

ENTRANCE RAMPS, TOLLS, AND EXPRESS LANES—PROPOSALS FOR DECREASING TRAFFIC CONGESTION IN THE PATENT OFFICE

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I. INTRODUCTION

Although granted to an inventor or group of inventors, patents bestow benefits on at least two separate groups. The inventor or his assignee¹ benefits from the reward of the limited monopoly conferred by a patent, allowing him to exclude others from making, using, or selling a product or process that is covered by the patent. Society, the second beneficiary, profits from the public disclosure of new technology—a disclosure which advances scientific progress and serves to define boundaries around which competitors must design. While the benefit afforded to society seems readily apparent, the extent to

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1. Throughout this Article, the terms “inventor,” “applicant,” and “patentee” are used interchangeably to describe the owner of the patent. Although the United States patent system requires that a patent application shall be filed in the names of the inventors, 35 U.S.C. § 111(a)(1) (2000) (“An application for patent shall be made . . . by the inventor.”), the vast majority of patents are assigned to another party, usually a company or organization. See PATENT TECH MONITORING DIV., U.S. PATENT & TRADEMARK OFFICE, PTMD SPECIAL REPORT: ALL PATENTS, ALL TYPES pt. A1 (2004), available at <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/apat.pdf> (last visited Oct. 7, 2005) (indicating that eighty percent of the patents granted between 1977 and 2001 were assigned to either U.S. or foreign corporations). It should be understood that, but for parts discussing the patent application process itself, the above terms include assignees, where the patent has already been assigned.

which the patentee actually benefits, at least under a traditional view of patent law, may be greatly exaggerated.

Regardless of whether the patentee is seeking to reap the traditional patent reward, any real or perceived benefits to the patentee and society are burdened by ever-growing problems at the United States Patent and Trademark Office (Patent Office). Leading this list of problems is the increase in issuance of “bad” patents,² or patents that do not meet the requirements for patentability. This problem has not only generated commentary by legal scholars³ but has also attracted the attention of the general public⁴ and has even become the subject of a recent book, *Innovation and Its Discontents*.⁵

A second problem—the lack of speed with which patent applications traverse the patent grant system—has not generated much commentary, possibly due to the opacity of the patent grant system to outsiders. Despite efforts of the Patent Office to grant patents in a timely fashion, the issuance process can stretch a number of years, especially in certain technology areas.⁶ This poses a problem for the patentee, in that he is unable to enforce his patent rights during the time between filing of the application and issuance of the patent and may not be able to derive any benefit from the invention during that time. Society also suffers from the uncertainty of not knowing the

2. The term “bad” patent should not implicate any moral or ethical judgment on the subject matter claimed; rather, a “bad” patent is one that should not have been granted by the Patent Office after a reasonable examination in view of the most relevant prior art. See Jay P. Kesan, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763, 766 n.6 (2002).

3. See, e.g., Shubha Ghosh & Jay Kesan, *What Do Patents Purchase? In Search of Optimal Ignorance in the Patent Office*, 40 HOUS. L. REV. 1219, 1227-36 (2004); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1496 (2001); 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); Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 668-70 (2004); John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. ILL. L. REV. 305, 316-22 (2001).

4. See, e.g., Denise Caruso, *Digital Commerce: Patent Absurdity*, N.Y. TIMES, Feb. 1, 1999, at C4 (criticizing “soft” patents, which “often lay claim to some of the most mundane activities of daily life,” such as U.S. Patent No. 5,851,117 which discloses the idea of using an illustrated book to teach janitors how to clean a building); Paul Davidson, *Patents Out of Control?*, USA TODAY, Jan. 18, 2004, at 1B; James Gleick, *Patently Absurd*, N.Y. TIMES, Mar. 12, 2000, (Magazine), at 44; David Ignatius, Op-Ed., *Firestorm in Cyberspace*, WASH. POST, Mar. 19, 2000, at B07.

5. ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS* (2004). Adam B. Jaffe is a professor of economics at Brandeis University, and Josh Lerner is a professor of investment banking at Harvard Business School. Interestingly, the publication of this book has generated mainstream media coverage, further publicizing the problem of bad patents. See, e.g., Sabra Chartrand, *Does the Patent System Need an Overhaul?*, N.Y. TIMES, Sept. 27, 2004, at C8 (discussing the Jaffe and Lerner book as criticizing the patent system, including the issuance of bad patents).

6. See *infra* note 35 and accompanying text.

true scope of the patented invention until the patent issues. It is easy to see the conflict between the two problems, speed and quality, and how a solution that may improve one metric is likely to negatively affect the other.

To examine more fully both the speed and quality problems identified above, the patent grant system, that is, the path a patent application follows from the time it is filed until it matures into an issued patent, can be analogized to a busy highway. Patent applications enter this highway through a limited number of “on-ramps” and then race, stutter, stop, and start all along a single route.⁷ Applications continue down the path until exiting the highway, when either the applicant abandons the application or the patent is issued by the Patent Office.⁸ The root of the speed and quality problems is that the highway is simply overcrowded.

The pragmatic answer to an overcrowded highway is often to build more roads. This Article proposes implementing a multitier patent system by the creation of two additional “roads” or routes that a patent application may follow. Because many patents are not sought with the intention of pursuing the traditional patent reward of commercialization or profit through access control, that is, the exercise of the limited patent monopoly, there is no reason for every single application to follow the current route. The creation of an auxiliary, or “side road,” would decrease crowding on the current patent grant highway while still allowing the nontraditional applications to enter and traverse the patent grant system with different points of access. At the other end of the spectrum, there are patent applications that would derive more benefit through expediency in the patent grant system. For those applications, this Article proposes the creation of express lanes through the patent grant system. These two additional routes, used in conjunction with the current patent grant highway, would arguably decrease crowding, thus allowing for quicker patent grants as well as more careful analysis by the Patent Office and fewer bad patents. Because the proposed system considers the appli-

7. To take this analogy further, it is easy to conceptualize each technology area, or even each art unit, as a “lane” on the patent grant highway, thus simulating the backlogs created in “hot” technology areas.

8. While this description is sufficient for the discussion to follow, it is not entirely accurate due to continuation practice. In keeping with the highway metaphor, the Patent Office may, by issuing a “Final Rejection,” claim that an application should not be on the highway because it is unpatentable. However, the term “Final” is a misnomer because the applicant can file a continuation application, which permits the application to essentially reenter the highway at the same point that it had exited to have another chance to obtain a patent. For a detailed discussion of continuation practice and its drawbacks to the patent grant system, see Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63 (2004).

cant's intended use for the patent,⁹ whether for the traditional patent reward of exclusion or otherwise, the patent grant highway is further modified to address the unique needs of the applications. These additional modifications may further decrease the traffic congestion. The expected outcome of the implementation of this proposed multitier patent grant system would be improved quality of issued patents as well as decreased time from application filing to patent grant.

Part II of this Article discusses the notion of nontraditional patent usage by considering the inventor's intent as well as externalities, such as market realities, that shape how a patent will be used. It also elaborates on the problems of patent quality and speed of issuance alluded to above. Part III then presents a model for categorizing patent applications into three types, based on inventor intent and market realities as understood at the time the application is filed. Part III also identifies the peculiar requirements of each of the three proposed categories of patent applications, considers how the current patent grant system fails to meet these needs, and further, analyzes how these failures affect the speed and quality metrics of the current patent grant system. Part IV proposes a multitier patent system that uniquely addresses each application type described in Part III and discusses how such a multitier system meets the unique needs of each application type as well as leads to overall improvement in patent quality and speed of issuance. Finally, Part V reviews and compares multitier patent systems in existence internationally as well as proposals for multitier patent systems raised by commentators. It further answers why the multitiered patent system proposed in this Article does not suffer the same criticisms as have been proffered for other multitiered patent systems.

II. CONGESTION ON THE PATENT GRANT HIGHWAY

A. *The Traditional Patent Benefit*

The classic view of the patent reward is that an inventor's benefit flows from the grant of a limited monopoly, allowing the inventor to commercialize the invention and profit either by exerting the right to exclude others from making, using, importing, offering to sell, or selling the same or by otherwise controlling access to the invention

9. It is true that an applicant, at the time of filing, may not have a concrete, intended use for the patent or that the applicant's intended use will not be possible for a variety of reasons once the patent issues. However, especially in the case of nontraditional patent usage, the applicant is likely to have sufficient information to make at least a primary guess at the intended usage. How the applicant initially intended to use the patent, how it may be uncertain, and how it may change over time is discussed in more detail. See discussion *infra* Part II.A.

through licensing.¹⁰ Assuming that patent infringement litigation provides a viable indicator that a patentee is exercising this exclusion right, the classic view becomes less than convincing. Studies indicate that only two percent of issued patents are ever litigated.¹¹ If the number of patents licensed for royalties is also included in that statistic, thereby encompassing the right of the inventor to profit by controlling access to the invention, the figure raises slightly to an estimated five percent.¹² That such a small percentage of patents is “used” in what is considered a traditional sense raises some questions.

There are certainly explanations for this lower-than-expected usage of patents in litigation and licensing that preserve the classic view of the patentee’s reward. One possible, but highly unlikely, explanation for the low percentage of patents being litigated or licensed is that every patent so perfectly defines the boundaries of an invention that no other party would trespass, either intentionally or inadvertently, and any potential competitor is able to completely design around the well-defined boundaries. Another more likely explanation may be that the outcome of patent infringement litigation is so uncertain that any risk-averse entity will avoid litigation if possible.¹³ Aversion to litigation, however, could logically lead to a greater number of licenses having been taken than has been estimated.¹⁴

Despite this evidence that patents are not always used to obtain the traditional patentee’s reward, there is no indication that patents

10. Lemley, *supra* note 3, at 1500-01 (“The traditional incentive story relied upon by intellectual property scholars assumes that people seek patents to obtain exclusive rights to a technology, and that they use those patents either to exclude competitors from the market or to obtain licensing revenue in exchange for permitting the use of the patented technology.”).

11. *Id.* at 1501.

12. *See id.* at 1507 (estimating that “the total number of patents litigated or licensed for a royalty (as opposed to a cross-license) is on the order of five percent of issued patents”). Lemley, however, acknowledges that there is controversy over this figure. *See id.* at 1507 n.53. Because licenses are not required to be recorded, it is difficult to know precisely how many patents are licensed.

13. *See, e.g.*, Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1071 (1997) (“Absent asymmetry [between the parties’ positions], litigation uncertainty is at least as likely to encourage a licensing transaction (for example, where both parties are risk averse) as it is to discourage one.”); Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 805, 868 (1988) (noting that “[f]irms frequently agree to settlements because of the uncertainty that accompanies a patent infringement suit” and that patent litigation presents a “wide range of possible outcomes at several stages, including the initial decisions on patentability and infringement and determination of damages”).

14. Risk aversion could, conceivably, lead instead to an abandonment of a given product or process, which would not result in an increase in licensing rates. The loss of money invested in pursuing a particular product or process, however, makes abandonment of that product or process at least as likely as licensing.

are being sought less frequently; in fact, the contrary is true.¹⁵ Perhaps a better explanation for the phenomenon of less-than-expected litigation and licensing rates is that the intent of an inventor upon filing a patent application may be something other than to exercise the traditional benefits of commercialization and exclusion or limited access. The inventor's intended use of the patent may not hinge on exclusion at all. That is, an inventor may be seeking a patent with no intention of capitalizing on the limited monopoly, either through production and exclusion or through licensing for royalties.

