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# THE FIRST-TO-INVENT PATENT PRIORITY SYSTEM: AN EMBARRASSMENT TO THE INTERNATIONAL COMMUNITY

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“I know well the difficulty of drawing a line between the things which are worth to the public the embarrassment of an exclusive patent, and those which are not.”<sup>1</sup>

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<sup>1</sup> Letter from Thomas Jefferson to Isaac M’Pherson (Aug. 13, 1813) in BASIC WRITINGS OF THOMAS JEFFERSON 708, 712-713 (Philip S. Foner ed., 1944). For more on Jefferson’s role in developing the United States patent system, see *infra* notes 50-53.

## INTRODUCTION

On January 3, 1922, Henry Smith filed a patent application on a machine that cut multiple-threaded wood screws.<sup>2</sup> Ten days later, Harry Townsend filed an application on a similar invention.<sup>3</sup> Eventually, after a year of processing, the United States Patent Office granted Smith a patent and denied Townsend altogether.<sup>4</sup> Although Townsend had filed his patent application ten days later after Smith, Townsend appealed.<sup>5</sup>

According to Townsend, even though Smith filed a patent application earlier, Townsend actually conceived of the invention on June 1, 1921, over six months before either party filed an application.<sup>6</sup> Interestingly, Townsend admitted that he came up with the idea by accident.<sup>7</sup> Smith, on the other hand, conceived of the invention on purpose, but not until late October, 1921.<sup>8</sup>

In deciding who should have exclusive rights to the machine, the Court of Customs and Patent Appeals held, “[f]rom what has been said it appears that the appellant, Townsend, was the first to conceive and reduce to practice. This being so, and there being no abandonment or negligence since reduction to practice, Townsend is entitled to priority.”<sup>9</sup>

Inventorship disputes like the one in *Townsend v. Smith* arise often enough and are of such interest that the United States Patent & Trademark Office website currently addresses the issue on a page titled “[a]nswers to the most frequently asked kids’ questions about patents, trademarks and copyrights.”<sup>10</sup> One question in particular pertains to the dispute between Townsend and Smith: “What happens if two people have the same idea and both apply for patents?”<sup>11</sup> The Patent Office answers:

This happens sometimes. When the Patent and Trademark Office receives two patent applications for the same inventions, the cases go into an interference proceeding. The Board of Patent Appeals and Interferences then determines the first inventor who thus may be

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<sup>2</sup> *Townsend v. Smith*, 36 F.2d 292 (C.C.P.A. 1929) (granting exclusive patent rights to inventor who was first to conceive and reduce to practice, despite a later filing dated).

<sup>3</sup> *Id.* at 296.

<sup>4</sup> *Id.* at 293.

<sup>5</sup> *Id.* at 293.

<sup>6</sup> *Id.* at 294.

<sup>7</sup> *Id.* at 295.

<sup>8</sup> *Id.* at 296.

<sup>9</sup> *Id.* For definitions of “abandonment” and “reduction to practice,” see *infra* notes 94 and 88-90, respectively, and accompanying text.

<sup>10</sup> United States Patent & Trademark Office, *Frequent Questions and Their Answers*, <http://www.uspto.gov/> (follow “Site Index” hyperlink; then follow “Kids Pages - USPTO” hyperlink; then follow “whowhatwhenhowwhy” hyperlink) (last visited Apr. 6, 2007).

<sup>11</sup> *Id.*

entitled to a patent based on the information provided by the inventors. This is why it is so important for inventors to keep good records.<sup>12</sup>

This Note argues that the United States should abandon the first-to-invent, or, as the Patent Office's website states, "first inventor" rule, for resolving patent priority disputes and adopt the standard that every other country in the world has already adopted, first-to-file.<sup>13</sup> Under a first-to-file rule, the Patent Office's answer to the question above would be shortened to the following: This happens sometimes, and when the Patent and Trademark Office receives two patent applications for the same invention, whoever filed the application first will be entitled to the patent. How simple and elegant! The effect on the Townsend case above would be to change the result entirely; Smith would have been granted exclusive rights in the machine rather than Townsend. Additionally, while the Patent Office initially granted Smith a patent on April 24, 1923, the interference proceeding<sup>14</sup> was not resolved until 1929!<sup>15</sup>

Part I of this Note surveys the constitutional and philosophical underpinnings of the patent system, focusing on economic justifications.<sup>16</sup> Then the Note discusses the history of patent priority laws in the United States and examines how the Patent Reform Act of 2007<sup>17</sup> proposes to change existing laws.<sup>18</sup> Part I closes with a brief primer on patent priority rules and interference proceedings.<sup>19</sup> Part II of this Note addresses the most compelling arguments for both priority systems, particularly harmonization with international standards.<sup>20</sup> Finally, this Note demonstrates that empirical evidence that supports either the first inventor rule or the first-to-file rule is unconvincing and concludes that the United States should adopt the first-to-file rule on harmonization grounds.<sup>21</sup>

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<sup>12</sup> *Id.* (emphasis omitted).

<sup>13</sup> For the full discussion of why the United States should abandon the first-to-invent rule in favor of the first-to-file rule, see *infra* notes 101-217 and accompanying text.

<sup>14</sup> Corpus Juris Secundum defines an "interference" as "a proceeding instituted for the purpose of determining the question of priority of invention between two or more parties claiming substantially the same patentable invention. 69 C.J.S. § 159 (2001); see also *infra* notes 83-100 and accompanying text.

<sup>15</sup> *Townsend*, 36 F.2d at 292-293; see also *Singh v. Brake*, 317 F.3d 1334, 1336 (Fed. Cir. 2003) (interference proceeding declared on Nov. 12, 1991, and not resolved until Jan. 29, 2003, over twelve years later); *In re Jolley*, 308 F.3d 1317, 1319 (Fed. Cir. 2002) (over thirteen years later).

<sup>16</sup> See *infra* notes 22-45 and accompanying text.

<sup>17</sup> Patent Reform Act of 2007, S. 1145, H.R. 1908, 110th Cong. (1st Sess. 2007).

<sup>18</sup> See *infra* notes 46-82 and accompanying text.

<sup>19</sup> See *infra* notes 83-100 and accompanying text.

<sup>20</sup> See *infra* notes 101-159 and accompanying text.

<sup>21</sup> See *infra* notes 160-217 and accompanying text.

