were seen as self-serving because few others suffered from the doctrine of savings that the railroads complained about.¹²² In addition, they appeared to hinder judges and juries with their specificity.¹²³

The changes were portrayed as helping large companies, at the expense of small inventors.¹²⁴ Individual inventor Thomas Edison claimed that they would “strongly tend to discourage and prevent the perfection of useful inventions.”¹²⁵ Companies in other industries likewise opposed any changes. Their opposition was focused mainly on the isolated nature of patent shark attacks. Most industries and inventors had nothing to do with patent sharks. As such, they saw no need to limit their patent rights because of a problem that did not affect them. In addition, as has been said recently, Congressional change is subject to numerous “veto

¹¹⁵ Regulating Railroad, *supra* note ___, at 145.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ Regulating Railroad, *supra* note ___, at 154-155.

¹¹⁹ U.S. Senate, "Arguments before the Committees on Patents of the Senate and the House of Representatives in Support of and Suggesting Amendments to Bills (S. 300 and H.R. 1612) to Amend the Statutes in Relation to Patents, and for Other Purposes," 45th Cong., 2d Sess., miscellaneous document no. 50, 304 [hereinafter Arguments before the Committees], at 69.

¹²⁰ *Id.*

¹²¹ This amendment “would absolutely prevent, practically at least, the bringing of any suit simply to settle the question of the validity of a patent, or the infringement, where the damages were not considerable.” 8 Cong. Rec. 570 (1879) (Sen. Wadleigh).

¹²² Usselman, *Regulating Railroads*, *supra* note ___, at 159.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ See Hayter, *supra* note __ at 81 (“Thomas. A. Edison, in opposing the bill of 1879, stated in a letter to Butler: "I am sure that this provision will not only act oppressively upon many inventors, but will strongly tend to discourage and prevent the perfection of useful inventions by those most fitted for that purpose, and most likely to accomplish it.... It would be very burdensome to me.") Citing Thomas A. Edison to Butler, February 17, 1879, Butler Papers.

players,” and “legislative priorities are often unduly skewed by political expediency.”¹²⁶

2. *What Did Work: Narrowly-Tailored, Specific Reform*

a. *Abolishing Agrarian Patents*

Where these proposals failed, more tailored changes to the law, accomplished largely outside of the legislative process, succeeded. A period of confusion during which the Patent Office “flip-flopped” several times about what should be considered patentable under the design law followed the change that precipitated the agrarian patent crisis.¹²⁷ According to legal historian Gerard Magliocca, “[i]nstability in patent law eventually became a major concern, and Congress was forced to step in and restore order.”¹²⁸ Congress codified a stricter standard in 1902.¹²⁹ The Patent Office applied this more stringent standard, making it harder to get patents on trivial advances,¹³⁰ and complaints about patent sharks subsided. Reform took time –thirty years elapsed prior between the two Congressional amendments that bookended the period of patent “crisis.”

b. *Courts, Self-Help Through Railroad Associations, and Challenging Railroad Patents*

In the case of railroad patents, reform was led by the Court and railroad associations rather than Congress. Though many legislative fixes were proposed, none really succeeded as “Congress could not accommodate the special concerns of railroads without sacrificing essential features of a patent system that still functioned quite capably in most segments of the economy.”¹³¹

How, eventually, did the crises abate? According to historical accounts, our leadership and self-help were critical. Supreme Court Justice Joseph P. Bradley, an ex-railroad man himself, through a series of decisions regulating the railroad industry, has been credited with meticulously and carefully helping. In *Railway Company v. Sayles*, he “avoided making any sweeping pronouncements [][about] the doctrine of savings... instead, honed in on the specific details of the patent claims [][advanced,”¹³² to invalidate the patents at stake. In other decisions, he ruled for the patentee, but based on specifics that “kept patent law relatively unencumbered by abstract principles.”¹³³ However, his views on the patent system became clear in his 1883 *Atlantic Works v. Brady* decision, that:

¹²⁶ Arti Rai, *Patent Validity Across the Executive Branch: Ex Ante Foundations for Policy Development* 61 *Duke Law J.*, 1237, 1266 (2012)

¹²⁷ Gerard N. Magliocca, *Ornamental Design and Incremental Innovation*, 86 *Marq. L. Rev.* 845, 878-879 (2003) (hereinafter “Ornamental Design”).

¹²⁸ *Id.*, 879.

¹²⁹ *Ornamental Design*, *supra* note ___, at 879. *See* P.L. 57-109; 35 U.S.C. §73 (1902). (by deleting the word “useful” and spurring the PTO to “taking the hint,” applying a stricter interpretation of patentability.)

¹³⁰ *Ornamental Design*, *supra* note ___, at 879.

¹³¹ *See* Naomi R. Lamoreaux, Daniel M. G. Raff and Peter Temin, editors, *LEARNING BY DOING IN MARKETS, FIRMS, AND COUNTRIES*, UNIVERSITY OF CHICAGO PRESS (1999), at 76-77. *See also* Steven Usselman, *Patents, Engineering Professionals, and the Pipelines of Innovation: The Internalization of Technical Discovery by Nineteenth-Century American Railroads*.

¹³² Usselman, *Patent Politics*, *supra* note ___, at 116.

¹³³ Usselman, *Patent Politics*, *supra* note ___, at 118.

“To grant a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above ordinary mechanical or engineering skill is distinctly shown, is unjust in principle and injurious in its consequences . . .

It was never the object of [the patent] laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufacturers. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention.

It creates a class of speculative schemers, who make it their business to watch the advancing wave of improvement and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country without contributing anything to the real advancement of the art. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to law suits and vexatious accountings for profits made in good faith.”¹³⁴

This decision supported the already formidable defense efforts mounted by the major railroad associations, trade groups that worked to for example, identify relevant prior art, coordinate responses, and work towards a common goal of providing its members with freedom to operate.¹³⁵ These efforts were credited with driving down railroad patent litigation¹³⁶ and are described below, in the “self-help” section.

Section III: Implications for Current Proposals

A. Problem-Framing and Designing Patent Reform

Although much has been accomplished with respect to patent reform, great dissatisfaction remains. As firms watch others make money¹³⁷ and build firm reinvigoration strategies off of patents,¹³⁸ the practice of patent assertion is expected intensify, rather than abate, in the short-term.¹³⁹ As quickly as patent institutions have moved to reform the patent system, the market has arguably moved even faster, introducing new sources of capital, business models, and tactics¹⁴⁰ to the business of patent assertion. For these reasons, efforts to reform patents continue, with

¹³⁴ *Atlantic Works v. Brady*, 107 U.S. 192 (1883), 199–200.

¹³⁵ Usselman, *Regulating Railroads*, *supra* note ___, at 171-176.

¹³⁶ Usselman, *Regulating Railroads*, *supra* note ___, at 174-175.

¹³⁷ For example, through the successful stock prices of well-managed company Acacia, whose approximate value has increased 1000%, from a low of \$2.50 in 2008 to a low of \$28.76 in 2012 thus far, financial data *available at* <http://finance.yahoo.com/q?s=ACTG>

¹³⁸ For a recent example Mike Masnick, “Early Mobile Internet Company That Failed to Adapt Becomes Patent Troll,” Tech Dirt (April 18, 2012) <http://www.techdirt.com/blog/wireless/articles/20120418/03490318538/early-mobile-internet-company-that-failed-to-adapt-becomes-patent-troll.shtml> [add parenthetical]

¹³⁹ In accordance with customary demonstration effects in the patent world, described *e.g.*, in Chien, *Arms Race*, *supra* note ___.

¹⁴⁰ *See, e.g.*, Chien, *Forbes*, *supra* note ___ Patent Law Institute 2012 Program *IP Monetization 2012: Maximize the Value of Your IP Assets*, chair Jose Esteves (describing various financing and legal vehicles for patent monetization) *described at*

http://www.pli.edu/Content/Seminar/IP_Monetization_2012_Maximize_the_Value_of/_/N-4kZ1z1330y?ID=142943.

several proposals receiving attention.

Addressing the three problems of too many patents, invulnerable patent defendants, and patent nuisance fee economics, these proposals include: (1) reducing the number of software patents including by abolishing them, (2) bolstering patent defenses including through an independent invention defense, and (3) changing the economics of patent litigation, including through fee-shifting, as well as (4) self-help attempts; their historical counterparts, and what past experiences can teach. This section focuses on these and related proposals and the lessons that can be gleaned from analogous reforms.

How the problem is framed informs the solution. Alternative arguments that the single “problem” is really the patents (software patents or at least certain software patents), the people (trolls), or their specific behavior (nuisance tactics), are each convincing. But each category of “offense” contains a wide variety of practices. Though the claim is often made that most software patents are trivial and do not promote innovation, there are exceptions. For example, the PageRank patent, over a search algorithm, arguably enabled search technology to be transferred from Stanford University to Google.¹⁴¹ Trolls also come in different types. Although all of them, according to my definition, use patents primarily for litigation and licensing rather than to support technology transfer and commercialization, they do so in different ways. RPX Corporation estimates that inventors, who often assert a single or handful of patents comprise 18% of non-practicing entity (NPE) litigants and sue fewer defendants, while “licensing entities” bring the bulk of suits (69%) and serial NPEs like Acacia bring 15% of them.¹⁴² While Acacia is a high-volume, repeat player in patent assertion, individual inventors are more likely to sue in a “one-off” capacity.

Each “problem” also yields different solutions, with their own tradeoffs. A way to consider them is with respect to the common yardsticks of: precision – are they overly broad or under inclusive; effectiveness – would they operate only on existing patents, future patents, only litigated patents, or all of the above; and fairness – would they exacerbate existing inequalities for example that disfavor inventors lacking in resources? What institution implements the reform matters– improved patent examination impacts only future patents, while courts can in one decision impact all patents, existing, future, litigated and unlitigated.¹⁴³ So do the issues of costs of implementation and circumvention – how easily can a new rule be circumvented or skirted; and the?

These and are other concerns inform the analysis below.

B. Proposals to Reduce the Number of Patents

¹⁴¹ See, e.g. Colleen Chien, *Race to the Bottom*, Intellectual Asset Management Magazine Jan/Feb 2012.

¹⁴² RPX Corporation Analyst Day Presentation, March 8, 2012, at 2, available at <http://files.shareholder.com/downloads/ABEA-5XYKB4/2003662716x0x551346/409b5f43-ce6b-4ae3-993d-264e383845b1/RPX%20Analyst%20Day%20v4.pdf>

¹⁴³ See David Schwartz, *Retroactivity in Patent Law*, ____Ala. Law Rev.____ (2012) (Forthcoming), available at <http://ssrn.com/abstract=1945554> (describing the retroactive nature of court decisions and arguing that because patent lawyers circumvent court decisions through clever drafting, the decisions primarily impact preexisting, rather than prospective, patents). But see also Arti Rai, *Patent Validity Across the Executive Branch: Ex Ante Foundations for Policy Development* 61 Duke Law Journal 101, ____ (2012) (describing how courts are mindful of and try to limit the retroactive impact of their decisions.)

1. “Abolish software patents”

If the problem is too many patents, why not eliminate a large class of them, namely software patents? Software patents have been singled out for elimination due to their perceived vagueness, low-quality, and non-essential relationship to innovation. As a solution called for by many quarters,¹⁴⁴ to apply specifically to problematic patents rather than to the patent system generally,¹⁴⁵ the idea of abolishing software patents has enormous popular appeal. It also has historical and recent precedent. According to Gerard Magliocca, “abolishing” agricultural design patents is what ultimately resolved the agrarian patent crisis.¹⁴⁶ The regulation of business method patents, through the “second pair of eyes” (“SPER”) program, the application of the old prior user rights defense only to business method patents,¹⁴⁷ and the Act’s business method specific provisions,¹⁴⁸ represents a recent attempt to minimize the perceived harms associated with a certain type of patent.

Each of these experiences contains lessons for how, assuming it is the goal, software patents might be abolished. Though, it should be noted, the courts seem to be well on their way to abolishing certain types of software patents already. In *Bilski*, the Supreme Court rejected the low bar of having a “useful, concrete, and tangible” result that had been used to police patentability for over a decade. Applying it, the Federal Circuit has found unpatentable a software product for detecting internet-based credit card fraud,¹⁴⁹ a computer-implemented method for processing car loan applications,¹⁵⁰ a tax-avoiding real estate investment tool reciting computer-aided steps,¹⁵¹ and computer related financial claims.¹⁵² In *Prometheus*,¹⁵³ a case about medical diagnostic methods, the Supreme Court cited precedents about software patents, made comments about abstract ideas, and, based on the case, sent back to the Federal Circuit for review a patent over watching an advertisement in order to access copyrighted content over the internet the appellate court had found valid.¹⁵⁴

¹⁴⁴ See, e.g., Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 Emory L.J. 1025 (1990), and over 20 years later, see <http://www.feld.com/wp/archives/tag/abolish-software-patents>.

¹⁴⁵ As conceived, at least. However, the redefinition of patentable subject matter it has prompted is arguably having implications for other sorts of patents as well.

¹⁴⁶ Magliocca, *Barnyards supra* note ____, at 1832.

