

PATENT FLOODING: AMERICA'S NEW PATENT CHALLENGE *

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I. OVERVIEW

The patent system has gotten a bad name through the evolution of a dark side: In terms of sheer numbers of the several hundred thousand patent applications filed each year, a large number are filed by major corporations; at the extreme end, some companies have no general interest in the creation of an exclusive right in the bulk of their patents. They are not filed in the spirit of the classic pioneer inventor — who sought to build an industry or at least a specific new product based upon a single patent grant. But, rather, the new leaders of the patent system — in terms of numbers of filings — have the twin goals of a defensive strategy (to avoid domination by yet another's patent) or to levy a "patent tax" on an industry through a patent web that is interwoven throughout an area of technology that compels third parties to take a nonexclusive license.

America now faces a surge of "patent flooding."¹ Within the next two or three years, the United States will have more than a half million applications per

¹ This pejorative term historically was used by American critics of the Japanese industry that at one time led the world in filing domestic patent applications (which is still the case today, whilst the "lead" is quickly shrinking). See *CyberOptics Corp. v. Yamaha Motor Co., Ltd.*, 1996 WL 673161 (D.Minn. 1996), *subsequent proceedings, In re Yamaha Motor Co., Inc.*, 124 F.3d 228 (Table) (Fed. Cir. 1997) ("In the lexicon of the patent world, 'patent flooding' refers to 'the practice of filing many patent applications claiming minor, incremental changes surrounding another patentee's core technology.' U.S. General Accounting Office, *Report to the Honorable John D. Rockefeller IV and the Honorable Dennis DeConcini: Intellectual Property Rights - U.S. Companies' Patent Experiences in Japan*, at 94 (July of 1993), attached as *Exhibit A, Declaration of Paul B. Klaas*. As one commentator has explained, the purpose of patent flooding 'is to gain access to another company's core technology by extracting cross-license agreements.' Donald M. Spero, *Patent Protection or Piracy - A CEO Views Japan*, HARVARD BUSINESS REVIEW, 58, 60 (September-October of 1990), attached as *Exhibit B, Declaration of Paul B. Klaas*. Among other means, patent flooding is accomplished by surrounding the nucleus of a patent's technology with scores of marginal patents, with the eventual result that the innovator of the patent will be unable to market his technology to other customers without exposing all concerned to charges of patent infringement. If the patent flooding proves successful, the

year,² and threatens to surpass Japan to gain the dubious recognition of being the world leader in patent filings.³

innovator of the technology will be compelled to cross-license his patent with the holders of the encroaching, nuisance patents, if he is to continue to merchandise his technology, and the perpetrator of the patent flood will gain unhindered commercial access to the targeted technology. *Id.* at 60-61.").

² A figure of 539,000 was projected for 2006 under budget projections submitted to Congress, up from 293,000 for the year 2000. See Setsuko Asami, *A View toward the Global Patent: Mutual Exploitation of Examination Results*, AIPPI Journal (Japan), pp. 12-38, 15 (January 2002) (citing <http://www.uspto.gov/web/offices/com/corplan/fy2002/FY02BudgetRequest.pdf>).

³Whereas the United States has had what amounts to an uncontrolled flood of new patent applications, over the past fifteen years the number of total patent filings in Japan has *decreased*. This has been accomplished by a highly proactive approach by the Japanese government. Japan greatly improved its position by a series of three measures taken in parallel: (a) Recognizing the efficiencies gained through electronic processing of patent applications, Japan by the early 1990's became the world's standard setter for electronic filing, including full electronic filing of applications – an idea advocated a generation ago in the United States (and now barely at an experimental stage), but which first came to fruition in Tokyo; (b) Japan has proactively changed its laws to limit the number of total filings (key changes include its statutory discouragement on the filing of utility model applications – a species of patent protection that originated in Germany and putting pressure on industry to file realistic numbers of cases, whereby the total level of patent filings in Japan for 2000 was only 93 % of that for 1991; and (c) outsourcing of a significant percentage of search work has greatly increased the efficiency of each Patent examiner, relieving many of the mind-numbing task of patent searching.

The JPO reports that “[i]n 2000, the number of patent and utility model applications filed in Japan reached 446[,000], an increase of 7.2 % from the previous year, the highest figure since 1994. (The previous peak was 543[,000] recorded in 1987, after which the number continuously decreased until 1994 following the introduction of the revised multiple claim system in 1988 and new utility model system in 1994.)”. Japan Patent Office, *Statistics*, ¶ 1, <http://www.jpo.go.jp/> (2001). Tables of patent filings in Japan show that the level of filings in the year 2000 was only at 93 % of the level from the year 1991:

1991: 524,217 [369,396 (patents); 114,687 (utility models); 40,134 (designs)]
2000: 484,948 [436,865 (patents); 9,587 (utility models); 38,496 (designs)]

Patents of a pioneer nature historically have been offensive in nature: An exclusive area of technology is carved out which — just like the certainty of a gold miner's claim to a certain area of riverbed — gave the intellectual property rights holder the incentives to carefully work his claim.⁴ Later, industries that did not require exclusivity and would have been better off free from patents have been forced to gain defensive patents to block third party domination. See § II, *From Offensive to Defensive Patenting* (page 5).

What is obvious in hindsight — but not to anyone but patent counsel at Texas Instruments, the first defensive filer to generate a billion dollar profit stream — is that where a company has a huge defensive patent portfolio, while it may need that portfolio to cross-license equally large players in a field, it could use that portfolio to exert a patent tax against newcomers and the smaller players in the field. See § III, *The Texas Instruments Asset Management Model* (page 14)

The patent tax model has obviously negative effects on innovation. The United States suffers under the patent tax because of the absence of several key elements to the patent system that are found in some other countries. Fixing the American system would greatly curtail the number and value of defensive patents,

⁴This is not to be confused with the "prospecting theory" that has had considerable scholarly attention. As explained by Professor Rai, "[s]ome patent scholars have argued that patent rights are granted in order to induce investment in the technological 'prospects' that inventions represent. On this view, absent patent protection of invention early in the development process, no one will invest for fear that 'the fruits of the invention will produce unpatentable information appropriable by competitors.' Edmund Kitch, *Nature and Function of the Patent System*, 20 J.L. & Econ. 265, 267-71 (1977). This view has many detractors, however. See Arti K. Rai, *Regulating Scientific Research: Intellectual Property Rights and the Norms of Science*, 94 Nw. U. L. Rev. (forthcoming Fall 1999) (discussing criticisms enunciated by various commentators)." Arti K. Rai, *Intellectual Property Rights in Biotechnology: Addressing New Technology*, 34 Wake Forest L. Rev. 827, 829, n. 6 (1999).

and greatly alleviate the patent tax problem. See § IV, *Plugging the Loopholes in the System* (page 23).

Even with the benefit of the immediately available reforms, the better approach to a quality patent examination system is not the continued growth of the PTO to an ever more massive agency, but rather global reforms to have a single patent granting system. See § V, *A Single Patent Grant System* (page 38).

II. FROM OFFENSIVE TO DEFENSIVE PATENTING

Attention is all too often given to the one or two patents per hundred that are of great economic value. This paper, rather, focuses upon the bulk of the patents that are choking the system today. Only a mere handful of patents are granted in the traditional "pioneer" areas where patents mean everything to investment and development of an industry based upon a patent beachhead.

A. Offensive versus Defensive Patenting

1. The Classic Model of the Pioneer Patentee

Historically, the pioneer inventor made a strategic invention that gained him one — or a handful — of patents that would dominate the initial era of an industry. Patent protection was vital to secure a patent beachhead that would permit the flow of the large sums of money to take the flash of genius of a single idea into a full-fledged industry. Even today, pioneers in emerging technologies gain a small patent portfolio that can be taken to Wall Street or the Silicon Valley venture capitalists to generate the often hundreds of millions of dollars of income

necessary to launch a new industry. Amgen's erythropoietin could never have been reached its potential without the safeguard of the handful of its patents that shielded it from early competition. The story is repeated every day in the major pharmaceutical industry: Without small numbers of critical patents that are given respect by a strong patent system, America's leading pioneer pharmaceutical industry would disappear.

