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DOES DAVID NEED A NEW SLING? SMALL ENTITIES FACE A COSTLY BARRIER TO PATENT PROTECTION

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ABSTRACT

The cost of enforcing patent rights is discouraging the small-entity inventor from seeking out patent protection. The United States Patent and Trademark Office favors the “small entity” by reducing fees, but the world of infringement litigation offers no such discount. For the small entity, the costs related to asserting or defending its patent rights against a well-funded adversary often exceed the benefits of patent ownership. These inventors, in weighing the high costs of patent protection against the potential profits, may simply choose to not patent their innovations. Such a decision would deprive the public of the invention’s disclosure and ultimately contribute to defeating the purpose of the patent system. This comment proposes several solutions to the financial dilemmas faced by small entities when evaluating whether the benefits of disclosing an innovation are worth paying the often high price of patent protection.

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DOES DAVID NEED A NEW SLING?
SMALL ENTITIES FACE A COSTLY BARRIER TO PATENT PROTECTION

JEFF A. RONSPIES*

INTRODUCTION

Small entities, unrecognized in the patent system until recently,¹ have greatly affected the growth of innovation in the United States.² But in today's legal environment, small businesses and individual inventors holding patents are placed at a significant disadvantage when their patents are challenged by large businesses. In fact, many jurors share this opinion and sympathize accordingly in their findings.³ Nonetheless, a patentee must expend vast sums of money and resources even before it can plead its case before a jury.⁴ For many small businesses and individual inventors qualifying as "small entities,"⁵ the high cost of litigation can remove the profitability of patent protection, thereby stifling innovation to the detriment of the economy and the advancement of society.

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¹ Congress required the USPTO to recognize small entities in 1982. Act of Aug. 27, 1982, Pub. L. No. 97-247, § 1, 96 Stat. 317, 317.

² H.R. REP. NO. 102-382, at 13 (1991), *reprinted in* 1991 U.S.C.C.A.N. 1320, 1328. While Congress was considering lower fees for small entities, Jacob Rabinow, a rather prolific inventor, testified that small inventors have a great impact on innovation and the economy:

In testimony before the House Judiciary Subcommittee on Intellectual Property and Judicial Administration, Dr. Jacob Rabinow, an inventor and owner of 226 patents, cited numerous inventions for which independent inventors were responsible. These include the invention of atomic energy, penicillin, microwave technology, the FM radio, magnetic recording, holography, fiber optics, and insulin.

Id. at 32 n.31.

³ Edmund L. Andrews, *A 'White Knight' Draws Cries of 'Patent Blackmail'*, N.Y. TIMES, Jan. 14, 1990, § 3, at 5. Juries "have proven eager to side with inventors against large companies." *Id.* A survey conducted by a juror consultant firm found that most jurors idealize individual inventors and consider them victimized by large firms. Nicholas M. Cannella & Timothy J. Kelley, *Jury Trials and Mock Jury Trials*, in PATENT LITIGATION 1993, at 731, 741-42 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course, Handbook Series No. 375, 1993), *available at* WL, 375 PLI/Pat 731. After a jury awarded an individual inventor \$110.5 million in an infringement case against General Electric, the losing attorneys claimed the jury "acted on emotion, not facts or law." *Jury Cases on Patent Infringement on Trial*, CHI. TRIB., June 12, 1995, § 4, at 6.

⁴ See AM. INTELL. PROP. L. ASS'N, 2003 REPORT OF THE ECONOMIC SURVEY 22 (2003) [hereinafter AIPLA 2003 REPORT]. In litigation involving patent infringement, each party incurs between \$290,000 and \$2.5 million in legal fees just to complete the discovery process. *Id.* Moreover, the total cost of a patent infringement suit, including all costs incurred from filing to adjudication, ranged between \$500,000 and almost \$4 million. *Id.*

⁵ "Small entity" is defined by the United States Patent and Trademark Office ("USPTO") in the Code of Federal Regulations. 37 C.F.R. § 1.27(a) (2004). Small-entity status may be had by individuals, "small business concern[s], or nonprofit organization[s]." *Id.* Small entities are entitled to pay reduced fees to the USPTO. *Id.* § 1.27(b).

One can easily imagine an individual inventor who devises an improvement that benefits society. Consider John Q. Public, who, while using very few resources, invents a tool in his spare time. Perhaps the tool increases productivity in Mr. Public's trade or improves the safety level at which some task can be done—any social value for which the patent system is intended to foster. For argument's sake, Mr. Public's research and development costs should be considered negligible.⁶ Subsequently, Mr. Public applies as a small entity to the United States Patent and Trademark Office ("USPTO") for a patent for his device, which is later granted. Including the requisite filing, issuance and maintenance fees, he will spend \$4,285⁷ to receive his patent and maintain its validity for the maximum statutory period,⁸ plus an additional \$20,000, on average, in filing-related attorney fees.⁹ Now suppose that while Mr. Public is hard at work marketing his invention, X Corp, a large corporation, sees the potential in Mr. Public's work and decides to infringe his patent.

Assuming that Mr. Public has a net annual income of \$50,000, the legal cost to defend his patent through the completion of discovery will cost approximately \$800,000¹⁰—sixteen times Mr. Public's net annual income—all before the device itself has yielded any financial benefit.¹¹ In contrast, assuming that X Corp has annual a

⁶ This is an extremely conservative assumption, considering that the cost of patent protection, on average, is only 2.5 percent of the cost of research and development. Samson Vermont, *The Economics of Litigation, Part 2*, available at <http://www.palisade.com/html/articles/litigation.html> (last visited Nov. 09, 2004). On average, a large company spends \$4.26 million in research and development per patent. *Id.*

⁷ The basic costs for a small entity to file, have issued and maintain a patent with the USPTO include \$395 for the basic filing fee, 35 U.S.C. § 41(a)(1)(A), (h)(1) (2000), a \$685 issue fee, *id.* § 41(a)(2), (h)(1), and \$470, \$1,075 and \$1,660, respectively, at each maintenance period, *id.* § 41(b), (h)(1), for a total of \$4,285. In addition, if his patent application is published pursuant to 37 C.F.R. § 1.211 (2004), the applicant—regardless of his status as a small entity—must pay a \$300 publication fee before the USPTO will grant a patent. *Id.* § 1.18(d). If Mr. Public were to be required to pay such a fee, his total expenditure would be \$4,585.

⁸ Providing that the requisite maintenance fees, *see supra* note 7, are timely paid, the maximum period of validity for a newly issued patent is twenty years from the date on which the application was filed. 35 U.S.C. § 154(a)(2).

⁹ Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1508 (2001).

¹⁰ Craig P. Opperman, *Computer Technology Patents (with an Emphasis on Internet & E-Commerce Related Patents)*, in 20TH ANNUAL INSTITUTE ON COMPUTER LAW 1039, 1047 tbl.1A (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course, Handbook Series No. 590, 2000), available at WL, 590 PLI/Pat 1039 (stating that the costs of patent infringement litigation through the end of discovery average \$799,000).

¹¹ In order for a patentee to receive damages for infringement, there must be a demonstrable "economic demand" for the product covered by the patent. *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 979 F. Supp. 1233, 1238 (N.D. Ind. 1997). Therefore, an invention must succeed before the inventor can prevail economically in an infringement suit. *See id.* Furthermore, a patented invention may not become economically successful until the patent terms is nearly expired. *See also* John A. Reilly, *Impact of the New Patent and Trademark Fee Bill: What Hath Been Wrought?*, 65 J. PAT. OFF. SOC'Y 166, 173 (1983). *See also* Jeffery E. Robertson, *If It Ain't Broke Don't Fix It: The Unnecessary Scope of Patent Reform as Embodied in the "21st Century Patent System Improvement Act" and the "Omnibus Patent Act of 1997,"* 5 J. INTELL. PROP. L. 573, 580–89 (1998) (noting the hardships a small entity faces when attempting to muster sufficient economic resources to file suit against a large corporation). This has the effect of forcing the inventor in a long-term risk situation if he cannot afford to protect his patent rights through litigation. *Id.*

net annual income of \$10 million, the large entity¹² suffers only an eight-percent dent in its income as a result of the litigation. Thus, when weighing the cost to purchase license rights against the cost of infringing, X Corp need only calculate Mr. Public's ability to fund legal representation and his probability of success. While an attorney may defend Mr. Public on a contingency basis, that cost, if Mr. Public prevails, likely will be added to the cost of the device and could make the device unprofitable (if margins are small). Furthermore, even if Mr. Public is victorious, many of his litigation costs will not be considered by the court when calculating damages.¹³ This set of circumstances frustrates the purpose of the patent system and discourages Mr. Public from disclosing his device.

While "asymmetrical" parties may create inequities in all areas of law, patent law is unique in that its purpose is to create a shield to foster a social benefit, not to provide a sword to be wielded to discourage wrongdoing or to reduce a social cost.¹⁴ Patent law serves to encourage social growth by protecting one party through the temporary exclusion of others.¹⁵ In contrast, tort law, for example, attempts to encourage socially-responsible behavior by holding everyone to the same standard.¹⁶ Thus, unlike patent law, tort law exists to be used as a sword, thrust at others to vanquish inequities.

This comment discusses the disadvantages faced by many small entities under the current patent law and proposes several solutions. The Background section begins with a brief discussion of the evolution of modern patent law, the ways in which it currently affects small entities and congressional efforts to maintain an increasing level of small-entity innovation through protective legislation. The Analysis section describes how the costs incurred by small entities in seeking to obtain patent protection, including application filing costs, litigation costs and intangible costs, often place such entities at a significant disadvantage in today's economy. Finally, the Proposal discusses several measures to counteract the loss of innovation that may result if large entities continue to dominate the patent system.

I. BACKGROUND

The protection of technical innovations has been recognized for centuries as beneficial to society.¹⁷ Traditionally, the American system has provided protection to patentees by imposing monetary damages on infringers without distinguishing

¹² See 37 § C.F.R. 1.27 (2004) (defining "small entity"). For purposes of this comment, a large entity shall be defined as all entities not within the limits set by 37 § C.F.R. 1.27.

¹³ 35 U.S.C. § 285 (2000) (denying attorneys fees in all but the "exceptional case"); see also 28 U.S.C. § 1821(b) (2000) (providing in-court witnesses with an attendance fee of \$40 per day, including expert witnesses).

¹⁴ See *Atari Games Corp. v. Nintendo of Am., Inc.* 897 F.2d 1572, 1576-77 (Fed. Cir. 1990). In more narrow consideration, a patent can be used both offensively, as a sword, and defensively, as a shield. *Id.*

¹⁵ See 35 U.S.C. § 154 (2000).

¹⁶ VICTOR E. SCHWARTZ ET AL., PROSSER, WADE AND SCHWARTZ'S TORTS 1 (10th ed. 2000).

¹⁷ See generally Giles Sutherland Rich, *The "Exclusive Right" Since Aristotle*, 14 FED. CIR. B.J. 217 (2004).

between parties of disparate economic leverage.¹⁸ However, at the risk of frustrating the very purpose for which our patent system exists, such a distinction is required.¹⁹ In 1982, Congress attempted to alleviate some of the economic disparity in the patent system by formally recognizing the small entity.²⁰

A. *A Brief History of Patent Law*

1. *The Early History of Patent Law*

Laws designed to protect useful inventions, usually attributed to the English system, can be traced back as far as ancient Greece, where exceptional recipes were granted special status.²¹ Renaissance Italy protected unique weavings of textile artisans.²² Little is known, however, of the damages available to those whose innovation was copied by another.²³ But if the inventor was a “little guy,” his protection was enforced by the state and presumably required little in the way of operating funds to deter would-be infringers.²⁴

Granting a monopoly to a patent holder was probably not perceived as a negative market influence in Ancient Greece or Renaissance Europe.²⁵ The issue was considered, however, when the English Parliament enacted the Statute of Monopolies in 1623 to place limits on the creation of monopolies and mitigate the effects of those then in existence.²⁶ A time limit of fourteen years was instituted to balance the

¹⁸ See 35 U.S.C. § 284 (2000).