## PART I

A. *The Constitution and an Economic Analysis of Patent Priority*

The United States Constitution grants Congress the power to “promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”<sup>22</sup> From a utilitarian<sup>23</sup> or economic<sup>24</sup> standpoint, the Constitution encourages Congress to create patent laws that promote a healthy system of invention<sup>25</sup> and maximize aggregate social welfare.<sup>26</sup> Supporting this justification, the United States Supreme Court has enumerated three main purposes of the patent system:

First, patent law seeks to foster and reward invention; second, it promotes disclosure of inventions, to stimulate further innovation and to permit the public to practice the invention once the patent expires; third, the stringent requirements for patent protection seek to assure that ideas in the public domain remain there for the free use of the public.<sup>27</sup>

The Supreme Court’s language carries a strong utilitarian tone: encouraging invention, disclosure, and protecting the public domain.<sup>28</sup> In fact, the

<sup>22</sup> U.S. Const. art. I, § 8, cl. 8.

<sup>23</sup> See Michael R. Taylor and Jerry Cayford, *American Patent Policy, Biotechnology, and African Agriculture: The Case for Policy Change*, 17 HARV. J.L. & TECH. 321, 338 (2004) (“Under the utilitarian or ‘instrumental’ conception of patents, the patent system is successful to the extent it results in getting more useful things for society.”). This Note does not distinguish among utilitarian, instrumental or economic theories and uses these terms interchangeably.

<sup>24</sup> See Ryan Thomas Grace, *Losing the Forest Among the Trees in the Festo Saga—Rationalizing the Doctrine of Equivalents and Prosecution History Estoppel in View of the Historical Justifications for Patent Protection*, 11 J. INTELL. PROP. L. 275, 279-280 (2004) (“This rationale takes into account the fact that most of the economic growth in the United States can be explained by investments in research, development, and education rather than increases in capital and labor. Under this theory, patents are thought to maximize the economic benefit to the inventor and to society.”) (citations omitted).

<sup>25</sup> See Taylor and Cayford, *supra* note 23, at 339 (“A central assumption underlying the system is that society will benefit from new technology if inventors have the incentive and reward of a patent to induce their investment in the creative act. The patent is awarded to achieve that social objective, not to reward inventors for the sake of rewarding inventors.”).

<sup>26</sup> *Id.* at 339; see also ROBERT P. MERGES, PETER S. MENELL, AND MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* (3d ed. 2003) (supporting the utilitarian explanation).

<sup>27</sup> *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 262, 266 (1979) (holding that federal patent law did not preempt state contract law so as to preclude enforcement of a contract to pay royalties for so long as the contracting party sold the underlying putative invention, even if a patent was not granted).

<sup>28</sup> *Id.* at 262.

United States patent system has been described as “the classic example of an intellectual property regime modeled on the utilitarian framework.”<sup>29</sup>

Under an economic framework, a successful patent system should provide incentives to invent and create,<sup>30</sup> develop and exploit inventions,<sup>31</sup> and make information widely available to the public.<sup>32</sup> Congress simultaneously balances<sup>33</sup> these incentives against the costs of granting an “exclusive Right.”<sup>34</sup> These exclusive right costs include monopoly costs,<sup>35</sup> “deadweight loss,”<sup>36</sup> the possibility of chilling further innovation and of course the administrative burdens.<sup>37</sup>

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<sup>29</sup> MERGES, MENELL & LEMLEY, *supra* note 26, at 24; *see also* Andrew J. Tuck, *Honeywell International Inc. v. Hamilton Sundstrand Corp.: A Rose by an Independent Description Does Not Smell as Sweet*, 39 GA. L. REV. 1521, 1530 (2005) (“The justification for [the Constitution’s] promotion is utilitarian-seeking to maximize the benefit of society as a whole.”) (citations omitted).

<sup>30</sup> *See* Taylor and Cayford, *supra* note 23, at 340 (noting that incentives to invent and create “reflect and are well satisfied by the simple paradigm of the lone inventor who is induced to invest effort in making the invention by the promise of a temporary monopoly on commercialization.”).

<sup>31</sup> *See id.* at 340.

<sup>32</sup> *See* MERGES, MENELL & LEMLEY, *supra* note 26, at 26; *see also* Taylor and Cayford, *supra* note 23, at 339-340 (listing the following four social objectives: “(1) increasing the amount of invention; (2) disseminating knowledge about inventions; (3) regulating the orderly investigation of new research areas; and (4) facilitating the practical use of inventions, including their production, application, and commercialization.”).

<sup>33</sup> *See* Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 4 (2004) (“Historically, IP has been characterized by balance. On the one hand, its exclusionary rights provide incentives to create. On the other, its limits preserve roles in the nation’s economy and democracy for competition, cumulative innovation, and free expression.”)

<sup>34</sup> *See* A. Samuel Oddi, *Beyond Obviousness: Invention Protection in the Twenty-First Century*, 38 AM. U. L. REV. 1097, 1107 (1989) (“History shows the continuous tension and ever-shifting balance between the public interest in benefiting from inventions and the private interests of patent owners in fully exploiting the exclusive rights afforded them.”).

<sup>35</sup> *See* Carrier, *supra* note 33, at 44-45 (“Although in this way the right to exclude may provide incentives by allowing the recovery of expenditures and profits, it may also (to the extent that other products are imperfect substitutes for the protected invention) allow inventors to charge a price significantly above the marginal cost of production. IP holders thus could reap monopoly profits, effectuating a transfer of resources from consumers.”) (citations omitted).

<sup>36</sup> *Id.* at 45 (“In addition to wealth transfers, another danger of monopoly loss is the ‘deadweight loss’ in consumer and producer surplus. As inventors increase the price of works above their marginal cost, those who would pay more than the marginal cost but less than the monopoly price will not buy the works.”) (citations omitted).

<sup>37</sup> *See generally* Oddi, *supra* note 34, at 1112-1113 (discussing the following costs: “costs associated with the under utilization of the protected invention; costs

In addition to an economic justification, Congress may consider while writing patent laws, and indeed has taken into account, non-utilitarian theories<sup>38</sup> such as fairness,<sup>39</sup> personhood,<sup>40</sup> and Lockean labor-desert theory.<sup>41</sup> These theories, which emphasize the importance of fairness and reputation, support granting exclusive rights despite a decrease in aggregate social welfare.<sup>42</sup> In contrast with foreign patent systems, “U.S. patent law is unlike any other in that it is thoroughly steeped in concerns for the inventor’s natural right rather than the benefit of the public.”<sup>43</sup> While scholars debate whether natural rights or utilitarian justifications dominate patent policy, both philosophies have had considerable influence.<sup>44</sup>

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associated with avoiding the protected invention . . . costs associated with blocking alternative solutions . . . over-investment costs . . . [and] administrative costs of operating a patent system . . .”) (citations omitted).

<sup>38</sup> See Grace, *supra* note 24, at 280 (“Notwithstanding the economic views of the patent system, the more traditional views for patent protection stem from two philosophical justifications. The first justification, known as deontological justification, suggests that one has a natural or moral right to one’s creations regardless of the social consequences to society as a whole.”) (citations omitted).