The crown jewels of the patent system are purely offensive in nature: If they are licensed at all, they are transferred on an exclusive basis so that a single entity or a small group can reap the great rewards of exclusivity — the necessary incentive to permit investments of many years and hundreds of millions of dollars to launch a single product. A patent in this category typically takes a long time to carefully prosecute, which is done after great reflection and at great expense per patent. A typical patent application in the biotechnology area may involve legal expenses on the order of from \$ 10,000 to \$ 30,000 or more merely for preparation of the original application and the time from first filing until ultimate grant may be measured in years. In well over 90 % of all patents granted in critical areas of biotechnology there is *at least* one priority application filed prior to the ultimate application that is granted as a patent.⁵ Above all, the central thrust of an offensive patent is to create a meaningful scope of *exclusivity* that is defined by either the patentee retaining all rights to the invention himself or otherwise exclusively licensing the patent to a third party so that the third party can benefit from the exclusivity of the patent right. The classic offensive patents are in the

⁵ A domestic patent applicant in this field will typically first file a provisional application that is then be rolled over into a second, regular ("nonprovisional") application.

pharmaceutical field. Levin characterizes the offensive patent as one that involves a "discrete" technology — where a single patent may cover an invention.⁶

2. Henry Ford: An Early Defensive Patentee

In contrast to the offensive patent for a discrete area of technology, there is the area of Levin refers to as supporting "cumulative" patents⁷ where none is of great importance, and — indeed — where it may be the case that *no* patent would be necessary to develop an industry.⁸

The patent tax that is a focal point of the dark side of the patent system didn't originate in that manner: Rather, it emerged out of an entirely defensive posture in industries where an offensive patent to create exclusive rights was unimportant, but where a third party's dominant patent could threaten continued innovation. The

⁶ Testimony of Richard C. Levin, President, Yale University, **FTC/DOJ Joint Hearings on Competition and Intellectual Property Law, Washington, D.C.**, February 6, 2002, <http://www.ftc.gov/os/comments/intelpropertycomments/levinrichardc.htm>. ("The perceived value of pharmaceutical and chemical patents derived in part from the nature of technology. In the 1980s, the valuable and effective patents in these industries gave exclusive rights to a particular chemical compound, a specific molecule. In such cases, patent rights were relatively easily enforced, and the rights to one patented molecule were rarely required to obtain or practice a patent on another molecule.").

⁷ *Id.* ("In contrast to the discrete nature of chemical and pharmaceutical innovation, progress in other key technologies — such as microelectronics, telecommunications, and computers — was cumulative. Virtually any advance required access to a bundle of prior patents. This circumstance had its roots at the very beginning of the microelectronic era, when access to the Bell Labs' transistor patent was required to develop virtually any new product. It continued through the early years of the integrated circuit era, when industry participants typically needed to license the fundamental product patent from Texas Instruments and the fundamental process patent from Fairchild. [citing R.C. Levin, "The Semiconductor Industry," in R.R. Nelson, ed., *Government and Technical Progress: A Cross-Industry Analysis*. Pergamon Press, 1982.]").

⁸ Levin only refers to the most recent technologies and does not speculate on whether an industry would be better off without *any* patents.

classic defensive patent champion was the late Henry Ford, whose entirely negative view of the patent system stemmed from the grant of the most notorious nineteenth century submarine patent of Rochester patent attorney George Selden.⁹

Until 1895, the still relatively primitive automotive industry was patent-free in terms of any influence of the patent system. Various pioneer automakers in Germany, the United States and elsewhere were putting their early models onto the rutted roads of the horse-drawn carriages. Then, all of a sudden, out popped Selden's pioneer automobile patent that had claims to dominate all the automobiles of the day. What genius did Selden have to permit him the foresight sixteen years earlier to file a patent application to dominate all future automotive traffic?

The answer: None.

Rather, Selden filed a patent application with rudimentary drawings of a vehicle bearing essentially no relationship to the later, independently created automobile. Taking advantage of features of the nineteenth century patent law that allowed anyone to defer the start of a seventeen year patent term "forever" — simply by delaying the grant of the patent, and maintaining the application in total secrecy — also expressly permitted under the law, Selden let his patent application essentially "sit" in the bowels of what is now the National Portrait Gallery (in 1836 and for many years thereafter, the largest agency office building, the first home of the Patent Office under its then-new examination system). Shortly before

⁹ For the author's definition of a "submarine patent", see *The Twenty Year Patent Term: Dealing With George Selden Just a Century Too Late* as part of testimony on March 9, 1994 before the United States Senate Judiciary Subcommittee on Patents, Copyrights and Trademarks on the "Patent Term and Publication Reform Act of 1994" (S. 1854), 1994 WL 223401 (F.D.C.H.).

grant, he retooled the claims of his patent application to "fingerprint" the designs of the modern automobile.¹⁰ For eleven years, Selden sought to control the automobile industry by licensing his patent to those he favored; accused infringer Henry Ford fought back, finally winning the battle and slaying the Selden patent only in 1911.¹¹

Ford won the war against Selden, but as an outgrowth of his eleven year education in patent law as a litigation adversary to this Rochester patent attorney

¹⁰ See *Electric Vehicle Co. v. C.A. Duerr & Co.*, 172 F. 923, 934 (C.C.N.Y. 1909), *rev'd sub nom Columbia Motor Car Co. v. C. A. Duerr & Co.*, 184 F. 893 (2nd Cir. 1911) ("Nothing remained in [the Selden patent as granted in] 1895 of the language of [the patent application as filed originally in] 1879 but the description of the vehicle and engine (and not all of that). The claims were reworded and the specification amplified many times * * *. [H]e received in 1895 a patent for an invention of 1879, and in the meantime had never built a motor car, and never succeeded in getting any one sufficiently interested in his theories to experimentally try them out * * *. [W]hile Selden was in very leisurely fashion combating examiners who evidently had small conception of what was meant by light self-propelling vehicles usable on the common roads, Duryea, Olds, Ford, and others in America, and the Panhard and Peugeot Companies (and many others) in France were experimenting with actual cars, and in 1894 a public race meet was held in France, whereat cars now as archaic in appearance as Selden's demonstrated that they actually could propel themselves from Paris to Rouen at about 12 miles an hour. * * * Selden has contributed little to motor car advancement in the United States, and nothing at all abroad. * * * [N]early all the cars made in the United States * * * were modeled on French ideas, and used engines descended from Otto through Daimler, and not from Brayton through Selden or any other American. In short, this American patent represents to me a great idea, conceived in 1879, which lay absolutely fallow until 1895, was until then concealed in a file wrapper, and is now demanding tribute from later independent inventors (for the most part foreign) who more promptly and far more successfully reduced their ideas to practice.").

¹¹ *Columbia Motor Car Co. v. C. A. Duerr & Co.*, 184 F. 893 (2nd Cir. 1911). The patent was never held invalid. Rather, the Second Circuit Court of Appeals judicially narrowed the claim construction of Selden's patent to a scope to cover only what Selden had actually invented and suggested in his original patent application: "[W]e cannot, by placing any forced construction upon the patent or by straining the doctrine of equivalents, make another choice for him at the expense of these defendants who neither legally nor morally owe him anything." *Columbia Motor Car*, 184 F. 893 at 915-16.

The scope of the thus-limited Selden patent was mutually exclusive from what Ford and the other automotive pioneers had independently developed and put on the road.

he saw only evil coming from patents.¹² And, had not that battle been won by Ford in 1911, it is conceivable that Selden could have sought further domination of automobiles through a *second* patent stemming from his original 1879 patent application that would not expire until 1929.¹³

Ford saw only evil in patents as an instrument that could be used to threaten his manufacture of the Model T and other cars. Ford sought patents only as a defensive measure.

By gaining a patent on important technology, the patentee is able to block any third party from gaining a valid patent to dominate the same subject matter, unless that third party is able to establish that he made the invention prior to the invention date of the patentee.¹⁴ Collecting a web of patents to cover an entire

¹²The more famous Rochester patent attorney of the day was counsel to George Eastman, the pioneer who founded Kodak. When Selden learned of his defeat at the Second Circuit, he disappeared for several days. Responding to the anguished pleas for help from his worried wife, the schoolboy son of Eastman's counsel pointed Mrs. Selden in the direction of a local tavern where her husband was drowning his sorrows. (Personal recollection of the late Giles S. Rich at the IPO annual lectures at the Willard Hotel, November 1993.)

¹³ Even though Selden lost in 1911, he pursued a second patent application that extended his patent life until 1929 — fifty years from his first filing date of 1879.

Just prior to the 1895 grant of his original patent that was held non-infringed by the Second Circuit in 1911, Selden filed a divisional application that he then failed to prosecute in a timely manner. The Office holding of abandonment was reversed in 1911 by the appellate court, *In re Selden*, 36 App.D.C. 428 (1911), *overruled*, *In re Carvalho*, 47 App.D.C. 584, 587 (1918). A divisional patent, 561,733, was granted June 4, 1912, extending the term of Selden's patents to expire in June 1929. See *Couzens v. C.I.R.*, 11 B.T.A. 1040, 1113, ¶ 226 (1928).

¹⁴ A defensive patent and a simple publication both, in theory, operate in the same manner to block a third party from gaining a patent to the invention disclosed in the patent or simple publication. "

But, the defensive patent has certain advantages: First, the defensive patent permits maintaining the invention as a trade secret for the period of time until the patent is granted; the

technological area does not ensure that a party will be first to cover *all* patentable advances. But, if, say, Ford has patents on 100 different aspects of an internal combustion engine and General Motors has a like number, it is likely that a handful of the patents of *each* of the players will dominate the other, permitting a cross-licensing situation.