¹⁹ See H.R. REP. NO. 102-382, at 13 (1991), *reprinted in* 1991 U.S.C.C.A.N. 1320, 1328.

The small entity fee structure is important to encourage innovation in the United States. Small entities file approximately 34 percent of all patent applications in the United States. Independent inventors account for 72 percent of these small entities, and if fees increased dramatically, they would be disinclined to protect their inventions because of a lack of resources. Yet, the independent inventor has fueled America’s technological innovation-benefiting all the American people, including the larger industries that rely on their innovation.

Id.

²⁰ Congress required the USPTO to recognize small entities in 1982. Act of Aug. 27, 1982, Pub. L. No. 97-247, § 1, 96 Stat. 317, 317.

²¹ ERNEST BAINBRIDGE LIPSCOMB III, LIPSCOMB’S WALKER ON PATENTS § 1:1, at 7 (3d ed. 1984) [hereinafter WALKER ON PATENTS]. In the 3rd century BC, the Greek historian Phylarchos wrote that the rulers of the Greek city of Sybaris issued patents for unique recipes. *Id.*

²² WILLIAM H. FRANCIS & ROBERT C. COLLINS, CASES AND MATERIALS ON PATENT LAW 65 (4th ed. 1995). By 1432, the Senate of Venice had enacted a statute granting an exclusive privilege on a silk-making invention for a ten-year period. *Id.*

²³ One account sets the Venetian penalty for copying a device at ten ducats and destruction of the device. Rich, *supra* note 17, at 219.

²⁴ See *id.* At the inventor’s request, an alleged infringer was “summoned before” the city magistrate, where fines were levied. *Id.*

²⁵ WALKER ON PATENTS, *supra* note 21, at 5–6. Monopolies were not viewed adversely by the work guilds, which were formed to limit competition for the purpose of job security. *Id.*

²⁶ Sir William Jarratt, *English Patent System*, 26 J. PAT. OFF. SOC’Y 761 (1944) (citing Statute of Monopolies, 21 Jam. 1, c. 3, § 6 (1623) (Eng.)).

innovator's right to market dominance with the long-term health of the market.²⁷ The fourteen-year shield provided by the Crown allowed the holder of a monopoly—today's patent holder—to gain economic strength as a result of being free of competitors. Thereafter, upon losing that protection, the erstwhile monopolist would have the economic means to compete with established competitors.²⁸

2. Patent Law in the United States

a. Protecting Innovations to Encourage Ingenuity

Many of the original colonies enacted patent protection measures.²⁹ However, as the Constitution was drafted, the majority of the Framers perceived the need for a national system to protect innovations.³⁰ Originally, even the accomplished inventor, Thomas Jefferson, opposed monopolies of any kind, including patents.³¹ Jefferson went so far as to urge an amendment to the Constitution—to be included as one of the provisions of the Bill of Rights—to restrict monopolies in the United States.³² At that time, Jefferson did not accept the argument that limited monopolies actually serve to encourage ingenuity: “[T]he benefit even of limited monopolies is too doubtful to be opposed to that of their general suppression.”³³ Jefferson's opposition, however, later subsided.³⁴

²⁷ WALKER ON PATENTS, *supra* note 21, § 1:2, at 13–14. In England, complaints against monopolies first were addressed in 1610 when King James I condemned monopolies and declared that patents would only be granted for “projects of new invention so that they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient.” *Id.* Further complaints of favoritism by the Crown led to the Statute of Monopolies in 1624, which permitted monopolies of only limited duration. *Id.*

²⁸ *Id.* The Statute of Monopolies provided an exemption from the state's ban on any monopoly. *Id.*

²⁹ WALKER ON PATENTS, *supra* note 21, § 1:7, at 50–53. In 1641, the colony of Massachusetts granted a “patent” for a salt-making process, the first recorded patent in the colonies. *Id.* at 52. In 1716, a South Carolina inventor was honored with an “[a]ct for the due Encouragement of Dr. William Crook” after he blended tar with other ingredients to seal wood against rot. LAWRENCE M. FRIEDMAN, A HISTORY OF AMERICAN LAW 255 (2d ed. 1985). In 1787, the State of New York granted to John Fitch the sole and exclusive right to make and use steam-driven boats within New York waters. WALKER ON PATENTS, *supra* note 21, § 1:7, at 50–51. Later, the State repealed the patent to Fitch and instead granted it to Robert R. Livingston: an action which, after ratification of the constitution, culminated in the legendary case of *Gibbons v. Ogden*, 22 U.S. (1 Wheat.) 1 (1824). WALKER ON PATENTS, *supra* note 21, § 1:7, at 50–51.

³⁰ The first Patent Act was enacted by Congress on April 10, 1790. 1 DONALD S. CHISUM, CHISUM ON PATENTS at OV-3 (2004).

³¹ *See* *Graham v. John Deere Co.*, 383 U.S. 1, 8–9 (1966).

³² *See Id.*

³³ 1 THE REPUBLIC OF LETTERS: THE CORRESPONDENCE BETWEEN THOMAS JEFFERSON AND JAMES MADISON 1776–1826, at 545 (James Morton Smith ed., 1995). Jefferson had written James Madison expressing his desire to restrict “all monopolies, even limited monopolies.” 2 DUMAS MALONE, JEFFERSON AND HIS TIME 282 (1951).

³⁴ MALONE, *supra* note 33, at 282.

With little debate, the states unanimously agreed to the Patent Clause on the same day it was proposed.³⁵ The Patent Clause provides that “The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”³⁶ Shortly after the Constitution was ratified by the states, Congress enacted the Patent Act of 1793.³⁷

b. Mandating Damages to Discourage Infringement

The Patent Act of 1793 provided for specific damages to discourage infringement and protect inventors.³⁸ However, the 1793 Act did not contain any provisions specifically designed to protect the “little guy.”³⁹ Today, an infringer deemed liable for infringement typically must pay at least a reasonable royalty to the patent holder.⁴⁰ Moreover, in any given case, but especially one—such as that illustrated by

³⁵ EDWARD C. WALTERSCHEID, *TO PROMOTE THE PROGRESS OF USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798–1836*, at 49 (1998). On September 5, 1787, a “Committee of Detail” comprised of Constitutional Convention attendees approved the current language of the Patent Clause. *Id.* It is possible that the lack of pre-approval debate can be attributed to the fact that less than one month prior, on August 20, 1787, many of the delegates to the Constitutional Convention were in Philadelphia, attending inventor John Fitch’s demonstration of the steamboat. *Id.* at 42–43.

³⁶ U.S. CONST. art. I, § 8, cls. 1, 8.

³⁷ Patent Act of 1793, ch. 11, § 5, 1 Stat. 318 (repealed 1836). “[T]he requisite nine states” ratified the Constitution on June 21, 1788. WALTERSCHEID, *supra* note 35, at 8 & n.18.

³⁸ *Id.* at 322.

³⁹ *See id.*

⁴⁰ 35 U.S.C. § 284 (2000). Two options are available for a patent owner seeking monetary relief: lost profits or a reasonable royalty. *Id.* In the aggregate, lost profits are the amount of money that the patent owner lost due to the infringement. JOHN M. SKENYON ET AL., *PATENT DAMAGES LAW AND PRACTICE* § 1:3 (2003). A reasonable royalty is equated to the cost of a license to produce the product, had one been negotiated. *See, e.g.,* DSU Med. Corp. v. JMS Co., 296 F. Supp. 2d 1140, 1148 (N.D.Cal. 2003). Lost profits are generally the greater amount of the two options, but the patent owner must prove that the infringement caused the lost profits. SKENYON ET AL., *supra*. Without such proof, the damages are calculated using a reasonable royalty. *Id.* Providing evidence of lost profits can be elusive and costly, often requiring the testimony of expert economics witnesses. *Id.* at § 1:7.

While lost profits claims are potentially lucrative, patent owners should bear in mind that proof of the existence and amount of lost profits can be complex and difficult, because an in-depth economic analysis is generally required. A patent owner’s failure to account for the economics that dictate lost profits will often result in a denial of such an award, as courts have become increasingly aware of the economics underlying lost profits damages. Thus, the patent owner must take care to ensure that its lost profits case is well grounded in sound economic principles.

Id. One commentator finds reasonable royalties an insufficient measure of damages, even without willful infringement:

The only risk to the ‘thief’ is they may have to pay a reasonable royalty out of the profit if the patent issues. The current speed of technological development often means that the only profitable period is the initial marketing of the product because something will quickly come along that is better, faster, and cheaper.

John Q. Public's patent and X Corp—involving willful infringement, treble damages may be awarded.⁴¹ By definition, treble damages exceed what would be considered a reasonable royalty.⁴² In fact, in certain situations, treble damages have the affect of rewarding a party far in excess of its actual losses.⁴³ At the time at which they were first introduced in the United States, in the Patent Act of 1793, treble damages set only a minimum penalty for infringement.⁴⁴ The treble-damages provision of the 1793 Act was included to counteract the expectation of the time that anti-patent juries would award only minimal damages.⁴⁵ In 1800, the requirement of treble damages in the 1793 Act was changed from a minimum to the required award.⁴⁶ The Patent Act of 1836 again revised the damages requirement to limit the maximum award to three times the judgment, at the court's discretion.⁴⁷ Currently an optional maximum award, treble damages generally are imposed by a court only when a patentee can prove some form of willful infringement⁴⁸ or behavior that violates the antitrust laws.⁴⁹

John B. Campbell, Jr., *What's the Deal Now? A Business Perspective Analysis of the U.S. Patent System and Recent Changes to the Patent Laws*, 10 TEX. INTELL. PROP. L.J. 293, 316 (2002). A patent owner who has not begun manufacture of his invention is precluded from obtaining lost profits damages, because two parties must compete in the same marketplace for a lost profit to exist. SKENYON ET AL, *supra*, § 1:7. A patent owner with a small market share, typical of individual inventors, may be awarded lost profits only to the extent of their market share. *Id.* This limitation does not acknowledge the expansion an individual or small business could have funded by growing sales within a limited market.

⁴¹ 35 U.S.C. § 284 (2000). A “court may increase the damages up to three times the amount found or assessed,” *id.*, when it finds evidence of willful infringement. *See, e.g.,* Goodwill Constr. Co. v. Beers Constr. Co., 991 F.2d 751, 758 (Fed. Cir. 1993). Generally, treble damages are defined as “damages given by statute in certain types of cases, consisting of the single damages found by the jury, actually tripled in amount.” BLACK'S LAW DICTIONARY 393 (6th ed. 1990).

⁴² *See* 35 U.S.C. § 284. “[S]pecific royalties in a specific case [are determined] by way of the hypothetical negotiation process.” *DSU Med. Corp.*, 296 F. Supp. 2d at 1148. It is unlikely that a *reasonable* negotiation would lead to an agreement for payment equating to three times the true market value of a given technology.

⁴³ *Paper Converting Mach. Co. v. Magna-Graphics Corp.*, 788 F.2d 1536, 1537 (Fed. Cir. 1986) (stating that a “treble damages award is by definition largely in excess of the actual injury”).