¹⁴⁷ 35 U.S.C. § 273 (2000) (“It shall be a defense to an action for infringement [] with respect to a [business method patent] [that] [] if such person had, [] actually reduced the subject matter to practice at least 1 year before the effective filing date of such patent, and commercially used the subject matter before the effective filing date[.]”), the 2012 America Invents Act made this defense effective against all patents, not just design patents.

¹⁴⁸ Including the outlawing of tax method patents and Section 18, both described *supra*, at section _____. These portions of the AIA have been called “a rifleshot earmark []for a special industry,” meaning banks. 157 CONG. REC. at S5408.

¹⁴⁹ *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1367 (Fed. Cir. Aug. 16, 2011).

¹⁵⁰ *Dealertrack, Inc. v. Huber*, 2012 WL 164439, at *1 (Fed. Cir. Jan. 20, 2012).

¹⁵¹ *Fort Properties, Inc. v. Am. Master Lease LLC*, No. 2009-1242, at *2, *12 (Fed. Cir. Feb. 27, 2012).

¹⁵² *Bancorp Services, L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, --- F.3d ----, 2012 WL 3037176 (Fed. Cir. 2012), at *2. *But see CLS Bank Intern. v. Alice Corp. Pty. Ltd.*, 103 U.S.P.Q.2d 1297 (Fed. Cir. 2012) (finding computerized stock trading platform claims to pass 101 muster, leading some to declare a circuit split within the Federal Circuit).

¹⁵³ *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012).

¹⁵⁴ *WildTangent v. Ultramercial* (Supreme Court May 21, 2012) Docket No 11-962 (opinion granting, vacating and remanding the case to the Federal Circuit).

a. The Definitional Issue

One of the biggest challenges to “abolishing software patents” is the question of what exactly is a “software patent”? Academics disagree on where the line should be,¹⁵⁵ and wherever the courts or PTO place it,¹⁵⁶ practitioners will try to avoid it through clever drafting.¹⁵⁷ Many believe that these realities make for efforts to fit software inventions into permissible or impermissible categories “pointless.”¹⁵⁸

History does not support such a conclusion. For example, it’s arguably as hard to define a “business method” patent as it is to define a “software” patent. That hasn’t stopped Congress from regulating “method[s] of doing or conducting business,” through the prior user rights defense it passed in 1999,¹⁵⁹ subdefining business methods through its invalidation of future tax strategy patents,¹⁶⁰ and redefining them as part of the covered business method transitional program¹⁶¹ of the 2011 America Invents Act.

¹⁵⁵ Major patent class-based attempts to do so include James Bessen, *A Generation of Software Patents*, Boston Univ. School of Law, Law and Economics Research Paper No. 11-31, footnote 68 (2011) ; Hall, Bronwyn H., Adam B. Jaffe, Manuel Trajtenberg, *The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools*, NBER Working Paper No. 8498. Appendix 1, p.41 (2001); Chien, *Of Trolls*, *supra* note ___ at footnote140, and Stuart J.H. Graham & David C. Mowery, *Software Patents: Good News or Bad News?* 14 (GaTech TI:GER Working Paper Series, 2004), available at http://tiger.gatech.edu/files/gt_tiger_software.pdf. John Allison has hand-coded thousands of patents over various projects, including John R. Allison & Ronald J. Mann, *The Disputed Quality of Software Patents*, 85 Wash. U. L. Rev. 297, 314 (2007); Arti K. Rai, *John R. Allison, and Bhaven N. Sampat, Frontiers in Empirical Patent Law Scholarship: University Software Ownership and Litigation: A First Examination*, 87 N.C.L. Rev. 1519 (2009); and our forthcoming project, “Can Automated Methods be Used to Identify Software Patents?” compares these and other definitions.

¹⁵⁶ See, e.g., Robert W. Bahr, “Interim Guidance for Determining Subject Matter Eligibility for Process Claims in view of *Bilski v. Kappos*”, Memorandum to Patent Examining Corps. (July 27, 2010) available at http://www.uspto.gov/patents/law/exam/bilski_guidance_27jul2010.pdf.

¹⁵⁷ Googling “claim drafting tips” and “software” yields many examples.

¹⁵⁸ Mark A. Lemley et al., *Life After Bilski*, 63 Stan. L. Rev. 1315 (2011) Abstract

¹⁵⁹ Described *supra*, section ____.

¹⁶⁰ Section 14 of the America Invents Act: “any strategy for reducing, avoiding, or deferring tax liability, whether known or unknown at the time of the invention or application for patent, shall be deemed insufficient to differentiate a claimed invention from the prior art.[] (c) EXCLUSIONS.—This section does not apply to that part of an invention that— (1) is a method, apparatus, technology, computer program product, or system, that is used solely for preparing a tax or information return or other tax filing, including one that records, transmits, transfers, or organizes data related to such filing; or (2) is a method, apparatus, technology, computer program product, or system used solely for financial management, to the extent that it is severable from any tax strategy or does not limit the use of any tax strategy by any taxpayer or tax advisor.”

¹⁶¹ Section 18(d) of the America Invents Act: “For purposes of this section, the term ‘covered business method patent’ means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” See also Matal, *supra* note ____, at *113 *et seq.*, recounting the fascinating, convoluted, and contentious history of section 18, in which “[b]usiness-method trolls fought a scorched-earth, office-by-office lobbying war with banks and retailers,” and covered business method patents is quite clearly defined, at least by certain Senators as not only including non-technical “business methods” pertaining to the financial services industry but software implemented inventions that cover “not only financial products and services, but also the “practice, administration and management” of a financial product or service. This language is intended to make clear that the scope of patents eligible for review under this program is not limited to patents covering a specific financial product or service. In addition to patents covering a financial product or service, the ‘practice, administration and management’ language is intended to cover any ancillary activities related to a

Thus, the definitional issue may be a bit of a red herring— a working definition, rather than a perfect definition, may be what is really needed to discourage nuisance suits. Congress has already drawn the business method line several times. The PTO will need to implement the definition of a “covered business method patent” as part of the AIA’s Section 18 transitional business method patent program.¹⁶² While debates about what should and shouldn’t be in this definition included continue,¹⁶³ the PTO’s experience implementing the standard will be important to observe and learn from.

Notably, Section 18 does not abolish all business method or software patents, but rather subjects those that fit the definition and are likely invalid to a higher level of scrutiny while shielding defendants from them. It may just be enough to chill litigation of particularly problematic patents.

b. Towards a Working Line

If not a perfect line, what would be a working line, to isolate problematic patents? Regardless of where it drawn, a successful rule would be one that would enable parties to a licensing discussion to look quickly at a patent and, based on them, agree upon which of its claims fit the given standard. That question will depend on how consistent the courts or PTO are in their determinations and the extent to which patentees try to assert patents, by themselves or en masse, that, though issued under a different standard, are likely now invalid. It’s easy to argue about one particular patent, but if a whole portfolio is asserted against an entity, the costs of arguing about each one keep the cost of defense, and therefore the economic opportunity, high.

c. Circumvention

Even if it were possible to abolish all software patents, nuisance suits are based on other types of patents as well. In my analysis of troll suits from 2000-2008, I found that a significant number of patent suits involving hardware.¹⁶⁴ Recently, Project Paperless LLC has recently approached small companies for licenses based on their use of PDF machines in alleged violation of a patent whose claim 1 recites “a computer data management system” with “at least one memory,” “at least one processor ...” and also mentions a “scanner,” “digital copier”, and

financial product or service, including . . . marketing, customer interfaces, Web site management and functionality, transmission or management of data, servicing, underwriting, customer communications, and back office operations—e.g., payment processing, stock clearing.” See 157 CONG. REC. S1364–65 (daily ed. Mar. 8, 2011) (statement of Sen. Schumer). One thing that aids in the identification of business method patents is that they are concentrated around a single class, Class 705. See Matal, *supra* note ____, at 116. (describing efforts to limit the definition of “covered business-method patent” to language that tracks the USPTO’s patent class 705). Software patents, in contrast, are harder to pin down. See John Allison ____ (describing dissatisfaction with the PTO’s classes and identifying software patents by reading each patent and classifying it based on its description and claims). For an interesting history of class 705, beginning with its creation in 1997 from the business and cost/price sections of computer classes 395 and 364, see Gene Quinn, *Business Methods by the Numbers: A Look Inside the PTO Class 705*, IP Watchdog (January 12, 2012) available at <http://www.ipwatchdog.com/2012/01/22/business-methods-by-the-numbers-a-look-inside-pto-class-705/id=21892/>.

¹⁶² *Id.* Matal at ____

¹⁶³ See USPTO website “Changes To Implement Transitional Program for Covered Business Method Patents” (last visited August 2, 2012) http://www.uspto.gov/aia_implementation/covered-business-method-comments.jsp.

¹⁶⁴ Chien, *Of Trolls*, *supra* note ____, (add parenthetical, numbers)

“digital imaging devices.”¹⁶⁵ One can imagine trolls suing based on patents that are less abstract and more likely to be found patentable than “pure software” patents. There may be less to argue about with respect to these patents, because you can more easily tell what they cover and there may be fewer of them. However, where there is a colorable claim based on subject matter that clears subject matter eligibility standards, the business opportunity will remain.

Potentially anticipating this, a recently advanced Congressional bill defines “software patent” broadly, to encompass hardware and software patents.¹⁶⁶ However it may go too far and beyond its drafters’ intent. By including any process that “could be” implemented on a computer regardless of whether a computer is specifically mentioned in the patent, most if not all modern process patents that involve any sort of computation would be implicated.

d. How Abolishment Was Accomplished

The historical experience lends insight into what it means to “abolish” a certain type of patent or patent lawsuit. In the case of agricultural design patents, their “abolishment” was not achieved through any change to section 101. Rather, it was accomplished by making the low bar that applies to design patents no longer apply to patents covering functional farm tools.¹⁶⁷ In that way it was more akin to raising the obviousness standard – farm patents could still be obtained, but only if they met the higher, utility patent, standard. Thus, there are limits to a comparison between abolishing “trivial” agricultural patents and abolishing the entire class of software patents.

Similarly, in the case of railroad patents, Justice Bradley’s ruling on a set of particular patents, covering double-acting brakes, and subsequent jurisprudence, including dicta,¹⁶⁸ led to a “surgical intervention”¹⁶⁹ in the field that produced industry-specific change. The railroads worked together to invalidate specific patents that were asserted against them, in contrast to the abolishment of an entire class of patents.¹⁷⁰

2. Tweaking Obviousness

As just discussed, the agrarian example suggests that another way to reduce the number of patents is to raise the bar and ensure that the scope of protection is commensurate to the patentee’s contribution. This approach has been used other times in history. Indeed, the

¹⁶⁵ Patent 6,771,381. For a description of the cases see “Are Project Paperless’s Patents Valid,” Stop Project Paperless (April 16, 2012) <http://stop-project-paperless.com/>.

¹⁶⁶ From the 2012 SHIELD Act: “[a]ny process that could be implemented in a computer regardless of whether a computer is specifically mentioned in the patent” as well as any computer system programmed to carry out such a process. It defines a “computer” as an “electronic, magnetic, optical, electrochemical, or other high speed data processing device performing logical, arithmetic, or storage functions.”

¹⁶⁷ By making the functional aspects of farm tools ineligible for design patent protection. Described supra, at section _____.

¹⁶⁸ In the *Atlantic Works v. Brady* case, described supra at note _____. See also Usselman, *Patent Politics*, at 119-121 (describing the railroad industry’s reaction to this case and the efforts to find prior art, patent their own inventions, and engage in self-help, rather than just lobbying for legal help to solve the problem that it encouraged.)

¹⁶⁹ *Merges, Trouble with Trolls*, supra note _____, at 1578.

¹⁷⁰ These efforts are described infra, at Section _____.

movement away from a registration-based system in 1836¹⁷¹ and the rise of peripheral claiming in the 1940s and 1950s¹⁷² were prompted by such concerns.¹⁷³

Throughout history, the Supreme Court has redefined obviousness standards.¹⁷⁴ In 2007, the Supreme Court decided *KSR v. Teleflex* in which it made it easier to find an invention obvious. Before *KSR*, the Patent Office needed to find a “teaching, suggestion, or motivation” in order to reject a patent as obvious. After *KSR*, it and courts could rely on many other rationales for doing so.¹⁷⁵ By raising the standard, the Court attempted to distinguish ordinary innovations, which do not deserve patents, from patentable inventions, which do: “the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts.”¹⁷⁶

a. *KSR’s Impact*

Nearly five years have elapsed since the Supreme Court decided *KSR*. Empirical studies have confirmed that the decision has, indeed, made a difference, in the expected direction. The courts are more likely to find invalidate patents as obvious¹⁷⁷ and to overturn lower court findings of non-obviousness. The Federal Circuit are more likely to leave intact findings of obviousness.¹⁷⁸

b. *Transaction Costs*

The impact of *KSR* outside of the courtroom and where the vast majority of patent negotiations take place has been more mixed, however. *KSR* doesn’t provide a bright line rule to

¹⁷¹ Described, e.g. in EDWARD C. WALTERSCHEID, TO PROMOTE THE PROGRESS OF USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798-1836, at ____ (1998)

¹⁷² Described, in Dan L. Burk & Mark A. Lemley, *Fenceposts or Signposts? Rethinking Patent Claim Construction*, 157 U. Pa. L. Rev. 1743 (2009); Mark A. Lemley, *Point of Novelty*, 105 Nw. U. L. Rev. 1253 (2011).