Over the following decades, Ford's successors maintained a defensive posture and proudly never enforced their patents. The relatively large number of patents obtained by Ford was matched by General Motors and other competitors. They all created a defensive patent pool that was used to permit everyone to operate, essentially, free from the patent system.¹⁵

B. The Polaroid Lesson: A Perpetual Exclusive Right

The need to have one's own pool of defensive patents is seen from what happens when one player has a pool and others do not. Everyone can agree that — in its day — the instant film camera of pioneer inventor Land was a remarkable contribution, and that patents played a necessary and key role to permit the

patent is given a retroactive patent-defeating ("prior art") date as of at least its filing date. Second, even if the third party files a patent application and establishes a date of invention before the filing date of the defensive patentee, the defensive patentee can provoke an administrative proceeding, a patent interference, 35 USC § 135, in which the defensive patentee can destroy his opponent's patent right by showing priority of invention.

¹⁵ Arti K. Rai, *Intellectual Property Rights in Biotechnology: Addressing New Technology*, 34 Wake Forest L. Rev. 827, 840 (1999)(footnotes omitted)("[T]he historical record with respect to patent pools is not encouraging. The two most historically prominent and comprehensive patent pools, the pools that arose in the automobile and aircraft industries, emerged only after protracted litigation. Moreover, even when patent pools did emerge, they were sometimes anti-competitive. For example, the Association of Automobile Manufacturers, a patent pool that arose in the early days of the automobile industry, maintained strict restrictions on the group of auto manufacturers to whom the benefits of pool membership would be extended.")

creation of the technology. Yet, Land's monopoly position lasted far beyond the original terms of his first patents, for literally *decades*, thanks to a pool of improvement patents.

Over the years, Land amassed literally hundreds of patents to create a web of protection for incremental changes such that it would be impossible to design around *all* of the patents. As some patents expired, new ones were energetically drafted and prosecuted to take their place. In a normal, competitive situation, every participant in the field would have his own pool of patents and would be able to cross-license in the traditional manner of Henry Ford and his automotive competitors. Yet, with Land's Polaroid being the only player, his pool kept growing and living, virtually, "forever": All that was needed was to take the incremental improvements and file patent applications that would mature and take the place of the expiring patents.

It mattered not whether the patents would pass muster of a critical examination at the PTO because in the end patents would be granted in the *ex parte* system of *in camera* patent examination that was then — and still is today — the norm in the United States. It was inevitable that if anyone tried to challenge the pool of patents that it would be essentially impossible to convince a trial court that 100 % of all the claims of the patent pool that could be asserted against any newcomer were invalid: And, a finding of infringement and invalidity of any one claim would carry the day to block a competitor.

With the absence then — and still today — of trial courts that have the expertise to judge the validity of complex photographic technology, it is not surprising that Polaroid could create an impenetrable patent web to block any comer.

Eventually, Kodak challenged the patent monopoly of Polaroid and launched its own instant film camera line, employing thousands in its factories. Polaroid took dead aim with its patent web: It's "complaint alleged infringement of forty-six claims of eleven patents."¹⁶ Not surprisingly under the era of the Federal Circuit,¹⁷ Kodak won *some* of the claims. On appeal, Chief Judge Markey pointed out that "[i]n reviewing a judgment based on th[e] findings [of the trial court] we do not perform as robed Examiners, nor do we repeat the role of the trial judge in finding our own facts."¹⁸

C. The Lemelson Paradigm: Inventor outside the Industry

The system is far from perfect, and indeed only functions where all parties obtaining patents are in the industry: The Jerome Lemelson model of an inventor who does not need a license — because he is not in the industry — breaks the mold. Thus, where everyone obtaining patents is actually manufacturing or selling products, then if one party has a massive patent portfolio, he should be able to answer any patentee's challenge of patent infringement by answering that if you sue me, I'll sue you: I have a whole lot of patents, and you surely infringe at least one of them.

¹⁶ *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1558 (Fed. Cir. 1986).

¹⁷The lawsuit was, however, brought long before the creation of the Federal Circuit. Looking at matters prospectively at the time that Kodak entered the field, it may have had a reasonable expectation of success in what was then still a very dark period for patent-holders.

¹⁸ *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1559 (Fed. Cir. 1986) (Markey, C.J.) (citation and footnote omitted).

Where a Lemelson pops up — one who is not commercially working in the field — it matters not whether his patented innovations themselves are an infringement of the other party, because it is not an act of infringement to either obtain or own — or license — a patent.

III. THE TEXAS INSTRUMENTS ASSET MANAGEMENT MODEL

As long as patents were purely or at least largely defensive, large numbers of granted patents were not a major concern. Over the past generation, patents in the defensive area have become weapons for extracting capital. The outgoing Chairman of the Federal Trade Commission cataloged the concerns of many in the business community that too many invalid patents are being granted.¹⁹

¹⁹ Robert Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy* PLI's Seventh Annual Institute for Intellectual Property Law 457, 470, n. 9 (2001) ("See, e.g., Robert P. Merges, 'As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform,' 14 Berkeley Tech. L.J. 577 (1999) (arguing that the growing volume of patents and the emergence of new types of patents such as business method patents reinforce a general need for new procedures, such as a European-style patent opposition system, and a reform of patent examiners' training and incentives, to minimize the granting of invalid patents); Lawrence Lessig, 'The Problem with Patents' (April 23, 1999) (<http://www.thestandard.com/article/display/0,1151,4296,00.html>) (attributing the growing problem of 'bad patents,' especially bad business method patents, as 'the space debris of cyberspace, to workloads and incentives for PTO Examiners that limit scrutiny, and to the high cost of litigating against invalid patents); Mark A. Lemley, 'Rational Ignorance at the Patent Office' (working paper) (http://www.law.berkeley.edu/institutes/law_econ/workingpapers/PDFpapers/olinwp2000-16.pdf) (arguing that reforms should focus on litigation rather than the PTO, including an abolition of the presumption of validity in patent litigation); Mark A. Lemley et al., *Software and Internet Law* 333-34 (2000) (discussing specific weaknesses in the PTO's scrutiny of software patents in the 1990s); Jeff Bezos, 'An Open Letter on the Subject of Patents' (<http://www.amazon.com/exec/obidos/subst/misc/patents.html/105-1090555-5463134>) (arguing that business method and software patents should be limited to three to five years duration and subjected to public comment before issuance). See also National Research Council, Computer Science and Telecommunications Board, *The Digital Dilemma: Intellectual Property in the Information Age* 228 (2000) ("The past decade has seen a substantial de facto broadening of items for which patents can be obtained, including information inventions such as computer programming, information design, and business methods. The long-term effects of this trend are as yet unclear, although the near-term consequences are worrisome.").

A. From Defensive Model to a Revenue Stream

In the wake of the transistor and the growth of the modern electronics industry, the pattern of the Ford defensive model created a patent monster in the electronics industry. In the beginning, companies satisfied themselves with obtaining several hundreds of domestic patents per year.²⁰ The entire purpose was initially defensive in nature. A company merely wanted to create patent bargaining chips along the same lines as the mid-twentieth century Ford model:

No single patent was strong enough to enforce,²¹ and the developer of, say, a better video machine established his market position by the net product of thousands of engineers' collective work product.

In several industries, the pattern repeated itself: We've got literally thousands of patents — several hundred each year — that guarantee that at least one or some will block *your* technological development: You leave me alone and don't sue me on my inadvertent use of one (or some) of your patents, and I'll leave you alone, too. Cross-licensing packages of numerous patents were created.²²

By the mid-1980's, the leading companies in the electronics field had each amassed portfolios of literally thousands of patent. Up until that point, the game was virtually entirely defensive in nature. What happened next was the genius of

²⁰In Japan, by the mid-1980's, the model was completely out of control. Several of the major Japanese electronics manufacturers filed literally thousands of applications per year. Mitsubishi Denki surpassed 20,000 applications in one year alone.

²¹ Even if valid, a single patent on one particular improvement could readily be circumvented by designing around the claims of the patent.

²² In a cross-license, each party reciprocally grants the other the right to use their respective patents. This may be done without transfer of further consideration (royalty free cross license) or there may be a consideration attached where one side holds a stronger patent hand.

Richard Donaldson who understood that his company's patent portfolio surely included a variety of patents that would dominate *everyone* who entered the field.²³ Many companies lacked their own portfolio to reciprocally dominate Texas Instruments. What in hindsight is perfectly obvious — but which nobody else took a leadership role in doing — was for Texas Instruments to *nonexclusively* license its entire portfolio in fields where it had a leadership position. The licensee got nothing but a freedom from a lawsuit by Texas Instruments. Because everyone was able to gain a relatively inexpensive, nonexclusive license on the same patents from Texas Instruments, there was no competitive edge in being a licensee.²⁴

B. Aggressive Enforcement of a Focused Portfolio

Some might call the Texas Instruments intellectual property a patent thicket. But, a patent thicket implies that entry into an area is proscribed by a network of overlapping patents that blocks entry into an area of technology akin to a wild brush thicket that blocks an animal from entering a field.²⁵ Professor Merges cites

²³ Mr. Donaldson — himself a Vice-President of the company — is far more modest. He does not take credit for this strategy except to implement a directive from still higher level management. He has said that he received pressure to gain a revenue stream from the numerous patents that his company had developed. Mr. Donaldson remained at Texas Instruments through 2000; he retired from corporate practice and now is a Dallas-based consultant.