<sup>39</sup> See Charles R.B. Macedo, *First-to-File: Is American Adoption of the International Standard in Patent Law Worth the Price?*, 18 AIPLA Q.J. 193, 224 (1990) (“It is a fundamental concern of the Anglo-American legal system that a governmental decision must be fair.”).

<sup>40</sup> See Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 957 (1982) (“The premise underlying the personhood perspective is that to achieve proper self-development — to be a *person* — an individual needs some control over resources in the external environment.”).

<sup>41</sup> See Grace, *supra* note 24, at 284 (discussing the following three propositions as justifying patent protection under Lockean theory: “The first proposition is that ideas require a person’s labor. The second proposition is that ideas originated in the common . . . . Third is the proposition that the conversion of ideas into personal property does not breach the non-waste provision”) (citations omitted); see also Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533, 1540 (1993) (characterizing Locke’s theory of natural law as arguing that labor provides a foundation for intellectual property).

<sup>42</sup> See Taylor and Cayford, *supra* note 23, at 338 (“The counter theory for patents is the ‘natural rights’ view that patents are a form of property to which inventors have a natural right by virtue of their inventive efforts. This perspective and other nonutilitarian perspectives on patents continue to surface in scholarly writings and in policy debates . . . .”) (citations omitted).

<sup>43</sup> Victor G. Cooper, *U.S. Adoption of the International Standard of Patent Priority: Harmony or Schizophrenia?* 16 LOY. L.A. INT’L & COMP. L.J. 697, 732 (1994).

<sup>44</sup> Compare Grace, *supra* note 24, at 280 (arguing that economic, natural or moral rights, and utilitarian justifications were all “instrumental throughout the evolution of the current American patent system”) (citations omitted) and A. Samuel Oddi, *Un-Unified Economic Theories of Patents—The Not-Quite-Holy Grail*, 71 Notre Dame L. Rev. 267, 271 (1996) (concluding that “currently there is no unifying theory that describes the overall patent system and the outcome of individual cases”).

Thus, any discussion of patent law must bear in mind our constitutional standard as well as Congress's delicate balancing of social costs and benefits. These ideals, which are deeply rooted in the history of our patent laws, continue to have considerable influence in modern legislative efforts.<sup>45</sup>

### B. *History and Recent Changes in Patent Priority Rules*

In response to an overwhelming demand for exclusive rights to inventions,<sup>46</sup> Congress adopted the first Patent Act in 1790.<sup>47</sup> The 1790 Act implicitly adopted a first-to-invent priority rule,<sup>48</sup> although the lack of explicit language caused serious problems for both inventors and Congress.<sup>49</sup> Then in 1793, Thomas Jefferson authored the second Patent Act.<sup>50</sup> Jefferson's 1793 Act clarified and strengthened the first-to-invent tradition by requiring that applicants attest to being the first inventor<sup>51</sup>

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<sup>45</sup> See Senator Orrin G. Hatch, Chairman of the Senate Intellectual Property Subcommittee, Remarks Before the Generic Pharmaceutical Association (Sep. 20, 2006) (in sponsoring S. 3818, recognizing that "[t]here are many factors in patent law that drive up the cost and uncertainty of litigation in ways that are *unjustified*") (emphasis added).

<sup>46</sup> See P.J. Federico, *The First Patent Act*, 14 J. PAT. & TRADEMARK OFF. SOC'Y 237, 237-238 (1932) ("No sooner had the new government begun to function than Congress was besieged by inventors and authors seeking exclusive rights.").

<sup>47</sup> Patent Act of 1790, 1 Stat. 109 (1790) (repealed 1973); see also Federico, *supra* note 46, at 250-252 (containing the full text of the Patent Act of 1790).

<sup>48</sup> Patent Act of 1790 § 5 ("[I]f it shall appear that the patentee was not the first and true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent or patents . . .").

<sup>49</sup> See P.J. Federico, *Operation of the Patent Act of 1790*, 18 J. PAT. & TRADEMARK OFF. SOC'Y 237, 248 (1936) ("Overlooked in the drafting of the patent act of 1790, was the possibility of several different applicants claiming a patent for the same invention, and no provision was made for interferences in such cases. Consequently, the Patent Board was considerably disturbed when petitions for patents containing conflicting claims were filed . . .").

<sup>50</sup> Patent Act of 1793, 1 Stat. 318 (1793) (current version at 35 U.S.C. §§ 1-376 (2000)); see also *Graham v. John Deere Co.*, 383 U.S. 1, 7 (1966) ("He [Jefferson] was not only an administrator of the patent system under the 1790 Act, but was also the author of the 1793 Patent Act.").

<sup>51</sup> Patent Act of 1793, *supra* note 50 at § 3 ("That every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe, that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent . . .").

and by creating the first official interference proceedings.<sup>52</sup> The United States has used the first-to-invent system ever since.<sup>53</sup>

Put generally, first-to-invent means that the first person who conceives of an invention is entitled to the patent.<sup>54</sup> Naturally, when more than one person claims to be the first inventor, patent law must provide a means to determine who was first.<sup>55</sup>

Congress has entrusted the United States Patent & Trademark Office (“USPTO”) to receive, examine, and grant patents.<sup>56</sup> The USPTO handles virtually every potential issue that may arise regarding patents,<sup>57</sup> including making determinations of inventorship.<sup>58</sup> Unfortunately, the process of determining inventorship, known as an “interference proceeding,” is lengthy.<sup>59</sup> The USPTO itself acknowledges that the average interference process takes up to two years to complete.<sup>60</sup> According to the American Intellectual Property Law Association, interferences spend an average of 30.5 months pending before the USPTO.<sup>61</sup> Moreover, inter-

<sup>52</sup> See P.J. Federico, *Early Interferences and the Case of Robert Fulton vs. John L. Sullivan*, 19 J. PAT. & TRADEMARK OFF. SOC'Y 761, 761-762 (1937) (“[T]he act which passed in 1793 provided that cases of interfering applications for patents were to be settled by three arbitrators, one chosen by each applicant and one by the Secretary of State.”).

<sup>53</sup> See Macedo, *supra* note 39, at 213.

<sup>54</sup> See MERGES, MENELL & LEMLEY, *supra* note 26, at 167; see also Oddi, *supra* note 43, at 311 n.274 (“In a ‘first-to-file’ system, the issue of who is entitled to the patent is resolved mechanically on the basis of who wins the race to the Patent Office, and pre-filing activity is irrelevant.”).

<sup>55</sup> See MERGES, MENELL & LEMLEY, *supra* note 26, at 167.

<sup>56</sup> 35 U.S.C. § 2(a) (2000) (“In general.—The United States Patent and Trademark Office, subject to the policy direction of the Secretary of Commerce—(1) shall be responsible for the granting and issuing of patents and the registration of trademarks; and . . .”).