⁴⁴ Patent Act of 1793, ch. 11, § 5, 1 Stat. 318, 322 (repealed 1836). The Patent Act of 1790 included a provision awarding only “such damages as shall be as-sessed [sic] by a jury.” Ch. 7, § 4, 1 Stat. 109, 110 (repealed 1793).

⁴⁵ WALTERSCHEID, *supra* note 35, at 210. The minimum treble damages award set by the Patent Act of 1793 partially was a product of lobbying efforts by Joseph Barnes, *id.* at 228, the patent attorney for steamboat innovator James Rumsey, *id.* at 209 n.41.

⁴⁶ Patent Act of 1800, ch. 25, § 3, 2 Stat. 37, 38 (repealed 1836).

⁴⁷ Patent Act of 1836, ch. 357, § 14, 5 Stat. 117, 123 (repealed 1870) (current version at 35 U.S.C. § 284 (2000)). Only damages may be enhanced; attorney fees and expert witness fees, if awarded, may not be multiplied. *Id.* A two step analysis is essential when a court is determining whether to increase damages: the fact-finder must determine (1) whether the infringement was willful, and (2) whether, considering the totality of the circumstances, some multiplier less than three should be used. *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 948 F.2d 1573, 1576 (Fed. Cir. 1991).

⁴⁸ *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166–67 (Fed. Cir. 1986) (finding willful infringement and awarding treble damages as a result of the defendant's failure to obtain a validity and infringement opinion after becoming aware of the plaintiff's patent); *see also* *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826 (Fed. Cir. 1992) (noting that treble damages are appropriate when an “infringer act[s] in wanton disregard of the patentee's patent rights”),

Despite providing to certain plaintiffs what may be a compensatory windfall, the intent of the treble damages doctrine is not necessarily to make the owner of the patent once again “whole,” but to punish the defendant.⁵⁰ Consistent with that intent, under certain circumstances, even treble damages do not properly compensate the patentee whose patent rights have been violated.⁵¹ The same may continue to hold true despite an additional award of attorney fees. Essentially, when considering all of the costs involved in obtaining and protecting a patent, it is at times *impossible* for an award of even treble damages to make the patentee truly whole— notwithstanding the fact that the doctrine in its modern form is not meant to serve such a purpose.⁵²

B. *The Purpose of Patent Protection*

Modern governmental protection of patents serves to provide an environment in which a patentee can profit from his invention free of competition.⁵³ In return for this protection, the inventor must disclose his innovation to the public.⁵⁴ The social

abrogated in part on other grounds by Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) (en banc); Goodwall Constr. Co. v. Beers Constr. Co., 991 F.2d 751, 758 (Fed. Cir. 1993) (“A finding of willfulness justifies, but does not compel, an award of [treble] damages.”); Beatrice Foods Co. v. New Eng. Printing & Lithographing Co., 923 F.2d 1576, 1579 (Fed. Cir. 1991) (holding that the Federal Circuit expressly forbids considering the inadequacy of damages when deciding willfulness).

⁴⁹ 15 U.S.C. § 15 (2000); *see also* Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 176–77 (1965) (permitting recovery of treble damages pursuant to § 15 after finding that the defendant committed fraud against the USPTO in the procurement of a patent and concomitantly violated § 2 of the Sherman Antitrust Act).

⁵⁰ 7 DONALD S. CHISUM, CHISUM ON PATENTS § 20.03(4)(b)(ii) (2002) (“It is true, where the injury is wanton or malicious, a jury may inflict vindictive or exemplary damages, not to recompense the plaintiff, but to punish the defendant.” (quoting Seymour v. McCormick, 57 U.S. (16 How.) 480, 489 (1853))).

⁵¹ For example, an award of treble damages may not fully reimburse a small business or individual inventor whose legal fees incurred during a drawn-out legal battle exceed the modest profit made on a product.

⁵² CHISUM, *supra* note 50. The Federal Circuit has held that the damages are not based simply on the profits made by the infringer, but on the increase in profit gained by the infringement from the next available non-infringing technology. Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1349–53 (Fed. Cir. 1999). In the calculation of the award, therefore, the market value of a patented technology is significantly reduced unless there is no alternative technology that the infringer could have improved upon. *Id.*

⁵³ *See* General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1274 (Fed. Cir. 1992) (referring to a patent as a government-granted ‘monopoly’). A patent grants the patentee “the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States.” 35 U.S.C. § 154(a)(1) (2000). Therefore, by implication, only the patentee has the inverse right to freely engage in those acts from which he may exclude others. *See id.* However, some would assert that a patent “gives you a government grant which is little more than a right to litigate.” Ronald Zibelli & Steven D. Glazer, *An Interview with Circuit Judge S. Jay Plager*, 5 J. PROPRIETARY RTS. 2, 6 (1993).

⁵⁴ 35 U.S.C. § 102(a) (2000). Disclosure can be achieved by use or knowledge by others, or description in a printed publication more than a year before application. *Id.*

benefit is reaped when other inventors build upon the disclosure of the innovation and thereby “promote the Progress of Science and Useful Arts.”⁵⁵

C. Small Entities in the American Patent System

Contributions by small businesses and individual inventors have had a significant impact on the pace of innovation and the progress of science.⁵⁶ “[I]nventions by independent inventors and small companies are not trivial. Over half of the sixty-one most important innovations of the 20th century came from independent inventors or small firms.”⁵⁷ However, compared to large corporations, when small-business enterprises and individual inventors enter into litigation in attempt to enforce their patent rights, such parties are often at a disadvantage.⁵⁸

After Congress introduced periodic patent maintenance fees in 1980⁵⁹ and substantially increased “filing, processing, maintenance and issue fees” in 1982,⁶⁰

⁵⁵ U.S. CONST. art. I, § 8, cl. 8. One of the Supreme Court’s earliest patent decisions stated that the purpose of a patent was to provide a reward that would stimulate people to exert themselves to try to make inventions. *Grant v. Raymond*, 31 U.S. (1 Pet.) 218, 241–42 (1832). A later Court elaborated, stating that patent laws are enacted in the hope that “[t]he productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480–81 (1974).

[Patents] are not to be regarded as monopolies . . . but as public franchises granted to the inventors of new and useful improvements . . . as a matter of compensation to the inventors for their labor, toil, and expertise in making the inventions . . . as contemplated by the Constitution and sanctioned by the laws of Congress.

Seymour v. Osborne, 78 U.S. (1 Wall.) 516, 533–34 (1870).

⁵⁶ See *supra* note 2 and accompanying text (noting several important technologies discovered by independent inventors).

⁵⁷ Christopher R. Balzan, Comment, *Mandatory Publication of Patent Applications Prior to Issuance of Patents: A Desirable Change in U.S. Policy?*, 18 LOY. L.A. INT’L & COMP. L.J. 143, 160–61 (1995). Small and medium sized businesses produced approximately 75% of the Gross National Product in 1999. *Id.* at 151. Another study found that “small entities (mostly individuals and small businesses) patent a large number of mechanical inventions and medical devices, but a very small percentage of most other sorts of inventions.” John R. Allison and Mark A. Lemley, *Who’s Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2102 (2000). This distribution is most likely due to the lower research and development costs required for mechanical inventions. *Id.* at 2129. In the same study, a random sampling of patents found that over one-third of those were mechanical inventions. *Id.* at 2113. However, the same study found that only 29% of patents in the sample were filed under the small entity classification. *Id.* at 2117. Of those in the small entity category, 36% were small businesses, 60% were individuals and 4% were non-profit organizations. *Id.* at 2117. The average small entity listed 1.67 inventors per patent, while the average large entity listed 2.5 inventors per patent. *Id.* at 2143.

⁵⁸ See, e.g., Del Jones, *Businesses Battle over Intellectual Property: Courts Choked with Lawsuits to Protect Ideas and Profits*, USA TODAY, Aug. 2, 2000, at 1B (“Patent lawsuits can be ‘really life threatening to small start-ups’ that can’t afford to defend themselves.” (quoting Joe Chung, Chairman and Chief Technology Officer of Art Technology Group, Inc.)).

⁵⁹ Act of Dec. 12, 1980, Pub. L. No. 96-517, § 2, 94 Stat. 3015, 3017–18 (codified as amended at 35 U.S.C. § 41). The 1980 legislation was enacted at a time when Congress was concerned with overseas competition. 126 CONG. REC. 12,895 (1980). Ostensibly, the bill “represent[ed] an effort to

Congress became concerned with the plight of small businesses and individual inventors.⁶¹ Accordingly, as part of the 1982 legislation, Congress reduced many of the USPTO fees applicable to small entities.⁶² As such, Congress formally recognized the economic disparities faced by many small entities.⁶³

The reduced fee amendment applied to three classes of applicants deemed to qualify as small entities: independent inventors, nonprofit organizations and small business concerns.⁶⁴ Congress required the USPTO to establish regulations governing how independent inventors and nonprofit organizations would qualify as parties entitled to enjoy reduced fees.⁶⁵ In addition, the USPTO was required to adhere to the definition of “small business concerns” previously established by the

reverse the . . . decline in U.S. productivity by strengthening the patent and copyright system” *Id.* at 29,895.

⁶⁰ Act of Aug. 27, 1982, Pub. L. No. 97-247, § 1, 96 Stat. 317, 317.

⁶¹ *See* Ulead Sys., Inc. v. Lex Computer & Mgmt. Corp., 351 F.3d 1139, 1142 (Fed. Cir. 2003). “Concerned that [the 1982] legislation would be overly burdensome to individuals, non-profit organizations and smaller businesses, Congress provided a discount for small entities.” *Id.* However, even prior to 1982, during the debates on the 1980 amendments, there was congressional concern as to the effect of continuing fee increases on small businesses. *See* 126 CONG. REC. 29,900 (1980). As one congressman stated:

I am concerned that if inventors who are not with large corporations but are on their own come up with some new expertise or new technology, that they may not be in a position to afford to patent that idea . . . I am concerned about independent inventors or small businessmen who will apply for patents in the future. If they cannot afford to pay the increase [sic] fee, will we be preventing them from helping us to develop new technologies that will enable the United States to compete with other nations?

Id. (statement of Rep. Miller). On March 3, 2004, the U.S. House of Representatives approved the “United States Patent and Trademark Fee Modernization Act of 2003.” H.R. 1561, 108th Cong., 2d Sess., § 2(e) (2004). If approved by the Senate and passed into law, the Act would further reduce small entity filing fees by another fifty percent for those filing electronically. *Id.* However, in addition to further reducing fees, the Act requires the USPTO and the Small Business Administration to conduct a joint study to determine the effect of patent fees on the ability of small entity inventors to file patent applications and the need for continuing the current policy of reduced fees for small entities. *Id.* § 2(f).

⁶² Act of Aug. 27, 1982, Pub. L. No. 97-247, § 1, 96 Stat. 317, 317.

⁶³ *See id.* Regardless of any economic disparities, some feel that the small entity classification is unnecessary, asserting that the criteria for reduced fees is “necessarily arbitrary, and thus both unfair to, and a deterrent to innovation by those companies who fail to satisfy the arbitrary standard.” *Committee Reports to be Presented at the Annual Meeting to be held July 28–August 4, 1983, Atlanta, Georgia*, 1983 A.B.A. SEC. PAT. TRADEMARK & COPYRIGHT L. REP. 270. Additionally, “it unavoidably creates paperwork and distracting side issues in the preparation and prosecution of patent applications . . . and it raise[s] issues subject to potential collateral attack in infringement proceedings.” *Id.*

⁶⁴ Act of Aug. 27, 1982 § 1.