Legal scholars have raised a number of reasons why an inventor may seek a patent other than to benefit from the traditional patent reward. Some of these reasons are tangentially related to exclusion or limited access. For example, Professor Ann Bartow has noted that an inventor may intend to use the patent to obtain some other business advantage, such as cross-licensing, defensive patenting, and leveraging against a competitor for legitimate or harassment purposes.¹⁶ Other reasons, however, are wholly unrelated to the litigation and licensing paradigm associated with the classic view of the patentee's benefit. Professor Clarisa Long has written on the phenomenon of patents being used as a means to communicate information, for example, to enhance the image of the patent holder as a market leader or as a technologically and innovatively proficient entity.¹⁷ Professors Gideon Parchomovsky and R. Polk Wagner have concluded that patents individually are often not useful and have suggested that patents should instead be obtained to create a patent portfolio, or "a strategic collection of distinct-but-related individual patents that, when combined, confer an array of important advantages upon the portfolio holder."¹⁸ Professor Mark Lemley has indi-

15. See U. S. PATENT & TRADEMARK OFFICE, DEPT OF COMMERCE, PERFORMANCE AND ACCOUNTABILITY REPORT FOR FISCAL YEAR 2004, 2, available at http://www.uspto.gov/web/offices/com/annual/2004/060402_table2.html (last visited Oct. 7, 2005) [hereinafter 2004 PTO ANNUAL REPORT] (listing the total number of utility applications filed each calendar year—for example, in 1984, 109,010 applications were filed; in 1990, 162,708 applications; in 2000, 291,653 applications; and in 2004, 351,431 applications).

16. See Ann Bartow, *Separating Marketing Innovation from Actual Invention: A Proposal for a New, Improved, Lighter, and Better-Tasting Form of Patent Protection*, 4 J. SMALL & EMERGING BUS. L. 1, 2 (2000); see also Lemley, *supra* note 3, at 1504-05.

17. See Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 627-28 (2002) ("If an easily measurable firm attribute such as patent counts is positively correlated with other less readily measurable firm attributes such as knowledge capital, then patent counts can be used as a means of conveying information about these other attributes. Knowing this, firms may choose to obtain and use a portfolio of patent rights to signal information about themselves that would be more expensive to convey through other means."); see also Bartow, *supra* note 16, at 2-3; Lemley, *supra* note 3, at 1505-06.

18. See Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios* 27 (U. of Pa. Law School, Public Working Law, Working Paper 56; U. of Pa. Inst. for Law & Econ., Research Paper 04-16), available at <http://ssrn.com/abstract=582201>. The patent portfolio theory may also explain the lower-than-expected rate of litigation. In a patent portfolio, a number of related patents are obtained to cover an invention, each having a different claim scope.

cated that patents may be sought to obtain rewards through invention incentive programs offered by an inventor's employer.¹⁹ Finally, Professor Bartow has claimed that some patents are obtained simply because the applicant desires to have a patent issued in his or her name.²⁰

Regardless of the inventor's intent upon filing a patent application, externalities such as market conditions facing the inventor also affect the patent's use. Even an application filed with the intent of using the patent for licensing or litigation purposes may result in issued claims that are too narrow to be actively or usefully licensed or litigated. Alternatively, a patent intended for litigation or licensing may fall victim to an industry that was headed in one direction at the time the application was filed, but which moved in a different direction by the time the patent issues, again precluding active licensing or litigation. One indicator that patentees are not receiving the hoped-for value from their patents is the fact that a large number of issued patents lapse for failure to pay maintenance fees.²¹ In fact, nearly half of all patents are abandoned for failure to pay maintenance fees before the patent term is half over, and two-thirds of all patents lapse in this way before the end of their term.²² Thus, a comprehensive explanation for the low percentage of patents involved in litigation and licensing may be that many applications are filed with the intent that these patents will be used for some other purpose, and of the remaining applications filed with the traditional intent, many of these patents fail to meet the applicant's expectations upon filing.

When enforcing the exclusion right, then, somewhat less than the whole portfolio may be asserted thus resulting in a lowered percentage of existent patents being litigated. It is unclear, however, the effect that patent portfolios would have on the percentage of patents licensed.

19. See Lemley, *supra* note 3, at 1506. On a related note, Parchomovsky and Wagner, *supra* note 18, at 22, discuss the use of patents as a measure of internal firm metrics, such as determining employee productivity.

20. See Bartow, *supra* note 16, at 3 ("At first blush, it appears that inventors obtain these patents simply because they can."). This desire to obtain a patent may be tied to the Hegelian view of property in that property is an integral part of human personality. See Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1324 n.46 (2004).

21. Maintenance fees, in annually adjusted increasing amounts, are due at periods of 3.5 years, 7.5 years, and 11.5 years after the patent issues to keep it in force. 35 U.S.C. § 41(b) (2000). The figures for 2005 are \$900, \$2300, and \$3800, respectively. US. PATENT & TRADEMARK OFFICE, DEPT OF COMMERCE, FY 2005 FEE SCHEDULE, available at <http://www.uspto.gov/go/fees/index.html> (last visited Oct. 7, 2005).

22. See Lemley, *supra* note 3, at 1503. While this statistic is indicative that perhaps patents do not fulfill the expectations of the patentee upon filing, thus proving to be unworthy of additional costs in the form of maintenance fees, this figure may also show that many inventions become obsolete well before the expiration of the patent.

B. The Problem of Bad Patents

Under the traditional view of the patentee's reward—that is, the right to commercialize and exclude or control access—it is imperative that the patent grant process inspires confidence.²³ The public has to believe that the patent was not only providently granted but also that the granted patent clearly defines the boundaries of exclusion. To have such confidence in granted patents, the public has to believe that the patent application received the appropriate scrutiny by the Patent Office before the patent was issued. As noted above, however, criticisms that the Patent Office is not carefully scrutinizing patent applications are being raised from both inside and outside the legal community.²⁴ If the public is skeptical about the quality of issued patents, it is difficult for the patentee to then reap the traditional patentee's reward and enforce his exclusionary rights.

In addition to decreasing the credibility of the patent system, bad patents impose further negative costs on society. For example, bad patents permit the patentee to engage in opportunistic licensing schemes, forcing a rational licensee to settle for a license on a patent that should not have been granted instead of resorting to litigation to have that patent invalidated.²⁵ Where a bad patent is granted and the patentee exercises his exclusionary rights, society must bear any supracompetitive pricing that results from the absence of noninfringing product substitutes.²⁶ Additional monetary costs include the filing and prosecution expenses of obtaining the bad patent and the subsequent costs of having the courts fix the Patent Office's mistakes, for example, by declaring a bad patent invalid.²⁷ Other costs include chilling of downstream innovation and encouraging wasteful design-around activity by competitors who fear infringement.²⁸ Compounding these concerns is the difficulty of determining *ex ante* whether a patent is bad. Further, the concept of bad patents may not exist as a dichotomy; rather, there is likely a spectrum of patent quality, ranging from those having very little doubt about validity to those inventions that should have been, at least, obviously not patentable. Many of these costs are borne by society even in the case of validly issued patents; however, in those cases, the public receives the often counteracting benefit from the public disclosure of new technology. In

23. At least one commentator has opined that, because a majority of patents are used for purposes other than litigation or licensing, perhaps their validity need not require such a stringent review. See Lemley, *supra* note 3, at 1514-15. This idea will be explored more fully below. See *infra* Part II.A.

24. See *supra* notes 3-5 and accompanying text.

25. See Kesan, *supra* note 2, at 767.

26. See *id.* at 767-68.

27. See *id.* at 768.

28. See *id.* at 767; Lemley, *supra* note 3, at 1516.

many cases, the negative costs prove more severe under the classic view of the patentee's reward, where the patentee can extract a higher fee due to supracompetitive pricing or where the patentee can exploit the financial sensibilities of a rational and risk-averse licensee. Where the patentee is not seeking to commercialize and exclude or otherwise control access to the invention, these negative costs are not implicated.

C. The Problem of Slow Issuance

Although it may not receive the same amount of (or any, for that matter) mainstream press as the problem of bad patents, the length of time the Patent Office takes to examine and issue a patent presents a problem of the same magnitude, or even greater, to a patentee. The dilemma stems from a period of dead time for the patentee and, moreover, is implicated under both the traditional view of patent benefits and nontraditional patent usage. A patent remains in force for twenty years from the date an application is filed,²⁹ however, a patent is only enforceable from the date it issues.³⁰ Thus, the period between the date an application is filed and the date the patent ultimately issues is essentially a dead period for the patentee, regardless

29. 35 U.S.C. § 154(a)(2) (2000) (A patent grant "shall be for a term beginning on the date on which the application issues and ending 20 years from the date on which the application for the patent was filed in the United States or, if the application contains a specific reference to an earlier filed application or applications under section 120, 121, or 365(c) of this title, from the date on which the earliest such application was filed.").

The AIPA purports to create a seventeen-year patent term guarantee by providing additional reasons for patent term extensions, i.e., adding time to the twenty-year expiration date if certain conditions are met, for patent applications filed on or after May 29, 2000. Patent term extensions are available if the Patent Office fails to meet a statutory deadline, if the patent does not issue within three years of filing, or if the patent grant is delayed due to interferences, secrecy orders, or successful appeals to the Board of Patent Appeals and Interferences. *Id.* § 154(b)(1). The period of adjustment will be reduced, however, if the applicant "fail[s] to engage in reasonable efforts to conclude processing or examination of an application," for example, by taking longer than three months to respond to a notice from the Patent Office. *Id.* § 154(b)(2).

30. The exception is the implementation of provisional rights, which became available with the publication of patent applications at eighteen months post-filing, and was implemented by the American Inventors Protection Act (AIPA). Pub. L. No. 106-113, 113 Stat. 1501 A-552 (1999). "[A] patent shall include the right to obtain a reasonable royalty from any person who [infringes the invention as claimed in the published patent application], during the period beginning on the date of publication of the application . . . and ending on the date the patent is issued." 35 U.S.C. § 154(d)(1). However, provisional rights are not available "unless the invention as claimed in the patent is substantially identical to the invention as claimed in the published patent application." *Id.* § 154(d)(2). Given that few patents issue with claims in "substantially identical" form to the claims as originally filed, it is unclear whether provisional rights will be an adequate remedy. As of March 2005, the courts have not yet had opportunity to interpret "substantially identical" or the scope of the provisional rights provision.

of the invention's intended usage. An extended dead period shortens the available "live" period for the patent.³¹

This dead period imposes costs on both beneficiaries of the patent system. While applicants who intend to commercialize and capitalize on the limited monopoly may make and use the invention themselves, they must wait until the patent issues to litigate. Applicants hoping to exploit the invention commercially without practicing the invention themselves may sell or license the technology even before a patent is issued; however, the uncertainty of the claim scope of the future patent as well as its remaining term of enforcement may negatively affect the negotiated rate to the applicant's detriment.³² Even with nontraditional uses of patents, it is possible that the patentee may need to wait until the patent issues before using it for whatever intended purpose—it is unclear how much leverage or signaling can be gained from a patent application for the same reasons of uncertainty in scope and remaining term. The costs to society of a not-yet-issued patent, particularly one that resulted in a published application, are not unlike those costs imposed by a bad patent, because the claimed subject matter of issued patents is rarely identical to that of the applications as originally filed. While society does benefit from the disclosure of the technology via the publication of patent applications, the boundaries defined through published applications for not-yet-granted patents are fuzzy at best. Presumably, societal costs would not be implicated in the case of an unpublished patent application, because society would not be on notice of any overly broad, originally filed application; however, society is not free to ignore the claimed subject matter of a published, but not-yet-issued, patent application because it is often a toss up as to what, if any,

31. Although the twenty-year patent term was adopted to curb a problem with submarine patents, an issue at the other end of the spectrum from the problems discussed in this Article, the implementation of the twenty-year patent term was based on the idea that patents would issue in three years or less. However, the boom in patent applications has made this timeline somewhat idealistic, as patents usually issue with less than a seventeen-year live period, which harms the patentee.