<sup>57</sup> *Id.*

<sup>58</sup> U.S. DEPT. OF COMMERCE, UNITED STATES PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2137.01(II) (8th ed. 2001) [hereinafter MPEP], (“The definition for inventorship can be simply stated: ‘The threshold question in determining inventorship is who conceived the invention. Unless a person contributes to the conception of the invention, he is not an inventor . . .’”) (quoting *In re Hardee*, 223 U.S.P.Q. 1122, 1123 (Comm’r Pat. 1984)).

<sup>59</sup> See Mark A. Lemley and Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1331 n.99 (2003).

<sup>60</sup> MPEP ch. 2301.02 *supra* note 58 (stating that “[p]atent interferences shall be administered such that pendency before the Board is normally no more than two years”).

<sup>61</sup> Lemley and Chien, *supra* note 59, at 1331 n.99 (“Both interferences and court decisions are also time-consuming. Interferences spend an average of 30.5 months pending before the PTO, and there are certain infamous interferences that continued for decades.”) (citing American Intellectual Property Law Association, Committee Report: Patent-Relations with the U.S. Patent and Trademark Office, at <http://www>).



ferences proceedings are expensive. Commentators estimate that the average legal cost of an interference process ranges from \$100,000<sup>62</sup> to as high as \$500,000.<sup>63</sup>

Recently, Congress has considered making significant changes to U.S. patent laws.<sup>64</sup> According to the Congressional Research Service, the potential modifications are “the most sweeping reforms to the U.S. patent system since the nineteenth century.”<sup>65</sup> As of this writing, some of the proposed changes have been embodied in the pending Patent Reform Act of 2007 (“Reform Act”),<sup>66</sup> sponsored in the Senate by Patrick Leahy (D-Vermont) and in the House of Representatives by Howie Berman (D-California).<sup>67</sup> Significantly, the Reform Act abandons the first-to-invent priority system in favor of a first-to-file system.<sup>68</sup> The practical result is

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aipla.org (data reported by PTO Board of Patent Appeals and Interferences Chief Judge Stoner)).

<sup>62</sup> Macedo, *supra* note 39, at 219 n.138 (“The average legal cost of an interference that goes to final hearing has been estimated to be \$100,000, and the average legal cost for all other interferences has been estimated at \$25,000.”).

<sup>63</sup> See Lemley and Chien, *supra* note 59, at 1331 (“Interferences are less expensive [than patent litigation as a whole] but still may cost \$500,000 on average.”) (citing American Intellectual Property Law Association, Committee Report: Patent-Relations with the U.S. Patent and Trademark Office, at <http://www.aipla.org> (data reported by Administrative Patent Judge Anthony M. Zupcic)).

<sup>64</sup> See, e.g., Patent Reform Act of 2006, S. 3818, 109th Cong. (2d. Sess. 2006); Patent Reform Act of 2005, H.R. 2795, 109th Cong. (1st Sess. 2005).

<sup>65</sup> Larry Greenemeier and J. Nicholas Hoover, *IT Policy Outlook*, INFORMATION WEEK, Oct. 23, 2006, at 60; see also Brad Carlson, *Interview with ID attorney W. David Westergard: New member of U.S. Patent Public Advisory Committee*, IDAHO BUSINESS REVIEW, Sept. 25, 2006, at News, available at 2006 WLNR 16667400 (“The Hatch / Leahy Patent Reform Act of 2006 represents the most significant and meaningful legislation in the patent arena in over 50 years. It brings much needed balance into the system, most importantly in the area of litigation reform.”).

<sup>66</sup> Patent Reform Act of 2007 *supra* note 17.

<sup>67</sup> See Reform Act preamble. The Reform Act is co-sponsored in the Senate by Orrin Hatch (R-Utah), Chuck Schumer (D-New York), John Cornyn (R-Texas) and Sheldon Whitehouse (D-Rhode Island). In the House of Representatives, the Reform Act is co-sponsored by Reps. Lamar Smith (R-Texas), John Conyers, Jr. (D-Michigan), Howard Coble (R-North Carolina), Rick Boucher (D-Virginia), Bob Goodlatte (R-Virginia), Zoe Lofgren (D-California), Darrell Issa (R-California), Adam Schiff (D-California), Chris Cannon (R-Utah), Sheila Jackson-Lee (D-Texas).

<sup>68</sup> Reform Act § 3 (titled “Right of the First Inventor to File”); see also 153 CONG. REC. 62, S4685 (2007) (statement of Sen. Leahy) (“First, the Patent Reform Act of 2007 now includes a pure ‘first-to-file’ system, which will inject needed clarity and certainty into the system.”); see also 153 CONG. REC. 62, E773-E775 (2007) (statement of Rep. Berman) (“[The Reform Act] converts the U.S. patent system from a first-to-invent system to a first-inventor to file system.”). Other changes, such as redefining “prior art,” establishing post-grant opposition proceedings, altering prior user rights and of course the myriad provisions intended to curb patent infringement litigation, are outside the scope of this Note.

that the first person to file a patent application is entitled to the patent, regardless of whether that person was the first to invent.<sup>69</sup> And while first-to-file is a stark departure from the traditional U.S. priority system, every other country in the world uses it over first-to-invent.<sup>70</sup> Effectively, the United States has turned the first-to-invent rule into the “American Rule” for resolving priority disputes.

This Note demonstrates that the international first-to-file rule may be superior to the American Rule in accomplishing the Constitution’s goal of promoting the “Progress of Science and the Useful Arts,” although empirical evidence is unsettled.<sup>71</sup> Consistent with this principle, first-to-file encourages additional utilitarian and economic goals, such as maximizing aggregate social welfare, by increasing incentives to invent and disclose information and by reducing the administrative costs of inventorship litigation.

To understand properly the benefits of adopting first-to-file, this Note places the United States patent system in a broad, international context. In making that comparison, the Note concludes that adopting first-to-file may not provide as many benefits as proponents claim.<sup>72</sup> Arguments to retain the first-to-invent system are especially powerful in light of non-utilitarian theories, such as fairness and personhood. Ultimately, however, the goal of harmonizing United States patent laws with the international community supports adopting the first-to-file rule for priority disputes.<sup>73</sup>

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<sup>69</sup> Reform Act § 3; *see also* Hon. Gerald J. Mossinghoff, *The First-To-Invent Rule in the U.S. Patent System Has Provided No Advantage to Small Entities*, 87 J. PAT. & TRADEMARK OFF. SOC’Y 514, 514 (2005) (characterizing first-to-file as “more appropriately called a first-inventor-to-file system.”).