⁶⁵ *Id.* USPTO regulations define an independent inventor as “any inventor or other individual (e.g., an individual to whom an inventor has transferred some rights in the invention) who has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention.” 37 C.F.R. § 1.27(a)(1) (2004). Nonprofit organizations include “university[ies] or other institution[s] of higher education,” tax-exempt organizations, and “nonprofit scientific or educational organization[s].” *Id.* § 1.27(a)(3).

regulations of another federal agency, the Small Business Administration (“SBA”).⁶⁶ Under the SBA’s definition, small business concerns are those companies having 500 or fewer employees.⁶⁷ In 1986, small-entity fee structure of the 1982 amendment was made permanent.⁶⁸

II. ANALYSIS

In acting to reduce USPTO fees for small entities, Congress recognized the importance of protecting such parties’ inventive contributions to society.⁶⁹ As Congress itself pointed out, reduced fees may serve the general purpose of encouraging small entities to disclose their innovations.⁷⁰ However, unfortunately for small entities, the fees required by the USPTO constitute only a small percentage of the costs all too often required to enforce the rights conveyed by a patent grant.⁷¹ Moreover, lower filing costs alone seemingly do little to mitigate potentially the largest drain on a small entity’s resources: the often staggering costs of patent litigation.⁷²

⁶⁶ Act of Aug. 27, 1982 § 1. Among other responsibilities, the SBA is perhaps best known for its role in providing federal financial aid to small businesses. *See generally* 13 C.F.R. §§ 119.1, .3, 120.2, .100 (2004). The SBA was created by Congress in 1953 to further the policy that

the Government should aid, counsel, assist, and protect, insofar as is possible, the interests of small-business concerns in order to preserve free competitive enterprise, to insure that a fair proportion of the total purchases and contracts or subcontracts for property and services for the Government (including but not limited to contracts or subcontracts for maintenance, repair, and construction) be placed with small-business enterprises, to insure that a fair proportion of the total sales of Government property be made to such enterprises, and to maintain and strengthen the overall economy of the Nation.

15 U.S.C. § 631(a) (2000).

⁶⁷ 13 C.F.R. § 121.802(a) (2004). A small business concern is defined as:

any business concern that: (i) [h]as not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person, concern, or organization which would not qualify for small entity status as a person, small business concern, or nonprofit organization; and (ii) [m]eets the size standards set forth in 13 CFR 121.801 through 121.805 to be eligible for reduced patent fees.

37 C.F.R. § 1.27(a)(2) (2004).

⁶⁸ Act of Nov. 6, 1986, Pub. L. No. 99-607, § 1(b)(2), 100 Stat. 3470, 3470 (codified as amended at 35 U.S.C. § 41(h) (2000)).

Fees charged under [35 U.S.C. § 41] (a) or (b) shall be reduced by 50 percent with respect to their application to any small business concern as defined under section 3 of the Small Business Act, and to any independent inventor or nonprofit organization as defined in regulations issued by the Commissioner of Patents and Trademarks.

Id. § 1(b)(2), 100 Stat. at 3470.

⁶⁹ *See* H.R. REP. NO. 102-382, at 13 (1991), *reprinted in* 1991 U.S.C.C.A.N. 1320, 1328.

⁷⁰ *Id.*

⁷¹ This becomes apparent if the average cost of filing a patent application, *see supra* note 7 (\$4,285), is taken as a percentage of the lowest average cost of patent litigation through discovery, *see supra* note 4 (\$290,000), in which case the result indicates that the average cost of filing a patent application equates to only 1.48% of the average cost of litigation.

⁷² *See supra* note 4 and accompanying text (discussing the average costs of patent litigation).

The largest cost potentially contributing to diminished innovation amongst small entities is that of the legal actions often required to protect, enforce and ultimately recoup the sunk costs invested in the patent.⁷³ In addition to the legal costs associated with patent ownership, this section discusses the filing costs and other less-tangible costs related to patent protection. When viewed in the aggregate, it is not difficult to understand how these costs could easily cut the economic thread from which often hangs the very existence of many small patentees.

The unchecked growth of a significant economic disparity between small-entity patentees and large, corporate innovators may create an impression among small businesses and individual inventors that the costs necessary to protect a patent will far exceed the profits expected from the commercialized invention. The net result of such a cost-benefit analysis ultimately leads to a reduction in the number of innovations disclosed by small inventors. Thus, this section concludes by arguing that instead of patenting, these important contributors to economic development may turn to other forms of protection—such as trade secrets—which cost little to maintain but provide negligible benefits to society.⁷⁴

A. Filing Costs

In general, small businesses and individuals are eligible to pay reduced filing and issue fees to the USPTO.⁷⁵ Additionally, renewal fees, which must be paid at three statutorily-set times to maintain a patent's status as enforceable,⁷⁶ also have been reduced for small entities.⁷⁷ The basic lifetime cost for a simple utility patent timely filed by a small entity is \$4,285, which is probably not a barrier, by itself, to obtaining a patent.⁷⁸

⁷³ Sunken costs include research, manufacturing, testing, and patent application costs, among other costs that are incurred prior to earning any income from the product.

⁷⁴ RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 43 (1998). As Judge Posner stated: [Maintaining a trade secret] is frequently an alternative to patenting. A manufacturer who is confident that he can keep his manufacturing process a secret for longer than the period for which he could protect it by a patent may decide to rely on trade secrecy law and forego seeking a patent. He will save costs and avoid the uncertainties of the patent route; and he will not have to disclose the process, as he would in a patent application, thereby enabling his competitors to duplicate it once the patent expires.

Id.

⁷⁵ 35 U.S.C. § 41(h)(1) (2000).

⁷⁶ *Id.* § 41(b). Maintenance fees are due at 3 1/2, 7 1/2 and 11 1/2 years from the date that the patent is issued. *Id.*

⁷⁷ *Id.* § 41(h)(1).

⁷⁸ *See supra* note 7 and accompanying text (discussing the basic costs for a small entity to file, have issued and maintain a patent with the USPTO).

B. Litigation Costs

A patent provides its holder with a negative right⁷⁹ to exclude others from making, selling, using and importing the claimed invention.⁸⁰ This negative right must be enforced privately, usually funded by the patentee's own financial resources.⁸¹ Litigation costs can impose on the small entity a great burden in the event that it must enforce a patent.⁸² This especially is true in the case of a patent covering a promising technology which has been infringed prior to profitability.⁸³ Two notable examples of such costly litigation involve the inventors of the airplane and intermittent windshield wipers; both demonstrate the effect of a firm's eroding profits as a result of funds being diverted to pay legal fees.⁸⁴ Wilbur Wright bitterly complained to his patent attorney that the incessant delays of the litigation process were destroying the economic value of his and his brother's infringed-upon patent,⁸⁵ which, unsurprisingly, claimed an improved airplane design.⁸⁶ Robert Kearns, inventor of the intermittent windshield wiper in 1963, attempted to license his invention to Ford Motor Company.⁸⁷ Ford ignored Kearns's offer and chose instead simply to infringe on his patent.⁸⁸ After Kearns filed suit, Ford stalled the litigation, allegedly in an attempt to outspend Kearns.⁸⁹ By the time Kearns ultimately obtained his second favorable judgment, he had spent \$10 million in legal fees.⁹⁰

The American court system is designed to dispose of frivolous lawsuits⁹¹ and claims based on insufficient facts⁹² early in the litigation process, and a court may

⁷⁹ See, e.g., *Chi. & Alton Ry. Co. v. Pressed Steel Car Co.*, 243 F. 883, 890 (7th Cir. 1917) (stating that "a patent conveys nothing but a negative right of exclusion").

⁸⁰ 35 U.S.C. § 154(a) (2000) ("Every patent shall . . . grant to the patentee . . . the right to exclude others from making, using, offering for sale, or selling the invention . . .").

⁸¹ See 35 U.S.C. § 281 ("A patentee shall have remedy by civil action for infringement of his patent.").

⁸² See AIPLA 2003 REPORT, *supra* note 4, at 22.

⁸³ See, e.g., James V. Grimaldi, *After Historic Flight, Wrights Went to Court*, WASH. POST, Sept. 22, 2003, at E01 (discussing the Wright brothers' involvement in 30 years of patent litigation "over [an infringement of] their [patented] discovery that 'warping' of an aircraft's wings made powered flight possible"); John Seabrook, *The Flash of Genius*, NEW YORKER, Jan. 11, 1993, at 38, 44–45 (discussing the saga of Robert Kearns's disputed patent on intermittent windshield wipers).

⁸⁴ Grimaldi, *supra* note 83; Seabrook, *supra* note 83.

⁸⁵ Grimaldi, *supra* note 83. Prior to Wilbur Wright's death from typhoid fever in 1912, he was involved in litigation to protect his airplane design. *Id.* Wright's last letter to his patent attorney complained about how long the case was taking:

Unnecessary delays by stipulation of counsel have already destroyed fully three fourths of the value of our patent . . . The opportunities of the last two years will never return again. At the present moment almost innumerable competitors are entering the field, and for the first time are producing machines which will really fly.

Id.

⁸⁶ See U.S. Pat. No. 821,393 (issued May 22, 1906).

⁸⁷ Seabrook, *supra* note 83.

⁸⁸ *Id.*

⁸⁹ *Id.* at 49.

⁹⁰ *The Week In Review, No Shortage of Saviors*, WASH. TIMES, June 14, 1992, at A14 (discussing Kearns's \$11.3 million jury verdict against Chrysler Corp.).

⁹¹ See FED. R. CIV. P. 11(c).

⁹² See FED. R. CIV. P. 56.

impose sanctions on attorneys who file such suits.⁹³ However, in general, parties are provided with ample opportunities to amend their legal claims⁹⁴ and appeal adverse findings.⁹⁵ While these basic elements are essential to the well-being of our system of justice, the benefits of each usually cannot be fully realized absent representation by experienced counsel—which includes what are often substantial legal fees—before a final judgment is rendered. According to one study, less than seven percent of patent suits litigate through trial, but only about twenty-five percent of suits settle without any court action whatsoever.⁹⁶ Therefore, a small business or inventor attempting to defend an infringed patent almost certainly will be forced to expend at least *some* litigation costs—this in addition to the preliminary costs and expert fees usually required to move for a pre-trial judgment.⁹⁷ Yet, a small inventor may be intimidated by *any* amount of legal fees required to defend a patent, particularly when an opponent has the ability to easily outspend the small inventor. In fact, another survey concluded that small companies are less likely to litigate to protect their patents even though many small companies believe that their patents are infringed upon at a higher frequency than those held by large corporations.⁹⁸

An average litigation cost of \$2 million presents a significant barrier to a small business's or individual inventor's ability to adequately represent itself in a lawsuit.⁹⁹ An attorney defending a small entity's patent rights on a contingency basis may help to alleviate the impact of litigation on the entity's finances. However, a device which has not yet been successful in the marketplace, or an innovation whose expected profits are small, will not provide a sufficiently powerful incentive for the attorney to gamble his time.¹⁰⁰ Furthermore, many patent attorneys consider small businesses

⁹³ FED. R. CIV. P. 11(c).

⁹⁴ See FED. R. CIV. P. 15.

⁹⁵ 28 U.S.C. § 1291 (2000) (providing jurisdiction to the federal “courts of appeals (other than the United States Court of Appeals for the Federal Circuit) [as to] appeals from all final decisions of the district courts of the United States.”); *id.* § 1295(a)(1) (2000) (providing jurisdiction to the United States Court of Appeals for the Federal Circuit as to “appeal[s] from a final decision of a district court of the United States . . . if the jurisdiction of that court was based, in whole or in part, on section 1338.”). In pertinent part, § 1338 provides federal “district courts [with] original jurisdiction of any civil action arising under any Act of Congress relating to patents.” 35 U.S.C. § 1338(a) (2000).