32. See, e.g., U. S. PATENT & TRADEMARK OFFICE, DEP'T OF COMMERCE, PERFORMANCE AND ACCOUNTABILITY REPORT FOR FISCAL YEAR 2002, at 20, available at <http://www.uspto.gov/web/offices/com/annual/2002/index.html> (last visited May 22, 2005) [hereinafter 2002 PTO ANNUAL REPORT] (stating that the twenty-year patent term, coupled with lengthy pendency of applications "complicate[s] business decisions and negatively impact[s] a patent owner's ability to collect royalties, raise capital, and bring new products to market particularly in computer-related fields where the product cycle is relatively short"); see also, e.g., 143 CONG. REC. H1373 (daily ed. Apr. 9, 1997) (statement of Rep. Rohrabacher) (advocating for the guaranteed seventeen-year patent term, "however, 20 years, all it really means is the clock is ticking against the inventor. If it takes 10 to 15 years to get an invention patented, for the patent to issue, that patent applicant basically has lost all of that time."); Anneliese M. Seifert, Comment, *Will the United States Take the Plunge into Global Patent Law Harmonization? A Discussion of the United States' Past, Present, and Future Harmonization Efforts*, 6 MARQ. INTELL. PROP. L. REV. 173, 186 (2002).

elements of the claims are narrowed in prosecution and to what extent. Historically, the scope of the claims of issued patents was often significantly narrower than the applications as originally filed. That trend may now be reversing such that patentees are initially filing narrow claims which are subsequently broadened, in part due to the recent *Festo* decision³³ and in part due to strategic maneuvering in light of published applications.³⁴ Regardless, due to the give-and-take between examiner and applicant during the patent application process, it is likely that the issued claims will be different in some respect from the claims as filed.

Although the Patent Office has claimed that the average pendency, or interval between filing of an application and issuance of the corresponding patent, is approximately twenty-four months,³⁵ this figure is misleading, in part due to a much-criticized method of creative accounting of patent applications by the Patent Office.³⁶ Further, being an average, this figure necessarily fails to take into account

33. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 734 (2002). Under *Festo* and Federal Circuit progeny thereof, narrowing amendments and cancellation of broad claims in favor of narrower claims precludes the resort to the doctrine of equivalents in later litigation due to prosecution history estoppel.

34. The publication of applications may create an incentive to file narrower claims which are then broadened during prosecution of the patent application in order to keep competitors at a disadvantage for a longer period of time.

35. See 2002 PTO ANNUAL REPORT, *supra* note 32, at 15. This twenty-four-month figure actually includes any disposal of a patent application, either via issuance or abandonment. See also 2004 PTO ANNUAL REPORT, *supra* note 15, at 4, tbl.4, available at http://www.uspto.gov/web/offices/com/annual/2004/060404_table4.html (last visited Oct. 7, 2005).

TECHNOLOGY CENTER	TOTAL AVERAGE PENDENCY (IN MONTHS)
Biotechnology & Organic Chemistry	29.9
Chemical & Material Engineering	27.6
Computer Architecture, Software & Information Security	41.1
Communications	40.5
Semiconductor, Electrical, Optical Systems & Components	23.9
Transportation, Construction, Agriculture & Electronic Commerce	24.1
Mechanical Engineering, Manufacturing, Products, & Design	24.1

Id.

36. The criticism comes from the Patent Office's use of the most recent continuation date in calculating its average pendency. For example, if a patent application was originally filed in 1996, two continuations of the application were filed in 1998 and 2000, and the patent ultimately issues in 2002, the Patent Office statistics would count this as three separate applications, each with a two-year pendency. See, e.g., Donald W. Banner, *Is There Life After Forty?: The John Marshall Law School's Fortieth Annual Conference on Intellectual Property*, 29 J. MARSHALL L. REV. 841, 850-51 (1996); Lemley & Moore, *supra* note 8, at 64-73; David L. Marcus, *Is the Submarined Patent Torpedoed?: Ford Motor Co. v. Lemelson and the Revival of Continuation Application Laches*, 70 TEMPLE L. REV. 521, 524

discrepancies in pendency times between various technologies.³⁷ A more accurate picture is likely shown in the results of a study based on a sample of litigated patents, finding that the average prosecution (or pendency) time for an ultimately successful patent is 3.6 years, with a median of 2.7 years.³⁸ Anecdotally, the time period from filing to issuance varies by technology and ranges from twenty-four to thirty-six months for chemical and mechanical arts and thirty-six to sixty months for electrical and software arts.

During the dead period associated with application pendency, the patent application is undergoing a process called “examination.” Upon filing, an application receives a cursory review for formalities, such as the presence of all necessary pages and requisite signatures.³⁹ The Patent Office then classifies the application by technology and assigns it to an art unit, or group of examiners, and the application eventually ends up at the bottom of the pile of applications on the desk of a particular examiner.⁴⁰ At this point, the application process stalls until the application reaches the top of the examiner’s pile. Once the application surfaces, the examiner ideally reads the application, searches for and identifies relevant prior art, reads that prior art, decides whether the application should be allowed by comparing the claims to the prior art, and then issues an “Office Action,” explaining to the applicant which, if any, claims are rejected and why.⁴¹ The applicant can then respond to the Office Action by making

(1997); Dana Rohrabacher & Paul Crilly, *The Case for a Strong Patent System*, 8 HARV. J.L. & TECH. 263, 265-66 (1995).

37. For example, “low-tech” inventions may have a considerably shorter pendency, see Bartow, *supra* note 16, at 18, while electrical inventions are experiencing the greatest backlog and pendency times. See 2002 PTO ANNUAL REPORT, *supra* note 32, at 20; see also Peter R. Lando, *Business Method Patents: Update Post State Street*, 9 TEX. INTELL. PROP. L.J. 403 app. at 427 (2001) (citing <http://www.uspto.gov/web/offices/com/annual/1999/99tbs1-10.pdf>) (showing mechanical-type patent applications averaged 23.4 months to issue, while biotechnology-type applications averaged 29.0 months and communications-type applications averaged 31.4 months); David Popp et al., *Time in Purgatory: Determinants of the Grant Lag for U.S. Patent Applications* (Nat'l Bureau of Econ. Research, Working Paper No. 9518, 2003) (concluding that while inventor characteristics have statistically significant effects on length of patent pendency, the most important factor affecting pendency is differences across technology).

38. John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 237 (1998). The difference between the median and the average times found in this study is likely attributable to the variance in pendency times between technologies. It is important to note that the even the mean pendency is substantially greater than the average reported by the Patent Office. Because this study is focused on litigated patents, however, it is possible that patents intended for nontraditional patent uses may issue more quickly. Cf. Bartow, *supra* note 16, at 18.

39. For example, the Office of Initial Patent Examination (OIPE) “reviews application papers to determine whether all of the pages of specification are present in the application.” U.S. PATENT & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 601.01 (8th ed. 2001) [hereinafter MPEP].

40. See *id.* § 903.08(a).

41. See generally *id.* ch. 700.

arguments that the examiner has misapprehended either the claimed invention or the prior art and/or the applicant may amend the claims to try to overcome the examiner's rejections.⁴² This give-and-take process of Office Actions and responses between the examiner and applicant can, in theory, go through much iteration. When the examiner and the applicant reach an agreement as to the patentable subject matter, the patent will issue.⁴³ If the examiner and the applicant do not reach agreement, the examiner will issue what is called a "final rejection."⁴⁴ At this stage, the applicant may abandon the application or may seek appeal of the rejection to the Board of Patent Appeals and Interferences (BPAI).⁴⁵ Alternatively, the applicant can restart the examination process by filing a request for continued examination (RCE).⁴⁶ This continuation application sets up another round of give-and-take between the applicant and the examiner.⁴⁷ So long as the continuation application is timely filed, the process can be repeated *ad infinitum*.⁴⁸ Although the examination process may seem at first blush to be an extensive process, easily justifying the number of years that it takes for a patent to issue, it is estimated that the entire process involves approximately eighteen

42. *Id.* §§ 713-14.

43. Alternatively, the examination process may come to an end when the applicant simply abandons the application for whatever reason. 35 U.S.C. § 133 (2000) ("Upon failure of the applicant to prosecute the application within six months after any action therein, of which notice has been given or mailed to the applicant, . . . the application shall be regarded as abandoned by the parties thereto . . ."). An application can also be affirmatively abandoned. *See* 37 C.F.R. § 1.138 (2004); MPEP § 711.01.

44. The term "final rejection" is a misnomer because the applicant has a number of options at this point to proceed with the patent application process. *See* ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 116 (3d ed. 2003) ("The label 'final rejection' is a misnomer if ever there was one."); Lemley & Moore, *supra* note 8, at 67.

45. For a discussion of the appeal process, see generally MPEP chapter 1200. In fiscal year 2002, 3125 appeals were filed with the BPAI. BD. OF PATENT APPEALS & INTERFERENCES, U.S. PATENT & TRADEMARK OFFICE, PROCESS PRODUCTION REPORT: FISCAL YEAR 2002 (2002), <http://www.uspto.gov/web/offices/dcom/dpai/docs/process/fy2002.htm>. In 2003, 2721 appeals were filed. BD. OF PATENT APPEALS & INTERFERENCES, U.S. PATENT & TRADEMARK OFFICE, PROCESS PRODUCTION REPORT: FISCAL YEAR 2003 (2003), <http://www.uspto.gov/web/offices/dcom/dpai/docs/process/fy2003.htm>. Although the appeals process has been criticized for its extensive backlog, taking years for an appeal to be decided, the BPAI claims to have made significant strides in reducing this backlog and is currently reviewing appeals filed within the last year or two, depending on the technology area involved. *See* Board of Patent Appeals & Interferences Frequently Asked Questions, http://www.uspto.gov/web/offices/dcom/bpai/bpaifaq.htm#8_1 (last visited Oct. 7, 2005) (noting improvement in processing times).

46. *See* 35 U.S.C. § 132. The RCE then provides continued examination of the application. *See* 37 C.F.R. § 1.114.

47. *See* Lemley & Moore, *supra* note 8, at 68 n.14. Although Professors Lemley and Moore studied continuation applications under 35 U.S.C. § 120, their discussion and analysis are applicable for RCEs as well.

48. *Id.* at 68.

hours of examiner time.⁴⁹ The inevitable question is, What is occurring in the two to three years that a patent is pending if only eighteen man-hours are attributable to actual examination? To be sure, applicants are responsible for a portion of the interval.⁵⁰ However, most applications sit buried in the pile of applications on an examiner's desk for over sixteen months, waiting for an examiner to even begin the review process.⁵¹

The answer to the question of why patent applications sit for so long before any action is taken may be a simple matter of numbers. Over 333,600 patent applications were filed in 2002,⁵² and the number of applications filed each year has been growing exponentially.⁵³ The Patent Office, when faced with this daunting pile of applications, has an incentive to move applications off the patent grant highway quickly. One way to accomplish this is to issue patents; however, the concern is that the Patent Office is issuing patents too quickly, resulting in potentially bad patents.⁵⁴ Thus, at the heart of both the

49. See Lemley, *supra* note 3, at 1500 (citing Brenda Sandburg, *Speed Over Substance?*, RECORDER: INTELL. PROP. MAG., Mar. 1999, at 5 (estimating eighteen hours for some patents); Thomas, *supra* note 3, at 314 (estimating sixteen to seventeen hours)).

50. Applicants are given a period of time to respond to every communication from the Patent Office. Most notably, an applicant has three months to reply to an office action. MPEP § 710.02(b). This term can be extended to a six-month statutory deadline for responding (i.e., obtain a three-month extension) by paying additional fees. *Id.* § 710.02(e). One study has examined the allocation of this interval between the Patent Office and the applicant based on technology. (Because this study is a few years older, the total pendency time may not match that reported in note 35, *supra*.)