<sup>70</sup> 153 CONG. REC. 62, S4685 (2007) (statement of Sen. Leahy) (“The United States stands alone among nations that grant patents in giving priority for a patent to the first inventor, as opposed to the first to file a patent application for a claimed invention.”); *see also* 153 CONG. REC. 62, E773-E775 (2007) (statement of Rep. Berman) (“The U.S. is alone in granting priority to the first inventor as opposed to the first inventor to file a patent.”); *see also* Mossinghoff, *supra* note 69, at 514 (“As between two true inventors claiming the same invention —as contrasted with copies— every nation in the world, except the United States, grants the patent to the inventor who first undertakes to use the patent system to disclose his/her invention to the public and gain protection.”); *see also* Lemley and Chien, *supra* note 59, at 1299 (“The United States is the only country in the world that awards patents to the first person to invent something, rather than the first to file a patent application.”) (citations omitted); *see also* Cooper, *supra* note 43, at 697 (“The United States is unique among Western nations in that it grants priority to the first to *invent* rather than the first to *file*.”).

<sup>71</sup> For a discussion of articles addressing the empirical evidence, *see infra* notes 113-159 and accompanying text.

<sup>72</sup> *See infra* notes 158-159 and accompanying text.

<sup>73</sup> *See infra* notes 160-217 and accompanying text.

### C. *How Does The Patent Reform Act of 2007 Change Title 35?*

United States patent law is contained in Title 35 of the United States Code,<sup>74</sup> which sets forth what constitutes patentable subject matter<sup>75</sup> and establishes general requirements for patentability.<sup>76</sup> Details regarding United States Patent & Trademark Office rules, however, are not contained in Title 35. Instead, the USPTO promulgates an abundance of rules in the Manual of Patent Examining Procedure (“MPEP”).<sup>77</sup> The MPEP contains guidelines on everything from “Receipt and Handling of Mail and Papers” (chapter 500)<sup>78</sup> to the patent applicant’s “Duty of Disclosure” (chapter 2000).<sup>79</sup>

The Reform Act amends patent law contained in Title 35 and leaves MPEP details to the USPTO.<sup>80</sup> Specifically, the Reform Act eliminates interference proceedings—or rather, substitutes “derivation proceedings” in their place—and adopts the internationally accepted first-to-file priority system.<sup>81</sup> Thus, the Reform Act effectively abandons the first-to-invent priority system that has existed in the United States since the days of Thomas Jefferson.<sup>82</sup>

### D. *A Primer on Interference Proceedings*

When multiple people claim first inventorship, the USPTO must determine who is entitled to the patent. The Board of Patent Appeals and

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<sup>74</sup> See 35 U.S.C. §§ 101 *et seq.* (2000).

<sup>75</sup> 35 U.S.C. § 101 (2000) (defining patentable subject matter as the following: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title”); see also *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (“The Committee Reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to ‘include anything under the sun that is made by man.’”) (*quoting* S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952)).

<sup>76</sup> 35 U.S.C. §§ 101-103, 112 (2000).

<sup>77</sup> MPEP *supra* note 58, <http://www.uspto.gov/index.html> (follow “Patents” hyperlink; then follow “Guides & Manuals” hyperlink; then follow “Manual of Patent Examining Procedure” hyperlink) (last visited Aug. 5, 2006).

<sup>78</sup> MPEP ch. 500 *supra* note 58.

<sup>79</sup> MPEP ch. 2000 *supra* note 58.

<sup>80</sup> See, e.g., Reform Act §§ 6, 13 (requiring that the USPTO Director issue regulations to carry out the Reform Act’s provisions within one year of enactment).

<sup>81</sup> *Id.* at § 3 (titled “Right of the First Inventor to File”). In place of traditional interference proceedings, the Reform Act substitutes “derivation proceedings” to determine whether an “earlier applicant derived the claimed invention from the applicant requesting the proceeding and, without authorization, filed an application claiming such invention”—in other words, whether a first-filing applicant stole her invention from a second-filer. Reform Act §3(i).

<sup>82</sup> See generally *Id.*

Interferences (“Board”), a panel of administrative patent judges, accomplishes this task through “interference proceedings.”<sup>83</sup>

Interference proceedings typically involve two parties, and hence two supposed inventors: (1) the inventor who filed first and (2) the challenger. The Board’s role is simply to determine which person came up with the invention first.<sup>84</sup> In addition, each potential inventor must show that she did not abandon, suppress, or conceal the invention.<sup>85</sup> In making this determination, the Board considers when the inventors “conceived of” and “reduced to practice” the invention.<sup>86</sup> Conception refers to that “eureka” moment when the inventor first recognizes and appreciates an idea.<sup>87</sup> Reduction to practice, however, is more complex and can occur actually or constructively.<sup>88</sup> Actual reduction to practice occurs: (1) when the inventor actually constructs the invention; or (2) when the inventor is satisfied that the invention will work as conceived.<sup>89</sup> Constructive reduction to practice occurs when the inventor simply applies for a patent.<sup>90</sup>

In addition to conception and reduction to practice, the Board considers the “reasonable diligence of one who was first to conceive and last to

<sup>83</sup> MPEP ch. 2301 *supra* note 58. (“An interference is a contest . . . between an application and either another application or a patent. An interference is declared to assist the . . . Patent and Trademark Office in determining priority, that is, which party first invented the commonly claimed invention within the meaning of 35 U.S.C. 102(g)(1).”); *see also* NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES. A PATENT SYSTEM FOR THE 21ST CENTURY at 151 (2004) (explaining the basics of interference proceedings).

<sup>84</sup> 35 U.S.C. § 102(g)(1) (2000) (“A person shall be entitled to a patent unless - during the course of an interference . . . another inventor involved therein establishes, to the extent permitted in section 104, that before such person’s invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed . . .”).

<sup>85</sup> *Id.*; *see also infra* notes 94-95 and accompanying text for a discussion of abandonment, suppression and concealment.

<sup>86</sup> 35 U.S.C. § 102(g)(2) (2000) (“In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention . . .”).

<sup>87</sup> *See Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994) (“Conception exists when a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented, is known.”); *see also Kridl v. McCormick*, 105 F.3d 1446, 1449 (Fed. Cir. 1997) (“Conception is the formation ‘in the mind of the inventor of a definite and permanent idea of the complete and operative invention, as it is therefore to be applied in practice.’”) (citing *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985)).

<sup>88</sup> *Mycogen Plant Science v. Monsanto Co.*, 243 F.3d 1316, 1332 (Fed. Cir. 2001).

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*; *see also* MPEP ch. 2301.02 *supra* note 58. (“*Constructive reduction to practice* means a described and enabled anticipation under 35 U.S.C. 102(g)(1) in a patent application of the subject matter of a count.”).

reduce to practice, from a time prior to conception by the other.”<sup>91</sup> In other words, the Board looks at whether and to what extent either inventor worked on the invention from the moment of conception until reducing that invention to practice.<sup>92</sup>

Thus, United States priority rules break down into four basic principles:<sup>93</sup>

1. the first to reduce the invention to practice usually has priority;
2. filing a valid application constitutes a constructive reduction to practice;
3. the first to conceive may prevail over the first to reduce to practice if the first to conceive was diligent from a time prior to the other inventor’s conception through to her own reduction to practice (either actual or constructive); and
4. any reduction to practice that has been “abandoned,<sup>94</sup> suppressed, or concealed”<sup>95</sup> is disregarded.