¹⁷³ Mark Lemley’s recent proposal to curb the re-emergence of functional claiming has similar motivations. Mark Lemley, *The Return of Functional Claiming*, *34 available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117302

¹⁷⁴ Recounted, e.g. in John F. Duffy, *Inventing Innovation: A Case Study of Legal Innovation*. 86 Tex. Law Rev. 1 (2007).

¹⁷⁵ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (rejecting the singular application of the Federal Circuit’s “teaching, suggestion, motivation” rationale for finding an invention obvious and suggesting that alternatives rationales, such as the inventor’s common sense, the predictability of the combination, were also appropriate). For a list of rationales, see the USPTO’s post-*KSR* Guidelines 2007 72 FR 195, 57526-57535 (updated in 2010).

¹⁷⁶ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, ____ (2007)

¹⁷⁷ *Ali Mojibi*, An Empirical Study of the Effect of *KSR V. Teleflex* on the Federal Circuit’s Patent Validity Jurisprudence (2010). Albany Law Journal of Science and Technology, Vol. 20, No. 3, p. 101, 2010. (concluding that after *KSR*, the courts are more likely to find patents obvious based on a <can you check the study, add the actual numbers from the study.)

¹⁷⁸ Jennifer Phend Nock and Sreekar Gadde, *Raising the Bar for Nonobviousness: An Empirical Study of Federal Circuit Case Law Following KSR*, available at ____ (look for published version), Abstract (“[I]n the two and half years after the decision, the Federal Circuit “did not reverse a single lower-tribunal determination [that a patent was obvious and thus invalid]. Nonobvious findings below, by contrast, were affirmed just 52.50% of the time.”) However, this has not meant the abandonment of the TSM test, at least based on early indications. Simic, Emer Louise, *The TSM Test is Dead! Long Live the TSM Test! The Aftermath of KSR, What Was All the Fuss About?*. AIPLA Quarterly Journal, Vol. 37, No. 2, p. 227, 2009, accord id. (finding that

distinguish obvious from nonobvious inventions. Courts must take into account a “constellation of factors” that can be proven based on various types of factual evidence regarding what a POSITA would have thought, and done.¹⁷⁹ The inputs as well as the outcomes of this analysis are uncertain. Academics have questioned the PTO’s ability, within the time and resource constraints it faces, to apply these factors as intended.¹⁸⁰

As one industry insider put it, “because that determination of subjective factors requires so much research and time [] I don’t really believe that any of us in the industry really pay a lot of attention to *KSR*.”¹⁸¹ Practitioners have echoed these themes, criticizing the decision as taking away “objectivity, instead supplanting it with a subjective test.”¹⁸² While this could change over time, if it becomes easier to agree upon what inventions fail the standard, these experiences confirm the difference between judicial and real-world success.

3. Increasing Maintenance Fees

Several have suggested reducing patent numbers by increasing what it costs to keep patents in force.¹⁸³ Increasing maintenance fees was also proposed in the late 19th century, for largely the same reasons:¹⁸⁴ it was argued that the grant of a patent “is a tax upon, or a deprivation to the public, and should not be perpetuated unless it is worth a good price.”¹⁸⁵ Then, as now, patent speculators tended to amass “old patents” to assert them.¹⁸⁶ By hiking fees,

¹⁷⁹ Daralyn J. Durie and Mark A. Lemley, *A Realistic Approach to the Obviousness of Inventions*, 50 Wm. & Mary L. Rev. 989, 990 (2008).

¹⁸⁰ Daralyn J. Durie and Mark A. Lemley, *A Realistic Approach to the Obviousness of Inventions*, 50 Wm. & Mary L. Rev. 989, 1008-13(2008).

¹⁸¹ Duane Valz, *supra* note ___, at 237.

¹⁸² <http://www.ipwatchdog.com/2012/04/29/ksr-the-5th-anniversary-one-supremely-obvious-mess/id=24456/>

¹⁸³ See, e.g. Gerard Magliocca, *Barnyards and Blackberries* at 1813 and 1836-1837 (describing increased maintenance fees as a “dormancy tax”), Brian Love, *Troll Timing*, at ___. See also, Ted Sichelman, *Commercializing Patents* at 411 (proposing that the PTO could charge an order of magnitude greater than it currently does for a “commercialization patent.”)

¹⁸⁴ U.S. Senate, “Arguments before the Committees on Patents of the Senate and the House of Representatives in Support of and Suggesting Amendments to Bills (S. 300 and H.R. 1612) to Amend the Statutes in Relation to Patents, and for Other Purposes,” 45th Cong., 2d sess., miscellaneous document no. 50, 304 [hereinafter *Arguments before the Committees*] (Mr. Hyde), at 253 (G. H. Christy, of Pittsburgh, for car-brake manufacturers) (“the result [of the renewal fees] will be undoubtedly to remedy a large portion of the evils which [J. H. Raymond] has set forth, such as speculations in patents, etc.”); *Id.* at 304 (Henry D. Hyde, of Boston, for the Shoe and Leather Association of Boston) (“We believe that is is a wise provision, for there are a great many patents which are taken out, and which lie dormant and are not put into active use.”).

¹⁸⁵ *Id.*, at 233 (J. H. Raymond).

¹⁸⁶ Cf. “I believe I should not be overstating the case if I were to say that I could go into the Patent Office and find old patents to-day which, may be bought for a song, that would enable me to bring at least a dozen well-founded suits against the Senator from Massachusetts himself. I suspect I could, and for a sixpence buy up some old patent that under his proposition would compel him either to pay me a royalty or to strip his boots off on Pennsylvania avenue. And I suspect that if I were to examine his suspenders I could find they infringe a half dozen patents, and that under his amendment he must take them off and run the risk of walking down the street without them, or else pay several royalties. I think I could obtain enough old patents to disrobe the Senator from Massachusetts entirely, or else compel him to pay a royalty for something that is actually worthless.” 270-271 Windom and Brian Love, *Troll Timing* *supra* note ___, at ___.

the thinking goes, fewer patents will survive long enough to end up with trolls.¹⁸⁷ Several proposals would increase the amount and frequency of maintenance fees.¹⁸⁸ There does seem to be some room to increase fees. Controlling for wealth, US patent fees are at an all-time low, “suggesting that the U.S. patent system has never been so affordable. Current fees would need to increase approximately tenfold to match their 1800 level.”¹⁸⁹ Globally, pre- and post-grant fees per capita in the US are in the lowest 1/3 tier.¹⁹⁰

a. Broad-Sweeping Reform

However, changing maintenance fees represents broad-sweeping, rather than tailored reform. It impacts not only marginal software patents held by trolls, but all others as well – strong and weak non-software patents, held by startups and large companies, for various reasons. For example, consider a modest change to the existing system which requires payments to be made at 3.5, 7.5, and 11.5¹⁹¹ years that would make fees due every year and double them. This could severely impact small entities and entrepreneurs who are cash-strapped.¹⁹² Indeed, critics of the unsuccessful late 19th century fee reform proposals thought they were ten-fold too large and did not take into account the realities of inventors, who needed time to test their inventions before paying fees on them.¹⁹³

However, carving small entities out from any change in maintenance fees is likely to also avoid the desired policy result, as it is individuals and small companies that provide the bulk of patents to PAEs.¹⁹⁴ According to data provided by RPX, which buys patents in the marketplace, over three-quarters of PAE/NPE patents come from small inventors and individuals.¹⁹⁵ In addition, while a modest change is likely to hurt small entities the most, it is unlikely to make a difference to companies who may pay in the thousands or even millions for a patent, expecting much greater returns.¹⁹⁶ Even if fewer patents end up available for sale, few trolls rely on having

¹⁸⁷ It was argued in Congress in that the grant of a patent “is a tax upon, or a deprivation to the public, and should not be perpetuated unless it is worth a good price.”¹⁸⁷

¹⁸⁸ See, e.g. Magliocca, *Barnyards*, *supra* note ___, at 1836-1837 (describing and calling such a proposal a “dormancy tax”). *Accord* Love, *supra* note ___, at ___. Others have considered increasing the fee to obtain rather than maintain, a patent to, say, \$50,000 per patent, see, e.g. Timothy K. Wilson, *Patent Demand – A Simple Path to Patent Reform*, 2 *International In-house Counsel Journal* 5, 806 (Autumn 2008), at fn.8 *available at* <http://www.patentlyo.com/patent/law/wilsonpatentfees.pdf>

¹⁸⁹ Gaetan de Rassenfosse and Bruno van Pottelsberghe de la Potterie, “*The role of fees in patent systems: Theory and Evidence*” Intellectual Property Research Institute of Australia Working Paper No. 7/10 ISSN 1447-2317 (November 2010), 6

¹⁹⁰ Rassenfosse and van Pottelsberghe, Table 1

¹⁹¹ 37 C.F.R. § 1.20(e)–(g) (2011). (update with 2012 numbers once PPAC is finished with their process)

¹⁹² And indeed, there is some evidence that patentees are price-sensitive. *See* de Rassenfosse G. and B. van Pottelsberghe de la Potterie, *On the price elasticity of demand for patents*, 74 *OXFORD BULLETIN OF ECON. AND STATISTICS* 58-77 (2011).

¹⁹³ See, e.g. comments of W.C. Dodge, representative of the Patent Office Bar Association, Arguments before the Committees, *supra* note ___, 69-80.

¹⁹⁴ Individual inventors and PAEs with few employees may also qualify for micro-entity status, entitling them to a 75% discount off of large-entity fees. America Invents Act, Section 10(b).

¹⁹⁵ Colleen Chien, *Race to the Bottom* Intellectual Asset Management Magazine (January/February 2012), Figure 2.

¹⁹⁶ *Accord*, Mark Lemley, *Fixing the Patent Office*, *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2023958. (“A maintenance fee of \$40,000–\$50,000—ten times

huge portfolios of patents;¹⁹⁷ the limiting factor for most trolls is not usually the number of patents, but the resources to assert them.

These realities have likely made the proposed PTO fee increases more measured than they might otherwise be. Section 10 of the America Invents Act gives the PTO the authority to set fees, in order “to recover the aggregate estimated costs to the Office for processing, activities, services, and materials relating to patents.” Although it does not cost the PTO anything to maintain a patent, the PTO is “not required to align individual fees and activity costs on a fee-by-fee basis.”¹⁹⁸ In its 2012 proposal to reset fees, the PTO boosted large entity maintenance fees (first to third stages) by 42% (from \$1,130 to \$1,600), 26% (from \$2,850 to \$3,600) and 61% (from \$4,730 to \$7,600), respectively.¹⁹⁹ The rationale for doing so was to rebalance front-end and backend fees with policy objectives: “early stage fees are lower in recognition of the uncertainty of patent value; as time goes on, an inventor can better measure the value of an invention and determine whether maintenance is truly worthwhile.”²⁰⁰ In its presentation to the PTO’s advisory board, the Office explained that the suggested fee increase, among other things, was meant to nudge “the marginal patent into the public domain more quickly.”²⁰¹ These are welcome policy changes that, if enacted, should reduce, though not eliminate the lifetime and risk presented by marginal patents.

4. Better Patent Examination

If the problem is that there are a lot of low-quality patents, one solution, oft-heard, would be for the PTO to more strictly apply patentability standards. They could do so by more stringently policing the disclosure requirements of 35 USC 112, using better prior art, and getting full access to the fees that they generate, for example.²⁰²

a. Patent Legacies

Here, the PTO’s recent experience with business methods²⁰³ may be instructive. In 2000, the PTO increased the resources dedicated to examination of business methods, in effect supporting a double review.²⁰⁴ The allowance rate of business method applications dropped

the current fee—may weed out more patents that aren’t being used, but it is unlikely to deter someone considering spending perhaps 100 times that much to litigate a patent.”)

¹⁹⁷ Chien, *Arms Race*, *supra* note ____ (citing studies by Risch and Henkel & Fischer that find troll patents to be higher quality and examples of trolls that have small, but high-quality portfolios and are more numerous than patent aggregator-asserters like Intellectual Ventures).

¹⁹⁸ Susan J. Irving, United States Government Accountability Office Report on the *Patent and Trademark Office: New User Fee Design Presents Opportunities to Build on Transparency and Communication Success*, p.2 (April 25, 2012), available at <http://www.gao.gov/assets/600/590382.pdf>.

¹⁹⁹ USPTO Executive Summary: *Patent fee Proposal* Submitted to Patent Public Advisory Committee on February 7, 2012, p. 11, available at http://www.uspto.gov/aia_implementation/fee_setting_-_ppac_hearing_executive_summary_7feb12.pdf.

²⁰⁰ *Id.*

²⁰¹ *Id.* at 18.