²⁴ To the contrary, there was a competitive disadvantage in doing so. By taking a license, a party had to tack on the cost of the license to the product to make ends meet.

²⁵ See *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982). The *SCM* theory — unsuccessful in that case — is explained by Gerald Sobel, *The Antitrust Interface with Patents and Innovation: Acquisition of Patents, Improvement Patents and Grant-Backs, Non-Use, Fraud on The Patent Office, Development of New Products and Joint Research*, 53 *Antitrust L.J.* 681, 685 (1984) (Xerox' mass patenting of photocopier technology "gave rise to an antitrust claim by SCM * * * by reason of SCM's alleged exclusion from the plain paper copying business. SCM claimed that Xerox had wrongfully monopolized the copier market, primarily by acquiring patents on its own inventions and from others. SCM contended that it had wanted to enter the plain paper copier business, but that Xerox had refused to license SCM under its patents. SCM asserted that Xerox obtained its patents, not with the

the "thicket of rights" and notes that one approach to deal with this suggested by business persons and scholars is compulsory licensing.²⁶ Here, Texas Instruments did indeed have a *relatively* large number of patents that covered an area of technology, but its aim was not to block competition, but rather to have an open door to *nonexclusively* license the entire industry. The strategy also involved a significant effort to patent important technology that should be supported by a relatively modest number of patents.²⁷

Soon, the Donaldson strategy was netting Texas Instruments more than one billion dollars per year in revenue²⁸. Unlike a billion dollars worth of *sales* of a product which may produce only a slim profit because of the cost of making, marketing and servicing a product — in the case of the nonexclusive royalty income, this was pure profit: Apart from the overhead of creating a license and

intention of protecting improved Xerox products and processes but, rather, to fence out competitors and block others from making plain paper copiers, and that Xerox' failure to use many of its patents reflected this intent. SCM further complained that Xerox' patents were so numerous and complex, that they created a 'thicket' that prevented designing around the patents.").

²⁶ Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 Calif. L. Rev. 1293, 1293 (1996) ("[B]usinesspeople and scholars alike have complained of the increasing burden of obtaining intellectual property licenses and, failing this, litigating intellectual property disputes. Intellectual property experts, especially scholars, have responded to this burgeoning thicket of rights with a series of initiatives to expedite deal making by means of statutory compulsory licensing.").

²⁷In contrast to IBM – which obtained 570 patents in 1985, Texas Instruments had less than 200 (197). The more selective filing strategy of Texas Instruments has continued today with the two most recent years having totals of 753 (2000) and 840 (2001), far less than IBM which in the same period had 2886 and 3411, respectively.

²⁸ Wineburg & Mantell, *Managing Intellectual Property — An International Capital Asset*, 99 Com. L.J. 366, 383, n. 2 (1994) ("Texas Instruments' patent portfolio has become an independent profit center, contributing approximately one billion dollars annually.").

occasionally bringing suit to keep the industry in line, the patent tax of the nonexclusive license was pure gravy for Texas Instruments.

C. The Indiscriminate Patent Tax Model (IBM)

IBM followed suit but in a way that de-emphasized individual worth of patents and their quality and instead provided a flood of patents create a base for a patent tax. IBM has now amassed a patent portfolio measured in tens of thousands with a grant rate at a clip of over 3000 per year.²⁹

²⁹Using statistics from 2000, it will be seen that IBM and others with a largely defensive posture simply dominated the statistics of granted patents. According to figures published by the Intellectual Property Owners, Inc., the top twenty-five patent holders for the year 2000 cumulatively gained 25,112 patents; they included *no* pharmaceutical company nor other typically offensive filers. Indeed, the only chemical company on the list was no. 17 Eastman Kodak which had 875 patents.

The top twenty had patents ranging from 2886 for the leader — IBM — to 693 for no. 20 U.S. Philips.

The top 20: IBM; NEC Corp.; Canon K.K.; Samsung Electronics Co., Ltd.; Lucent Technologies Inc.; Sony Corp.; Micron Technology, Inc.; Toshiba Corp.; Motorola, Inc.; Fujitsu Ltd.; Matsushita Electric Industrial Co., Ltd.; Advanced Micro Devices, Inc.; Hitachi, Ltd.; Mitsubishi Denki K.K.; Siemens A.G.; Hewlett-Packard Co.; Eastman Kodak Co.; Intel Corp.; General Electric Co.; U.S. Philips Corp.

The largest chemical company, BASF, ranked no. 22 with 589 patents.

Pharmaceutical companies do not even make the list of top filers until one gets to no. 85 Merck & Co. The top five pharmaceutical companies collectively gained 783 patents (with overall numerical ranking in parenthesis):

1. Merck & Co. (85)	182
2. Eli Lilly (91)	161
3. Pfizer (98)	153
4. Incyte Pharmaceuticals (103)	147
5. Novo Nordisk A/S (110)	140

For the 1990's and continuing through today, IBM now has the largest number of domestic patents of any company and also reaps a billion dollar plus profit from its assessment of patent taxes against the industry. But, if anything, IBM has taken a strategy of gaining as many patents of a relatively narrow scope and at the lowest possible cost per patent, where a broad scope for a particular patent is generally out of the question. With very narrow patents, there may well be ways to navigate even between the literally thousands of IBM patents in its portfolios. But, rather, with so many thousands of patents, they operate more like land mines in a vast field: One can avoid each of them without an "explosion", but it is more efficient simply to pay a land mine patent tax to IBM to have a free pass through the mine field.

At least some of the IBM patent portfolio have claims that border on the ridiculous to even the layman and clearly could never be enforced. Professor Thomas has criticized IBM's mass filing of patent applications, pointing specifically to the IBM toilet reservation "business method" patent.³⁰ As a result of this patent, *if valid*, each time Little Sally asks Mommy for permission to go to the bathroom, whenever Mommy says, "now" – “notifying [Little Sally] when the restroom is available for her use”, she's guilty of an act of patent infringement.³¹

³⁰John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administrative Reform*, Tenth Annual Conference on International Intellectual Property Law & Policy, April 4-5, 2002, Fordham University School of Law, reproducing Boles et al., U.S. Patent 6,239,919 (2001). Claim 1 is to "[a] method of providing reservations for restroom use[] comprising[] receiving a reservation request from a user; and notifying the user when the restroom is available for his or her use."

³¹It should have taken no more than a second for an Examiner to have recognized that there have been Mommies and Sallies performing the bathroom routine for ages: No prior art search was necessary to deny this claim under 35 USC § 102(b).

The land mine strategy is seen from the fact that IBM essentially never considers the possibility of tailoring its protection after a first filing. This is manifested by one of the lowest rates of provisional filings of any domestic organization in the country — and *the* lowest for any company with a volume of granted patents even closely approaching the sheer numbers obtained by IBM. Thus, one of the indicia of a domestic company's foresight in seeking broad protection is the fair use of provisional applications: If one files a provisional application, this necessarily means that the application will be later replaced by a regular application, thereby giving the applicant the opportunity to better fine-tune his patent application at the first anniversary of the filing of the provisional³². While General Electric obtained a large number of patents, it had a significant minority of its patents granted based on a provisional application — 13 % — which is some indication of an intention when filing to provide a basis for keeping the door open to later crafting the optimum specification. While General Electric had this relatively high percentage of provisional-based patents with its impressive portfolio of nearly 1000 patents per year, IBM, to the contrary, obtained the largest number of patents of any company — at a rate of well over 3000 per year — but its provisional base in only 2 % of its patents. In some areas, of course, patents are needed much later but not at all in the early stages of evolution of an invention: This is manifested by the pharmaceutical area where well over half the domestic origin patents are based upon at least one provisional application with Pfizer, Eli

³² A provisional application is able to support a regular patent application as a priority document for only one year. A filing made thereafter cannot tie a priority right to the provisional application. When the regular application is filed, omissions or other imperfections that can now be better seen in hindsight can often be fixed by replacing the provisional with a continuation-in-part application.