Despite these four simple tenets, interference proceedings are complex and difficult for the Board to investigate.<sup>96</sup> These complexities result in lengthy, expensive proceedings for the parties involved.<sup>97</sup>

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<sup>91</sup> 35 U.S.C. § 102(g)(2) (2000) (“In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.”).

<sup>92</sup> *Id.*

<sup>93</sup> Rules quoted from ROBERT P. MERGES AND JOHN F. DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS at 442 (2002).

<sup>94</sup> See *Elec. Storage Battery Co. v. Shimadzu*, 307 U.S. 5, 15 (1939) (“Abandonment may be evidenced by the express and voluntary declaration of the inventor; it may be inferred from negligence or unexplained delay in making application for patent; it may be declared as a consequence of the inventor’s concealing his invention and delaying application for patent . . . .”) (citations omitted).

<sup>95</sup> See *Dow Chem. Co. v. Astro-Valcour, Inc.*, 267 F.3d 1334, 1342 (Fed. Cir. 2001) (discussing the following two types of abandonment, suppression, or concealment: “[1] when an inventor actively abandons, suppresses, or conceals his invention from the public . . . . [2] when abandonment, suppression, or concealment may be inferred based upon the prior inventor’s unreasonable delay in making the invention publicly known . . . .”).

<sup>96</sup> Mossinghoff, *supra* note 69, at 514 (describing the process as “an arcane and burdensome complex of substantive and procedural rules and regulations governing what are called ‘interferences’ . . . .”); see also Sean T. Carnathan, *Patent Priority Disputes—A Proposed Re-Definition of “First-to-Invent,”* 49 ALA. L. REV. 755, 760 (1998) (arguing that the “current definition of first-to-invent is needlessly complicated and inefficient”).

<sup>97</sup> See MPEP 2304.04(a) *supra* note 58 (acknowledging both the “cost and complexity of interferences”).

The losing party can appeal the Board's decision to the Court of Appeals for the Federal Circuit.<sup>98</sup> In addition, the losing party can file a civil suit in the U.S. District Court for the District of Columbia against the USPTO director.<sup>99</sup> While further litigation lengthens the determination process and adds to the cost, history has shown that litigants may be willing to pay for a chance to gain control of a valuable patent.<sup>100</sup>

## PART II

### A. *First-to-Invent: The American Rule*

Proponents of retaining first-to-invent advocate three main advantages over the international first-to-file standard.<sup>101</sup>

1. first-to-invent protects small entities,<sup>102</sup>
2. first-to-invent is more fair,<sup>103</sup> and
3. first-to-invent improves the quality of patent applications.<sup>104</sup>

This Note will examine each of these arguments in turn, responding with criticism and counter-arguments from supporters of adopting first-to-file.<sup>105</sup>

#### 1. First-to-Invent Protects Small Entities

The Patent Office defines "small entity" as "a person, a small business concern, or a nonprofit organization."<sup>106</sup> The term "person" means an

<sup>98</sup> 35 U.S.C. § 141 (2000) ("An applicant dissatisfied with the decision in an appeal to the Board of Patent Appeals and Interferences under section 134 of this title may appeal the decision to the United States Court of Appeals for the Federal Circuit."); see also NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 83, at 148.

<sup>99</sup> 35 U.S.C. § 145 (2000) ("An applicant dissatisfied with the decision of the Board of Patent Appeals and Interferences in an appeal under section 134(a) of this title may, unless appeal has been taken to the United States Court of Appeals for the Federal Circuit, have remedy by civil action against the Director in the United States District Court for the District of Columbia . . . ."); see also NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 83, at 148.

<sup>100</sup> See Macedo, *supra* note 39, at 219 n.138 (mentioning that nearly 300 interferences are declared per year).

<sup>101</sup> *But see* Macedo, *supra* note 39, at 215 (framing the argument as follows, "[m]ost debates over priority systems focus on conflicts among concerns of accuracy, efficiency, fairness and acceptability. Generally, advocates of a first-to-file system stress its efficiency and contend that any unfair side effects are limited and compensable").

<sup>102</sup> See Mossinghoff, *supra* note 69, at 515-516 (classifying "independent inventors, small businesses, and nonprofit institutions" as "small entities"); for a full discussion, see *infra* notes 106-126 and accompanying text.

<sup>103</sup> See *infra* notes 127-141 and accompanying text.

<sup>104</sup> See *infra* notes 142-149 and accompanying text.

<sup>105</sup> See *infra* notes 127-149 and accompanying text.

<sup>106</sup> MPEP ch. 509.02 *supra* note 58. .

“individual inventor” or in some cases an individual to whom an inventor has transferred rights in the invention.<sup>107</sup> For “small business concerns” the Patent Office defers to the Code of Federal Regulations, which requires that small businesses have fewer than 500 employees.<sup>108</sup> “Non-profit organizations” are essentially the standard tax-exempt groups, including universities.<sup>109</sup>

Supporters of retaining the American Rule claim that it protects these small entities, “who may not have the resources to file patent applications quickly and may therefore lose a patent race to large companies who invented after they did.”<sup>110</sup> These arguments, however, are misplaced—in fact, they miss the point entirely.<sup>111</sup> Also, the Patent Office already provides small entities a monetary break by giving them half-off most fees.<sup>112</sup> That discount provides some relief toward helping small entities “race” against large companies.

In addition, empirical studies simply do not support the notion that the American Rule protects small entities. The National Bureau of Economic Research (“NBER”) conducted a study of nearly 3 million United States patents granted between January 1963 and December 1999.<sup>113</sup> According to the NBER study, almost 80% of all patents studied were

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<sup>107</sup> *Id.*; 37 C.F.R. 1.27(a)(1) (2006).

<sup>108</sup> MPEP ch. 509.02 *supra* note 58; 37 C.F.R. §1.27(a)(2)(ii) (2006); 13 C.F.R. § 121.802(a) (2006) (“Whose number of employees, including affiliates, does not exceed 500 persons.”).

<sup>109</sup> MPEP ch. 509.02 *supra* note 58; 37 C.F.R. § 1.27(a)(3) (2006).