²⁰² These and other ways of “Fixing the Patent Office” are discussed in Mark Lemley’s article of the same title, *supra* note ____,

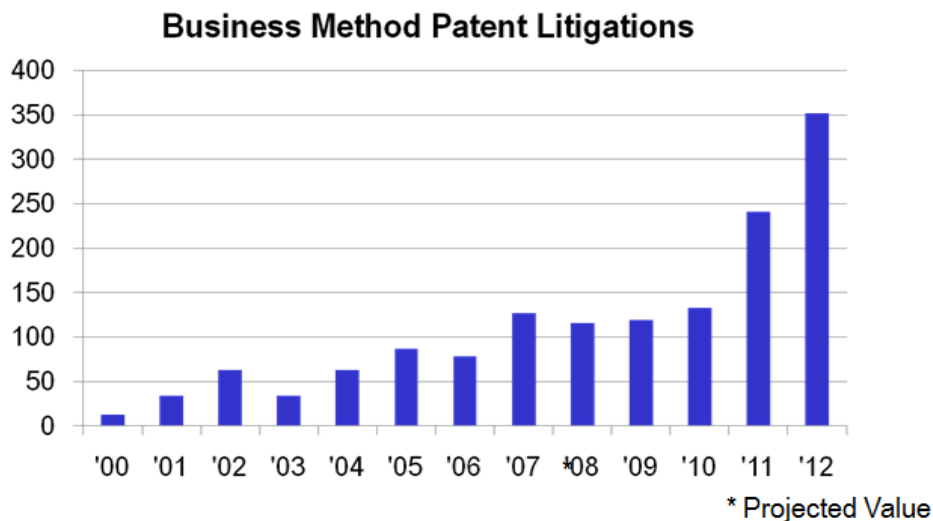
²⁰³ Described *supra* at note ____.

²⁰⁴ Described *supra* at note ____.

dramatically, to around 10%.²⁰⁵ However effective this program was, however, however, it had no impact on patents issued before 2000. As pointed out earlier, patent speculators past and present tend to use old patents.²⁰⁶

Twelve years later, business method litigations have not subsided. Rather they have grown.²⁰⁷ (Figure 3) This is not to say that the better examination doesn't matter or that the number of litigations isn't fewer than they would have been had there been no double review of business method patents. The point is simply that whatever the PTO does today will not impact the generation of "legacy patents," examined under varying conditions and likely of different quality.²⁰⁸

Figure 3:



Data Source: [Lex Machina 2012](#) (based on litigation of "705" patents)

C. Proposals to Bolster Defenses and Decrease Remedies

²⁰⁵ Described supra at note ____.

²⁰⁶ Described supra at note ____.

²⁰⁷ The source of this data was Lex Machina, which uses [describe methodology?]. These results were then verified using PTO data. Class 705 was created in 1997 from the business and cost/price sections of computer classes 395 and 364, see Gene Quinn, *Business Methods by the Numbers: A Look Inside the PTO Class 705*, IP Watchdog (January 12, 2012) <http://www.ipwatchdog.com/2012/01/22/business-methods-by-the-numbers-a-look-inside-pto-class-705/id=21892/>. Class 705 is perceived to track business method patents so closely that Congress attempted to define "covered business-method patent" by using the definition of the PTO class. See Matal, supra note ____, at 116.

²⁰⁸ Accord Christina Mulligan and Tim B. Lee, *Scaling the Patent System*, NYU Annual Survey of American Law, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2016968. (arguing that efforts to reform patent quality by themselves, won't help), Mark Lemley, *The Return of Functional Claiming*, *34 available at ____, (noting that even weeding out 90% of patents will still leave a thicket in technology areas and that "smartphone companies, for instance, would likely take little solace in being told that they need only clear rights for 25,000 essential patents, not 250,000.")

Several proposals have been developed that address the problem of specialized plaintiffs that are invulnerable to countersuit and seek high-stakes injunctions.

1. An Independent Invention Defense

A popular suggestion has been to create an independent invention defense to patent infringement.²⁰⁹ Right now, a company that has no knowledge of a patent, and did not learn of the invention from the patentee can still be sued for patent infringement and asked to stop.²¹⁰ Introducing an independent invention defense would change this, shielding so-called “innocent” infringement from liability. Because copying is rarely asserted in patent infringement,²¹¹ it is believed that an independent defense would solve the problem of both holdup and trolls.²¹² It would also greatly diminish patent quality problems by preventing obvious inventions from becoming the patentee’s exclusive domain since others are likely to come up with it on their own.²¹³

Though it has not been the subject of a serious recent legislative proposal, an innocent user defense was proposed in the 1880s. The proposal was notably narrower than the defense of innocent infringement many are now calling for. It would shield innocent buyers of technology from claims of patent infringement; the patentee could still pursue the manufacturer.²¹⁴

a. Broad-Sweeping Change

Still, the defense was viewed as undermining the entire patent system and the incentive to innovate, for the sake of a few.²¹⁵ It would diminish US competitiveness,²¹⁶ it was claimed, and

²⁰⁹ See, e.g., FTC Evolving Marketplace, *supra* note ____, at ____.

²¹⁰ See, Roger D. Blair and Thomas F. Cotter, *Strict Liability and Its Alternatives in Patent Law*, 17 Berk.Tech. Law Journal, available at http://www.btlj.org/data/articles/17_02_05.pdf (exploring the “strict liability” nature of patent infringement).

²¹¹ Christopher A. Cotropia and Mark A. Lemley, *Copying in Patent Law*, 87 N.C. L. REV. 1421, 1425 (2009).

²¹² See, e.g., Carl Shapiro, *Aligning Reward and Contribution*. NBER Working Paper No. 13141. May 2007, 131 (claiming it would “in one fell swoop, do away with many of the problems with a patent holdup”); Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 Mich. L. Rev. 1525, 1525 (2007) (the defense “would eliminate the troll problem”).

²¹³ *Id.* Shapiro at 131.

²¹⁴ “As I understand the amendment now under consideration, it proposes to leave to the inventor all his remedies against the man who manufactures without his consent a patented, article, [] but it seeks to protect only those who, without knowing of the existence of his patent or that the article manufactured or sold trenches upon his patented rights in good faith buy an article from the manufacturer or seller for their own use. It protects such purchasers against a suit for damages.” 270. <need complete cite>

²¹⁵ “[T]he amendment proposed by my friend, the Senator from Minnesota (Sen. Windom), would completely abolish the patent laws. []” “Now, the Senator from Minnesota proposes an amendment which strikes down the patent law of this country substantially. There is nothing of it worth having left when the amendment of the Senator from Minnesota shall be adopted, if it shall be.” 269; “There are hard cases, there are cases of extreme hardship, I am fully aware, under the administration of the existing law; the Senator from Minnesota has alluded to some of them; but that hardship is hardly a sufficient justification, in my judgment, for abolishing that system of patents which has accomplished so much in this country.” 272 (Hamlin). <need complete cite>

²¹⁶ “It is, in the nature of things, impossible; and this is simply, in my judgment, an amendment which would entirely prostrate the patent system to which the country owes so much, and through which this country is enabled to contest with foreign countries in the markets of the world.” 8 Cong. Rec 269 (1879). <who said this?>

might also disproportionately benefit large corporations,²¹⁷ who by the virtue of their sales, arguably had the most to gain from the defense.

Modern commentators have echoed these reservations. The most important inventions could be delayed or not disclosed.²¹⁸ Commercialization incentives may also be dampened, as patentholders would be unable to depend on any assurance of exclusivity.²¹⁹ The impact of the cure could potentially be much worse than the disease.²²⁰ Many of the details have not been thought through – where the burden would lie, what kind of proof would be required, the transferability of the defense, and the differential impact on industries and particular types of patentholders and defendants.²²¹

An independent invention may not even be available all or perhaps most of the time – although copying is not often alleged in the courtroom, companies copy each other all the time.²²² Said one boss allegedly, at a social gaming company “I don’t fucking want innovation. Just copy what they do and do it until you get their numbers.”²²³ In addition, as Mark Lemley has pointed out, “copying” a patent that is claimed in functional language can amount to just taking the idea from another’s product or description, rather than the specific embodiment of the idea.²²⁴ While spreading ideas accelerates innovation, such copying would not qualify for the defense. Can a company that learns of an idea from a third party who copied it from the patentee claim independent invention? There is no clear answer. These levels of uncertainty have likely prevented any serious proposals to create an independent invention defense to date.²²⁵

*b. Towards An Innocent User Defense to Software Patent Infringement?*²²⁶

²¹⁷ See Sen Hoar’s Proposal to amend Sen. Windom’s Proposal, *Supra*, note _____. “Without [amending the proposal] any railroad corporation or wealthy manufacturer, having got possession of the invention without notice of the Patent, may continue to use it in spite of the most plain and emphatic notice.” 8 CG 269.

²¹⁸ See, e.g., Samson Vermont, *The Angel Is in the Big Picture: A Response to Lemley*, 105 MICH. L. REV. 1537 (2007) (summarizing and agreeing with the reservation of Mark Lemley to an independent invention defense that it could slow down important innovations). See also, Carl Shapiro, *supra* note _____, at 130-1 (acknowledging that such a defense could drive some inventors to trade secrets rather than patents, and create uncertainty for patentees).

²¹⁹ Lemley, *supra* note _____ *Proof of Copying*, at 1529-30 (describing this potential impact of the defense on the drug industry).

²²⁰ See, e.g., Vermont, *supra* note _____, *Angel* at 1538 (characterizing the unknown impact of a reinvention defense as akin to “playing with fire”).

²²¹ Some of these are described, e.g., in Shapiro, *supra* note _____ at 133-135.

²²² Described, e.g., Pretty Profitable Parrots, For businesses, being good at copying is a least as important as being innovative, The Economist Blog (May 12, 2012) available at <http://www.economist.com/node/21554500> (extolling the virtues and prevalence of copying). The allegation that copying is widespread is not necessarily inconsistent with the findings of Christopher Cotropia & Mark Lemley, in *Copying in Patent Law*, 87 N.C. L. REV. 1421 (2009) that willfulness is alleged in few patent litigations. For example, one company may copy another’s feature without any awareness of the specific patents that cover the feature, or the feature may not be patented. The copying may go undetected, especially if it’s a method invention.

²²³ *Id.* The Economist Blog; see also Oded Shenkar, *COPYCATS: HOW SMART COMPANIES USE IMITATION TO GAIN A STRATEGIC EDGE*, Harvard Business Press 2010 (add parenthetical)

²²⁴ Lemley, *Functional Claiming*, at 35.

²²⁵ FTC Evolving Marketplace 2011, *supra* note _____, at 17 (“a substantial change along these lines could result in a dramatically different patent system, and knowledge in this area is limited.”).

²²⁶ See, e.g., Colleen Chien, working project of the same title, in preparation for November 16, 2012 Conference: Solutions to the Software Patent Problem.

A defense that could accomplish many of the aims of an independent invention defense and avoid many of its problems is an innocent user defense for software patents. Patentholders don't usually sue consumers – it risks alienating potential customers and it is expensive to go after them one by one. But PAEs don't have customers and, when they use a nuisance fee model, can potentially make more money by going after several individual users rather than a single manufacturer.

But a consumer defense could immunize users like the Red Cross that use off the shelf technology to solicit donations, small companies that buy PDF machines, and coffee shops that offer wifi. These types of defendants are not in the business of patents and devising new technology, their liability arises from using technology and having revenue.

While radical-sounding, an innocent consumer defense is well-precedented. Germany, France, the UK, Japan, and Canada also feature a non-commercial user defense.²²⁷ The United States also has features a limited user defense: medical doctors using patented surgical methods have a statutory shield from claims of patent infringement through 35 USC Section 287(c).

A version of an innocent consumer defense could be accomplished in a number of ways. The legislature could enact such a defense. However, parties could bring, and judges could favorably rule, on requests to stay cases brought against individual users if a case with the manufacturer is pending or filed, akin to the Section 18 of the AIA. Parties and courts could also make and support requests to implead manufacturers as necessary parties to such actions and suspending users from suits in the meanwhile.

2. Injunctions Reform at the ITC

eBay made it harder for NPEs to get injunctions, reducing much of the leverage district court patentees used to wield by virtue of the possibility of shutting down the defendant's product. But this result can be circumvented by filing qualifying patent cases at the International Trade Commission (ITC), where injunctions remain readily available. One suggestion has been to close this "loophole" by making the injunction standard consistent across the ITC and district courts.

There are a variety of ways that this could be accomplished. Congress could simply require the ITC to follow *eBay*, rather than its current standard. Or the ITC could implement the existing public interest analysis it is required to carry out to reach results that are similar to the district court applying *eBay*. It could make greater use of the flexibility it has to award exclusion orders, in a way that reduces the undue bargaining power associated with an injunction.²²⁸ The ITC domestic industry requirement could be interpreted to exclude from the ITC altogether the

²²⁷ Like the defenses available under Chinese patent law, as described, *e.g.*, in Betty Sun, *International Harmonization: A Focus on China, the United States, and the Patent Law* (May 2012) (unpublished paper on file with the author) (describing the innocent user defense and non-commercial user exemption from infringement).

²²⁸ These ideas are described in Chien and Lemley, *supra* note ____.