Lilly & Merck each having from 59 to 84 % of all patents based upon provisionals.³³

Even in its own area of technology, IBM in terms of technical innovations may have been eclipsed in innovations by others,³⁴ yet it has been able to generate a \$ 1.7 billion patent tax on the industry in 2001.³⁵ Its research expenditures are 20 %

³³ A recent six month period showed the number of patents granted where priority is claimed to a provisional (first column) and the total number of patents granted in that period (second column) to yield the percentage of patents that is based upon at least one provisional application:

General Electric	61	468	13 %
Motorola	13	316	4 %
Kodak	13	307	4 %
IBM	40	1664	2 %
Micron Tech.	22	818	3 %
Ford Motor	6	0	0 % [<i>note a</i>]
Pfizer	49	83	59 %
Eli Lilly	35	48	73 %
Merck	64	76	84 %

To the extent that any applications are based upon foreign-made inventions, they were not noted in this study, and skew the results: This study does not take into account any patents based upon foreign priority applications. Patents were studied for the six month period August 7, 2001 — February 5, 2002 (the latest period for which data was available when the search was conducted).

Note a: The Ford Motor statistics seemed, at first, not representative as based upon too short a period of time. Therefore, an 18 month period was selected, starting with August 1, 2000, which did show a total of 81 patents granted, but *none* was a provisional.

³⁴ David Kirkpatrick, *The Future Of IBM ; Lou Gerstner seems to have pulled off a miracle. SamPalmisano will have to be at least as good*, Fortune (February 18, 2002) ("IBM's vaunted R&D program * * * for decades has failed to translate breakthroughs into products. * * * Throughout the Gerstner years IBM has been the world leader in new patents; it earns well over \$1 billion a year licensing those patents. Yet all that seems less impressive when you consider that in storage, networking, databases, and Unix servers, IBM has been eclipsed--during Gerstner's tenure — by EMC, Cisco, Oracle, and Sun.")

³⁵ Sara Sowah, *Patents*, Electronic Times, p. 16 (January 21, 2002)(2002 WL 12844078) ("IBM has been awarded more US patents than any other company. The company, which spends

of the \$ 30 billion spent each year by the pharmaceutical industry³⁶; but, it has obtained more than 50 % the total number of patents granted to the entire pharmaceutical industry.³⁷

D. Industry by Industry Changes and Numbers

If one had viewed the patent landscape thirty years ago, one would have had a clearer division of offensive areas — most notably the pharmaceuticals — and a large bulk of all patents granted to defensive areas, which would have included the Texas Instruments, IBM and other companies that are today's large patent filers. But, even though a collective income in the low billions is quite impressive for the Texas Instruments, IBM's and others, the heart and soul of the patent system in sheer revenue goes not to those with numbers of patents but those with quality offensive patents. Whereas IBM generates more than 3000 patents, the huge revenues of a Merck, Eli Lilly and Pfizer that are based strictly on patents are collectively at least an order of magnitude greater than the patent income of an IBM. But, the rate of patent grants to Merck, Eli Lilly and Pfizer averages only about 140 per year.

more than \$5bn on R&D every year, was awarded 3411 patents [in 2001]. * * * An IBM spokesman said: "In addition to our \$ 5[100,000,000] annual R&D budget, patents are also an important source of intellectual property, which contributes strongly to the royalties that IBM earns from its technologies. In 2000, IBM earned \$ [1,700,000,000] licensing its technologies.").

³⁶ Statement of Gerald H. Mossinghoff, testimony before the Federal Trade Commission, February 6, 2002, pp. 11-12,
<http://www.ftc.gov/os/comments/intelpropertycomments/mossinghoffgeraldj.pdf>.

³⁷ Id (estimating that there are 6,751 patents granted each year to the entire pharmaceutical industry). IBM obtained 3411 patents for 2001.

Additionally, the automotive industry is out in the cold insofar as patents are concerned.³⁸

IV. PLUGGING THE LOOPHOLES IN THE SYSTEM

Surely, if there are trivial patents that can be designed around, why does industry pay tribute through payment of a patent tax. The answer is complex. First, there are far too many patents to simply design around all of them. Many of them may well be invalid or, if properly contested, have a narrow scope that could be designed around. Yet, the system, too, has shortcomings that are particularly unique to the United States.

It should also be acknowledged that there is not yet a unanimous view that the the IBM and other "hold up" patent strategies are at all a problem for the system. Indeed, no less an authority than Professor Lemley sees the dollar value of such patents at a much lower rate; while he acknowledges the "holdup" aspect of weak patents that are difficult to challenge in the American system,³⁹ he sees this as a "sort of 'nuisance value' claim[.]"⁴⁰ He calculates that the entire cost for *all* "holdup licenses" throughout the patent system as \$ 443 million annually.⁴¹

³⁸The two surveys, *supra*, show a disproportionately low number of patents granted to Ford Motor over the recent period of time.

³⁹ Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495, 1518 (2001) ("Holdup Licensing. — Patent owners might try to game the system by seeking to license even clearly bad patents for royalty payments small enough that licensees decide it is not worth going to court.").

⁴⁰ *Id.*

⁴¹ *Id.*, at 1517-19 (footnotes omitted) ("It is hard to know how much money is transferred from licensees to patentees through such holdup claims, and (more important for my purposes) how much less money would be transferred under a more robust examination system. But with some plausible assumptions, we can generate some ballpark figures. To calculate an upper bound

Several solutions are indicated:

A. An Opposition System to Filter Out Clearly Invalid Patents

It is easy to see that there is a problem with the patent examination system. Professor Lemley has his finger on the public pulse when he notes that "[t]he PTO has come under attack of late for failing to do a serious job of examining patents, thus allowing bad patents to slip through the system. The criticism is particularly strong in specific industries, notably software and Internet "business method" patents, in which the PTO has arguably failed to respond quickly enough to

on the avoidable social costs from holdup licensing, I begin by recognizing that the possible number of holdup situations is limited by the total number of patents licensed for revenue or litigated but settled. There are 6,750 such patents per year--5,250 licensed without litigation, and 1,500 litigated but not tried. Next, the avoidable holdup situations are a function of how many of those patents will be weeded out through eighteen hours additional examination. I earlier determined a high estimate for that number to be around ten percent of total patents. This means that, at most, 675 new patents per year are involved in avoidable holdups. This number is no doubt an exaggeration because it assumes that every instance of licensing without litigation is in fact a holdup attributable to a bad patent and not to a legitimate business deal. A more plausible (but still extremely high) number would be that half of those deals are legitimate, and the other half are holdups. If so, we are talking about 338 patents involved in holdups. Those patents may be asserted against multiple parties.

What is the cost to industry of such holdups? Presumably each licensee being held up would not be willing to pay more than the cost of litigating the patent. If the patentee demands more, the licensee ought to be willing to go to trial instead. The weighted cost of litigation is \$ 656,000. The total cost depends on how many defendants will be held up in this way. Earlier, we assumed that the average number was two per patent, a blended estimate reflecting the number of potential licensees actually approached, potential cost savings if defendants pool their resources, and the increased likelihood that at least one case will result in litigation as the number of potential licensees increases. Thus, even under the assumptions made here the maximum likely social cost of licensing holdups is 338 patents times two licensees each times \$656,000, or \$443 million.").

changing legal circumstances. * * * [T]he common thread among them seems intuitively obvious: the PTO should do a more careful job of reviewing patent applications and should weed out more 'bad' patents."⁴²

But, the answer is not to sink more resources into patent examination: This has been the failed experiment of the past generation as the PTO has ballooned into a massive sinkhole of literally thousands of patent professionals: Bigger is not better.

A fundamental principle of the opposition system is that instead of spending some examiner time in an ex parte examination on *every* case, ensuring that a mediocrity is achieved across the board, with an opposition system, precious government resources are highly pinpointed onto only those very small percentage of cases that the public itself identifies as being of critical importance by virtue of the filing of an inter partes opposition: Indeed, less than ten percent of all patents

⁴² Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495, 1495-96 (2001); in accompanying footnotes he cites Professor Julie E. Cohen, *Reverse Engineering and the Rise of Electronic Vigilantism: Intellectual Property Implications of "Lock-Out" Programs*, 68 S. Cal. L. Rev. 1091, 1177-80 (1995); Andy Johnson-Laird, *Looking Forward, Legislating Backward?*, 4 J. Small & Emerging Bus. L. 95, 120-24 (2000); Jay P. Kesan & Marc Banik, *Patents as Incomplete Contracts: Aligning Incentives for R&D Investment with Incentives to Disclose Prior Art*, 2 Wash. U. J.L. & Pol'y 23 (2000); Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 Berkeley Tech. L.J. 577 (1999); John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties* 2001 U. Ill. L. Rev. 305, 316-22; Simson Garfinkel, *Patently Absurd*, *Wired*, July 1994, at 104; James Gleick, *Patently Absurd*, *N.Y. Times Magazine*, Mar. 12, 2000, at 44; Lawrence Lessig, *The Problem with Patents*, *Standard*, Apr. 23, 1999, available at <http://www.thestandard.com/article/display/0,1151,4296,00.html>; Greg Aharonian, *Patenting the Internet*, *Electronic Commerce, Bioinformatics*, at <http://www.bustpatents.com/index.html>; Jeff Bezos, *An Open Letter on the Subject of Patents*, at <http://www.amazon.com/exec.obidos/subst/misc/patents.html>; Mark A. Lemley et al., *Software and Internet Law* 333-34 (2000); Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 Cal. L. Rev. 1, 42-45 (2001).

would be opposed in a typical system.⁴³ Academics are now giving favorable consideration to the opposition system as one way of improving the American patent system.⁴⁴

Unlike the opposition systems in Japan, Germany and the European Patent Convention, industry itself polices recently granted patents. Under a model opposition system, a quick and inexpensive third party attack should be possible that would serve three major objectives.