<sup>110</sup> Lemley and Chien, *supra* note 59, at 1299; *see also* Macedo, *supra* note 39, at 227 (“It is argued that small inventors can only be protected by the first-to-invent system.”); *see also* *The Patent Reform Act of 2007: Hearing on H.R. 1908 Before the Subcomm. on Courts, the Internet, and Intellectual Property*, 110th Cong. (Apr. 26, 2007) (statement of William T. Tucker, Executive Dir., Research Admin. and Tech. Transfer, University of California’s Office of the President) (“UC’s primary concern with the proposed first-inventor-to-file system is that it will reward . . . the person who has the means and ability to file patent applications . . . UC strongly believes that this is likely to have a profound adverse impact on university technology transfer offices.”).

<sup>111</sup> *See* Carlson, *supra* note 65, at News (“The proposed reforms are designed to improve the operation of the patent system so that innovators of all shapes and sizes have confidence that they can obtain patent protection for their own advancements, and that they will have a fair forum within which to adjudicate infringement disputes. All will benefit from these reforms.”).

<sup>112</sup> MPEP ch. 509.02 *supra* note 58 (“[F]ees charged . . . shall be reduced by 50 percent with respect to their application to any small business concern . . . and to any independent inventor or nonprofit organization . . .”); 35 U.S.C. 41(h)(1) (2006).

<sup>113</sup> Bronwyn H. Hall, Adam B. Jaffe and Manuel Trajtenberg, *The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools* 3 (Nat’l Bureau of Econ. Research, Working paper No. 8498, 2001), available at <http://www.nber.org/papers/w8498>.

eventually assigned to corporations, as opposed to small entities.<sup>114</sup> This figure is even higher overseas, leveling off near 90%, which suggests that the first-to-invent rule may be of some help to small entities.<sup>115</sup> The study concludes that the high percentage of corporate inventions “reflects the long-term raising dominance of corporations as the locus of innovation, and the concomitant relative decline of individual inventors.”<sup>116</sup>

In terms of evaluating patent priority rules, these statistical results cut two ways. On the one hand, Congress must ask whether the costs of keeping a first-to-invent system are worthwhile in light of the fact that most patents will eventually rest in the hands of large corporations, as the NBER study demonstrates. On the other hand, Congress may decide that fair compensation for the few remaining small entities protected by the first-to-invent rule is more important. The statistics essentially reduce down to a valuation problem, which should be resolved in light of the constitutional penchant toward maximizing aggregate welfare. In other words, protection of small entities cannot justify retaining the American Rule unless, at the very least, the rule protects more small entities than it harms.

Additional studies on this topic have produced interesting but inconclusive results.<sup>117</sup> For the most part, they reveal that first-to-invent simply does not protect small entities.<sup>118</sup> One commentator writes:

Historically, virtually the same number of small entities were advantaged by the first-to-invent system (286) as were disadvantaged (289). And with respect to independent inventors—among the most vocal of first-to-invent adherents—more were disadvantaged (167) than were advantaged (139) by the first-to-invent system.<sup>119</sup>

In another study of interference proceedings, Professors Mark Lemley and Colleen Chien reviewed parties that initiated interference proceedings between 1997 and 2003.<sup>120</sup> They determined that only about 18%

<sup>114</sup> *Id.* at 24. In light of these statistics, however, one cannot conclude that 20% of patent applications necessarily were filed by small entities and remained with small entities. For example, the study did not include patents that were transferred after being granted.

<sup>115</sup> *Id.* at Figure 3.

<sup>116</sup> *Id.* at 12.

<sup>117</sup> See, e.g., Mossinghoff, *supra* note 69; Lemley and Chien, *supra* note 59.

<sup>118</sup> See Mossinghoff, *supra* note 69, at 520 (“The data provided by the USPTO confirm empirically that the current first-to-invent system of priority provides no advantage to small entities.”); see also Lemley and Chien, *supra* note 59, at 1332 (“[T]he evidence does not support the conclusion that small inventors—the purported beneficiaries of the first to invent system—in fact get anything out of the process.”).

<sup>119</sup> Mossinghoff, *supra* note 69, at 520 (citing statistical data from the USPTO).

<sup>120</sup> Lemley and Chien, *supra* note 59, at 1323.



were individuals or small businesses, while 77% were large entities.<sup>121</sup> Professors Lemley and Chien conclude, “[l]arge, sophisticated entities are more likely to understand the patent system, including the rather arcane interference process, and use it to their advantage.”<sup>122</sup>

This makes sense because small entities do not have the resources to initiate costly interference proceedings.<sup>123</sup> Also, small entities are often unable to introduce evidence<sup>124</sup> proving dates of conception and reduction to practice simply because they have not maintained adequate records.<sup>125</sup> Large entities, on the other hand, keep detailed laboratory research notebooks and employ in-house patent counsel to document meticulously the inventive process.<sup>126</sup> If the American Rule fails to protect small entities, then first-to-invent proponents must look elsewhere for support in retaining the current system.

## 2. First-to-File May Unfairly Deprive Inventors of their Inventions

The first-to-file system creates the possibility that a first inventor may be deprived of her invention.<sup>127</sup> As Blackstone said, “[t]he law holds that

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<sup>121</sup> *Id.* at 1323 (concluding that the data “suggest[s] that interference proceedings are more often used by large entities to challenge the priority of small entities, not the reverse . . . . If anything, small entities are getting bogged down in interference proceedings initiated by larger companies . . . .”).

<sup>122</sup> *Id.* at 1323.

<sup>123</sup> *Id.* at 1323.

<sup>124</sup> See Michael F. Ciraolo, *Application of the Corroboration Requirement to Interference Proceedings and Other Sections of 102*, 84 J. PAT. & TRADEMARK OFF. SOC'Y 531, 532 (2002) (“To establish priority, by proving reduction to practice or first to conceive and diligence . . . evidence may be in the form of documents, such as lab notebooks or test results, or be presented in testimony by the inventor or someone who witnessed the inventive process.”); see also *Kridl v. McCormick*, 105 F.3d 1446, 1449-1450 (Fed. Cir. 1997) (“Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his complete thought expressed in such clear terms as to enable those skilled in the art to make the invention.”) (citing *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985)).

<sup>125</sup> See Anneliese M. Seifert, *Will the United States Take the Plunge Into Global Patent Law Harmonization? A Discussion of the United States' Past, Present, and Future Harmonization Efforts*, 6 MARQ. INTELL. PROP. L. REV. 173, 199 n.180 (2002) (“Opponents of the change are small entities. However, proponents of a first-to-file system point out that the system would help those small entities who are not familiar with the patent laws and who do not keep detailed records of the invention process.”) (citing Peter A. Jackman, Essay, *Adoption of a First-To-File Patent System: A Proposal*, 26 U. BALT. L. REV. 67, 83-84 (1997)).

<sup>126</sup> See Lemley and Chien, *supra* note 59, at 1321 n.73 (“Interferences are expensive and time-consuming, and large companies may be better able to bear those costs. Winning an interference also requires detailed record-keeping, something that corporations may have an established process to accomplish.”).