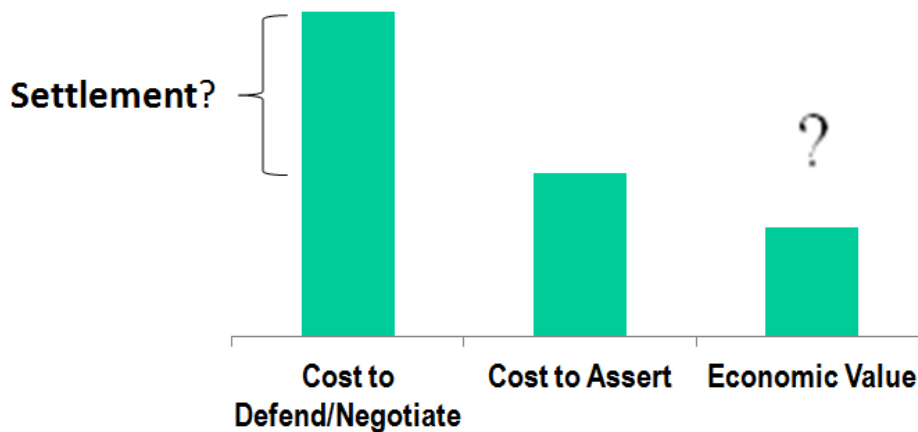
cases that are the least likely to deserve them under *eBay*.²²⁹ A variety of ITC reform efforts are being considered that implement these strategies.²³⁰

D. Proposals to Reduce the Incentive to Bring Nuisance Suits

1. Increased use of Fee-Shifting/Sanctions in Patent Cases

Fee-shifting has been proposed as one way to deter patent suits that are brought for their nuisance value.²³¹ “Nuisance suits” have a low expected recovery value - because the patent is weak or its economic value is low.²³² While the low value of the suit would normally deter it - it doesn't make sense to pay \$10 to recover \$5 - nuisance suit economics dictate otherwise, because the high cost of defense increases the likelihood of a favorable settlement.²³³ (Figure 2) Fee-shifting changes the economics by requiring an unsuccessful plaintiff to foot the defendant's legal fees, punishing and deterring low-probability claims.

Figure 2: Patent Nuisance Fee Economics²³⁴



Assertion Makes Sense Because the Cost To Defend or Negotiate, and therefore the Likely Settlement Fees, Exceed the Cost To Assert

²²⁹ See, e.g., Chien, *Patently Protectionist*, *supra* note ____, at 106-107. Colleen Chien, *Protecting Domestic Industries*, 28 SANTA CLARA COMPUTER & HIGH TECH. L. J. 169, ____. (2011)

²³⁰ Described, e.g., in Chien and Lemley, *supra* note ____.

²³¹ See Solveig Singleton, *Patents and Loser Pays: Why Not?*, Proffress & Freedom Foundation Progress on Point Paper Np. 13.3, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=980346. See also HR ____ Reps. DeFazio and Chaffetz Bill 112th Congress (2012) (the SHIELD Act), described *infra* at note ____ (proposing one-way fee shifting to losing patentees in software patent cases where the “patentee did not have a reasonable likelihood of succeeding.”). See also Remarks of Rep. Mel Watt and Others, July 18, 2012 Subcommittee Hearing on the International Trade Commission and Patent Remedies (discussing the viability of a related judicial tool – sanctions – at the ITC to deter litigation abuses); Patent Reform Act of 2006, S. 3818, 109th Cong. at Section 5 (2006) (proposing mandatory fee shifting in patent cases), described *infra* at note ____, available at <http://thomas.loc.gov/cgi-bin/query/D?c112:1:./temp/~c112V9v3Sw::>.

²³² For example, because it covers a component that can be easily substituted.

²³³ See, e.g., David Rosenberg & Steven Shavell, *A Model in Which Suits Are Brought for Their Nuisance Value*, 5 Int'l Rev. L. & Econ. 3 (1985).

²³⁴ Adopted from *Id.*, at 3-4.

Nearly as long as there have been nuisance lawsuits, there have been efforts to deter them.²³⁵ Fee-shifting statutes can be mandatory or discretionary, one-way or two-way.²³⁶ In Europe, the losing party pays the winning parties' expenses and fees under the so-called "English Rule,"²³⁷ a two-way mandatory shift. In order to increase access to justice,²³⁸ the US has enacted fee-shifting rules that favor plaintiffs in public interest and civil rights contexts.²³⁹ Alaska has adopted the English rule generally,²⁴⁰ and a handful of other states have some version of mandatory fee-shifting in narrow contexts.²⁴¹ But they are the exception rather than the rule. In the US, courts generally must determine independently of the merits of the overall case whether one party has behaved badly enough to be punished.²⁴² Since 1937, for example, Rule 11 has authorized federal judges to sanction attorneys if they fail to vet a pleading before filing it.²⁴³

a. Does Fee-Shifting Deter Frivolous Litigation? Theory And Evidence

Fee-shifting rules have long been in place, but have they worked to deter frivolous litigation?²⁴⁴ The theoretical and empirical literature on fee-shifting has been described as

²³⁵ Pfenningstorf, *supra* note ___ at p. 41-42. (describing how, by the time of Justinian, "a practice developed to require the losing party to reimburse the winner for his costs in cases of frivolous litigation and in cases of bad faith denial. Fee-shifting to the losing party in all cases, not just those involving bad-faith, was adopted by the Code of Justinian, "the ecclesiastical courts of the Roman Catholic Church eventually by the courts of the emerging European nations.").

²³⁶ See, e.g., Thomas Rowe, *Predicting the Effects of Attorney Fee Shifting*, LAW & CONTEMP. PROBS. Winter 1984, 140-1 (describing these and other variables among fee-shifting rules including exceptions to the rule and the method of calculation for fees to be shifted).

²³⁷ This term is a misnomer as fee-shifting is the rule in most Western jurisdictions, not just England. Pfenningstorf, *supra* note ___ at p.41-2 and 44 *et seq* (describing the "European rule" which, in among many instantiations, uniformly imposing costs on the losing party (two-way shifting), without requiring any evidence of fault or bad faith, and including court fees, related costs, attorney fees and other expenses incurred by the winner).

²³⁸ The literature and policy debate about fee-shifting has generally focused on this and the nuisance fee deterrent value of fee-shifting statutes however other rationales include fairness and making those wronged whole. See Rowe, *The Legal Theory of Attorney Fee Shifting: A Critical Overview*, 1982 DUKE L.J. 651, 653 and Pfenningstorf, *supra* note ___ at 66-68.

²³⁹ See e.g., The Civil Rights Attorneys' Fees Awards Act Section 1988, described in Thomas D. Rowe Jr. and David A. Anderson, *One-Way Fee Shifting Statutes and Offer of Judgment Rules: An Experiment*, 36 *Jurimetrics Journal* (1996).

²⁴⁰ See Alaska R. Civ. P. 82.

²⁴¹ See Thomas Rowe, *supra* note ___ fn. 8 (describing rules in Arizona, California, Florida and Illinois).

²⁴² See, e.g., Thomas Rowe, *supra* note ___ at 141 (commenting that in general, two-way fee shifting is unlikely to ever be adopted widely in the US).

²⁴³ FRCP Rule 11 (1992). See also Gerald F. Hess, *Rule 11 Practice in Federal and State Court: An Empirical, Comparative Study*, 75 *Marquette Law Review* 313, [redacted] (1992). Following regional circuit precedent, the Federal Circuit has held that "before a district court awards Rule 11 sanctions under Ninth Circuit law, the district court must determine that the complaint is "legally or factually 'baseless' from an objective perspective" and that the attorney failed to conduct a "reasonable and competent inquiry" before filing the complaint." *Eon-Net LP v. Flagstar Bancorp*, 653 F. 3d 1314 (Fed. Cir. 2011) (citing *Christian v. Mattel, Inc.*, 286 F.3d 1118, 1127 (9th Cir. 2002)).

²⁴⁴ Excluding one-way plaintiff favorable statutes, and those passed for other reasons, including those described *supra* at note ___.

“vast”²⁴⁵ and “immense,”²⁴⁶ the latter encompassing simulations, surveys, and theoretical models.²⁴⁷ However, only a select few of them focus on the specific question of whether fee-shifting statutes that intend to deter frivolous litigation (rather than to make it cheaper to bring meritorious suits, for example) actually do so. Below I summarize the relevant theory and evidence. Though my summary, like the literature, tends to focus on mandatory fee-shifting, much of the reasoning extends, albeit with less force, to discretionary regimes as well.

Weak cases are cases that are likely to lose at trial. As Shavell and Rosenberg have explained, a mandatory fee-shifting regime punishes plaintiffs who bring such cases when they do in fact lose.²⁴⁸ According to theory, the regime makes defendants more willing to fight than fold, because the fees they incur will be repaid. Plaintiffs will also be discouraged from bringing weak cases due to the penalty they will have to pay when they lose.

Yet theorists have pointed out various limitations of the rule. The dynamics described work best when the penalties cannot be avoided, by the plaintiff going bankrupt for example, and when weak cases can be identified ahead of time.²⁴⁹ But these predicates are not always present. Theoretical work by Polinsky and Rubinfeld concluded that the English Rule may encourage plaintiffs who bring cases the basis of weaker claims to go to trial because they know that the risks associated with erroneous outcome will increase the penalty to the defendant.²⁵⁰ Even if fee-shifting rules deter frivolous claims, they will also deter meritorious claims.²⁵¹ According to critics, the “real losers” are those with credible, but uncertain cases who cannot bear the risk of paying the opposing party’s costs if, despite the strength of the case, they nonetheless lose in court.²⁵²

Theory and common sense also imply that mandatory fee-shifting has differential impacts upon different types of plaintiffs and cases. Two-way fee-shifting discourages pessimistic plaintiffs, who are afraid of having to pay their opponents’ fees but encourages optimistic plaintiffs, who think they will win, “all expenses paid,”²⁵³ so to speak, and also impacts conservative and risk-taking defendants differently. The decision-making of “one-shotters,” rather than repeat plaintiffs, and in low-value, as opposed to high value cases, is more likely to be influenced by the specter of fee-shifting.²⁵⁴ More plainly: the possibility of having to pay over

²⁴⁵ Theodore Eisenberg and Geoffrey Miller’s terrific paper, *The English vs. The American Rule on Attorneys Fees: An Empirical Study of Attorney Fee Clauses in Publicly-Held Companies’ Contracts*, *supra* note ___ at [redacted].

²⁴⁶ See e.g., John J. Donohue, *Opting for the British Rule: or, If Posner and Shavell Can’t Remember the Coase Theorem, Who Will?*, 104 Harv. L. Rev. 1093 (1991).

²⁴⁷ Described, e.g., in Theodore Eisenberg and Geoffrey Miller *supra* note ___ at 14-16.

²⁴⁸ David Rosenberg & Steven Shavell, *A Model in Which Suits Are Brought for Their Nuisance Value*, 5 Int’l Rev. L. & Econ. 3 (1985).

²⁴⁹ *Id.* at 9.

²⁵⁰ There is some empirical support for this theoretical finding. According to Rhode, a fee-shifting rule for medical malpractice cases in Florida may have decreased the number of cases which were filed, but the number going to trial actually increased. Plaintiffs fought harder in litigation because the stakes were higher. See Deborah L. Rhode, *Frivolous Litigation and Civil Justice Reform: Miscasting the Problem, Recasting the solution*, 54 Duke Law Journal 447, 474-475 (2004).

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ Theodore Eisenberg and Geoffrey Miller *supra* note ___ at 12.

²⁵⁴ Thomas Rowe, *Predicting the Effects of Attorney Fee Shifting*, LAW & CONTEMP. PROBS., Winter 1984, 143.

\$1M in attorney's fees is more likely to influence a single inventor's decision to assert her patent against a defendant hoping for a \$100,000 judgment than a serial patent assertion entity like NTP that has recouped over \$612M in a single case.²⁵⁵

Turning to the empirical evidence, studies of mandatory two-way fee shifting cannot be characterized as uniformly encouraging. While proponents of the 'English Rule' credit it with the perceived relatively lower levels of litigation in Europe as compared to the US,²⁵⁶ several things undercut a direct inference. A comprehensive study of European fee-shifting statutes basically concluded that the task of assessing whether it worked was impossible.²⁵⁷ It's difficult to identify frivolous suits and to control and isolate the impact of the rule as opposed to other differences, for example.²⁵⁸ European laws don't necessarily have the deterrent goal in mind.²⁵⁹

In the United States, Alaska is the only state that has a more or less mandatory version of fee-shifting. Alaska Rule of Civil Procedure 82 states: "except as otherwise provided by law or agreed to by the parties, the prevailing party in a civil case *shall* be awarded attorney's fees calculated under this rule,"²⁶⁰ (emphasis added) and specifies a schedule for the recovery of fees.²⁶¹ Two independent studies, one by Douglas Rennie of 1997-2010 case filings in Alaska and comparable jurisdictions,²⁶² and the other commissioned by Alaska's Judicial Council²⁶³ failed to find that the fee-shifting policy in Alaska has played a significant role in decreasing filings.²⁶⁴

In a study published in 1992, Gerald Hess, surveying judges and attorneys in Washington, found that most believed that FRCP Rule 11 caused attorneys to increase their pre-filing inquiries,²⁶⁵ however when asked about the Rule's impact on filings, 50% of federal judges and 62% of federal attorneys believed that the Rule had none.²⁶⁶

Section 505 shifts fees in copyright cases, stating that the "court in its discretion may allow the recovery of full costs by or against any party other than the United States or an officer thereof. [[T]he court may also award a reasonable attorney's fee to the prevailing party as part of

²⁵⁵ http://money.cnn.com/2006/03/03/technology/rimm_ntp/

²⁵⁶ Pfenningstorf, *supra* note ___ at 76. See also Rhode, at 456-7 (referencing studies that "debunk" claims that US per capita litigation is in fact greater than in other countries but also acknowledging that US tort awards and premiums are rising).