TECHNOLOGY AREA	PATENT OFFICE TIME (IN MONTHS)	APPLICANT TIME (IN MONTHS)
Biotechnology	17.4	13.5
Chemical	15.9	10.4
Mechanical	15.4	8.4
Communications/Information Processing	21.3	10.4
Physics/Electrical Engineering	16.6	8.9

See Lando, *supra* note 37, at 427 app. E.

51. See 2002 PTO ANNUAL REPORT, *supra* note 32, at 13 (estimating the average time from filing to first Office Action is 16.7 months). This time has increased from 13.8 months in fiscal year 1999. *Id.* at 21.

52. *Id.* at 22.

53. See *supra* note 15.

54. See Lemley & Moore, *supra* note 8, at 68 (noting that, because of continuation practice, there is no guaranteed way to make an applicant "go away, although allowing the applicant's patent claims increases the chance that the case will finally be disposed of"); *id.* at 74-76 (discussing the "notoriously heavy caseloads" of examiners, the pressure to dispose of the applications, and the resultant bad patents that issue for these reasons); Lemley, *supra* note 3, at 1496 n.3 (discussing the "pressures on examiners to issue patents rather than reject applications," regardless of the strength of the invention, including the little time allotted for each application; the fact that examiners are only rewarded for "getting applications out the door," which, because of the continuation practice, only truly hap-

speed and the quality problems in the Patent Office is the over-crowded nature of the patent grant system: there are simply too many cars on the patent grant highway. One solution to this over-crowding, in keeping with the highway metaphor, is to build more roads. The multilayered patent grant system proposed below is one potential solution to this problem.

III. PATENT APPLICATIONS AS DRIVERS ON THE HIGHWAY

Returning to the highway metaphor presented above, a model patent grant highway system can be defined to include three different types of patent applications. In particular, this Article categorizes patent applications as one of three types of “drivers” on the patent grant highway—Sunday drivers, regular drivers, and ambulance drivers.⁵⁵ The underlying bases for this categorization model are the inventor’s intent and the inventor’s understanding of market realities. The three-type paradigm finds further support in the notion that applications filed for different reasons have differing examination and patent grant needs and, moreover, implicate different societal costs.

A. *Sunday Driver Applications*

The Sunday driver category of patent applications is populated by a diverse group of applications; however, all applications fitting in this category share the fact that either there is no *a priori* intent to litigate or license or there is no clear, immediate market value. On the model patent grant highway, these applications are cruising to no particular destination.

The very name of this application type may evoke one component of the Sunday driver application group, the so-called garage inventor. A garage inventor may seek a patent simply to acquire something with his or her name on it or as a matter of self-validation. Even if the garage inventor seeks a patent believing that he or she has invented the “next great thing,” the inventor may be mistaken or ignorant about the patent’s actual worth in the market or may be facing other obstacles preventing the commercialization of the invention and subsequent exercise of the patent’s monopoly grant. Although it may be a natural inclination to assume that this type of patent application creates the bulk of Sunday driver applications, the number of applications filed by true garage inventors is actually quite small.

pens when a patent issues; and the fact that while reasons for rejection are required, reasons for allowance are not); *see also* Merges, *supra* note 3, at 590, 609.

55. It should be clear that these titles, while potentially invoking generalizations about certain segments of society, serve only to forward an easily understood metaphor and should not be taken as disparaging, either against drivers or inventions.

Surprisingly, applications filed by corporations, as what Professor Bartow calls “portfolio fiber,” are the largest component of Sunday driver applications.⁵⁶ Patents issuing from these applications may be intended for use only in marketing.⁵⁷ Alternatively, a corporation may be bulking up its portfolio either to convey information about the firm or the invention, perhaps to increase the expected value of the firm,⁵⁸ or in preparation for licensing negotiations—where the quantity, that is, the size of a corporation’s stack of intellectual property, rather than the quality therein, may be relevant.⁵⁹ In any case, these patents are unlikely to be litigated, are probably not going to form the meat of any licensing negotiation (other than in their bulk capacity), and may never even be commercialized. In short, the patents issued from Sunday driver applications are unlikely to take advantage of any of the classic patent benefits of exclusion.

Largely unique to Sunday driver applications is that if the applicant intends to exercise an inventor’s traditional patent reward and commercialize the invention, there may be a period of time required for the inventor to determine the market realities and barriers faced. Because commercialization is often an expensive process and includes, for example, the costs of building or retooling a factory, materials, product placement fees, and marketing, an applicant will want to determine if the cost of commercialization is worthwhile. This determination often will need to be made prior to the issuance of a patent, particularly if the patent pendency period is long. Essentially, an application may be filed by an applicant unsure of whether commercialization is a viable option.⁶⁰ During the period of pendency, however, the applicant may complete the required cost-benefit analysis and determine that he will not be able to commercialize the invention. Depending on the status of the inventor and the nature of the patent, the patentee may be then unable to utilize any of the traditional benefits of patent law. In fact, it is not unreasonable to con-

56. See Bartow, *supra* note 16, at 3 (“[These patents] may add fiber to patent portfolios (fiber that is devoid of nutrition perhaps but at least constituting bulk.”).

57. See *id.* (citing, for example, a commercial advertising “twenty-three patents embodied in a single toothbrush”). Also, see Bartow, *id.*, for a more detailed discussion of alternative patent usages, including as advertising tools.

58. See Long, *supra* note 17, at 636-37 (noting that patents provide readily available and inexpensive means of communicating credible information that may make a firm more attractive and thus more able to capture investments and venture capital); see also Parshomovsky & Wagner, *supra* note 18.

59. See Caruso, *supra* note 4 (“The big [companies] couldn’t care less about the quality of their patents,’ [Gregory] Aharonian said. ‘They just want as many as possible because they trade them like baseball cards. When you have a thousand patents and your competition has 1,500, you don’t care what they are, you just swap them.”).

60. In fact, statutory law encourages the applicant to file the patent application before the applicant can ascertain the viability of commercialization. See 35 U.S.C. §102(b) (2000) (providing an absolute bar to a patent where the invention was “in public use or on sale in this country, more than one year prior to the date of the application for patent”).

clude that a number of patents, sought with the intent of commercializing, end up having no use at all. At this point, the question may arise about the inventor's recourse upon realizing that the invention is not valuable under traditional patent benefit theory. The newly enlightened inventor can certainly abandon the application, thus relieving himself of the burden of additional prosecution costs; however, given that publication of applications occurs eighteen months after filing, the inventor will not be able to revert the invention to the trade secret that it may have been before the patent application was filed.⁶¹

Also unique to the Sunday driver applications is the level of required scrutiny. As noted above, all applications are, in theory, treated equally. Here, where the patentee has no intent upon filing the application of commercializing the underlying invention, the level of scrutiny and resources expended in examining the application may not need to be as great as for those that will be litigated or licensed.⁶² Even in the case where the original intent is to commercialize, many resources are being expended examining patent applications that, had the inventor had sufficient time to fully understand or investigate the market realities prior to examination, he may not have pursued.

The current patent grant system, however, does recognize these distinctions. All patent applications are fully examined regardless of intended use. The current patent system does purport to provide mechanisms to allow a patentee to investigate the viability of the commercialization of the patent. First, the novelty requirements of patentability allow a patentee a twelve-month grace period. That is, the invention may be described in a printed publication, be used publicly, or be on sale in this country for a period of less than one year before a patent application is filed without destroying the novelty condition for patentability.⁶³ Beyond the one-year grace period, patent laws provide another mechanism—the provisional application—allowing a patentee additional time to determine the market realities by permitting an applicant to file a patent application which is not immediately examined and which acts merely as a placeholder.⁶⁴

61. Although there are mechanisms to withdraw an application from the publication queue by express abandonment more than four weeks prior to the publication date, *see* 37 C.F.R. § 1.138 (2004), this presumes that the patent applicant can ascertain the value within the first seventeen months of pendency. This may not always be the case.

62. *See* Lemley, *supra* note 3, at 1508 (noting that “the overwhelming majority of patents are never used in a way that calls their validity into question”).

63. 35 U.S.C. § 102(b) (2000) (“A person shall be entitled to a patent unless the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.”).

64. *See* 35 U.S.C. § 111(b) (2000); MPEP § 201.04 (b).

Within twelve months of filing the provisional patent application, the applicant must either file a regular patent application claiming priority to the provisional application or convert the provisional application to a nonprovisional application. Otherwise, the subject matter is abandoned.⁶⁵ The problem is that in many cases, such as an invention concerning a cutting-edge technology that has not been widely adopted or an inventor lacking sufficient networks or resources to quickly ascertain the worth of his or her patent, a twelve-month investigatory period may be insufficient,⁶⁶ forcing the applicant to choose to have the patent examined before fully understanding the market realities, lest the priority date be lost.

B. Regular Driver Applications

It is true that the traditional patent reward paradigm may not apply to all patent applications, but certainly a significant number of patent applications do fall under this rubric.⁶⁷ The applicant may plan to commercialize the patent and may intend to litigate or license the subject matter of the patent application as required. The applicant may have a reasonable understanding of the market realities faced, either through experience or other insight, or at the very least, there is a colorable presumption of market value. While there is no requirement that the patent application issue quickly,⁶⁸ any time spent in the dead period of patent pendency detracts from the amount of “life” of the patent and adds to the overall congestion within the patent grant system.

One large component of regular driver applications may be pharmaceutical patent applications, which have a reasonably ascertainable market value by the time a patent application is filed⁶⁹ but have no real need for the patent to issue quickly. This is due in part to the

65. 35 U.S.C. §§ 111(b)(5), 119(e) (2000).

66. An inventor who takes advantage of both the twelve-month grace period for novelty and the twelve-month provisional application period arguably has twenty-four months in which to investigate the viability of commercialization.

67. Although evidence suggests that only five percent of patents may be litigated or licensed, more may fall into this category. First, the inventor’s intent at the time of filing may be to use the patent to commercialize and exclude or otherwise control access, but then he may be unable to do so. Second, the figure of five percent may be somewhat misleading due to claim scope and patent portfolios.

68. This is in contrast to the ambulance driver applications. *See discussion infra* Part III.C.

69. It can be argued that pharmaceutical patent applications, when filed, do not have a readily ascertainable market value because of the uncertainty of FDA approval. However, while not every pharmaceutical patent application will result in a patent having clear value, the pharmaceutical industry has a historical knowledge base that permits an estimation of what percentage of pharmaceutical patent applications will mature into usable patents. For this reason, although each individual application may have an uncertain market value, the industry can still ascertain a market value for patent applications generally.

length accompanying the Food and Drug Administration (FDA) approval process⁷⁰ and in part to a powerful congressional lobby that has obtained provisions to extend a pharmaceutical patent's term beyond the twenty-year period because of the additional dead period due to the FDA regulatory approval process.⁷¹

Although the regular driver application category may not have any peculiar needs unaddressed by the current patent system, it is clear that the overarching problems of speed of issue and quality are equally present in this category. Moreover, as referenced above, the abundance of patent applications in the other two categories, particularly the Sunday driver applications, exacerbates the problems faced by regular driver applications by adding to the congestion in the Patent Office.

C. Ambulance Driver Applications

Ambulance driver applications, as the name may imply, reside at the opposite end of the spectrum from Sunday driver applications. These applications have well-recognized market value, but maximum benefit is derived only if the application reaches its destination quickly; that is, the patent must issue quickly. Consider a hypothetical from the computer industry, one technology area where ambulance driver applications are likely to be prevalent. For example, if a person invented an extra-fast computer chip, faster than any of the Pentium chips available in today's market, and filed a patent application for this chip, the patent application would, in all likelihood, take three to five years to issue.⁷² By the time the patent is granted, again in all likelihood, the technology would be obsolete, probably by

70. For more information about this process, see generally Jian Xiao, *Carving Out a Biotechnology Research Tool Exception to the Safe Harbor Provision of 35 U.S.C. § 271(E)(1)*, 12 TEX. INTELL. PROP. L.J. 23, 27-28 (2003).