⁹⁶ Kimberly A. Moore, *Judges, Juries, and Patent Cases—an Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 384 (2001). Almost seventy-six percent of patent suits settle before trial. *Id.*

⁹⁷ See AIPLA 2003 REPORT, *supra* note 4, at 22.

⁹⁸ Josh Lerner, *The Patent System and Competition*, at 4, at <http://www.ftc.gov/opp/intellect/lernerjosh.pdf> (last visited Nov. 09, 2004). In a 1990 survey of 376 companies, the cost to litigate was a factor for twice as many “small entities” as large companies. *Id.*

⁹⁹ AIPLA 2003 REPORT, *supra* note 4, at 22.

¹⁰⁰ Randy Myers, *Fighting Words: Growing Ranks of Litigants are Putting a Price Tag on Ideas*, CFO MAG., Mar. 1, 1998, available at <http://www.cfo.com/article.cfm/2989975.html> (last visited Nov. 09, 2004). While most law firms bill patent litigation on an hourly basis, some are willing to represent clients on a contingency basis. *Id.* A sliding scale may be used, “perhaps 10 percent of the recovery if the case is settled without initiating litigation, 25 percent if the case is settled before it goes to discovery . . . , 33 percent if the discovery stage is reached, and 40 percent once it goes to expert discovery.” *Id.*; see also Brenda Sandburg, *Battling the Patent Trolls*, THE RECORDER, July 30, 2001, available at <http://www.law.com/jsp/statearchive.jsp?type=Article&oldid=ZZZ4DX7MSPC> (last visited Nov. 09, 2004) (reporting contingency fees for patent litigation reaching as high as forty-five percent).

and individuals less sophisticated clients, requiring more of the attorney's time to handle the patent litigation process than would a larger, corporate innovator.¹⁰¹

In patent cases, as in many other civil cases, attorneys are free to represent clients on a contingency basis.¹⁰² While this option may be appealing to both clients and attorneys involved in suits where the damages at issue are simple to assess,¹⁰³ damages in patent cases are more difficult to calculate.¹⁰⁴ Furthermore, absent an equitable accounting,¹⁰⁵ patentees who seek only an injunction against manufacture or who only wish to bar an infringer's sales of the patented product are entitled to little in monetary damages.¹⁰⁶ In such cases, the contingency attorney may be forced to rely for compensation on the future profits expected from the invention, surely a less palatable alternative than representing a client with readily available funds. One patent attorney recommends both an infringement opinion and a validity opinion from a first attorney before seeking representation by a second attorney on a contingency basis.¹⁰⁷ The cost of these opinions, estimated at a minimum of \$8,750, must be borne by the inventor.¹⁰⁸ Such opinions serve as a type of inventor's patent prospectus on which contingency attorneys can assess their likelihood of success and agree to—or decline—representation.¹⁰⁹ Even if an attorney agrees to engage in representation on a contingency basis, the inventor usually is expected to pay ancillary costs, such as those for depositions, travel expenses and evidentiary exhibits.¹¹⁰ These costs, at minimum, have been estimated in the range of \$10,000.¹¹¹

¹⁰¹ See Harry I. Moatz, *Avoiding Misconduct Complaints in Patent Prosecution*, 2003 VA. BAR ASS'N, INTELL. PROP. & INFO. TECH. L. SEC. 69, 72. An attorney representing a client before the USPTO has a duty to meet a client's reasonable expectations, including education of the client. *Id.*

¹⁰² See, e.g., MODEL RULES OF PROF'L CONDUCT R. 1.5(c) (2003) ("A fee may be contingent on the outcome of the matter for which the service is rendered . . .").

¹⁰³ See, e.g., *Cathey v. Meyer*, 115 S.W.3d 644, 678 (Tex. Ct. App. 2003) (Gray, J., dissenting) ("The [damages] calculation is deceptively simple: determine the value as represented, deduct from that the value actually received, and *voilà*—the amount of damages.").

¹⁰⁴ See Jack L. Slobodin & Seyfarth Shaw, *Examining Damages Experts in Patent Litigation*, in *PATENT LITIGATION 2003*, at 667, 669 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course, Handbook Series No. 766, 2003), available at WL, 766 PLI/Pat 667.

¹⁰⁵ "An equitable accounting is a remedy of restitution where a . . . defendant is forced to 'disgorge gains received from the improper use of the plaintiff's property or entitlements.'" *Gov't Guarantee Fund of Republic of Fin. v. Hyatt Corp.*, 955 F. Supp. 441, 466 (D.V.I. 1997) (quoting 1 DAN B. DOBBS, *LAW OF REMEDIES* § 4.3(5), at 610 (2d ed. 1993)).

¹⁰⁶ See 35 U.S.C. § 283 (2000); *Nat'l Dryer Mfg. Corp. v. Dryer Co. of Am.*, 130 F. Supp. 912, 913 (E.D. Pa. 1955) ("[T]he remedy of damages provided in [35 U.S.C. §] 284 is a separate and distinct remedy from the injunctive relief which is authorized in [35 U.S.C. §] 283."). If an attorney hired on a contingency basis were to be successful in enjoining an infringer's production and sales of a patented product, the success would be somewhat hollow given that, absent an equitable accounting, there would be no award of damages from which to extract a commission.

¹⁰⁷ John P. Costello, *Patent Enforcement with Teeth*, *INVENTORS DIG.*, May 1, 1999, available at <https://w255.securedweb.net/inventorsdigest/wwwfp/magazine/freearticles/enforce.html> (last visited Nov. 09, 2004).

¹⁰⁸ *Id.* The average cost of an infringement opinion is \$5,000, and the average cost of a validity opinion is \$3,750. *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

A prevailing party in an infringement suit rarely is awarded attorney fees.¹¹² As such, much like Robert Kearns, small-entity patentees may find themselves granted an award of lost profits only to see it equaled or exceeded by the costs incurred during litigation.¹¹³ Even when attorney fees are granted, the fees often are reduced by the court, leaving either the attorney or the prevailing client responsible for the shortcoming.¹¹⁴ Adding to the disincentive that exists for an attorney to represent a small client, fee collection also may be considered more difficult when a smaller, less financially stable client is involved.¹¹⁵

C. Other Costs

Beyond filing fees and the costs of litigating infringements, additional costs often factor into patent ownership, all serving to financially overwhelm the small entity patent holder. A thorough novelty search, while effective at reducing the potential for future litigation, is a costly form of patent “insurance”; moreover, it ultimately may insure nothing at all.¹¹⁶ Viewed in that light, the \$1,500 average cost for a novelty search may lead small inventors to simply forego such searches.¹¹⁷ Other costs that can reduce the incentive to enter the patent system and disclose an innovation include the cost of drafting the patent application, lost opportunity costs, the temporary losses of financial and intellectual capital, and even interest costs.¹¹⁸

¹¹² Attorney fees will not be awarded under 35 U.S.C. § 285 except as necessary to prevent gross injustice or in cases where fraud and wrong-doing are clearly proven. *Maurice A. Garbell, Inc. v. Boeing Co.*, 546 F.2d 297, 300–01 (4th Cir. 1963).

¹¹³ *Seabrook*, *supra* note 83, at 38.

¹¹⁴ *See, e.g., Fabri v. United Techs. Int’l, Inc.*, Nos. 03-7090(L), 03-7249(XAP), 2004 WL 2361656, at *14–16 (2d Cir. Oct. 21, 2004) (affirming a nearly thirty percent reduction in plaintiffs’ requested attorney fees from \$1.6 million by amounts of \$167,866 (reduction of attorneys’ requested hourly rates), \$215,279 (reduction for attorneys’ time spent on unsuccessful claims), \$45,575 (reduction for unnecessary services of additional attorney) and \$35,105 (reduction for “expenses relating to the polygraph testing of [one of the co-plaintiffs]”), for a total reduction of \$463,825).

¹¹⁵ Whether an infringement case is likely to succeed on the merits is often a secondary consideration for attorneys offering their litigation services on a contingency basis. *See Dee Gill, Defending Your Rights: Protecting Intellectual Property is Expensive -- and Often Crucial*, WALL ST. J., § 6, Sept. 25, 2000. Rather, many firms seek “big collectible damages.” *Id.* One attorney explained that his firm looks for “a history of improper sales by the other party at least in the tens of thousands of dollars.” *Id.* A new patent does not usually protect a product with a sales history that would justify damages large enough to attract contingency representation: “There has to be a pot of gold at the end of the rainbow . . .” *Id.*

¹¹⁶ *See DAVID A. BURGE, PATENT AND TRADEMARK TACTICS AND PRACTICE* 47–48 (Wiley 3d ed. 1999).

¹¹⁷ AIPLA 2003 REPORT, *supra* note 4, at 21 (stating that in 2002 the median charge for a patent novelty search was \$1,500).

¹¹⁸ Gary Myers, *Litigation as a Predatory Practice*, 80 KY. L.J. 565, 590–91 (1992).

A target [company] may be forced to divulge proprietary information, such as trade secrets, new product developments, and marketing strategies in the course of discovery. While a suit is pending, the target [company] may also be forced to disclose its contingent liability to creditors, accountants, and others. This revelation would hamper its ability to obtain the funds necessary to compete.

Id. A defendant in one patent case claimed that adverse trial publicity concerning his products’ alleged infringement caused a loss of potential customers, the failure of a proposed joint venture and

1. *Prior Art Search*

A search of the prior art, credited in the documentation of an issued patent,¹¹⁹ is a prudent precautionary measure to ensure the future validity of one's patent.¹²⁰ Because such searches are not obligatory¹²¹ and generally vary in cost proportionately to their scope, most are limited so as to keep costs at a minimum.¹²² As a result, many prior art searches fail to discover relevant, pre-existing innovations.¹²³ But even when the search for prior art is limited, an opinion based on the findings may cost upwards of \$10,000.¹²⁴

2. *Drafting & Prosecution-Related Costs*

A patent application is required to describe the invention, explain how to make and use it and "particularly point[] out and distinctly claim[] the subject matter [of the] . . . invention,"¹²⁵ among other descriptive elements.¹²⁶ A patent's claims are the critical elements of the application, asserting the purpose of the invention and defining the extent of protection.¹²⁷ The application should be prepared and prosecuted by an agent or attorney registered with the USPTO¹²⁸ and generally will cost between \$5,500 and \$10,000, depending on the complexity of the invention.¹²⁹

his company's failure to obtain financing for other ventures. *Handgards, Inc. v Ethicon, Inc.*, 743 F.2d 1282, 1296 (9th Cir. 1984).

¹¹⁹ MANUAL OF PATENT EXAMINING PROCEDURE § 1302.12 (8th ed., rev. 2, 2004).

¹²⁰ *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966).

¹²¹ Lemley, *supra* note 9, at 1500.

¹²² BURGE, *supra* note 116, at 47.

¹²³ *Id.* at 48. A search may still fail to uncover a pertinent reference. *Id.* Seven percent of the references stored at the USPTO are missing or misfiled. *Id.* Furthermore, documents may be removed to examiners' personal files and thus may be absent from the searchable content. *Id.* Any search at all, however, is still optional. Lemley, *supra* note 9, at 1500.