²⁵⁷ Pfenningstorf, *supra* note ___ at 76 (describing the task as being of "gigantic dimensions and mind-boggling difficulty").

²⁵⁸ *Id.* at 75-76.

²⁵⁹ *Id.* at 75-76.

²⁶⁰ Alaska Rule of Civil Procedure 82(a).

²⁶¹ *Id.*

²⁶² See generally Douglas C. Rennie, *Rule 82 & Tort Reform: An Empirical Study of the Impact of Alaska's English Rule on Federal Civil Case Filings*, 29 Alaska Law Review 1 (2012).

²⁶³ Susanne Di Pietro, et al., *Alaska's English Rule: Attorney's Fee Shifting in Civil Cases* (1995), available at <http://www.ajc.state.ak.us/reports/atyfeeexec.pdf>

²⁶⁴ Rennie *supra* note ___ at 43.; Pietro *supra* note ___ at ES-11.

²⁶⁵ Hess *supra* note ___ at 327-328 (71% of federal court attorneys believed that Rule 11 caused their pre-filing fact inquiries to increase, 63% believed that the rule caused their pre-filing legal inquiries to increase).

²⁶⁶ *Id.* at 328-329. In 1993, Rule 11 was watered down significantly by the Federal Rules Advisory Committee, further diluting any impact. See, e.g. <http://judiciary.house.gov/hearings/pdf/Schwartz03112011.pdf>, at

the costs.”²⁶⁷ This standard is more permissive than Rule 11’s “legally or factually baseless” standard.²⁶⁸ Implementing Section 505,²⁶⁹ prevailing plaintiffs have gotten 89 percent of their fee award requests reimbursed,²⁷⁰ and prevailing defendants 61 percent,²⁷¹ generally based on the “objective unreasonableness” of the claim.²⁷²

Attorney fee judgments have been credited with contributing to the demise of copyright troll²⁷³ Righthaven.²⁷⁴ However, strong fee-shifting laws did not deter prevent the development of the copyright troll business model,²⁷⁵ and because of the particular facts of the case,²⁷⁶ the deterrent effect of copyright fee-shifting statutes on this business model are hard to know. Others believe Section 505 to be limited in its impact due to the divergence in how courts have interpreted it.²⁷⁷ Prevailing plaintiffs still seem to be favored.²⁷⁸

Thus, fee-shifting statutes seem to make a difference, but the particulars vary, and even with respect to specific statutes, the impact is hard to measure with any sort of precision.

b. Shifting Fees in Patent Cases

²⁶⁷ 17 U.S.C. § 505.*4-.*5 (describing the “weakening of the Rule 11” through this development)

²⁶⁸ *Eon-Net LP v. Flagstar Bancorp*, 653 F. 3d 1314 (Fed. Cir. 2011) (citing *Christian v. Mattel, Inc.*, 286 F.3d 1118, 1127 (9th Cir. 2002)).

²⁶⁹ Though courts have historically favored prevailing plaintiffs, the Supreme Court held in *Fogarty v. Fantasy, Inc.* 510 U.S. 517, 534-535 (1994) that §505 must be implemented in a manner which is party-neutral and “faithful to the purposes of the Copyright Act.” This ruling increased awards to prevailing defendants. Jeffrey Edward Barnes, *Attorney's Fee Awards in Federal Copyright Litigation After Fogerty v. Fantasy: Defendants are Winning Fees More Often, but the New Standard Still Favors Prevailing Plaintiffs*, 47 UCLA L. Rev. 1381, 1390.

²⁷⁰ *Id.*

²⁷¹ *Id.* at 1390-1391.

²⁷² *Id.* at 1397.

²⁷³ For a description of the still nascent copyright trolling phenomenon, see Shyamkrishna Balganes, *The Uneasy Case Against Copyright Trolls* <fill cite>

²⁷⁴ Jeffrey D. Neuburger, *Copyright Infringement Defendants Turn the Table on Righthaven*, PBS Mediashift (December 1, 2011) <http://www.pbs.org/mediashift/2011/12/copyright-infringement-defendants-turn-the-table-on-righthaven335.html> (describing Righthaven as “besieged by attorney fee judgments”).

²⁷⁵ I am thankful to Eric Goldman for pointing this out to me.

²⁷⁶ Steve Green, *Righthaven: The Controversy Over Copyrights*, Vegas Inc. (July 25, 2011) <http://www.vegasinc.com/news/2011/jul/25/copyright-conundrum/> (describing Righthaven’s tactics of failing to get complete control of the copyrights, disclose its continuing interest in the outcome of its suits, leading to accusations of barratry and champerty, which presumably could be avoided by subsequent plaintiffs).

²⁷⁷ *Id.* at 472-473.

²⁷⁸ Barnes, *supra* note ___, at 1404 (describing how plaintiffs are likely to get their fees as a matter of course, but defendants are only likely to get their fees when the plaintiff brings the case in bad faith or are the claims are otherwise objectively unreasonable). Accord, Hyde & Sharrock, *supra* note ___, at 474-475. See also, e.g., *Playboy Enters. v. San Filippo*, 46 U.S.P.Q.2d 1350, 1356 (S.D. Cal. 1998) (“Generally, the plaintiff in a copyright action is awarded fees by virtue of prevailing in the action.”); *Fantasy, Inc. v. La Face Records*, No. C96-4384 SC ENE, 1997 U.S. Dist. LEXIS 16359, at *2 (N.D. Cal. Sept. 26, 1997) (“[C]ourts should bear in mind that awards of attorney's fees to prevailing defendants should be granted more sparingly than those awarded to prevailing plaintiffs, so that plaintiffs are not chilled in exercising their rights under the Copyright Act.”); *Walden Music, Inc. v. C.H.W., Inc.*, No. 95-4023-SAC, 1996 U.S. Dist. LEXIS 6622, at **18-19 (D. Kan. Apr. 19, 1996) (“The primary purpose of an attorney's fees award [under § 505] is ‘to serve as an economic incentive for a copyright holder to use the courts in challenging an infringement.’”); *Belmore v. City Pages, Inc.*, 880 F. Supp. 673, 680-81 (D. Minn. 1996) (declining to award attorney's fees to the prevailing defendant because the defendant did not prove that the action was “frivolous or was commenced in bad faith”).

In patent cases, judges may already award attorney's fees in patent cases when the circumstances are “exceptional” (35 USC 285),²⁷⁹ and in other situations.²⁸⁰ Attorneys fees are awarded infrequently: from 2005-2011, there were on average 50 awards per year;²⁸¹ in comparison to around 3,000 patent case filings on average per year.²⁸² The majority of the attorney fee awards are made in cases that go to trial.²⁸³ The rule doesn't favor either side, and slightly less than half of the awards are to prevailing defendants.²⁸⁴

One way defendant favorable fee-shifting in patent cases has been proposed²⁸⁵ as a way to counter nuisance patent suits generally and more specifically, the dramatic increase in troll litigation.²⁸⁶ In the historical era, an agrarian patent reform proposal would have shifted fees in favor of the defendant in low-value suits, even where the plaintiff prevailed: “[i]f the plaintiff shall not recover the sum of \$20 or over, the court shall adjudge him to pay his own costs, unless [infringement was knowing].”²⁸⁷ Similarly, a recent proposal would shift fees when the cost of the offense is greater than provable damages, to encourage settlement and discourage nuisance litigation.²⁸⁸ These types of proposal are analogous to “offer of judgment” rules such as Rule

²⁷⁹ 35 USC 285: “The court in exceptional cases may award reasonable attorney fees to the prevailing party.”

²⁸⁰ See, e.g., Vinson & Elkins LLP Presentation “Attorneys’ Fees Awards in Patent Litigation” (August 9, 2010) available at

http://www.velaw.com/uploadedFiles/VEsite/Resources/AjeetPaiAttorneysFeeAwardsPatentLitigationCLE_Aug2010.pdf (listing as additional bases for recovering attorney fees, F.R.C.P. Rule 37, 28 U.S.C. § 1927, F.R.A.P. 38, Inherent Power of the Court).

²⁸¹ Author analysis based on statistics reported at patstats.org. Taking into account reversals, attorney’s fees were finally granted in 312 cases from 2005 through 2011, 165 to plaintiff patentee, and 147 to defendant infringer. (Patentee awards: 165 = 100 (2005-09) + 45 (2010) + 20 (2011); Infringer awards: 147 = 104 (2005-09) + 30 (2010) + 13 (2011)).

²⁸² From March 2002-March 2011, 20,138 “patent” cases (which could include false marking, malpractice, inventor dispute, and other cases) were filed (data aggregated from reports available at http://www.uscourts.gov/statistics/FederalJudicialCaseloadStatistics/FederalJudicialCaseloadStatistics_Archive.aspx). From 2005-2011, according to data from patstats.org, 2,598 patent infringement cases were decided (patent infringement cases, including ITC filings. Patstats.org contents described at <http://www.patstats.org/Patstats3.html>).

²⁸³ *Id.* (finding that 258 attorneys fees were granted or confirmed in trial-based judgments, 133 to plaintiff patentee and 125 to defendant infringer. Patentee awards: 133 = 89 (2005-09) + 23 (2010) + 21 (2011); Infringer awards: 125 = 83 (2005-09) + 27 (2010) + 15.

²⁸⁴ *Id.*

²⁸⁵ See e.g., by Scott Kieff, *The Case for Preferring Patent-Validity Litigation Over Second-Window And Gold-Plated Patents: When One Size Doesn't fit All, How Could Two Do the Trick?*, 157 UPenn Law Rev. 1937 (2009), at 1951 (proposing that prevailing defendants would get fees if the patentee had been warned about the particular prior art that ultimately invalidates the patent in court).

²⁸⁶ Colleen Chien, *NPEs and the ND California*, Address at the Northern District of California Judicial Conference 9 (April 26, 2012) (reporting data provided by RPX Corp. that indicates that 55% of new suits from January 1, 2012 to April 8, 2012 have been brought by NPEs) (copy on file with the author) (“NPE” suits exclude university and individual inventor suits).

²⁸⁷ 8 Cong. Rec. 652, 660 (1879). Described e.g., in Thomas D. Rowe Jr. and David A. Anderson, *One-Way Fee Shifting Statutes and Offer of Judgment Rules: An Experiment*, *supra* note ___ at [redacted].

²⁸⁸ Cite to FCAC proposal when released.

68²⁸⁹ that penalize plaintiffs who reject settlement offers greater than the value of the court-determined judgment.²⁹⁰

Other reform proposals have aligned the reward of fees more closely with actual defeat in the courtroom. In 2006, a precursor bill to the America Invents Act would have placed a heavy thumb on the scale in favor of awarding attorney’s fees to prevailing parties, “unless the court finds that the position of the non-prevailing party or parties was substantially justified or that special circumstances make an award unjust.”²⁹¹ In 2011, Judge Rader appeared to urge use of fee-shifting authority in nuisance fee cases, “when the case is over and the court can identify a troll or a grasshopper, I strongly advocate full-scale reversal of attorney fees and costs!”²⁹²

The 2012 SHIELD Act features a one-way shift in favor defendants:

“[I]n an action disputing the validity or alleging the infringement of a computer hardware or software patent, upon making a determination that the party alleging the infringement of the patent did not have a reasonable likelihood of succeeding, the court may award the recovery of full costs to the prevailing party, including reasonable attorney’s fees, other than the United States.”²⁹³

Though this particular bill does not change the discretionary nature of Section 285, it does change the standard for awards and limits this change to high-tech patent cases when plaintiffs lose. On its face, there is much to like about the Act – it is narrowly tailored, purporting to apply only to cases involving high-tech cases, as NPE cases overwhelmingly are.²⁹⁴ It applies only ones where cases are brought despite the weakness of the patent. Though the reforms would extend beyond troll plaintiffs, it is hard to argue that fees should not be paid in such circumstances.

c. The Differential Impact of Fee-Shifting on Different Patent Trolls and Tactics

As noted earlier, some commentators believe one-off plaintiffs are more sensitive to fee-

²⁸⁹ Described *e.g.*, in Thomas D. Rowe Jr. and David A. Anderson, *One-Way Fee Shifting Statutes and Offer of Judgment Rules: An Experiment*, *supra* note ___ at ___.

²⁹⁰ For a description of the empirical data on offer of judgment rules, see Theodore Eisenberg and Geoffrey Miller’s *supra* note ___ at 15-16.

²⁹¹ Patent Reform Act of 2006, S. 3818, 109th Cong. (2006), at Section 5: “(b) Attorney’s Fees- Section 285 is amended to read: ‘(a) The court shall award, to a prevailing party, fees and other expenses incurred by that party in connection with that proceeding, unless the court finds that the position of the nonprevailing party or parties was substantially justified or that special circumstances make an award unjust.’”