First, the obviously invalid patent would be screened out by such a proceeding.

Second, even where there is inventive merit somewhere within a patent, often the claims as granted are far too broad — reading on obvious modifications

⁴³ The author's own studies from the mid-1990's showed an overall rate of oppositions from the commencement of the European patent system in 1978 at a rate of eight percent. For recent years, apparently even this figure is too high. See Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495, 1525 (2001) ("[Professor] Merges reports that in Europe between 1994 and 1997, only about 6.5% of issued patents were opposed.") (citing Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 Berkeley Tech. L.J. 577, 613, table 2 (1999)).

⁴⁴ Testimony of Richard C. Levin, President, Yale University, **FTC/DOJ Joint Hearings on Competition and Intellectual Property Law, Washington, D.C.**, February 6, 2002, <http://www.ftc.gov/os/comments/intelpropertycomments/levinrichardc.htm> ("An[] idea worthy of consideration would be to institute a system of post-grant review under which third parties could challenge the validity of a patent on grounds other than the narrow ones now permitted under the current re-examination procedures. A low-cost administrative review procedure might reduce the need for costly infringement litigation, and wasteful investments by those later judged to have infringed a valid patent might be avoided. A speedy procedure might also produce great social benefit by clarifying at an early stage the appropriate standard of nonobviousness and the scope of permissible claims in emerging areas of technology.")

of the prior art. Here, the patent would be cut back to an appropriate scope, providing blaze marks for third parties to design around such patents.

Third, in the majority of cases, even where the patentee ends up with some or all of his claims at the end of the proceedings, he will be forced through tough inter partes proceedings to defend his grant with arguments that will help to shape the scope of prosecution: Many patents today are allowed with a weak challenge in ex parte proceedings with the result that a wide penumbra of possible protection under the doctrine of equivalents remains⁴⁵ The prosecution history estoppel that inevitably follows in a tough inter partes proceeding will provide legal limits to the scope of protection, unfettered by the doctrine of equivalents.⁴⁶

⁴⁵ Even if the scope should be limited, if a trial judge does not grant summary judgment of noninfringement to take the case away from a jury — or to enter JMOL after a jury verdict — there is small solace that the Federal Circuit may reverse on appeal: In the meantime, the accused infringer's factory has been shut down through the norm of injunctive relief for the months (or longer) until a final reversal is obtained from the Federal Circuit. While the Federal Circuit issues prompt decisions on appeal, this, too, is somewhat panel-dependent; in some cases, a decision is not given for many months. In one case, albeit atypical, the decision was rendered more than three years after oral hearing.

The classic example of how injunctive relief at the end of trial literally shuts down an entire business is seen from the entire elimination of the Kodak instant film business based upon a trial court's injunction. With literally thousands of workers to be thrown out of employment because of the injunction and with the business to be shut down, the appellate court refused to stay the injunction pending the outcome of the appeal. *Polaroid Corp. v. Eastman Kodak Co.*, 833 F.2d 930 (Fed. Cir. 1986) (denying stay of injunction pending appeal).

While the odds are that a decision will be rendered rather promptly by the average panel, the insecurity of injunctive relief for any amount of time is hardly comforting to the real world of business decisions that must ensure that a factory stays open and in production.

⁴⁶ The patentee simply will have to make estoppel-generating arguments where his primary goal is to maintain the validity of the patent: To refrain from a strong defense of the validity of a weak patent is to possibly concede losing everything,

Fourth, the patent gamesmanship involved with filing hundreds of patents on marginal improvements will be sharply curtailed if there is an opposition system. No corporate entity can afford to file in the thousands of applications each year when they recognize that a great many will be knocked out through an opposition, whilst the cost of maintaining the rest of the patents that are borderline patentable will become excessive. At least, the great numbers of cases will be greatly reduced.

Fifth, the leverage of the patentee to compel settlements will be greatly mitigated with more of a balance to equal the playing field for industry. As matters stand today, a large corporate organization is able to present a large patent portfolio as a *fait accompli* to industry: Next comes a friendly visit or a warning letter. Without an opposition system, a third party will more than likely come to terms with a "reasonable" royalty proposal. But, if there is an opposition system, industry instead will be able to take the initiative and shoot at the reckless patentee who can no longer present a *fait accompli* package of patents.

B. Trial Courts with Patent Expertise

Unpredictability of outcome of a patent litigation necessarily skews the equation toward acceptance of the patent tax in lieu of litigation, what Professor Moore calls "over-compliance" by competitors.⁴⁷

⁴⁷ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 83 J. Pat. & Trademark Off. Soc'y 558, 602 (2001) ("Unpredictability in the system, which causes systematic over-compliance by competitors, is inefficient and robs the public of competing products.").

Even a patent which *to the objective patent expert* would appear to be invalid based upon objective criteria of patentability, it nevertheless is a powerful in terrorem weapon against the industry that can ill afford to defend itself in a court where a judge is unlikely to grant summary judgment of invalidity — leaving the fate on validity to the hands of a jury.⁴⁸ Great disparity exists on validity determinations simply based upon forum shopping. Professor Moore explains that a patentee wins 68 % of all cases in the Northern District of California but only at a 30 % rate in Massachusetts.⁴⁹

Too often, the picture is painted of the U.S. patent enforcement system as being represented by what happens in the Alexandria division of the Eastern District of Virginia, Wilmington or certain California courts. What these courts have in common is a relatively heavy diet of patent cases. Only a small minority of the ninety-four federal courts receive the bulk of all patent filings.⁵⁰ Precisely

⁴⁸ To be sure, there is always the right of an appeal to the Federal Circuit if the trial judge refuses to intervene where a jury hands down a ruling in favor of the patentee that is clearly unsupported. But, this is small solace to the accused infringer who generally will be faced with an injunction shutting down his commercial operations during the pendency of the appeal: It is hardly a satisfactory business strategy to refuse to pay a relatively small running royalty as a patent tax as opposed to running the risk of having a business line shut down at the end of a trial — whether or not there ultimately is a reversal by the Federal Circuit months (or in rare cases years) later.

⁴⁹ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 83 J. Pat. & Trademark Off. Soc'y 558, 583, Table 8 (2001).

⁵⁰ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 83 J. Pat. & Trademark Off. Soc'y 558, 571-72 (2001) ("[M]ost patent cases are brought in only a handful of jurisdictions. * * * The top five district courts have 29% of all patent cases terminated in the ninety-four district courts during this five-year period, but only 15% of all civil case terminations during the same period. The top ten jurisdictions combined have 44% of all patent cases terminated, but only 23.5% of all civil cases terminated. * * * [J]urisdictions like Delaware, Massachusetts, the Northern and Central Districts of California, the Eastern District of Virginia, the Northern District of Illinois, and Minnesota, where there are

because of the great number of patent cases filed in these several courts, a sufficient expertise and reputation has been generated such that there is a critical mass of patent cases to permit an expert level of handling of patent infringement and validity matters.

It is not necessary, therefore, to have a specialized court to deal with patents, but, rather, the system works well when a critical mass of patent cases resides within any particular court.

Where the United States falls down in this regard is that the names Alexandria and Wilmington stand out as exceptional patent venues: The great bulk of all patent cases is heard before courts where it is more likely that a particular patent case is the very first one before the judge — or his first patent case in a considerable period of time. On what basis is a judge standing in such a position to exercise tight control over discovery and march a case to a speedy trial?: On what knowledge base — patent law or technology — is the trial judge going to be able to devote sufficient time to master the intricacies of a particular law and technology to grant summary judgment where it is warranted, vis a vis letting a doctrine of equivalents matter go to a jury?

The model that the United States should follow is a modification of the German model; this would provide the least disruption of the current system and retain patent cases in courts of general civil and criminal jurisdiction. We would,

sizeable differences between civil case terminations and patent case terminations, raise questions. Each of these jurisdictions handles a much higher percentage of the nationwide patent caseload than they do of all civil cases.")

in other words, keep them where they are, in the Federal District Courts. The critical integer of the German system that is lacking in the United States is that whereas each and every federal court in America has jurisdiction to hear patent cases — thereby encouraging forum shopping for the party with an objectively weak position to find a court that will not curtail discovery, perhaps not give full consideration to summary judgment motions and otherwise let a case slide — the German system expressly limits the patent jurisdiction to only a minority of its *Landgerichte* — its several trial courts spread throughout Germany. As a result, the Düsseldorf *Landgericht* is justifiably considered one of the very best patent courts in the world.⁵¹

⁵¹ See Wegner, *Improved U.S. Patent Enforcement Procedures: Modifying Section 337*, 4 WORLD INTELLECTUAL PROPERTY REPORT (BNA) No. 4, p. 83 (April 1990).