71. See 35 U.S.C. § 156(a)(4) (2000) (extending a patent from the original expiration date if "the product has been subject to a regulatory review period before its commercial marketing or use"). This section further provides that the patent term shall be extended "by the time equal to the regulatory review period for the approved product which period occurs after the date the patent is issued," subject to due diligence by the applicant during the regulatory review period and further limited such that the period of patent term remaining after approval when added to the possible term extension for the regulatory review period shall not exceed fourteen years. *Id.* §156 (c)(1), (3). The products covered under this provision include human and veterinary drug products, as covered by the federal Food, Drug, and Cosmetic Act (FDCA), the Public Health Service Act, and/or the Virus-Serum-Toxin Act, as well as medical devices, food additives, or color additives subject to regulation under the FDCA. *Id.* § 156 (d)(2)(A).

72. Electronic, and particularly computer, patent applications suffer from among the greatest backlogs in patent pendency. *See supra* note 35. While this data includes delay attributable to both the patentee and the Patent Office, it is logical to assume that the patentee, in the case of an ambulance driver application, would have no incentive to delay on his own behalf.

a couple of years.⁷³ Unfortunately for our hypothetical inventor, not only will the technology be obsolete, but the patent, when finally granted, will not be worth nearly as much, if anything, to the patentee.⁷⁴

Interestingly, ambulance driver applications may suffer not only from problems with the speed of issuance, but may also be some of the prime candidates for bad patents. One reason is that in a rapidly evolving technology, a defining characteristic of this application type, it is difficult for the Patent Office to maintain a sufficient grasp on the state of the prior art.⁷⁵ It has been noted that in these fields technical knowledge is unlikely to be widely disseminated, residing instead in the hands of so-called experts.⁷⁶ As such, especially in areas of cutting-edge technology, information regarding prior art is more likely to be known to an applicant and his competitors and colleagues in the same field, rather than to the Patent Office.⁷⁷

To the extent the current patent system is not set up to deal with Sunday driver applications, since it is based on a presumption that all patents are being sought for the traditional patent law benefits, the system is also ill-equipped to deal with ambulance driver applications. One problem is that there is no general mechanism to speed patents through the system.⁷⁸ In fact, the technological areas contemplated to benefit the most from addressing the particular problems of ambulance applications—that is, technological areas with rapid obsolescence such as electronics—are, in fact, often subject to

73. See, e.g., Alex Salkever, *Information Age Byproduct: A Growing Trail of Toxic Trash*, CHRISTIAN SCI. MONITOR, Nov. 16, 1999, at 2 ("The speed of computer chips and the machines they power has doubled about every 18 months for the past 20 years. In 1997, the average lifespan of a computer tower was four to six years. By 2005, the lifespan will only be two years.").

74. Of course, depending on the breadth of claim scope and the ability to resort to the doctrine of equivalents, the inventor may be able to counter obsolescence and still derive some worth from the patent.

75. Although the example given above discusses computer hardware, the knowledge deficit problem is much greater with respect to computer software/business method inventions. However, both computer software and hardware, as well as other rapidly obsolescing technology, fall under the umbrella of the ambulance driver application.

76. Kesan, *supra* note 2, at 767 (citing Friedrich Hayek, *The Use of Knowledge in Society*, 35 AMER. ECON. REV. 519-30 (1945)).

77. *Id.*

78. Although there is no true procedure to speed patent applications through the Patent Office, there is one mechanism, known as a petition to make special, which allows an application to be examined out of turn under particular circumstances. 37 C.F.R. § 1.102 (2004). The circumstances include the following: (1) a showing of prospective manufacture; (2) a showing of actual infringement; (3) a showing that the state of health of the applicant is such that he might not be able to assist if prosecution were to run its full course; (4) evidence that the applicant is sixty-five or more years of age; and (5) inventions related to particular areas of interest, such as environmental quality, energy, recombinant DNA, superconductivity, HIV/AIDS, cancer cures and treatments, and counterterrorism measures. *Id.*; MPEP § 708.02.

the greatest backlog at the Patent Office today.⁷⁹ Although an applicant can reduce a patent application's pendency by filing very narrow claims that are most likely to be allowed in the first Office Action, this does not effect the pendency attributable to the Patent Office. Further, this tactic may not best serve the interest of the inventor if the resulting patent is of a narrower scope than that to which the inventor was entitled.

The inventor, having been issued a patent of narrower scope than that to which he was entitled does have some recourse. Under the continuation practice described above, the patentee can, before the patent issues, file a continuation application to seek broader claims and keep the examination process alive. Alternatively, the patentee can, within two years, file a reissue application with broader claims.⁸⁰ One of the concerns that arises from this practice is that a competitor who relied on the original patent to design around or otherwise compete with the patent may find that the activities that were not originally covered are now covered by the reissued patent.⁸¹ This inequity is addressed by intervening rights, which offer a limited defense to patent infringement.⁸² Both absolute and equitable intervening rights are available. Absolute intervening rights permit the patentee no recourse under the Patent Act, and the court must grant the infringer relief.⁸³ Equitable intervening rights, on the other hand, permit the court to allow the infringer to continue to infringe, either by performing the infringing process or by continuing to make, use, sell,

79. See *supra* note 37 and accompanying text.

80. See 35 U.S.C. § 251 (2000).

Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Director shall . . . reissue the patent for the invention disclosed in the original patent application and in accordance with a new and amended application. . . . No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

Id.

81. See *Sontag Chain Stores Co. v. Nat'l Nut Co. of Cal.*, 310 U.S. 281, 293-94 (1940).

[T]he patentee might have included in the application for the original patent, claims broad enough to embrace petitioner's accused machine, but did not. This "gave the public to understand" that whatever was not claimed "did not come within his patent and might rightfully be made by anyone." . . . Recapture within two years of what a patentee dedicates to the public through omission is permissible under specified conditions, but not, we think, "at the expense of innocent parties."

Id.

82. 35 U.S.C. § 252 (2000).

83. See *BIC Leisure Prods., Inc. v. Windsurfing Int'l, Inc.*, 1 F.3d 1214, 1220-21 (Fed. Cir. 1993) (discussing the absolute intervening rights found in the first sentence of the second paragraph of section 252).

or offer for sale articles made before the reissue or for which the infringer has made substantial preparations prior to reissue.⁸⁴

Another problem is that a patentee under the current patent grant system is required to submit an information disclosure statement (IDS), listing all of the material prior art about which the applicant is aware.⁸⁵ However, the applicant is under no obligation to search for additional prior art, even though the applicant may be in the best position to know where to look for that prior art—especially in pioneering or rapidly developing technology areas. Commentators, however, have suggested that the Patent Office raise this standard of disclosure to require an applicant to search for relevant prior art.⁸⁶

The categorization paradigm proposed above may simplify the often complex thought processes of applicants in seeking patent protection, but it does clarify the failings of the current one-size-fits-all, traditional patent benefit model of the patent grant system. The biggest problem may be that, while scholars and commentators readily recognize that the traditional patent reward model does not apply to all patentees,⁸⁷ the patent grant system does not make any such concessions. In addition to the sheer overwhelming number of patent applications filed each year in the Patent Office, the expectation is that each of these applications receives at least the same level of scrutiny.⁸⁸ Both of these factors certainly contribute to the congestion

84. See *Shockley v. Arcan, Inc.*, 248 F.3d 1349, 1360-61 (Fed. Cir. 2001) (discussing the equitable intervening rights found in the second sentence of the second paragraph of section 252).

85. Compare the proposal set forth in this Article, *infra* Part IV, with 37 C.F.R. § 1.97 (2004) (setting deadlines for filing of an IDS) and 37 C.F.R. § 1.98 (2004) (setting the content of an IDS). An IDS need only include “[a] concise explanation of the relevance” only for those references submitted in a language other than English. 37 C.F.R. § 1.98(a)(3)(i) (2004). Further, an IDS “shall not be construed as a representation that a search has been made.” *Id.* § 1.97(g). In fact, the patentee’s duty to disclose extends only to “all information known to that individual to be material to patentability.” *Id.* § 1.56(a) (emphasis added).

86. See, e.g., Kesan, *supra* note 2, at 773-75; Joseph Scott Miller, *Enhancing Patent Disclosure for Faithful Claim Construction*, 9 LEWIS & CLARK L. REV. 177, 200-03 (2005). Without more, however, this heightened standard may encourage the act of “dumptruck-ing,” or piling every conceivable piece of prior art on the examiner’s desk to either avoid the appearance of inadequate disclosure or to bury a relevant and damaging piece of prior art. Given the limited amount of time available for examiners to read and understand the relevance of the prior art, these proposals, while facially appealing, may not result in better patents.

87. See, e.g., Long, *supra* note 17, at 627 (challenging the view “that exclusivity is the alpha and the omega of the private value of patent rights”).

88. That each patent application receives the same level of scrutiny is the subject of debate. For example, Gene Quinn, law professor and founder of IPWatchdog.com, made the following statement quoted on the blog Patently Obvious:

There seems to be a double standard in the [Patent Office]. Things that are silly/stupid get patented without much time or consideration, perhaps because the Patent Office doesn’t believe anyone will ever use the patent. Things that are what we would consider “science related” actually get stricter scrutiny.

plaguing the Patent Office and affecting the speed metric of patents granted. The Patent Office's solution to this congestion—limiting the amount of time spent by examiners on each application—decreases, at least in theory, the quality metric of patents granted. The next Part proposes a multitier patent grant system that addresses the peculiar needs of each of the three patent application types while attempting also to improve the speed of issuance and quality of patents granted generally.

IV. PROPOSED MULTITIER PATENT SYSTEM

In contrast to the current single-tier patent system, which is ill-equipped to handle patent application types of different categories, this Article proposes a multitier patent system. The proposed patent grant system includes three tiers—the primary patent, the enforcer patent, and the techno-patent—each associated with one of the patent application types described in Part III, *supra*.⁸⁹ Although each patent tier is targeted at a patent application type and particularly addresses the needs associated with that patent type, the overall scheme should also resolve the patent quality and speed issues that generally trouble the Patent Office.

A. Primary Patent

The primary patent is aimed at Sunday driver patent applications. An application for a primary patent would require the same components as are required for current patent applications⁹⁰ and would be subject to the same filing rules and fees as the current patent application. Upon filing, an application for a primary patent would receive only a cursory examination and then be granted.⁹¹ The

This may make some sense, but the patent laws do not make such a distinction.

Silly Inventions Are Easy to Patent?, <http://patentlaw.typepad.com/patent/2004/09> (Sept. 24, 2004).

89. The terms primary patent, enforcer patent, and techno-patent are used solely for ease of reference and should not impute an additional meaning on any of the patent types.

90. In general, an application shall be made in writing and include a specification, a drawing, and an oath by the applicant. 35 U.S.C. § 111(a)(2)(A)-(C) (2000). The application must be accompanied by a fee. *Id.* § 111(3). The specification shall contain a written description of the invention, sufficiently detailed to enable one of skill in the relevant art to make and use the invention, as well as set forth the best mode of carrying out the invention as contemplated by the inventor. *Id.* § 112. “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” *Id.* Drawings shall be furnished “where necessary for the understanding of the subject matter sought to be patented.” *Id.* § 113. Finally, “[t]he applicant shall make oath that he believes himself to be the original and first inventor of the [invention] for which he solicits a patent.” *Id.* § 115.