¹²⁴ Edwin H. Taylor & Glenn E. Von Tersch, *A Proposal to Shore up the Foundations of Patent Law that the Underwater Line Eroded*, 20 HASTINGS COMM. & ENT. L.J. 721, 740 (1998). "A reliable patent opinion costs at least \$10,000 if the patent has any real complexity." *Id.*

¹²⁵ 35 U.S.C. § 112 (2000); *see also* 37 C.F.R. §§ 1.71–.75 (2004).

¹²⁶ BURGE, *supra* note 116, at 53 (stating that drawings, details critical to the practice of the invention, questions about the character of the invention, and claims to the invention's scope of patent protection are among these elements).

¹²⁷ *See* 35 U.S.C. § 112; *see also* 37 C.F.R. § 1.75.

¹²⁸ *See* 37 C.F.R. §§ 1.31, 11.6–.10 (2004). Patent applications may be filed pro se (by the inventor himself), but all inventors' representatives must be registered with the USPTO. *Id.* § 1.31. Patent prosecution, a term of art describing the process of obtaining a patent, *see id.* (stating that "[a]n applicant for patent may file and prosecute his or her own case" (emphasis added)), generally is performed by an individual registered with USPTO as a patent attorney or patent agent. *See id.* Although attorney fees may be minimized by the inventor's drafting a majority of the patent application, an attorney provides more protection. *See* Seabrook, *supra* note 83, at 50. As Jerry Lamelson, a prodigious inventor, advised:

It takes great skill to craft a patent application You have to stake the four corners of your invention broadly enough so that they give you maximum protection Of course, if you write it too broadly you may invalidate your claim, because it will read on prior art. But if you write too narrowly you may miss the thing about the technology that turns out to be truly valuable.

Additionally, responses often must be filed and rejections addressed when questions arise or errors are discovered upon review by the USPTO.¹³⁰ For example, where a response includes the addition of a claim, the applicant is charged only a statutory fee,¹³¹ but the legal costs of drafting the response are far higher in comparison.¹³² Indeed, a response inclusive of an amendment and/or argument generally will cost between \$1,500 and \$2,800, depending on the complexity of the invention and the amendment and/or argument.¹³³

3. Opportunity Costs & Intellectual Capital

A small entity or individual inventor also must factor into the litigation equation the loss of opportunities to pursue other activities. One study has found that the average suit lasts for 1.12 years¹³⁴ while another found the average suit to last 1.39 years in cases where no preliminary injunction is sought.¹³⁵ Small companies whose officers must devote substantial portions of that time to the defense of a patent are removed from the process of running their businesses.¹³⁶ Individual inventors are particularly impacted by this cost, as anyone who works for himself will have difficulty earning income while away from his business, notwithstanding the inevitable attorney fees.¹³⁷ Moreover, the loss of intellectual capital while an

Id.

¹²⁹ AIPLA 2003 REPORT, *supra* note 4, at 21 (stating that in 2002 the median charge for an “[o]riginal non-provisional application [for an] invention of minimal complexity” was \$5,504 and an “[o]riginal application [for a] relatively complex biotech/chemical” invention was \$10,001).

¹³⁰ 37 C.F.R. § 1.111 (2004); Harold C. Wegner, *COMPARATIVE PATENT LAW* 283 (1991) (stating it is very rare that no response is required during the USPTO application process).

¹³¹ 37 C.F.R. § 1.16(b) (2004). For example, a small entity amending an application to include an additional claim is charged \$44 (assuming the application previously included three or more claims). *See id.*

¹³² AIPLA 2003 REPORT, *supra* note 4, at 21.

¹³³ *Id.* (stating that in 2002 the median charge for an “[a]pplication amendment [and/or] argument of minimal complexity” was \$1,499 and an “[a]pplication amendment [and/or] argument [for a] relatively complex biotech/chemical” invention was \$2,806).

¹³⁴ Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 908 (2001).

¹³⁵ Jean O. Lanjouw & Joshua Lerner, *Tilting the Table: The Use of Preliminary Injunctions*, 44 J.L. & Econ. 573, 595–96 tbl.3 (2001).

¹³⁶ Charles L. Gholz, *First-to-File or First-to-Invent?*, 82 J. PAT. & TRADEMARK OFF. SOC'Y 891, 894–95 (2000). One company involved in litigation assigned their lead inventor to the litigation process full-time, concluding that a favorable outcome in the suit was more important than his inventiveness. *Id.* This probably occurs more often than not, regardless of a company's size, and is but one instance of litigation effecting a decrease in a company's ability to innovate. One study shows that large companies are often represented by in-house counsel, which results in lower litigation costs and thus places such parties at an advantage. Jonathan P. Bellis & Bernard H. Gustin, *Comparing the Cost of Outside and Inside Counsel*, 8 CORP. COUNS. Q. 80 (1992).

¹³⁷ *See Scripps Clinic & Research Found. v. Baxter Travenol Labs., Inc.*, No. 87-140-CMW, 1990 WL 146385, at *1–2 (D. Del. July 31, 1990).

Fees for in-house counsel are appropriate only when counsel is performing legal work that would otherwise be performed by outside counsel; time spent by in-house counsel in the role of a client, such as time spent keeping abreast of the

inventor is occupied in litigation is difficult, if not impossible, to measure. These costs are intangible and difficult to account; thus, even if the small business or inventor is awarded damages, it is unlikely that such losses will be replaced.

4. *Financial Considerations*

When legal representation on a contingency basis is unavailable, the small entity may incur the additional costs associated with borrowing the money necessary to finance litigation.¹³⁸ Yet, instead of being applied to the costs of litigation, the small inventor likely would be better served using such financial resources to finance other, for-profit activities. In addition, where patent litigation is used to stall a competitor's entry into a market—such as through one party's moving for a preliminary injunction against the sale of the other's product—the delay creates a cost that is not awarded to the non-movant if later victorious.¹³⁹

5. *Expert Fees*

Most patent cases require one or more expert witnesses to simplify for the jury and judge the complex technical issues often involved.¹⁴⁰ While the patent statutes allow attorney fees to be awarded in “exceptional cases,”¹⁴¹ case law has held that awards for expert witness fees must be limited to the statutory witness fee of \$40 per day,¹⁴² except when fraud is perpetrated against the court or one of the parties

progress of the litigation and advising outside counsel of the client's views as to litigation strategy, is not compensable in a fee award.

Id.; see also *Broadview Chem. Corp. v. Loctite Corp.*, 311 F. Supp. 447, 454 (D. Conn. 1970) (stating that in-house counsel generally is viewed as “a regular cost of doing business” when calculating attorney fees).

¹³⁸ See Susan Lorder Martin, *Financing Plaintiff's Lawsuits: An Increasingly Popular (and Legal) Business*, 33 U. MICH. J.L. REFORM 57, 79–83 (2000). At least one corporation has formed to finance patent infringement lawsuits. *Id.* They do so by buying an interest in the patent and joining the original patent holder in the case, thereby becoming entitled to a share of the award. *Id.* This option, however, may result in a small entity waiving its status as a small entity under 37 C.F.R. § 1.28(a)(1)–(3), (5) (2004).

¹³⁹ Gary Myers, *Litigation as a Predatory Practice*, 80 KY. L.J. 565, 590–91 (1992).

¹⁴⁰ See, e.g., *Mitsubishi Elec. Corp. v. Ampex Corp.*, 190 F.3d 1300, 1302–03 (Fed. Cir. 1999); see also FED. R. EVID. 702 (“If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto . . .”).

Experts for both sides testified to the meaning of various technical terms . . . , the scope of the claims as applied to the accused device, the content of the prior art, the relation of the patented technology to the prior art, and other aspects relating to both validity and infringement. The issues at trial, and indeed on appeal, were complex in fact and law.

Mitsubishi, 190 F.3d at 1302–03.

¹⁴¹ 35 U.S.C. § 285 (2000); see also *Mathis v. Spears*, 857 F.2d 749, 758 (Fed. Cir. 1988) (interpreting § 285 to provide for the award of expert witness fees when three criteria were met: (1) the case must be exceptional, (2) the expert testimony was necessary, and (3) the expert fees must be reasonable).

¹⁴² 28 U.S.C. § 1821(b) (2000).

commits “acts which degrade the judicial system.”¹⁴³ This amount is only a tiny fraction of the true cost of an expert witness.¹⁴⁴ Such a differential imposed by a court severely curtails the return a small business or inventor can expect from a successful suit to protect its patent rights.

In addition to expert witnesses retained for their technical testimony, patent cases often require damages experts to calculate and explain reasonable royalties, lost profits or some combination thereof.¹⁴⁵ “Frequently the issue is simply how much will be awarded and a liability victory with a bad damages expert can mean a low award.”¹⁴⁶ These experts are typically Certified Professional Accountants or economists and can add substantially to the litigant’s total expenditure for the assistance of experts.¹⁴⁷ Technical and damages-related expert witnesses should be engaged early in the litigation process, regardless of whether the case goes to trial, as the data they provide often lead to a settlement.¹⁴⁸

Most inventors and small businesses are probably not so naïve as to believe that a patent truly will allow them to profit from their invention unhindered by competition.¹⁴⁹ But in the aggregate, the costs facing the “little guy” to protect his patents against infringement can be insurmountable, while remaining nothing more than the proverbial “drop in the bucket” for a large corporation.

D. Avoiding the Costs of Patent Protection

Litigation costs, in conjunction with the other, less tangible costs necessary to enforce patent rights, act as a disincentive for small entities to patent their innovations. In the example of John Q. Public, unless market success is a certainty, a small inventor such as Mr. Public is not likely to seek patent protection for his

¹⁴³ *Amsted Indus., Inc. v. Buckeye Steel Casting Co.*, 23 F.3d 374, 376–79 (Fed. Cir. 1994) (quoting *Chambers v. NASCO, Inc.*, 501 U.S. 32, 50 (1991)). In *Amsted*, the Federal Circuit held that the lack of an express provision for expert witness fees in 35 U.S.C. § 285 limited such witnesses to the statutory fee provided by 28 U.S.C. § 1821(b)—leaving the plaintiff to pay the \$146,000 expert fee despite the lower court’s judgment that the defendant infringed the plaintiff’s patent, “lacked a good faith belief that the . . . patent was invalid” before filing suit and “burdened the court with numerous motions.” *Id.*

¹⁴⁴ One patent agent offers a variety of patent services and provides a summary of fees indicating proposed expert witness fees of \$380 per hour. *See Registered Patent Agent Year 2004 Schedule of Fees*, at <http://www.webpatent.com/costs.htm> (last visited Nov. 09, 2004). Such a rate would result in a net loss of \$2,720 per eight-hour day if only the \$40 per hour statutory fee were awarded. Some factors contributing to the high cost of expert witnesses are their “extensive post-graduate educations and impressive backgrounds,” as well as the significant amount of time required to become familiar with the issues in a case. Daniel W. McDonald & Matthew A. Doscotch, *Why Aren’t Expert Fees Recoverable in Patent Cases? Correcting an Anomaly in the Patent Fee Statutes*, 84 J. PAT. & TRADEMARK OFF. SOC’Y 255, 265 (2002).

¹⁴⁵ Slobodin & Shaw, *supra* note 104, at 669.

¹⁴⁶ *Id.* at 683.

¹⁴⁷ *Id.* at 682.

¹⁴⁸ *Id.* at 687.