To be sure, it is not simply the high concentration of patent cases in this particular trial court that provides this edge. With the large number of patent cases in this court, a specialized chamber is provided that exclusively hears patent cases. At the appellate level at the equivalent to a Circuit Court, the Düsseldorf *Oberlandesgerichtshof*, too, has a specialized chamber for intellectual property causes. This degree of specialization even goes to the Supreme Court, the *Bundesgerichtshof*.

Responsive to a Notice by the Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, the Hon. Harry F. Manbeck, Jr., May 8, 1991, 56 *Fed. Reg.* 22702-02 (May 16, 1991), the author presented a paper, *Intellectual Property Reform for the 1990's*, further elaborating on this proposal. In the resultant report of the Advisory Commission on Patent Law Reform [1992], recommendation (a) on patent litigation, *Restriction of Patent Jurisdiction to a Single District Court Per Circuit*, explained that “[t]his proposal seeks to build expertise of one court per district in the conduct of patent litigation. With this increased expertise, courts would be able to more effectively control litigation proceedings, and ensure consistency in the application of substantive patent law. A single court could also draft local rules and employ court personnel to address unique aspects of patent litigation. Furthermore, the designated court could be selected on the basis of a relatively low volume of criminal cases, thus avoiding the problems in scheduling and interruptions facing many district courts in high-crime regions. Implementation of this restricted jurisdictional scheme would require only a modest change to the Federal Rules of Civil Procedure.”

The Commission further noted that “[o]f course, the restricted jurisdictional provision would reduce the flexibility currently available to parties to file action pursuant to the general jurisdictional authority. Yet, patent practice is an essentially national practice in the United

The United States could, overnight, implement a system to concentrate the patent cases in one or several district courts throughout the United States simply by enacting a statute to do so.⁵² Professor Moore's study strongly supports the result,⁵³ but favors the creation of a specialized patent tribunal.⁵⁴

C. Administrative Revocation of Patents

The current system of patent reexamination is a failed experiment that should be abolished.⁵⁵ In many ways, a greater nightmare would be created if the

States. The costs in terms of lost flexibility associated with this change would appear to be relatively minor in comparison to the prospective benefits in uniformity of practice.”

⁵² Perhaps the most flexible way of implementing this system that would permit judicial determination of the most appropriate courts to handle patent cases from a standpoint of workload and other factors would be to empower each regional circuit with the authority to nominate one or more — or all — of its trial courts as having the exclusive or shared trial jurisdiction for patent cases. This could be modified from time to time as seen practical by the Regional Circuit. (While patent jurisprudence is within the exclusive jurisdiction of the Federal Circuit, the determination of manpower and other local factors necessary to best determine which courts within a region should handle patent cases is better left to the local courts.)

⁵³ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 83 J. Pat. & Trademark Off. Soc'y 558, 589-90 (2001) ("If most patent cases were brought in a few choice jurisdictions (creating a group of patent courts), the judges in those jurisdictions would develop expertise with patent case management and patent law. These judges would be more efficient at resolving patent cases; even though the technology changes from case to case, exposure to the substantive law and its application would increase judicial efficiency. Over time, these judges would establish track records, increasing outcome predictability and decreasing litigation. Hence the status quo, where plaintiffs have limitless venue options, has resulted in the consolidation of patent cases among a few select jurisdictions. In this way, patent holders have effectively created their own specialized courts, which may be a more efficient system of adjudication than an equal division of cases among the ninety-four judicial districts. Maximum efficiency in this respect would be achieved by a single, specialized trial court for patent dispute resolution.")

⁵⁴ *Id.* at 596-97.

⁵⁵ But, it is then all the more critical that the United States introduce an opposition system to permit challenging any patent shortly after grant.

current system were fixed to permit third parties full access to challenge patents. Imagine if a patentee at *any* time during the life of the patent could have his rights challenged by a cheap and effective administrative revocation system?⁵⁶ There would be no incentive for a third party to immediately file a reexamination where he knows that a patent is invalid. Rather, the third party, armed with a strong basis for invalidity, would have every incentive to maintain his silence and reap the benefits of holding off with an attack.⁵⁷ The lack of quiet patent title that would be generated by an open-ended, strong reexamination system would have a chilling effect on creating a financial backing for patent-based new technologies: Once Wall Street would learn of the instability of the patent right due to an open-ended, strong reexamination system, this would greatly diminish an investor's certainty and provide a significant disincentive to develop patent-based technologies.

D. Japan-U.S. "Patent Worksharing"

"Patent worksharing" has been discussed for several years.⁵⁸ In brief, the system may be described in the following manner:

⁵⁶ Under 35 USC § 302, it is expressly provided that reexamination may be commenced at any time, as opposed to the six month period for an opposition in Japan or the nine month period for a parallel proceeding in the European Patent Office.

⁵⁷ The industry — beyond the patentee and the particular third party armed with the prior art — is presumably not aware of the weakness of the patent and may avoid entering the field. (Obviously, there would be patent misuse implications, if not an outright antitrust violation, for the third party to collusively maintain the validity of the patent.)

⁵⁸ For an outline for a "patent worksharing" system, see Wegner, PATENT HARMONIZATION (1993). The original proposal for a patent harmonization model law is found in Wegner, *Patent Law Simplification and the Geneva Patent Convention*, 14 AM. INTELL. PROP. L. ASS'N Q. J. 154 (1986), parts of which were embodied in patent reform legislation introduced in 1992. See Wegner, Testimony before Joint Hearings on S. 2605 and H.R. 4978 Before the Senate Subcommittee on Patents, Copyrights and Trademarks and the

"Patent worksharing" is gradually being introduced around the world: Instead of having several patent offices conduct independent examinations of parallel patent applications to the same invention, with patent worksharing, the work of the first examining office is "piggybacked" by other offices: Instead of making a fresh, complete examination in second and subsequent countries, the benefits of the first examination results are used in the other countries. The patent applicant who has received a thorough examination in one country will then tailor his claims in the other offices, generally citing the examination results (including prior art) to the other offices. This makes it far, far easier for the examiners in the second and subsequent countries to do their tasks.

As Americans seek patent protection in China, Brazil and other developing countries under the current World Trade Organization (WTO) regime, they are trying to spread the benefits of their inventions on a broader territorial base, while reaping the rewards of increased sales and profits for

House Subcommittee on Intellectual Property and Judicial Administration of the House and Senate Committees on the Judiciary, 102d Cong., 2d Sess. (April 30, 1992). See also John R. Emshwiller, *Patent-Law Proposals Irk Small Inventors*, THE WALL STREET JOURNAL, p. B1, April 30, 1992; *id.*, *U.S. Inventors Say Change In Patent Law Is Bad Idea*, ASIAN WALL STREET JOURNAL (May 1, 1992); hearings reported, BNA'S PATENT TRADEMARK AND COPYRIGHT JOURNAL, May 14, 1992, and *Legislation: Patent System Harmonization Legislation is Debated in Joint Senate-House Hearing*, 44 BNA'S PATENT, TRADEMARK & COPYRIGHT JOURNAL 3 (1992); Keith M. Kupferschmid, *Prior User Rights: The Inventor's Lottery Ticket*, 21 AM. INTELL. PROP. Q. J. 213-254, 226, n. 48 (1993); Paul A. Ragusa, *Eighteen Months to Publication: Should the United States Join Europe and Japan by Promptly Publishing Patent Applications?*, 26 GEO. WASH. J. INT'L L. & ECON. 143, 158 (1992); R. Carl Moy, *The History of the Patent Harmonization Treaty: Economic Self-Interest as an Influence*, 26 J. MARSHALL L. REV. 457, n. 30 (1993); see also Charles Gholz, in *Franklin Pierce Law Center's Fifth Biennial Patent System Major Problems Conference*, 36 IDEA: J.L. & TECH. 350, 352 (1996); Nancy Linck, in *Franklin Pierce Law Center's Fifth Biennial Patent System Major Problems Conference*, 36 IDEA: J.L. & TECH. 350, 364-65 (1996); J.H. Reichman, *Compliance with the TRIPs Agreement: Introduction to a Scholarly Debate*, 29 VAND. J. TRANSNAT'L L. 363, 381-83 (1996) (discussing TRIPs compromises proposed as "bargaining chips in a future harmonization exercise that Wegner hopes will produce the ingenious 'patent worksharing' arrangement he advocates.").

American inventors and industry. Yet, it is increasingly more difficult to obtain rapid grants of patents in these countries, thanks to the success of increased filings and the expense of running a local patent office. All of the developing countries are taking advantage of "piggybacking".