91. It should be noted that the primary patent proposed in this Article does not seek to replicate the registration model proposed by some commentators. See, e.g., F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent*

primary patent would remain in force for twenty years from the filing date, the same as with current patents. However, because the primary patent would not receive a full examination by the Patent Office, the patentee would not be able to enforce the patent through litigation. Although unavailable for litigation (and therefore potentially less desirable for licensing for royalties), the primary patent would be available for nontraditional patent usages such as marketing or self-validation,⁹² uses which do not necessarily require the heightened standards of validity expected for patents under the traditional patent benefit paradigm. Patent Office resources are therefore not expended on examining applications whose validity is highly unlikely, if ever, to be called into question.

Although it could not be litigated, a primary patent would serve as a quick method for demarking an inventor's territory until the applicant could fully ascertain the market realities surrounding the subject matter of the invention. At any time during the primary patent's twenty-year life, if the patentee determines that the primary patent's value could be better reaped through litigation or other means of traditional patent usage, the primary patent may be converted to an enforcer patent⁹³ by paying additional fees and subjecting the patent application to a full examination. By allowing this conversion to occur at any time during the primary patent's twenty-year life, the applicant would have sufficient time to make an informed decision about whether the invention is worth expending both his and the Patent Office's resources. In some respects then, a primary patent may be viewed as simply an extended provisional patent practice.

The benefits provided to society and the inventor by current provisional practice, however, fall far short of the potential benefits envisioned with the proposed primary patent. With respect to the inventor, provisional practice affords only twelve months to determine

Obtaining Rules, 45 B.C. L. REV. 55 (2003). Although many of the same rationales support the initiation of a registration only, or "soft-look" system, the particular paradigm adopted in this Article relies on the theory that there are different types of patent applications, each with peculiar needs, which are not addressed in a one-size-fits-all patent grant system.

92. It can be argued that a patent that is unenforceable, in its current stage, would be of little marketing value. However, the primary patent could still signal innovation and/or technological prowess to either the public (in the case of mainstream marketing of products) or to venture capitalists or other investors. The primary patent, although it does not come with the imprimatur of the Patent Office's examination, still has value in that it provides a staked claim around the inventor's asserted territory and can be, if commercially viable, converted to an enforcer patent and enjoy all the rights of a regular patent, including the right to be enforced via litigation. This view, however, may receive some opposition from commentators who believe that the underlying value of patents as signals or patent portfolios is in the exclusionary right.

93. See *infra* Part IV.A-B.

whether to pursue a nonprovisional, or regular, patent, whereas the proposed primary patent would allow the pursuit of an enforcer patent (similar to a nonprovisional patent) at any time during the patent's twenty-year life.⁹⁴ Further, because provisional patents automatically expire twelve months after filing (if not converted to a non-provisional patent or if a non-provisional patent claiming priority to the provisional application is not filed), the current provisional patent offers little in the way of nontraditional usage. Primary patents, by comparison, could be used to obtain many, if not all, of the non-traditional patent benefits without taxing the Patent Office's resources. In contrast to provisional applications, which are currently not published (in part due to the fact that the provisional application expires before the eighteen-month publication date), the issuance of a primary patent benefits society by putting the public on notice and disclosing the new technology to the public and by enabling society to ascertain and design around a competitor's technology more quickly or make further technological advances based on the disclosed invention. In this respect, the primary patent serves many of the same purposes as the current process of publication of pending patent application at eighteen months post-filing, without expending the Patent Office resources, for a patent whose validity, at least at the time of filing, is not anticipated to be questioned.

One concern raised with respect to the proposed primary patent system comes from the possibility of abuse. For example, without a substantive examination, there is no mechanism to stop a patentee from submitting an application with wildly overbroad claims and then harassing competitors with the issued primary patent. An oversimplistic answer is that a patentee having that motivation is unlikely to file for a primary patent, since there would be no substance behind the threat. Even if the patentee makes threats based on a primary patent, competitors would suffer no real apprehension, because the patentee would not be able to litigate until the primary patent was converted to an enforcer patent and subjected to a full examination.⁹⁵ Concerns about the possible chilling effect on innovation that may be caused by the issuance of overbroad primary patent claims may be addressed by analogy to the current publication of patent applications. Namely, there seems to have been no increase in filing of "kitchen sink" patents since the implementation of the publi-

94. The caveat, explained in detail *infra* Part IV.B, however, is that the total life of the patent includes time spent as a primary patent and time spent as an enforcer patent. The twenty-year clock does not restart upon conversion from a primary patent to an enforcer patent.

95. Similarly, a competitor would be unable to file a declaratory judgment action to have the patent invalidated in court because there is no reasonable apprehension. However, the competitor could resort to the reexamination procedure outlined *infra* Part IV.B.

cation provisions in 2000, and there is no reason to believe that the implementation of a primary patent system would generate any such increase.⁹⁶

Finally, after issuance, a primary patent would be subject to an administrative revocation procedure to address any overbroad or otherwise potentially invalid claims. Although the current reexamination procedure⁹⁷ allows third-party validity challenges of granted patents through the Patent Office, it is too flawed in many respects to alleviate invalidity problems in the current patent system.⁹⁸ However, the existing reexamination provisions may well suit validity challenges to primary patents.⁹⁹ For this reexamination, a third party would bring to the Patent Office one or more pieces of prior art considered to invalidate the primary patent. The Patent Office would then perform an examination of the primary patent, including review of the primary patent with respect to the submitted prior art, and determine whether, in light of all relevant prior art, the primary patent meets the requirements of patentability.¹⁰⁰ If the primary patent survives this procedure, and to prevent harassment of a primary patentee by third parties using the reexamination mechanism, the primary patent would automatically be converted to an enforcer patent, since reexamination would provide a substantive examination of the patented subject matter. As a side note, because reexamination provisions require the requesting party to submit prior art over which the requestor believes the patent is invalid, this sequence of events,

96. To be sure, most patents issue with claims that are less broad than the claims as originally filed and, therefore, published. However, the concern of chilling innovation is more related to the potential problem of the issuance of primary patents with extremely overbroad claims, leading a competitor to believe invention in the entire technology area is precluded. Moreover, after *Festo*, this practice of filing initially broad claims may be changing.

There is also concern that this primary patent system would increase the amount of patent applications filed in the Patent Office, which would in turn decrease the ability of patents to serve a signaling function. The number of patent applications filed has been increasing exponentially in the absence of this proposal. There is no indication that this proposal would encourage more filings; rather, the filings would simply be categorized differently.

97. See generally 35 U.S.C. §§ 301-18 (2000) (outlining the reexamination procedure).

98. See Kristen Jakobsen Osenga, *Rethinking Reexamination Reform: Is It Time for Corrective Surgery, or Is It Time to Amputate?*, 14 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 217 (2003). Other commentators have similar questions as to the efficacy of reexamination in today's patent system. See, e.g., Mark D. Janis, *Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law*, 11 HARV. J.L. & TECH. 1, 24-26 (1997).

99. Clearly the name "reexamination" with respect to primary patents would be a misnomer, since primary patents would never have been subject to an initial examination. The use of the term is simply to avoid confusion while referring to a process that is already in existence in current patent law.

100. In theory, the reexamination procedure as applied to this proposal could be either ex parte or *inter partes*. Due to certain estoppel rules, *inter partes* reexamination is not as attractive to third parties; however, these rules could be adjusted.

with respect to primary patents, would likely result in the primary patent receiving the best possible examination upon reexamination because it would be in the best interest of the requestor to find the best and most relevant prior art, which competitors are often in the best position to find.¹⁰¹

Two additional concerns may be raised with respect to the proposed primary patent system. First, because the primary patent is not able to be enforced through litigation, there is no mechanism to stop competitors from infringing willfully until such time as the primary patent is converted to an enforcer patent. The second concern is akin to the inequity that arises in reissue applications, where a competitor suddenly finds himself infringing after the scope of the claim is broadened.¹⁰² In this case, a remedy that is related to both provisional rights (associated with published patent applications) and intervening rights (associated with reissue applications) would address both of these problems. Upon conversion to an enforcer patent, the patentee would be able to sue for infringement. To the extent that the claims in the enforcer patent are substantially identical to the claims that were present in the primary patent, the patentee will be able to reach backwards for damages into the term of the primary patent, for a maximum of four years. The reason for capping the ability to reach back to a limited time period is to encourage patentees who believe that their inventions are being infringed to convert the primary patents to enforcer patents, rather than sitting by and lulling competitors into believing that either the patent will not cover the infringing activities or that the patentee is disinterested in enforcing his rights. On the other hand, to the extent that a competitor had a good-faith belief that he had designed around the primary patent,¹⁰³ he may be awarded intervening rights upon the conversion of that primary patent to an enforcer patent.

B. Enforcer Patent

The enforcer patent is directed towards the regular driver category of patent applications and retains most of the current patent rules, regulations, and procedures. An applicant can either designate an enforcer patent upon initially filing the patent application or choose to obtain an enforcer patent through conversion of a primary patent during its twenty-year life. An enforcer patent would also

101. See Miller, *supra* note 3, at 707-09; Thomas, *supra* note 3, at 327-28.

102. See *supra* notes 33-34 and accompanying text.

103. The test for this belief could be similar to that used in willful infringement analyses. Willfulness liability attaches where the “infringer has actual notice of [the plaintiff's] patent rights” and failed “to exercise due care to determine whether or not he [was] infringing” upon those rights. *Underwater Devices, Inc. v Morrison-Knudsen Co.*, 717 F.2d 1380, 1389 (Fed. Cir. 1983).

have a term of twenty years; however, if a primary patent is converted to an enforcer patent, it will still expire twenty years from the filing date of the original application for the primary patent. While the patent application rules and requirements would remain the same as the primary patent (and as set forth in current patent law), the fees to file an enforcer patent application will be significantly increased.¹⁰⁴ The purpose of increasing the fees is to put a greater burden on the applicant to determine the intended use and market worth of the patent application before expending Patent Office resources. The enforcer patent would receive a full, thorough examination prior to grant and would be able to be litigated upon issuance. Publication provisions for patent applications will still apply for enforcer patent applications designated as such *ab initio*. Enforcer patents resulting from the conversion of primary patents will not be published, as the grant of the primary patent serves the purpose of publication. Damages may be available for infringement prior to the date of issuance of the enforcer patent where the patentee can obtain provisional rights from the date of publication under 35 USC 122. Alternatively, where the enforcer patent is based on a converted primary patent, the patentee may reach back for damages for infringement prior to the date of issuance of the enforcer patent for up to four years to the filing date of the primary patent, whichever is less. Both options are subject to the limitation of the claims as published being “substantially identical” to the claims as filed.¹⁰⁵

Despite the fact that the only alteration with respect to enforcer patents from the current patent laws is the fee structure, the implementation of the multitiered system should improve the speed metric associated with today’s patent grants, because a critical mass of patent applications could be expected to file at least initially for primary patent protection. This decrease in number of applications receiving a full examination would conserve Patent Office resources, allowing for potentially quicker examination and resulting in fewer bad patents, by relieving the pressure on the Patent Office to quickly issue patents to empty the queue of pending applications.

At this point, questions may be raised as to whether a simple, fee-based proposal would not serve the same purposes as the above-proposed combination of the two patent tiers. In fact, fee-based pro-

104. Upon conversion from a primary patent to an enforcer patent, the applicant will need to pay the difference in fees between a primary patent and an enforcer patent along with the request for examination. If, however, a primary patent is converted to an enforcer patent after a third-party request for reexamination, the patentee will not be responsible for the additional fees. This provides an additional incentive to an applicant to file for a primary patent, at least initially.