²⁹² See Chief Judge Randall R. Rader, *The State of Patent Litigation*, E.D. Texas Judicial Conference, available at <http://www.patentlyo.com/files/raderstateofpatentlit.pdf>. But also stating that, “this improvement suggestion is not really discarding the American rule that each party pays its own attorney. Instead this fee reversal recommendation is a tool to discourage cases that are brought only to obtain revenue from litigation avoidance instincts.”

²⁹³ 2012 SHIELD Act [add subsection numbers] It defines a as: “a patent that covers--(A) any process that could be implemented in a computer regardless of whether a computer is specifically mentioned in the patent; or (B) any computer system that is programmed to perform a process described in subparagraph (A).”

²⁹⁴ Eighty-six percent of ITC cases filed by NPEs between 2005 and 2011 were in high-tech sectors. Michael Kallus and James Conlon, *International Trade Commission: The Second Theater*, RPX Corp. 10/3/11 Presentation, slide (on file with author) (showing that 86% of ITC NPE cases involved mobile communications, semiconductors, consumer electronics, PCs, networking, storage, or e-commerce technologies).

shifting, and repeat players, less sensitive to fee-shifting.²⁹⁵ However, trolls suits are overwhelmingly brought by serial NPEs and professional licensing entities, according to data from RPX. Inventor suits, which are the types that are most likely to fit into the “one-off” category comprise only 18% of suits and 12% of NPE defendants.²⁹⁶

On the other hand, fee-shifting is likely to change the willingness of both patentees and lawyers to enter into contingent-fee representation. Because it reduces out-of-pocket costs for the plaintiff, contingent fee representation of patent plaintiffs is popular.²⁹⁷ But fee-shifting raises the stakes in a way that may discourage contingent-fee funded patent suits. In the absence of fee-shifting, a contingent fee lawyer has little to lose from bringing a patent case, except his time. But regulations that would shift fees to the lawyer upon loss mean that if the contingent fee lawyer loses, he’ll lose much more than his time. The impact of statutes that shift fees to parties is similar. Parties use contingent fee representation to protect themselves from the risk of loss of legal fees with no upside if they lose. But under a fee-shifting regime, they are exposed to the risk of not only losing but paying the other side’s fees. Because of the indeterminacy of patent law, contingency economics are likely going to be impacted, even when the cases brought appear to be strong.²⁹⁸

d. The Definitional Challenge- Identifying Patent Nuisance Suits

For a fee-shifting rule to deter frivolous litigation requires there to be a consistent understanding of when litigation is frivolous. In *Eon-Net* case, the Federal Circuit cited a variety of tactics to support its confirmation that the plaintiff’s case was objectively baseless.²⁹⁹ Judge Davis has also warned that suits where the theory of recovery is based on the “cost of defense” deserve to be sanctioned.³⁰⁰

However, it’s often hard to determine when fee-shifting warranted under a discretionary standard. In his study of fee-shifting statutes throughout Europe, Werner Pfenningstorf observed that when costs are imposed only in the case of bad faith, rather than automatically, courts are reluctant to find make the requisite finding and rarely order the payment of fees.³⁰¹ This finding that is consistent with the infrequent use of the exceptional cases rule of 35 USC Section 285.³⁰² Concerns about whether fee-shifting is over or under-detering cases has also

²⁹⁵ Thomas Rowe, *Predicting the Effects of Attorney Fee Shifting*, LAW & CONTEMP. PROBS., Winter 1984, 143. (contrasting the impact of fee-shifting on “one-shotters” versus “repeat players”)

²⁹⁶ RPX Corporation, *Analyst Day Investor Presentation*, <http://ir.rpxcorp.com/events.cfm> , at 20.

²⁹⁷ Acacia Corporation uses it, and many others as well. For an overview of contingent fee representation in patent law cases, see Schwartz, *supra* note ____, at ____.

²⁹⁸ As described in Schwartz, *supra* note ____, at ____.

²⁹⁹ *Eon-Net LP v. Flagstar Bancorp*, 653 F. 3d 1314 (Fed. Cir. 2011).

³⁰⁰ *Raylon LLC v. Complux Data Innovations* (E.D. Tex., Mar. 23, 2011, 6:09-CV-355, 356, 357) 2011 WL 1104175

³⁰¹ Pfenningstorf, *supra* note ____, at 69.

³⁰² Based on a search in Westlaw, in 2011, approximately 20 awards were made, and in 2002, 10 awards were made. They were sought in 86 and 50 cases. Over comparable 1-year periods 2,892 (March 2010-March 2011) and 2,573 (March 2001-March 2002), patent cases were filed. (data available at

<http://www.uscourts.gov/Viewer.aspx?doc=/uscourts/Statistics/FederalJudicialCaseloadStatistics/2011/tables/C02Mar11.pdf> and

<http://www.uscourts.gov/uscourts/Statistics/FederalJudicialCaseloadStatistics/2002/tables/c02mar02.pdf>, respectively).

plagued Rule 11, causing it to be significantly watered down in the early 1990s.³⁰³

Dividing cases into ones that “did not have a reasonable likelihood of succeeding” and those that did as is required by the SHIELD Act would likely also prove difficult. Although studies suggest that trolls overwhelmingly lose at trial,³⁰⁴ the indeterminacy of patent law³⁰⁵ makes it hard to determine ex ante which cases are not going to be successful and which are. Some cases that could fall into the category include situation where the invalidating prior art is known before trial,³⁰⁶ the patent has been invalidated in another forum like the International Trade Commission³⁰⁷ or abroad, or the patentee has committed inequitable conduct. But such instances are few and far between, and would exclude many troll cases.

Frivolousness, reasonableness, and exceptional-ness are in the eye of the beholder.³⁰⁸

e. Scope

In addition, fee-shifting does not punish tactics and abuses outside of the courtroom where the majority of assertions take place. Rather, fee-shifting generally only takes place only after a case has been decided or at least filed. The ratio between demands and lawsuits can be large. According to one account, troll E-Data sued 43 companies but offered licenses to at least 25,000 others.³⁰⁹

Based on talking to lawyers who assert other forms of IP, Bill Gallagher has concluded that “legal sanctions aimed at deterring over-reaching IP enforcement are unlikely to be effective because most such over-reaching occurs in informal disputing processes outside of the legal system.”³¹⁰ The fees companies spend analyzing and worrying about cease and desist letters and negotiating with patentholders cannot be recouped through fee-shifting provisions that apply to litigation expenses.

f. Circumvention and Avoidance

Perhaps the most damning critique of loser pays rules is that they potentially can be circumvented. More sophisticated trolls bring suits using shell companies created for the

³⁰³ As described supra at note ____.

³⁰⁴ John R. Allison et al., *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 Geo. L.J. 677 (2011).

³⁰⁵ E.g., as exemplified by the indeterminacy of the meaning of patent claim terms that contribute to reversal rates of 25-50%. Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 Lewis & Clark L. Rev. 231, 232-34 (2005); see also David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 Mich. L. Rev. 223 (2008). Cf. David L. Schwartz, *Pre-Markman Reversal Rates*, 43 Loy. L.A. L. Rev. 1073 (2010) (studying reversal rates before district judges began expressly construing patent claims). Jonas Anderson and Peter Menell have found in a more recent study that the claim construction reversal rate is declining, but it is still over 25%. J. Jonas Anderson & Peter S. Menell, *The Emergence of Informal Deference: An Empirical Examination of the Federal Circuit's Patent Claim Construction Jurisprudence* (draft 2012).

³⁰⁶ See, e.g. Kieff, supra note ____.

³⁰⁷ Because ITC decisions do not bind district courts, this is possible.

³⁰⁸ Accord e.g. Rhode, supra note ____, at 454.

³⁰⁹ Jeffrey A. Berkowitz, *Trends in Enforcing and Licensing Patents*, Finnegan Articles (April 2003)

<http://www.finnegan.com/resources/articles/articlesdetail.aspx?news=c032e6c4-e575-40cf-99b4-72e7753c1359>.

³¹⁰ *Id.*

specific purpose of shielding their investors from liability and scrutiny.³¹¹ Structured correctly, the entity need not be connected to the corporation’s sponsors or its assets. Faced with a sanction or attorney’s fee award against it, the LLC could go bankrupt rather than paying the penalty. In Europe, for example, German patent troll IP Com is structured as a special purpose entity (SPE) designed to be “judgment proof” from fee awards against it.³¹² If fee-shifting awards and sanctions can be avoided in this way, they will be. Indeed, such concerns apparently have already provided an incentive for them to be set up in this way:³¹³ Acacia has established subsidiaries to handle its litigations so that “the original patent owners- and other partner companies- are shielded from risk” and Intellectual Ventures incorporates a different shell for each of its patent purchases.³¹⁴

i. Circumvention and the Misjoinder Rules

Circumvention in cost-reduction regulation has been attempted in the application of the new misjoinder rules. Trolls like to sue multiple defendants at once, both because it is cheaper to sue once rather than file separate actions and also because it gives defendants less time to present their cases, especially in districts that do not increase the amount of time available by the number of defendants.³¹⁵ The “misjoinder rules” of the 2011 America Invents Act limits who can be sued in a single patent infringement action, to parties who are engaged in the “same accused product or process.”³¹⁶

When it became clear that the AIA and the misjoinder provisions would be going into effect, non-practicing entities (NPEs) rushed to the courthouse, filing an all-time high number of cases against a record number of defendants.³¹⁷ This seemed to provide an early positive indication that the new rule would matter, by making it harder for patentees to capture the economies of scale associated with suing a large of number of defendants at the same time.

The early results are mixed, but encouraging. While NPE case filings are up,³¹⁸ the number of average defendants per NPE suit is down, from five to two.³¹⁹ Taking both of these trends into account by counting total NPE defendants indicates a downward trend thus far (Figure 4). According to data collected by RPX Corporation, the average number of NPE

³¹¹ See e.g., Thomas Ewing, *Enter the Privateers*, 45 Intellectual Asset Management Magazine 32 (Jan/Feb 2011) (describing this practice in the context of corporate sponsorship of suits, or privateering, and commenting that, “the LLC is a nearly perfect corporate form for privateering, as many jurisdictions offer maximum privacy for businesses having this form.”).

³¹² Stefania Fusco, *supra* note ____.

³¹³ *Id.* at _____. In general, there is no guarantee that a defendant will be able to recover their fees. In the case of Florida’s medical malpractice rule, for example, Rhode finds, because many plaintiffs lacked funds to pay their opponents’ costs, defendants’ costs were higher as well. Rhode, *supra* note ____, at _____.

³¹⁴ Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 Stan. Tech. L. Rev. 1, 4.

³¹⁵ Watal, *Part II*, *supra* note ____ at *67.

³¹⁶ America Invents Act, sec. 19(d), 125 Stat. at 332–33 (New section 299)

³¹⁷ *Rush to Judgment: New Dis-Joinder Rules and Non-Practicing Entities*, PATENTLYO (Sept. 20, 2011, 3:10 PM EDT), <http://www.patentlyo.com/patent/2011/09/rush-to-judgment-new-dis-joinder-rules-and-non-practicing-entities.html>, accord Figure 4 (graphically depicting this spike).

³¹⁸ See Chien, *N.D. Cal Presentation*, *supra* note ____ (on file with author).

³¹⁹ See *Patent Reform and the Law of Unintended Consequences*, RPX Blog (list visited August 3, 2012) <http://www.rpxcorp.com/index.cfm?pageid=14&itemid=17>.

defendants per week in high technology sectors prior to passage of the AIA was 67,³²⁰ and since then through the end of January 2012, was down to 37.³²¹ There are early indications that trolls are concentrating their efforts on bigger fry.³²²

However, the misjoinder provisions do not extend to the International Trade Commission, where patentees can also bring infringement actions. As would be expected, there is no indication thus far that the same decline in number of defendants per suit experienced in the district court will be experienced there.³²³

The misjoinder rules require codefendants to be engaged in the “same accused product or process.”³²⁴ This makes it harder to bring cases against disparate clients that are developing or using different products. However, it does not preclude suits brought against a group of defendants all using the same product. For example, Innovatio, LLC has sued hotels and coffee shops for their use of wireless technology.³²⁵

Whether through fee-shifting or other proposals, the possibility of circumvention must be given serious consideration.

2. Decreasing the Costs of Litigation

The problem may in fact not be the idea that patentees should be compensated, but how such compensation is accomplished. It is estimated that only a small fraction of the loss associated with NPEs is returned to innovators and their shareholders.³²⁶ As has been written about tort law, where nuisance suits have also been perceived as a problem, perhaps the problem is not excessive litigation but the systematic “undercompensation of victims and overcompensation of lawyers.”³²⁷

a. Judicial Innovation

A host of proposals fall under the category of streamlining and reducing the high costs of patent litigation. Much of this is within the power of the judiciary, to, for example, order early mediation/alternative dispute resolution procedures, limit the number of claims and issues in a

³²⁰ 2011 data, not including the two weeks prior to passage of the law, due to the anomalous rush to the courthouse described earlier.

³²¹ RPX Corporation Analyst Day Presentation at slide 24. But see *id.* at slide 25 (showing that when the weeks right before the AIA are taken into account, the smoothed trend is increasing, rather than decreasing).