America is the victim of piggybacking, because America examines first, so that virtually all other parallel examinations are piggybacked off the U.S. examination.⁵⁹

Perhaps the least glamorous but most self-evident reform is for the examining corps of the PTO to be cut down to a manageable size while giving more time per case for each Examiner. The PTO of the 1960's had a reasonable number of Examiners — under 1,000 — whereas today the agency is bulging at the seams, spilling over to the Taj Mahal of government edifices that is now under construction in Alexandria as the new home of the PTO and its roughly 7,500 employees.

The answer has been obvious to everyone but those who want to build a bigger and more expansive patent empire: We must begin to share the patent examination workload with the parallel patent granting authorities of the world. Every Office must do its share and examine a certain proportion of the patent applications that are filed in parallel on a routine basis.

⁵⁹ Testimony of the author to the United States House of Representatives Judiciary Subcommittee on Courts and Intellectual Property, February 26, 1997, Hearing on the "21st Century Patent System Improvement Act" (H.R. 400), 1997 WL 87469 (F.D.C.H.).

The way the system works today, a patent applicant files a usually home country first application, and then on or just before the first anniversary⁶⁰ seeks protection in the several states around the world.⁶¹ Then, *all* the major patent granting authorities should conduct a parallel examination independent of collaboration with other Offices or without consideration of the work of the sister authorities. In fact, however, it is the United States Examiner who goes first, before his or her colleagues from around the world. This is largely a self-inflicted wound of the United States system that has placed a premium on prompt examination. Thus, essentially *all* U.S. applications are examined for the first time by a U.S. Examiner without benefit of the work of his or her colleagues around the world. With a growing backlog of cases in the European Patent Office, more and more the initial examination has been completed in the United States before the European search has commenced.⁶² Japan virtually always commences its

⁶⁰ Under the Paris Convention in its 1967 Stockholm Revision, if one files in any union state within this one year period (and meets various formalities), then each application in a union state is back-dated to the first filing date as its priority date. (Without this priority date, any application filed after the first case would stand or fall on its actual filing date. This would mean that the applicant's own publication or use of the invention after his first filing but before the filing in the union state may be invalidated: Most countries of the world will deny a patent if, before the effective filing date, there has been any publication or — for Europe and Japan — even an oral disclosure of the invention anywhere in the world.)

⁶¹ Within the Paris Convention, Art. 19 permits subsidiary treaties such as the Patent Cooperation Treaty (PCT). The PCT may be used for foreign filing on this first anniversary. But, it is only a holding action, as within 30 months from the date of the home country or other first filing, the PCT application is exploded into individual national filings (as part of the "national stage").

⁶² This is generally true for most applications of U.S. applicants. It is not necessarily true in the case of applicants from foreign countries, because their applications enter the United States at the twelfth month from the effective filing date under the Paris Convention. The European search is to be performed within 18 months *keyed to the priority date* and not the actual filing date, so for such non-U.S. origin cases, it may occur that a European search is performed before the U.S. search and examination.

examination years after the typical U.S. examination has been completed.⁶³ Canada employs a small number of examiners to theoretically do the amount of four or more of their U.S. counterparts, which eliminates any serious consideration of a Canadian examiner for an independent search and examination.⁶⁴

The answer is what the Japanese government has termed "mutual recognition".⁶⁵ Each of the major offices should give full faith and credit to the parallel examinations of the other, and in this way the work load can be shared.⁶⁶ And, of course, the United States would need to permit deferred examination, whilst other countries — also benefiting by a reduction in backlogs through patent worksharing — could take cases up at an earlier date.

⁶³ This is due to the fact that in 1971 Japan adopted the Dutch-German system of a deferred examination. Under this system, the applicant need not even request the start of the examination for seven full years after the actual filing date in Japan (or up to eight years from the priority date). Effective October 1, 2002, the period for deferred examination has been shortened to three years keyed to the actual filing date. This will not make a difference in piggybacking.

⁶⁴ Examiners in every country are hard-pressed to keep up with the work flow. To say that a Canadian Examiner can do the same quality work as his or her U.S. counterpart in 25 % the time is not realistic.

⁶⁵ See Setsuko Asami, *A View toward the Global Patent: Mutual Exploitation of Examination Results*, AIPPI Journal (Japan), pp. 12-38, 15 (January 2002).

Professor Asami — currently on the faculty of Hitotsubashi University — has been a career leader within the Japanese Patent Office; she is the former Research Director of Chizaiken, a think tank organization closely affiliated with the JPO, and before that had spent a considerable amount of time in the United States, including participating in a leadership role in a comparative patent seminar at the Georgetown University Law Center with the Hon. Randall R. Rader and the undersigned. It would be expected that by the year 2004 Professor Asami would return to the JPO.

⁶⁶ Each society is unwilling to trust the examination in a foreign country as the final word on the scope of patents in their own territory. The answer to this is that at the end of prosecution there should be, in every case, the full and fair opportunity for a local opposition proceeding after grant.

There are too many obstacles to an early global implementation of mutual recognition.⁶⁷ But, from a practical standpoint, a good starting point would be bilateral cooperation between Japan and the United States.⁶⁸

VI. A SINGLE PATENT GRANT SYSTEM

Shouldn't the world have a common patent granting system? If there were a single patent granting system, then the various patent granting authorities of the world could band together and share the workload: One Examiner around the world could examine a single application with the results being accepted on a global basis.⁶⁹ Standing in the way of the creation of a single patent system is the

⁶⁷ There are too many divergent practices among many countries; see the discussion in the following section.

⁶⁸ According to *IPO Statistical Series*, 1999 No. 3, **50 COUNTRIES GRANTING THE MOST PATENTS TO NON-RESIDENTS IN 1997**, www.ipo.org, there were only three countries outside the European Patent Convention that granted more than 10,000 patents to foreign nationals, the United States (50,000); Japan (18,000); and South Korea (10,000). Only eleven of the EPC States met this figure, France (50,000); United Kingdom (40,000); Germany (36,000); Italy (28,000); Netherlands (21,000); Spain (20,000); Sweden (17,000); Belgium (17,000); Switzerland (16,000); Austria (15,000); and Denmark (12,000). States 15-32 ranged downwardly from under 10,000 to over 1,000 (Venezuela, Luxembourg, Greece, Australia, Portugal, Canada, Ireland, Russian Federation, Mexico, Monaco, New Zealand, Norway, China, Israel, Hong-Kong, Finland, Czech Rep. and Poland).

⁶⁹ It is asking too much for industry in one country to accept the results of a foreign Examiner's determination in their own country. One of the essential elements of "patent worksharing", therefore, is that at the end of the patent examination process, while the results would be accepted globally, there would then be a *local* patent opposition system to let local industry oppose any patents.

lack of harmonization of substantive requirements amongst the major patent granting authorities.⁷⁰

VI. CONCLUSION

Before proposing reforms to deal with defensive patenting and the patent tax, a consensus must be reached as to whether defensive patenting is a problem. Indeed, if this is no more than a nuisance, then patent litigators should be left to duke out it out on the few patents of value in the courtroom.⁷¹ But, if the IBM model is a real problem, it must be dealt with before matters get further out of hand.

The patent tax model that is an outgrowth of the defensive patenting inspired by Henry Ford clearly has negative effects on innovation. Just as the medieval traders suffered the tax to ford the streams of Europe because it was easier to pay something than to draw swords — or simply not cross the river and be denied trade outside one's region — industry reluctantly but wisely pays the patent tax of

⁷⁰ See Robert A. Armitage & Richard C. Wilder, *Harmonization: Will it Resuscitate a Patent System Suffocating its Small Entity Users with Cost and Complexity?*, 1 *U. Balt. Intell. Prop. L.J.* 116, 117 (1993).

⁷¹ Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 *Nw. U. L. Rev.* 1495, 1497 (2001) ("[T]he overwhelming majority of patents are never litigated or even licensed. Because so few patents are ever asserted against a competitor, it is much cheaper for society to make detailed validity determinations in those few cases than to invest additional resources examining patents that will never be heard from again. In short, the PTO doesn't do a very detailed job of examining patents, but we probably don't want it to. It is "rationally ignorant" of the objective validity of patents, in economics lingo, because it is too costly for the PTO to discover those facts.")

today.⁷² It remains to be seen how long it will take the American industry — and government — to compel the necessary reforms to reduce if not eliminate the onerous system of forced nonexclusive licensing of webs of patent protection.

⁷² If one pays a running royalty of, say, 0.5 to 2.0 % of net sales as the patent tax for an emerging product where sales are just starting to develop, this is a very small amount *during the initial years of the life of the product*. Clearly, *in terms of the short range*, it is far cheaper and without the turmoil always created by patent litigation for a company to bite the bullet and pay the patent tax. Even for the long range, a company may be better off paying, say, \$ 2,000,000 in royalties over the life of a product than paying more than that in the short range for litigation.