105. See the discussion, *supra* Part IV.A, of a remedy combining both provisional rights and intervening rights with respect to primary patents.

posals—substantially raising the cost of applying for a patent application in order to decrease the number of patent applications and/or fund greater assistance for the Patent Office—are often considered.¹⁰⁶ The number of patent examiners employed by the Patent Office, however, is not constrained by monetary concerns.¹⁰⁷ Moreover, simply increasing the fees required to file a patent application may result in shutting a small, inventive entity out of the market entirely,¹⁰⁸ which is contradictory to this country's traditionally paternalistic view of such inventors.¹⁰⁹ Finally, there is no evidence that simply raising fees will result in a significant decrease in the number of patent applications. Because large corporations file a significant percentage of Sunday driver-type patent applications, likely seeking the patent for something other than the traditional patent benefit, there is no reason to believe that the number of patent applications filed will drop merely because they cost more to obtain.¹¹⁰ However, the proposed multitier system offers the applicant an attractive alternative in the primary patent. If the primary patent is also then less expensive than the enforcer patent, applicants will be encouraged to file primary patent applications for those inventions upon which

106. See, e.g., Merges, *supra* note 3, at 598 (noting that raising the filing fee may serve as some sort of screening mechanism and induce “applicants to sort out the least potentially valuable investments on their own”).

107. Prior to 1982, the Patent Office did not generate sufficient funding through its own fees to cover its expenses, requiring the allocation of additional funding from tax payers monies. See Thomas, *supra* note 3, at 316-17. Congress then altered the patent fee schedule to cover expenses related to application processing, but activities unrelated to application processing were funded from tax monies. *Id.* In 1990, Congress again altered the fee structure to remove the Patent Office's reliance on public revenue by imposing a temporary surcharge. *Id.* at 317. Initially the surplus from the new fee schedule was returned to the Patent Office, but it began to be diverted to other areas of government throughout the life of the surcharge. *Id.* Even after the surcharge expired, Congress continued to divert fees by placing a ceiling on the Patent Office's revenue. *Id.* Fee diversion from the Patent Office remains a hot-button issue among members of the patent bar. However, President Bush's proposed budget for fiscal year 2005 allocates to the Patent Office all \$1.533 billion in fees projected to be generated through application and other patent fees. Press Release, Dep't of Commerce, President's Proposed Budget Ends USPTO Fee Diversion in FY 2005 (Feb. 2, 2004), available at www.uspto.gov/web/offices/com/speeches/04-03.htm.

108. At this point there may be concern that the small inventor will simply end up with a worthless primary patent (worthless in that it cannot be enforced or converted without substantial fees). However, the provisional/intervening rights remedy provides the primary patent with some teeth, and further, if it becomes commercially viable to convert to an enforcer patent, there is no reason to expect that the primary patentee will be unable to obtain funding to convert the patent from, for example, a competitor of the infringer or some other “angel.”

109. See Seifert, *supra* note 32, at 197.

110. In fact, the major portion of costs associated with obtaining a patent may be attributed to attorney fees, rather than Patent Office fees. Further, if cost were a deterrent, it would be expected that the number of patent applications would decline during an economic downturn. However, recent Patent Office figures show this is not true. See 2002 PTO ANNUAL REPORT, *supra* note 32, at 15 (noting a 2.3% increase in applications filed in 2002 over 2001, “despite the downturn in the economy”).

commercialization is not anticipated or intended,¹¹¹ even if the applicant is a corporation that would otherwise expend the additional money required to obtain a traditional patent on these inventions. The primary patent would still provide the corporation with a tool for nontraditional uses.¹¹²

C. Techno-Patent

Finally, the techno-patent is aimed at the ambulance driver category of applications discussed above. Although the name “techno-patent” may imply that the patent is available only for high-tech inventions, it should be understood that the option of each of the three patent types (that is, primary patent, enforcer patent, and techno-patent) would be at the discretion of the applicant. However, the burdens associated with the techno-patent will likely deter applicants from choosing this route unless the subject matter of the patent is in a high-tech field with a short life cycle. To deal with the problems peculiar to the ambulance driver applications, a techno-patent is guaranteed to grant within one year of application. In return for speedy issuance, an application for a techno-patent must be submitted to the Patent Office with both the results of a prior art search¹¹³ and a statement explaining how the claimed invention differs from the found prior art from the search.¹¹⁴ The search and statement of relevance would be required in addition to the already required IDS, citing any material prior art known by the inventor.¹¹⁵ Other relevant application rules and requirements would remain the same. The fees associated would be the increased fees set for the enforcer patent,

111. This comports with the lottery theory of obtaining a patent. See Parchomovsky & Wagner, *supra* note 18, at 24-26. If one is playing the lottery, isn't it smarter to buy the cheapest potentially winning ticket possible?

112. Further, the primary patent could always be converted to an enforcer patent upon realization that there is commercial viability, including the ability to reach back four years to obtain damages.

113. Standards for acceptable searches would need to be adopted. Recent patent reform proposals have discussed the outsourcing of patent searching, a task that is currently performed by patent examiners, and the standards set forth in these proposals may prove applicable here. See *United States Patent and Trademark Fee Modernization Act of 2003: Hearing on H.R. 1561 Before the Subcomm. on Cts., the Internet, & Intellectual Property of the House Comm. on the Judiciary*, 108th Cong. (2003), available at <http://www.house.gov/judiciary/rogan040303.htm>. (statement of James E. Rogan, then-Under Secretary of Commerce for Intellectual Property and Director of the Patent Office) (commenting on the 21st Century Strategic Plan and noting its proposal to competitively source search functions); U.S. PATENT & TRADEMARK OFFICE, DEP'T OF COMMERCE, THE 21ST CENTURY STRATEGIC PLAN 13 (2003), available at http://www.uspto.gov/web/offices/com/strat21/stratplan_03feb2003.pdf; see also Tamara Loomis, *Patents and Trademarks: Opposition to Reform Has Scaled Back Overhaul of PTO*, 229 N.Y. L.J. 5 (2003).

114. It may seem that requiring the search and statement from the patentee before commencing examination might actually slow the process down; however, it is the patentee who is often in the best position to know this information a priori.

115. For discussion of current IDS practice, see *supra* note 85 and accompanying text.

and the application would receive a full examination. The term of a techno-patent, again reflecting its proposed use for quickly expiring technologies, would be six years from the date of filing.

Although the one-year guaranteed issuance may appear attractive to many types of patent applicants and applications, the shortened life and the heightened disclosure requirements should serve as a substantial deterrent, so that only true ambulance driver applications would opt for a techno-patent. In fact, the requirement of the statement of relevance is probably the greatest deterrent, creating an estoppel before the application is even considered by the Patent Office. Because only a small number of patent applicants would choose this route, the techno-patent lane in the multitier patent system should not itself become congested, thereby allowing for quick examination and issuance.¹¹⁶

Moreover, the abbreviated patent term and search requirement serve additional purposes. The requirement that the applicant submit a search report and a statement explaining how the claimed invention differs from the prior art found in the search furthers the effort to grant the patent quickly, as this search and determination of relevance is among the first tasks performed by the examiner. Also, because the patentee is coming to the Patent Office with prior art in hand, the shortcomings of the Patent Office in finding prior art—particularly in these quickly evolving technologies—is alleviated, resulting in potentially better patents. As a safety net for these rapidly granted patents, the shortened patent term serves to protect the public from a twenty-year monopoly granted on a bad patent, since the techno-patent would typically have a five-year life. Even with all of the negative aspects, it is assumed that a significant number of applicants will find this track sufficiently attractive, again decreasing the number of applicants seeking enforcer patents and also the congestion in the Patent Office.¹¹⁷

Because the grant of the techno-patent relies even more heavily on the patent applicant to be forthcoming with the Patent Office, it may be necessary to reconfigure the standard duty of disclosure as associated with these patents. In particular, the current duty of dis-

116. The techno-patent tier could be implemented either through a group of dedicated examiners in the likely technology groups for examining only techno-patent applications or, conversely, by utilizing the same examiners as working on the enforcer patent applications. If the regular corps of examiners is used, it will be necessary to implement a process that immediately bumps techno-patent applications to the top of any examiner's pile of pending applications.

117. A fair criticism of this proposal is that much of its success rides on applicants choosing from the three tracks in the expected numbers. Because of the carrots and sticks associated with each of the tracks, it is believed that the patentee will find the expected track to be the most attractive and appropriate, thereby allocating the applications as expected.

closure requires only that known prior art that is material to patentability be disclosed with no requirement of a search.¹¹⁸ If a patentee fails to comply with this provision, a court can deem the patent unenforceable due to inequitable conduct by the applicant before the Patent Office.¹¹⁹ Because inequitable conduct is a disfavored charge,¹²⁰ it currently has a hefty burden of proof attached. In the case of techno-patents, the burden of proof should instead be shifted downward: the applicant must show full and truthful disclosure to maintain an equitable balance. Additionally, it is also possible that the presumption of validity associated with granted patents may need to be removed for techno-patents.¹²¹

In sum, it is possible to address the particular needs of the various contemplated patent application types by implementing a multilayered patent system as proposed. Patents which are not intended to be used to obtain the classic benefits of patent law and whose validity is rarely, if ever, called into question can be granted so that Patent Office resources are conserved, while still furthering public notice and innovation functions. In removing this bulk of patent applications from the process, the patent applications remaining in the queue as enforcer patents may be examined at a quicker rate and will likely receive a more thorough examination because the pressures to issue patents quickly will subside with the decreased congestion. As a top layer, the implementation of the third tier, particularly directed to quickly evolving technology, will allow for quick issuance of patents on rapidly obsolescing technologies while placing much of the examination burden on the applicant, which further permits the grant of better patents.

The three tiers provide a great deal of flexibility for a patent applicant, who is in the best position to determine the intended use for the patent as well as the market realities that surround the subject matter. By placing the decision of patent track in the applicant's hand, it forces the applicant to make decisions about the patent's worth before expending the resources of the Patent Office. Finally, although it is believed that the best improvement in quality and

118. "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent] Office, which includes a duty to disclose to the [Patent] Office all information known to that individual to be material to patentability . . ." 37 C.F.R. § 1.56(a) (2004).

119. Inequitable conduct, which renders a patent unenforceable, arises when information material to patentability is not disclosed to the Patent Office or misinformation is disclosed to the Patent Office with an intent to deceive. *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 876 (Fed. Cir. 1988).

120. See *Burlington Indus. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) (noting that "the habit of charging inequitable conduct in almost every major patent case has become an absolute plague").

121. A granted patent is presumed to be valid. 35 U.S.C. § 282 (2000).

speed metrics would result from the implementation of both the primary patent and techno-patent tiers, the ideas could be implemented separately and still yield positive results.

V. OTHER MULTITIER PATENT SYSTEMS

Despite the fact that this proposal seems to add complexity to the already addled patent system, the notion of multitier patent systems is not new or radical. Not only have a number of foreign countries adopted multitiered patent systems, but commentators have also suggested such a system in limited circumstances for this country. While multitiered patent systems have suffered from some criticism, this proposal does not suffer from many of the same infirmities that are the subject of that criticism, thereby making this proposal more attractive.

A. International Multitier Patent Systems

More than sixty countries have some form of multitier, or second tier, patent protection.¹²² While some regimes follow the classic utility model, dating back to the mid-nineteenth century, others can be considered as modern second tier regimes that vary from the classic utility model.¹²³ The classic utility model, as exemplified by the original German *Gebrauchsmuster*, was essentially a form of design patent.¹²⁴ This system featured a “lower standard of inventiveness, no pre-grant examination,” and a term of protection of three years from application, with a possible three-year renewal.¹²⁵ The *Gebrauchsmuster* system was limited to subject matter of movable articles having three dimensions, thus excluding processes, circuitry, and articles whose appearance were unrelated to their functionality.¹²⁶

Modern second tier patent regimes are not easily represented by a singular example. One second tier patent system is the modern day *Gebrauchsmuster* patent of Germany, altered significantly in 1990 from its earlier, design patent-based form.¹²⁷ Most significantly, the spatial form requirement was removed, allowing for patenting of

122. Mark D. Janis, *Second Tier Patent Protection*, 40 HARV. INT'L L.J. 151, 153 (1999).

123. While a brief overview of the two models will be discussed here, see *id.* for a more detailed discussion and comparison of the classic utility model and modern second tier regimes.