³²² RPX Corporation Analyst Day Presentation at slide 26 (reporting data to support the headline “NPEs Focusing Efforts on Larger Companies”).

³²³ See, e.g., Colleen Chien and Mark Lemley, *Public Interest, Patents, and the ITC* __ Cornell Law Rev. __, Figure 1 (forthcoming 2012) (showing that the number of defendants per suit has decreased dramatically in the district court post-AIA, without any corresponding decrease in the ITC).

³²⁴ America Invents Act, Sec. 19(d), 125 Stat. at 332–33 (New Section 299).

³²⁵ Gregory Thomas, *Innovatio’s Infringement Suit Rampage Expands to Corporate Hotels*, Patent Examiner (September 30, 2011) <http://patentexaminer.org/2011/09/innovatios-infringement-suit-rampage-expands-to-corporate-hotels/>.

³²⁶ James E. Bessen, Jennifer Laurissa Ford and Michael J. Meurer, *The Private and Social Costs of Patent Trolls*, Regulation, Vol. 34, No. 4, p. 26, Winter 2011-2012.

³²⁷ Rhode, *supra* note ____, at 459.

case,³²⁸ and request early disclosure of the value of the case.³²⁹ Perhaps the best developed proposal is the model e-Discovery order promulgated by the Federal Bar Association's Advisory Council and adopted by several districts in various forms.³³⁰

Although these proposals have the potential to sweep across cases, judges have the discretion to implement them as they see fit. Importantly, they are well-aligned with judicial incentives to enhance the efficient resolution of cases. As forum-shopping has been tightened up, they have the potential to reduce the cost of defense, and therefore the economic opportunity offered by nuisance litigation. (Figure 2)

b. Market-Based Innovation

RPX Corporation aims to introduce efficiency to patent assertion by “providing a rational alternative to traditional litigation strategy for our clients, offering defensive buying, acquisition syndication, patent intelligence, and advisory services.”³³¹ This value proposition has proven compelling to its 100+ members, who pay a subscription fee every year to access the market intelligence and services of the firm.³³² IPXI launched in 2012 and also has the objective of reducing legal intermediaries by offering companies the ability to buy patent rights on an exchange. By selling Unit Licensing Rights (ULR) contracts, the firm hopes to connect buyers and sellers of technology rights, avoiding the need for costly enforcement campaigns.³³³ Though it is still early, in May 2012 the exchange had 27 “offering” members.³³⁴

E. Self-Help

Yet another way to change the patent system is to change the behavior of patentees and

³²⁸ Comments of Judge Lucy Koh, that to subject a jury to decide the infringement of 16 patents, six trademarks, five “trade dress” claims, and an antitrust case, with 37 products accused of violations would amount to “cruel and unusual punishment” that patent juries are subject to. See Stephen Lawson, Judge Again Orders Apple, Samsung to Streamline Claims in iPad Patent Case, Computerworld (May 2, 2012) http://www.computerworld.com/s/article/9226803/Judge_again_orders_Apple_Samsung_to_streamline_claims_in_iPad_patent_case. See also Federal Judicial Council model instructions for streamlining patent cases (forthcoming 2012); see also Roger Cheng, Even Judges are Fedup With Patent Lawsuits, cNet News (June 8, 2012) http://news.cnet.com/8301-13579_3-57449607-37/even-judges-are-fed-up-with-patent-lawsuits/ (describing court-ordered case winnowing by Judges Posner and Koh).

³²⁹ Chief Judge Randall Rader, speech at Santa Clara University Law School 2011, [REDACTED].

³³⁰ Since the initial disclosure, there have been four cases of note: three in E.D. TX. and one in N.D. CA. A summary of those cases and discovery holdings are available at <http://discoverready.com/blog/model-order-generates-buzz-in-district-courts/>. In December 2011, Delaware updated its default standards in eDiscovery. Recognizing the merits of the Federal Model Order, Delaware has chosen to emphasize cooperation between parties in its standards. The default standard will only apply when parties fail in their efforts to find consensus. A summary is available at <http://discoverready.com/blog/delaware-provides-default-e-discovery-limits/>. In Spring 2012, the E.D. TX has issued its own Model Order, implemented as an appendix to its own local rules, allowing greater flexibility. See Matt Miller, Texas Court Builds on Judge Rader's Model Order, Discovery Ready (March 13, 2012) <http://discoverready.com/blog/texas-court-builds-on-judge-raders-model-order/>.

³³¹ See RPX Corp.'s Homepage <http://www.rpxcorp.com/>.

³³² <http://ir.rpxcorp.com/faq.cfm>

³³³ See IPXI's Products Page <http://www.ipxi.com/products/ulr>.

³³⁴ See IPXI Press Release “Intellectual Property Exchange International attracts Leading global Corporations, Universities, National Laboratories as New Members,” available at <http://www.ipxi.com/media/newsreleases/IPXI-Attracts-Leading-Global-Corporation-Universities-National-Lab>.

the targets of patent demands, rather than changing the law.³³⁵ The “lever” of behavioral change is an often overlooked force within the patent system, but its impact has been profound. In general, social norms matter tremendously to how the law is received and interpreted,³³⁶ and the patent system is no different.

1. Demonstration Effects

For years, companies acquired patents defensively because they saw others doing so, as part of the patent arms race.³³⁷ Demonstration effects in the offensive use of patents have also been instrumental as innovations in patent assertion have been quickly copied.³³⁸ Though it was once “unforgiveable sin” and “anathema”³³⁹ for operating companies to sell patents, this taboo has been dismantled as prominent companies and critics of patent trolls have engaged in doing so.³⁴⁰ Likewise, competitors suing each other has apparently become more commonplace.³⁴¹ Each of these developments, it can be argued, though enabled by the law, was not spurred by it, but rather shifts in patterns of behavior within the patent systems.

Twitter’s “innovator patent assignment”³⁴² and the “defensive patent license”³⁴³ introduced by Shultz and Urban represent recent efforts to stem the flow of patents to patent trolls by tweaking social norms.³⁴⁴ RPX Corporation provides a collective, market-based solution to patent problems by buying up threatening patents on behalf of groups of its members, at a fraction of the price.³⁴⁵ The Coalition for Patent Fairness lobbies for changes to patent law on behalf of companies in the financial services, technology, energy, and related industries.³⁴⁶ Elsewhere I have suggested the creation of a defensive non-profit entity³⁴⁷ that could focus, for

³³⁵ See, e.g. Chien, *Arms Race*, supra note ___, generally and at Section V.A. Behavioral Levers in the Patent Arms Race (describing the role of demonstration effects in producing the patent arms race and the release of once defensive patents to patent assertion entities.) Chien, *Turn the Tables*, supra note ___ (advocating for companies attacked by trolls to “turn the table” on them by engaging in a variety of counterattack measures.)

³³⁶ http://papers.ssrn.com/sol3/papers.cfm?abstract_id=42840

³³⁷ Described in Chien, *Arms Race*, supra note ___, generally and at Abstract

³³⁸ Described Id. at 311-312 (describing the impacts of the successes of Jerome Lemelson and Gerald Hosier, for example)

³³⁹ *The Evolving IP Marketplace: The Operation of IP Markets: The IP Marketplace in the IT Industry: Hearing Before the Fed. Trade Comm’n 95*, (May 4, 2009) [hereinafter *Evolving Marketplace III*] (statement of Ron Epstein, Chief Executive Officer, Ipotential, LLC), available at <http://www.ftc.gov/bc/workshops/ipmarketplace/may4/090504transcript.pdf>

³⁴⁰ Described, e.g. in Chien, supra note ___, at 342-344 (describing examples of these sales, including Micron’s well-known transfer of its patents to star litigator John Desmarais for monetization).

³⁴¹ See, e.g. Mueller, supra note ___ (listing 50+ suits between competitor Samsung and Apple alone). “Sport of king” suits between large operating companies are nothing new though; in a study of 2000-2008 high-tech patent litigations I found that 28% were between operating companies with more than \$100M in revenue, Chien, *Of Trolls*, supra note ___ at Abstract.

³⁴² Described at <http://blog.twitter.com/2012/04/introducing-innovators-patent-agreement.html> (the innovator’s patent agreements (IPA) represents a commitment from Twitter to its employees that the patents they assign can only be used for defensive purposes.)

³⁴³ Described at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2040945 (describing a patent license intended to facilitate open innovation community participation in the patent system by minimizing)

³⁴⁴ <http://www.freakonomics.com/2012/05/03/the-twitter-i-p-a/> (describing the Twitter license as an example of “norms entrepreneurship”)

³⁴⁵ <http://www.rpxcorp.com/index.cfm?pageid=22>

³⁴⁶ <http://www.patentfairness.org/learn/what/>

³⁴⁷ Chien, *Turn the Table* supra note ___.

example, primarily on challenging patents.

2. Farmer and Railroad Groups

During the agrarian patent crisis, farmer groups, led primarily by various state and National Grange associations, called on the states and Congress to change the law.³⁴⁸ They tried to minimize the damage caused by particular patents,³⁴⁹ and through their publications, publicized information about suits and tactics³⁵⁰ and educated farmers who were generally knew little about patent law. Though their lobbying efforts resulted in many unsuccessful bills, it is likely that they sensitized the Courts and Congress to the problems patents created for farmers and eventually resulted in the changes.

Railroad associations also mounted formidable and professional self-help efforts on behalf of their members. The Eastern and Western Railroad Associations (ERA and WRA) offered a variety of defensive patent services to their members including discounted patenting services, patent clearance, fighting particular patent threats, and lobbying.³⁵¹ The railroads paid fees, assessed in proportion to earnings for these services but also made other commitments – to share information and coordinate legal strategies – as a condition of their membership.³⁵²

The associations counted among their members “nearly all companies”³⁵³ and were so effective at enlisting them to document technical developments that they could “readily establish precedence and undermine broad claims pertaining to virtually every aspect of technology.”³⁵⁴ This allowed them to challenge the validity of patents asserted against their members. Because they included most members of the industry, the associations were able to present a “united front” in their dealings with patent holders.³⁵⁵

The associations compelled their members to behave in a way supportive of the collective, rather than just the private, good. To undermine the “divide and conquer” approach of patent speculators, the ERA set up sanctions against their own members if they “negotiated their own agreements with holders of disputed patents.”³⁵⁶ If they settled individually rather than collectively, the railroads risked losing their rights to the association’s defenses.³⁵⁷

The associations justified these actions on the basis that these deals support patent speculators and undermined the chance of success in courts.³⁵⁸ As the ERA announced in its annual report, “to obtain the best results, the members of the Association must act as a unit [] it is

³⁴⁸ Hayter, *supra* note __ at 77 (describing the National Grange convention) and 78 (discussing other farmer interest groups).

³⁴⁹ *Id.* at 76-77 (describing the efforts of farmer associations to contest patents over the drivewell.”)

³⁵⁰ *Id.* at e.g. 71 (describing rural publications and their efforts to market themselves to farmers on the basis of the farmers’ need for information about “patent vendors and swindlers of all kinds.”)

³⁵¹ Usselman, *Regulating Railroads*, *supra* note __ at 173.

³⁵² Usselman, *Patents Purloined*, *supra* note __, at 1065-1074.

³⁵³ Usselman, *Patents Purloined*, *supra* note __ at 1060.

³⁵⁴ Usselman, *Regulating Railroads*, *supra* note __ at 172.

³⁵⁵ *Id.*

³⁵⁶ *Id.*

³⁵⁷ Usselman, *Patents Purloined*, *supra* note __, at 1065-1074.

³⁵⁸ *Id.* at 173.

believed that this unity of action has been the true cause of our success heretofore.”³⁵⁹ The associations were viewed as so effective they were accused of violating antitrust laws and being illegal.³⁶⁰

Though it would likely to difficult to replicate the structure of the railroad associations,³⁶¹ certain of their successes do provide direct inspiration. The AIA provides a lot more ways to challenge patents.³⁶² A broad-based non-profit organization like IEEE could consider facilitating the sharing and pooling of technical information that could be used to take advantage of them.

CONCLUSION

The adage that there is nothing new under the sun³⁶³ applies with surprising force to modern day patent reform. Each reform that is now being proposed – to shift-fees to losing plaintiffs, to abolish software patents, and to introduce an independent invention defense, for example – has not only been proposed but tried before in some form. History suggests that change looks different in hindsight than it does prospectively – in the past, the “abolishment” of farm patents was accomplished by the ratcheting up of the obviousness standard, and the effective organization of railroad groups was key to curbing the power of railroad patent sharks, for example. These and other lessons from the past can help guide, redirect, and reassure current and future patent reform efforts. They suggest that rather than seek broad-based legislative change, patent reformers would be well-advised to focus on incremental court and market-based reforms.

³⁵⁹ Id.

³⁶⁰ Described, e.g., in Usselman, *Patents Purloined*, supra note ____, at 1065-1074.

³⁶¹ Not least because of the difference in industry structure, which in high-tech supports a large number of disparate business models and businesses, all with different interests and sophistication levels regarding patents.

³⁶² <http://www.fr.com/files/Uploads/Documents/2%20-%20AIA%20Post%20Grant%20Proceedings%20Part%20I%20-%20Renner%20and%20Grygiel.pdf>

³⁶³ Ecclesiastes 1:9, New International Version of the Bible.