¹⁴⁹ *See* Laura Lane & Michael Koryta, *It’s Patently Hard to Profit from Ideas; Many Don’t Earn Back Cost of Obtaining Rights*, CHI. TRIB., May 10, 2004, § 1. Robert Humbert, vice president of the Indiana Inventors Association, estimated that only one in 400 patents earns even the costs of obtaining the patent, not to mention the extra cost to protect it. *Id.*

invention when the cost to maintain a patent exceeds his income by 800%. For this reason, many small inventors may opt for other forms of protection, such as trade secret protection, or even no protection at all.¹⁵⁰ In contrast to patents, trade secrets essentially may be had and maintained for free.¹⁵¹ However, trade secret protection essentially is worthless if the protected innovation loses its status as a secret.¹⁵² Thus, as in cases where new discoveries are intentionally unprotected and disclosed to the public,¹⁵³ a trade secret revealed has the undesirable effect of depriving the innovator of his status as the sole economic beneficiary of his (formerly secret) innovation.¹⁵⁴ In addition, the very nature of trade secret protection undercuts the intent of the patent system because innovations kept as trade secrets do not readily become available for others to build upon.¹⁵⁵ If sufficiently high, the costs of patent protection for small entities conceivably could outweigh the benefits of the patent system. Such an imbalance likely would prompt such parties to reduce the number of patents applied for and, concomitantly, their important contributions to innovation in general.¹⁵⁶

III. PROPOSAL

Given the impact made by small businesses on the U.S. economy, a reduction in the number of innovations contributed to society by small businesses and inventors is a pressing concern.¹⁵⁷ While many people empathize with small businesses and

¹⁵⁰ See POSNER, *supra* note 74. In Illinois, for example, a trade secret consists of information, including but not limited to, technical or non-technical data, a formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, or list of actual or potential customers or suppliers, that: (1) is sufficiently secret to derive economic value, actual or potential, from not being generally known to other persons who can obtain economic value from its disclosure or use; and (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy or confidentiality.

765 ILL. COMP. STAT. 1065/2(d) (2004). One study found that many manufacturing companies consider patents less effective than secrecy when it comes to protecting their intellectual property. Allison & Lemley, *supra* note 57, at 2104.

¹⁵¹ See JOHN G. MILLS III ET AL., PATENT LAW FUNDAMENTALS § 4.23 (2d ed. 2004).

¹⁵² See 765 ILL. COMP. STAT. 1065/2(d); see also *id.* § 1065/4 (providing damages for the misappropriation of trade secrets).

¹⁵³ One prominent example would be the current trend in “open source” software code. See, e.g., *Open Source Initiative*, at <http://www.opensource.org/> (last visited Nov. 09, 2004) (describing the requirements for open source software). The idea behind open source software is that constant public disclosure of the improvements, adaptations and repairs made by many individuals vastly accelerates the pace at which software can be developed. *Id.*

¹⁵⁴ See 765 ILL. COMP. STAT. 1065/2(d)(1) (requiring that information kept as a trade secret be “sufficiently secret to derive economic value, actual or potential, from not being generally known to other persons who can obtain economic value from its disclosure or use”).

¹⁵⁵ See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151 (1989).

¹⁵⁶ See *supra* note 2 and accompanying text (discussing several of the important inventions for which small inventors were responsible).

¹⁵⁷ See generally Cora Daniels, *When a Big Firm Took Their Idea, this Couple Fought Back: Small Business Rip-off*, FORTUNE SMALL BUS., Nov. 13, 2001, available at <http://www.fortune.com/fortune/print/0,15935,359100,00.html> (last visited Nov. 09, 2004). Richard Apley, who is in charge of independent inventor and small-business issues as a director at the USPTO, stated that “his office

inventors because of their “underdog” status, sound economic policy coincides with that emotion and requires protective measures exceeding those currently in place. Under the current legal system, a future reduction in the diversity of disclosed innovations seems very likely. Large corporations with prodigious research and development budgets cannot be expected to develop innovations in areas where only a marginal profit is foreseen.¹⁵⁸ Technologies unlikely to produce large initial returns typically fall into the domain of small businesses.¹⁵⁹ This section discusses several free-market and legislation-based proposals to remedy the plight of the small entity patentee and check the potential for a decline in American innovation.¹⁶⁰

A. The “Ultra-Small” Entity

The first proposal involves the creation of an “ultra-small” entity category, which would include individual inventors and those companies having perhaps fifty employees or less. The current upper limit for small-entity status, 500 employees, hardly characterizes a company unable to fund an infringement suit in defense of its patent rights.¹⁶¹ A company with the ability to meet the payroll requirements necessary to employ 500 workers likely has the financial capability to finance all but the most drawn-out patent litigation. Inventions made by ultra-small entities, however, are those most at risk of existing in an undisclosed state due to the ultimate expense of patent protection. Therefore, the suggestions in this section should apply to companies which not only meet the size requirement stated above, but have a net income falling below a certain level, perhaps \$1 million.¹⁶²

Already, the SBA has a classification for a “very small business.”¹⁶³ Among other requirements, this classification could provide the company-size and income limit parameters used by the USPTO to establish inventors’ ultra-small entity status.¹⁶⁴ The very small business designation would apply to individual inventors, as well as the numerous small businesses that innovate less through research and development than during the ordinary course of business. Once a party establishes that it meets the additional requirements to be recognized as an ultra-small entity, it would enjoy a waiver of a portion or all of the fees required by the USPTO to file and

now receives a half dozen calls a day from firms that say they are being ripped off by bigger companies.” Apley further stated—in jest—that “[i]t has gotten so bad that I’m thinking of asking the EPA if we can list the individual inventor on the endangered species list.” *Id.*

¹⁵⁸ See Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 873, 916 n.143 (1990).

¹⁵⁹ *Id.*

¹⁶⁰ The proposed solutions are presented without the thorough economic analysis that may be required to determine if the implementation of one or more ultimately would be practical.

¹⁶¹ 37 C.F.R. § 1.27(a)(2)(ii) (2004) (referring to the size requirements of 13 C.F.R. § 121.802); 13 C.F.R. § 121.802 (“A concern eligible for reduced patent fees is one . . . [w]hose number of employees, including affiliates, does not exceed 500 persons . . .”).

¹⁶² *E.g.*, 13 C.F.R. § 121.413 (2004). Section 121.413 is an SBA regulation defining a “very small business” as a concern with no more than fifteen employees and less than \$1 million in annual receipts. *Id.*

¹⁶³ *Id.* The “very small business” designation exists for certain preferential treatment in government contracts. *Id.* at § 121.401.

¹⁶⁴ See *id.* § 121.413.

process a patent application.¹⁶⁵ Thereafter, the waived fees only would be imposed on the ultra-small entity when it became able to recoup those costs through licensing or similar arrangements.¹⁶⁶ However, considering the total cost of litigation, the USPTO's reduced fees for small entities already are relatively low.¹⁶⁷ Thus, standing alone, a further reduction in USPTO fees for ultra-small entities (even to effectively nothing!) probably would not offer a sufficient additional incentive for such entities to seek patent protection for their innovations, especially those of a non-commercial nature or that would be difficult to commercialize.¹⁶⁸

B. Tax Benefits

A second proposal is to lower the marginal income-tax rate paid by attorneys on income earned while representing small-business patent applicants and patentees. If the current tax rate is assumed to be thirty percent, John Q. Public's attorney would be required to pay \$6,000 to the Internal Revenue Service for Mr. Public's \$20,000 legal fee. A lower rate of ten percent applied to the same legal fee increases the attorney's profit by \$4,000 for the representation. The theory of supply and demand suggests that this savings would result in lower billing rates for small businesses—or at least compel attorneys to view small clients more favorably, considering the increased profits that would flow from the tax benefit.¹⁶⁹ One criticism that may arise from this proposal is the loss of federal income resulting from the reduced rate; however, it is possible that such a concern may dissipate in view of the economic growth likely to be spurred by the manufacture and sale of patented products.

¹⁶⁵ See *supra* note 7 and accompanying text (discussing the basic costs for a small entity to file, have issued and maintain a patent with the USPTO).

¹⁶⁶ Enforcement of this proposal could be achieved by treating filing costs as a debt, to be temporarily waived for each fiscal year until tax returns indicate gains from the patent. In addition, similar to any contractual relationship, such a system would impose on the patentee a good faith requirement to actually seek out arrangements by which to profit from the applied-for patent(s). See, e.g., RESTATEMENT (SECOND) OF CONTRACTS § 205 (1981) ("Every contract imposes upon each party a duty of good faith and fair dealing in its performance and its enforcement."). A likely drawback to such a system would be the requirement that the USPTO develop the capabilities to handle the collection and acceptance of deferred fees and police applicants who fail to pay after they have the capability to do so.

¹⁶⁷ See *supra* note 71 and accompanying text (identifying the average cost of filing a patent application as only 1.48% of the average cost of litigation).

¹⁶⁸ The term "non-commercial" is used here to describe those patents that may not produce revenues in excess of their filing fees. See, e.g., U.S. Patent No. 4,429,685 (issued Feb. 7, 1984) (describing a method for growing unicorns); U.S. Patent No. 5,971,829 (issued Oct. 26, 1999) (describing a motorized ice-cream cone).

¹⁶⁹ But see *Blum v. Stenson*, 465 U.S. 886, 895 n.11 (1984) ("[D]etermining an appropriate 'market rate' for the services of a lawyer is inherently difficult. Market prices of commodities and most services are determined by supply and demand. In this traditional sense there is no such thing as a prevailing market rate for the service of lawyers . . .").

C. Expert Witness Fees

Although costs for experts usually are incurred prior to any settlement,¹⁷⁰ experts are virtually indispensable in patent litigation.¹⁷¹ Nonetheless, every hour billed by the expert diminishes the patent holder's profits. To the small patentee, the likelihood of having to pay for an expert's services during infringement litigation provides yet another reason to avoid the expense of entering the patent system. Thus, a third proposal is to amend 35 U.S.C. § 285 to allow not only "reasonable attorney fees," but also reasonable *expert witness* fees.¹⁷² However, unlike the current threshold for awards of attorney fees, the threshold for awarding expert witness fees under a modified § 285 would be the same as the willfulness standard often used by courts in deciding whether to award treble damages under § 284.¹⁷³ Thus, as proposed, a modified § 285 would permit the full amount of reasonable expert witness fees to be awarded to the plaintiff where it can prove the defendant committed acts of willful infringement.¹⁷⁴

D. Attorney Fees

A fourth proposal involves discarding the policy of reducing attorney fees to a "reasonable" rate when such fees are granted.¹⁷⁵ Where it cannot be determined that

¹⁷⁰ Settlement often occurs during or immediately after discovery, at such time as both parties have evaluated the available evidence and, as a result, the other party's likelihood of success. *See, e.g., Doctors Co. v. Vincent*, 98 P.3d 681, 685 (Nev. 2004) (stating that "[s]hortly before trial, based upon the potentially negative evidence that surfaced during discovery, [the appellant, Doctors Co. (originally a co-defendant with Vincent),] settled with [the original plaintiff] for \$2.75 million"). Moreover, in difficult intellectual property cases, expert testimony often is required even during discovery. *See Mattel, Inc. v. Walking Mountain Prods.*, 353 F.3d 792, 797 (9th Cir. 2003) (discussing expert testimony given during discovery in a suit for copyright, trademark and trade dress infringement).

¹⁷¹ *See Eldon Indus., Inc. v. Vanier Mfg., Inc.*, No. CV 86-7521 RSWL, 1990 WL 160220, at *2 (C.D. Cal. Jan 8, 1990) (stating that "[e]xpert witnesses are practically a requirement in patent litigation").