124. See *id.* at 158-59.

125. *Id.*

126. *Id.*

127. FRIEDRICH-KARL BEIER ET AL., GERMAN INDUSTRIAL PROPERTY, COPYRIGHT AND ANTITRUST LAWS I/B/201 (1996) (providing an English translation for the German Utility Model Act).

chemical and electrical inventions.¹²⁸ The modern *Gebrauchsmuster* requires industrial applicability, novelty, and a less-stringent showing of inventive step.¹²⁹ A granted *Gebrauchsmuster* is entitled to a maximum ten-year term of protection.¹³⁰

Another recent addition to the multitier patent protection forum is the Australian Innovation Patent, introduced in 2001 to replace the country's petty patent system.¹³¹ The Innovation Patent is a tier below the standard patent and requires an "innovative step" instead of an "inventive step."¹³² The test is that the difference between the claimed invention and the prior art base must make a "substantial contribution" to the working of the claimed invention.¹³³ The Innovation Patent is intended to provide protection for lower level or incremental improvements.¹³⁴ Further, the application process has been streamlined, reducing the time and costs associated with obtaining patent protection; the grant can be obtained without examination, although infringement proceedings can only be commenced when the innovation patent has been certified.¹³⁵ Moreover, the Innovation Patent may be used in conjunction with a standard Australian patent. The Innovation Patent has an eight-year life.¹³⁶

There are also proposals to extend second tier patent grant regimes throughout the world. Most notably, there has been a proposal to harmonize existing second tier regimes in the European Union.¹³⁷ Second tier patent regimes in Europe have been categorized into four types: (1) countries that have moved away from the spatial requirement and softened the obviousness requirement, like the German

128. Janis, *supra* note 122, at 168-69.

129. BEIER, *supra* note 127, at I/B/201.

130. *Id.* at I/B/209.

131. See generally IP Australia, The Innovation Patent, http://www.ipaustralia.gov.au/patents/what_innovation.shtml (last visited Oct. 7, 2004).

132. Anne Duffy, *Patents Amendment (Innovation Patents) Act 2000*, 23 EUR. INTELL. PROP. REV. N-38 (2001).

133. *Id.*

134. *Id.* at N-37.

135. *Id.* at N-37 to N-38.

136. *Id.* at N-37.

137. See Janis, *supra* note 122, at n.20; see also *Proposal for a European Parliament and Council Directive Approximating the Legal Arrangements for the Protection of Inventions by Utility Model*, 1998 O.J. (C 36) 13; *Opinion of the Economic and Social Committee on the 'Proposal for an European Parliament and Council Directive Approximating the Legal Arrangements for the Protection of Inventions by Utility Model'*, 1998 O.J. (C 235) 26 [hereinafter July 1998 Opinion]. These build on *The Commission Green Paper on the Protection of Utility Models in the Single Market*, COM (1995) 370 final (July 19, 1995), and the *Opinion of the Economic and Social Committee on the 'Green Paper: The Protection of Utility Models in the Single Market'*, 1996 O.J. (C 174) 6 [hereinafter June 1996 Opinion]. While most of the current EU member states already have some form of second tier protection, the U.K., Sweden, and Luxembourg currently do not. *Proposal for a European Parliament and Council Directive Approximating the Legal Arrangements for the Protection of Inventions by Utility Model*, at 7, COM (1997) 691 final (Dec. 12, 1997).

Gebrauchsmuster; (2) countries that have removed the spatial requirement but leave in place the traditional obviousness/inventive step criterion; (3) countries maintaining a classic utility model regime; and (4) countries, such as the United Kingdom, that offer no second tier patent protection.¹³⁸ The European Commission, seeking to harmonize this vast range of second tier patent protections available, set forth a proposed harmonized utility model patent featuring a shortened life of six years with the potential for two, two-year renewals; a limited number of claims; and lack of pregrant examination.¹³⁹ The proposal removes the spatial limitation but adds a two-track, inventive-step standard, wherein the subject matter withstands scrutiny if it exhibits either a particular effectiveness in terms of ease of use or a practical or industrial advantage.¹⁴⁰

B. Multitier Patent Systems in the United States

Multitier patent systems are not only an international concern. At the highest level, the United States is already, in some respects, a multitier patent system. Although utility patents are the most common and are the subject of the reform proposed in this Article, the United States also offers design patents and plant patents.¹⁴¹ Each of these patent types are governed by separate rules for examination and enforcement and are strictly limited to the subject matter falling within each patent's scope. In a similar vein, commentators have proposed additional second tier patent protection for subject matter falling within other technological scopes, such as for environmental inventions¹⁴² and computer software.¹⁴³ Professors Jaffe and Lerner also posit the benefits of a technology-specific multitier patent system, before dismissing the idea as being rife with potential for corruption as inventors jockey to ensure that their invention is categorized to receive the most favorable patent treatment.¹⁴⁴

138. Janis, *supra* note 122, at 168.

139. *Id.* at 168-69.

140. *Id.* at 169-70.

141. 35 U.S.C. § 171 (2000) (authorizing a patent for an inventor who “invents any new, original and ornamental design for an article of manufacture”); *id.* § 161 (authorizing a patent for an inventor who “invents or discovers and asexually reproduces any distinct and new variety of plant”).

142. Natalie M. Derzko, *Using Intellectual Property Law and Regulatory Processes to Foster the Innovation and Diffusion of Environmental Technologies*, 20 HARV. ENVTL. L. REV. 3, 14 (1996) (proposing an “environmental patent” that eliminates the nonobviousness requirement for product and process inventions related to environmental technologies but grants only a ten-year term of protection).

143. See, e.g., Mark Aaron Paley, *A Model Software Petite Patent Act*, 12 SANTA CLARA COMPUTER & HIGH TECH. L.J. 301 (1996); Pamela Samuelson, et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, (1994); Richard H. Stern, *A Sui Generis Utility Model Law as an Alternative Legal Model for Protecting Software*, 1 U. BALT. INTELL. PROP. L.J. 108 (1993).

144. See JAFFE & LERNER, *supra* note 5, at 203-05.

Multitier patent proposals are not limited to specific subject matter limitations. Professor Bartow has suggested adding a general tier to the United States patent system, not unlike the Australian Innovation Patent, called an “Origination Patent.”¹⁴⁵ The proposed Origination Patent would include streamlined prosecution and would issue within one year.¹⁴⁶ The life of the Origination Patent would be three to five years.¹⁴⁷ While the examination process of the Origination Patent would be based on all of the traditional patentability standards, that is, patentable subject matter, novelty, and nonobviousness, an Origination Patent would not be subject to invalidity challenges based on utility or obviousness in litigation.¹⁴⁸

C. *In Defense of a Multitier Patent System*

The fact that proposals for second tier protection are being introduced in this country and that second tier patent systems are flourishing abroad lends credibility to the system proposed in this Article. Simply put, this system can be implemented. Specifically, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs Agreement),¹⁴⁹ while establishing minimum substantive standards for patent laws, fails to discuss second tier protection and leaves member countries free to establish multitier patent systems as they see fit. Further, the Paris Convention¹⁵⁰ includes second tier patents among other defined categories of industrial property.¹⁵¹ This inclusion extends national treatment and priority to second tier patents but establishes no other benchmarks.¹⁵² Further, the proposed system is carefully designed to make it the applicant’s option which tier to travel, thus avoiding de facto discrimination by technology area or applicant.¹⁵³

Despite the widespread usage of multitier patent systems in other countries, at least one commentator has denounced the introduction of such a system in the United States.¹⁵⁴ Professor Mark Janis examines these second tier patent systems, characterized by “relatively

145. Bartow, *supra* note 16, at 16.

146. *Id.*

147. *Id.*

148. *Id.*

149. Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, 33 I.L.M. 1125, (1994) [hereinafter TRIPS Agreement].

150. Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as last revised at Stockholm, July 14, 1967, 21 U.S.T. 1583 [hereinafter Paris Convention].

151. *Id.* at art. 1(2); *see also id.* at art. 1(4) (“Patents shall include the various kinds of industrial patents recognized by the laws of the countries of the Union, such as patents of importation, patents of improvement, patents and certificates of addition, etc.”).

152. *Id.* at arts. 2(1) & 4(A)(1).

153. *See* TRIPS Agreement, *supra* note 149, at art. 27 (prohibiting discrimination on patenting by technology type).

154. *See* Janis, *supra* note 122, at 154.

short-term protection, protectability standards that may be less rigorous than those applicable to regular patents, and the granting of rights without any prior examination for compliance with substantive protectability standards.”¹⁵⁵ He reaches the conclusion that second tier patent protection fails to live up to its rationale of improving access to small and medium enterprises (SMEs).¹⁵⁶ Professor Janis also indicates that second tier patent protection further fails to sufficiently address rationales of providing quick protection to inventions having short life cycles and access for nontraditional subject matter.¹⁵⁷ Granted, the focus of Professor Janis’s criticism is international second tier patent regimes and the consequences these regimes may have on global harmonization of patent law. As such, his criticisms are based on a working assumption that any second tier patent protection scheme would be directed at subpatentable inventions, or those that do not qualify under the United States’ already low threshold of obviousness and inventiveness.¹⁵⁸

The multitier patent system proposed in this Article does not suffer from the shortfalls raised by Professor Janis. As an initial matter, the system is not designed to increase access to SMEs or anyone, nor is it directed to subpatentable inventions; rather, the lowest threshold point, the primary patent, is subject to the same costs and requirements as the current United States patent.¹⁵⁹ Professor Janis contends that the quick access required for rapidly obsolescing technologies can be found either through petitions to make special or through provisional practice.¹⁶⁰ However, as analyzed above, it is clear that neither of those mechanisms is sufficient. The system proposed in this Article does address the special needs of patents having a short life cycle head-on. Further, Professor Janis’s criticisms do not take into account the notion that there may be different types of patent applications having different needs. For all of these reasons, the criticisms proffered by Professor Janis are inapplicable to the mult-tiered patent system proposed here.

VI. CONCLUSION

Undoubtedly, the patent grant system, as it is today, is congested and overcrowded. This overcrowding results in not only delayed pat-

155. *Id.* at 152.

156. *See id.* at 178-88.

157. *See id.* at 188-94.

158. *See generally id.*

159. Certainly, there is some argument that the lack of examination of primary patents would increase access to subpatentable inventions. However, this is countered by the fact that the uses available for primary patents are ones where validity is not typically questioned.

160. *See* Janis, *supra* note 122, at 190-91.

ent grants but also the pressure to grant patents quickly, raising the potential for bad patents. Certainly some of the overcrowding is attributable to the fact that the current patent grant system simply fails to account for inventors seeking patent protection for benefits beyond those understood under the traditional theory of patent law. Patents obtained for nontraditional uses may not require the same level of scrutiny as patents obtained for the purpose of litigating or licensing for money. Further, some patents are sought in quickly evolving technology areas and may require expedited treatment to give the inventor a fair return on his patent. In these technology areas, the Patent Office often does not have access to the best prior art, resulting in a greater number of bad patents. A multitiered patent system, addressing specially the needs of both inventors seeking patents for nontraditional uses and inventors of rapidly obsolescing technologies, coupled with the traditional patent system, would give inventors flexibility in choosing a patent that best suits their needs while decreasing the congestion in the Patent Office. In the end, such a system would result in better patents being issued more quickly.