¹⁷² *See* 35 U.S.C. § 285 (2000). One criticism of this proposal is the unbalanced power that it could afford to large opponents who choose to employ costly expert witnesses. A potential solution may be found in requiring the parties (or more likely the court) to set the allowable witness rate by stipulation prior to discovery. Parties that inflate witness fees to intimidate an opponent in this scheme, would be liable for payment of the same inflated fee to a victor.

¹⁷³ *See id.* § 284.

[A] trial court's discretion in awarding attorney's fees in patent cases may be invoked only upon a finding of bad faith or unequitable conduct on the part of the losing party which would make it grossly unjust for the prevailing party to be left with the burden of his litigation expenses.

Maurice A. Garbell, Inc. v. Boeing Co., 546 F.2d 297, 300-01 (4th Cir. 1963). Arguably, the standard articulated in *Garbell* is higher than the willfulness standard currently used by federal courts to assess whether treble damages should be awarded in a given case. *See* cases cited *supra* note 48. *See generally* JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 331-32 (2003) (stating that awards of enhanced damages under § 284 and awards of attorney fees under § 285 "are not necessarily linked; however, the grant of one does not preclude the denial of the other").

¹⁷⁴ *See, e.g.,* cases cited *supra* note 48.

¹⁷⁵ *See* 35 U.S.C. § 285.

an attorney acted in bad faith when establishing a fee schedule at the outset of representation, the agreed-upon rates should be used as the basis for damages, without reduction by the court. Such a policy would serve both as a deterrent for infringers and an incentive for attorneys to represent small businesses.¹⁷⁶ Infringers will be deterred by the possibility of higher damages awards, and attorneys will realize a greater return on time spent representing small businesses or individuals. For patentees, the current policy of reducing awards of attorney fees resembles a penalty—one which deters both small and large entities that seek “routine” protection of their intellectual property.¹⁷⁷

E. Reduced Billing Rates and Pro Bono Representation

Another proposal is to require a reduced rate for hours billed while representing small businesses during the patent application process and patent litigation.¹⁷⁸ This requirement could be made a condition of maintaining a patent bar license.¹⁷⁹ By reducing filing fees, the USPTO already has assisted small-entity inventors in the patent prosecution process. However, litigation, by far the most insurmountable cost of patent ownership, currently is practiced by attorneys who need not be registered with the USPTO.¹⁸⁰ Thus, some level of USPTO regulation also should be imposed upon patent litigators as a condition precedent to being permitted to litigate patent cases. Such regulation could include the requirement that attorneys provide small entities with a designated amount of pro bono or discounted representation.¹⁸¹

¹⁷⁶ Would-be infringers may be deterred by the billing rates of an opponent’s attorney(s) if the assumption that § 285 at most would permit an award of reasonable rates—beneficial to a willful infringer—was no longer valid.

¹⁷⁷ See *supra* note 114.

¹⁷⁸ See Valerie Calloway, *In the Process of Controverting its Constitutionally Given Purpose, The U.S. Patent System Discriminates Against Inventors with Limited Financial Means*, 11 LAW & INEQ. 565 (1993) (proposing pro bono requirements in addition to a waiver of USPTO application fees for inventors with limited means).

¹⁷⁹ *Id.* at 579.

¹⁸⁰ Only those attorneys engaged in the prosecution of patent applications must be registered with the USPTO. 37 C.F.R. § 1.31 (2004).

¹⁸¹ See, e.g., MODEL RULES OF PROF’L CONDUCT R. 6.1 (2003) (“A lawyer should aspire to render at least (50) hours of pro bono publico legal services per year.”). A counterargument to the proposed regulatory scheme is that it is tantamount to government-mandated subsidization of small businesses by patent litigators. Thus, it presents the foreseeable problem of higher billing rates. Eventually, these costs would be passed on to all consumers and, as a result, may serve to hinder innovation as much as assist it.

F. *Inventor's Associations and Patent Insurance*

Yet another proposal involves encouraging small entities to join inventors' associations. Such associations have the power to negotiate for lower-cost "patent insurance" on their members' behalf.¹⁸² A number of underwriters offer policies covering both the cost to defend against an accusation of infringement and the cost to attack infringers.¹⁸³ But coverage is somewhat expensive, and the policy must be purchased *before* any infringement is known to have occurred.¹⁸⁴ Nonetheless, the expense of maintaining such insurance, which starts at a minimum of \$1,300 per year,¹⁸⁵ is a modest price to pay considering the high litigation costs that a small business may face.¹⁸⁶ Similar to many other forms of insurance, the cost of patent insurance could be further reduced if purchased in blocks; for example, through an inventor's association.

Readily available patent insurance may provide a key strategic advantage to small patentees who seek to enforce their patent rights. Therefore, in addition to better rates negotiated by associations, government involvement also could be sought to improve the business climate for patent insurance. Indeed, Congress has taken steps in the past to improve the economic feasibility of ventures deemed important to society at large; specifically, Internet-based commerce.¹⁸⁷ In order to encourage the growth of commerce on the internet, Congress in 1998 enacted the Internet Tax Freedom Act, which provided for a temporary moratorium on the states' taxation of electronic commerce.¹⁸⁸ Similar to the financial benefits that the Internet Tax Freedom Act bestowed upon companies doing business on the internet, government-approved tax benefits or subsidies designed to benefit companies providing patent insurance likely would prove potent catalysts for the growth of the industry and lead to lower policy costs through competition.

¹⁸² See Frances H. Miller, *Health Insurance Purchasing Alliances: Monopsony Threat or Procompetitive RX for Health Sector Ills?*, 79 CORNELL L. REV. 1546 (1994) (discussing the influence of purchasing alliances in the health care insurance market).

¹⁸³ See Gill, *supra* note 115, § 6.

¹⁸⁴ See Bruce E. Burdick, *Patent Insurance, is it Worth it?* (2002), at <http://www.members.tripod.com/burdicklawfirm/insurart.htm> (last visited Nov. 09, 2004). In general, premiums for patent insurance cost approximately two to five percent of the insured amount with co-payments from fifteen to twenty-five percent. *Id.*

¹⁸⁵ Telephone Interview with Bob Fletcher, Intellectual Property Insurance Services Corporation (Oct. 5, 2004). A patent insurance policy from Intellectual Property Insurance Services Corporation costs, in general, \$7–12 per \$1,000 of coverage. *Id.*

¹⁸⁶ See *supra* note 4 (identifying a range of legal fees related to litigation).

¹⁸⁷ See Internet Tax Freedom Act, Pub. L. No. 105-277, § 1100(a), 112 Stat. 2681-719 (1998), *amended by*, Internet Tax Nondiscrimination Act, Pub. L. No. 107-75, § 2, 115 Stat. 703 (2001).

¹⁸⁸ See *id.* As originally enacted, the Internet Tax Freedom Act mandated that no state could levy taxes against Internet-based commercial transactions for a "period beginning on October 1, 1998, and ending 3 years after [the Act's passage into law on October 21, 1998]." *Id.* § 1100(a). Thus, the Act's taxation moratorium was to have ended on October 21, 2001. *Id.* However, Congress later chose to extend the effectiveness of the Act until November 1, 2003. Internet Tax Nondiscrimination Act § 2.

G. Arbitration

A final—although perhaps more obvious—proposal is the encouragement of arbitration in lieu of litigation to determine patent rights.¹⁸⁹ Arbitration is not a new solution to patent disputes; in fact, the arbitration of patent rights currently is allowed by statute: 35 U.S.C. § 294.¹⁹⁰ Modifying § 294 to require small-entity litigants to engage their adversaries in non-binding, appealable arbitration as a mandatory prelude to litigation would serve a gate-keeping function, disposing of frivolous and predatory suits without the costs of formal judicial system. Indeed, a substantial reduction in expert witness fees and litigation costs can be realized by the limited discovery schedule usually mandated by arbitration. Moreover, in contrast to traditional litigation, arbitration has the advantages of being faster, cheaper and more private.¹⁹¹

Although these advantages may allow for less expensive dispute resolution, arbitration would erode some of the protection provided by the formal legal system.¹⁹² Therefore, arbitration under a modified § 294 might be reserved for cases in which one party's financial resources exceed the other party's resources by some statutorily set ratio.¹⁹³ In that way, arbitration would not apply per se to a party qualifying as a small entity but having sufficient revenue to finance a suit against a large adversary.

¹⁸⁹ This suggestion has previously been recommended to Congress:

The AIPLA Committee on Legislative Priorities proposed a special Limited Claim Practice for small patent cases so that litigants in such cases could get a prompt decision. It defined "small" cases as those in which the plaintiff sought damages of less than \$1 million and no injunctive relief.

Jerome G. Lee, *President's Page*, AM. INTELL. PROP. L. ASS'N BULL. 186–87 (Dec. 1990). The proposed procedure would strictly control discovery, preclude a jury, limit each party to three witnesses and mandate a total trial length of no more than four days. *Id.*

¹⁹⁰ 35 U.S.C. § 294(a) (2000). Section 294 provides for voluntary arbitration of patent cases:

A contract involving a patent or any right under a patent may contain a provision requiring arbitration of any dispute relating to patent validity or infringement arising under the contract. In the absence of such a provision, the parties to an existing patent validity or infringement dispute may agree in writing to settle such dispute by arbitration. Any such provision or agreement shall be valid, irrevocable, and enforceable, except for any grounds that exist at law or in equity for revocation of a contract.

Id.

¹⁹¹ As James F. Henry, President of the Center for Public Resources, stated: "In an era when product lives are measured in months and litigation is measured in decades, you can't afford litigation." Deborah L. Jacobs, *Controlling Litigation Costs with a Neutral Third Party*, N.Y. TIMES, Sept. 23, 1990, § 3, at 12. Most arbitration hearings are private affairs; they are not reported or published, thereby concealing any trade secrets or license agreements from the public. Kevin R. Casey, *Alternate Dispute Resolution and Patent Law*, 3 FED. CIR. B.J. 1, 5 (1993). Binding arbitration of a given patent dispute may cost 50–85% less than a trial held to resolve the same dispute. Tom Arnold, *Fundamentals of Alternative Dispute Resolution: Why Prefer ADR*, in PATENT LITIGATION 1993, at 655, 669 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course, Handbook Series No. 376, 1993), available at WL, 376 PLI/Pat 655.

¹⁹² See Leo Kanowitz, *Alternate Dispute Resolution and the Public Interest: The Arbitration Experience*, 38 HASTINGS L.J. 239, 252 (1987) (discussing the criticism that arbitration does not embody a judge's interpretation of constitutional and statutory values).

¹⁹³ In the example of X Corp and John Q. Public, the ratio of the parties' net incomes is 200 to 1. The proposed mandatory arbitration should be triggered by a much closer ratio, such as 10 to 1.

The statutory ratio would be set so as to ensure financial risk for the speculative party and help eliminate concessions made by small entities facing enormous legal fees to defend a legitimate position.

IV. CONCLUSION

The goal of the U.S. Patent system is to induce innovation through the disclosure of developed ideas. The patent system accomplishes its ends by offering a term of protection to innovative ideas so as to help make them profitable. But the ability of the small-entity inventor to obtain and enforce patent rights is becoming an increasingly difficult financial burden to bear. The extreme cost of protecting a patent through litigation may result in fewer patents filed by small entities and thus less innovation. A deceleration in the pace of patent filing harms the economy and undermines the very means by which the U.S. Patent system fosters scientific discovery.

Small-entity inventors do not deserve special patent protection simply because of their economic disadvantages. Rather, our society should take the steps necessary to level the legal playing field for small entities because they have consistently made innovative contributions to society in ways that large corporations likely never will. Unless small entities can afford to enforce their patent rights, such contributions may simply cease to exist.