<sup>127</sup> *Id.* at 1309 (acknowledging that “it seems that when priority is actually adjudicated, the first to invent is quite frequently not the first to file.”); see also

it is better that ten guilty persons escape than that one suffer.”<sup>128</sup> While Blackstone spoke of criminal law, the American Rule preserves the spirit of his words in safeguarding a first-inventor’s right to challenge a first-filer. In fact, among interference proceedings between parties, second-filers win approximately 43% of the time.<sup>129</sup> This means that nearly half of first inventors lose the race to the Patent Office,<sup>130</sup> and supporters of the American Rule rely on natural rights and fairness arguments in claiming that these first inventors should not be deprived of exclusive rights to their inventions.

However, in nearly half of all interference proceedings, the parties reduced their respective inventions to practice within six months of each other.<sup>131</sup> This close timing demonstrates that multiple inventors work on similar inventions simultaneously.<sup>132</sup> It also undercuts the fairness argument. Considering the proximity of invention, it hardly seems unfair to deprive an inventor of exclusive rights after reducing an invention to practice within months of a competitor and then waiting an unreasonable period of time to file a patent.<sup>133</sup>

In addition, the United States Supreme Court has emphasized that the patent system serves the public and not the individual:

The primary purpose of the patent system is not reward of individual but the advancement of the arts and sciences. Its inducement is directed to disclosure of advances in knowledge which will be beneficial to society; it is not a certificate of merit, but an incentive to disclosure.<sup>134</sup>

In comparing different priority rules, then, Congress should be careful not to accord fairness and moral rights arguments too much weight.<sup>135</sup> In light of the Constitutional language and the Supreme Court’s interpreta-

Macedo, *supra* note 39, at 224 (“The principal defense for the first-to-invent system is the equity argument.”).

<sup>128</sup> Coffin v. U.S., 156 U.S. 432, 456 (1895) (citing 4 WILLIAM BLACKSTONE, COMMENTARIES, ch. 27, \* 358); *see also* U.S. v. Mitchell, 365 F.3d 215, 239 (3rd Cir. 2004) (attributing the adage to Blackstone).

<sup>129</sup> Lemley and Chien, *supra* note 59, at 1309.

<sup>130</sup> *Id.*

<sup>131</sup> *Id.* at 1324 (finding also that “[i]n 70% of the cases they reduced to practice within a year of each other.”).

<sup>132</sup> *Id.* at 1325.

<sup>133</sup> *See generally id.*

<sup>134</sup> Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 330-331 (1945).

<sup>135</sup> *See Carrier, supra* note 33, at 32 (“The utilitarian justification of providing incentives to innovate, however, is the predominant justification for IP, one that is consistent with the Constitution, that the courts have recognized, and that the academic literature has tested.”).

tion of the patent system's purposes, the economic and utilitarian arguments are paramount.<sup>136</sup>

Another compelling argument against the fairness rationale is that the patent system already provides an affordable means for inventors to reserve priority status—provisional applications.<sup>137</sup> Provisional patents require that inventors file a complete technical disclosure in order to secure patent priority rights.<sup>138</sup> These rights last for one year, during which time the inventor must file for a regular patent or risk losing her priority altogether.<sup>139</sup>

The first-to-file rule, then, creates an additional incentive for inventors to file provisional applications.<sup>140</sup> These, in turn, preserve the inventor's place in line and promote early disclosure of ideas.<sup>141</sup> Thus, first-to-file may produce at least two economic benefits in the form of increased efficiency. First, inventors waste fewer resources on redundant research and development of similar inventions. Second, the entire grant process is expedited as inventors take a larger stake in timely filing of applications.

### 3. First-to-File May Cause the Quality of Patents to Deteriorate

Supporters of the American Rule claim that adopting first-to-file will cause the quality of initially-filed patents to decline.<sup>142</sup> Essentially, the argument goes that as inventors rush the application process in an

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<sup>136</sup> See *Graham v. John Deere Co.*, 383 U.S. 1, 8-9 (1966) (“He [Mr. Jefferson] rejected a natural-rights theory in intellectual property rights and clearly recognized the social and economic rationale of the patent system.”).

<sup>137</sup> MERGES & DUFFY, *supra* note 93, at 454 (“Provisional applications, created by the 1994 GATT legislation, may lead to more use of early filing to constructively reduce an inventive concept to practice.”).

<sup>138</sup> Mossinghoff, *supra* note 69, at 520; see also United States Patent & Trademark Office, Provisional Application for Patent Cover Sheet, available at <http://www.uspto.gov/> (follow “Patents” hyperlink; then follow “Forms” hyperlink; then follow “SB16” hyperlink).

<sup>139</sup> MPEP ch. 201.04(b) *supra* note 58 (“A provisional application will automatically be abandoned 12 months after its filing date and will not be subject to revival to restore it to pending status thereafter.”).

<sup>140</sup> Mossinghoff, *supra* note 69, at 520 (“And here is where the United States provisional application comes into play. By filing a complete technical disclosure of the invention, a small entity can readily secure priority rights in a first-inventor-to-file system without a major expenditure of resources. This then gives the small entity a year in which to file a professionally prepared patent application.”).

<sup>141</sup> *Id.*

<sup>142</sup> See Macedo, *supra* note 39, at 221 (“Thus, practitioners predict that the number of applications filed at the Patent Office would increase in quantity and decrease in quality under a first-to-file system.”); see also Donald R. Dunner, *First to File: Should Our Interference System be Abolished?*, 68 J. PAT. & TRADEMARK OFF. SOC'Y 561, 563 (1986) (summarizing the argument as follows: “Switching to a first-to-file system would result in a decline in the quality of applications because of hasty filings, as well as the filing of the applications containing less experimental data”).

attempt to file first, the quality of patent applications may deteriorate.<sup>143</sup> A slightly different spin on the argument claims that “big corporations will be able to use their teams of lawyers to quickly and firmly file patents, slamming the door on cash-strapped entrepreneurs who may have come up with the idea first . . . ”<sup>144</sup>

Again, applicants always have the option of filing provisional applications, which are inexpensive and reserve the inventor’s place in line for up to a year.<sup>145</sup> While this does not completely eliminate the need to file quickly, provisional applications certainly reduce the filing burden on inventors.<sup>146</sup>

In addition, inventors already have a number of reasons to file applications early.<sup>147</sup> This is true because the market exerts pressure on applicants to secure patents and market products as quickly as possible. For example, after applying for and securing a patent, inventors can begin marketing or licensing the invention. Also, patent applicants that want to secure rights in any other country must bear in mind that first-to-file is the standard everywhere except the United States.<sup>148</sup> Abandoning first-to-invent will not affect these market pressures and certainly will not change priority rules in other countries. In other words, adopting first-to-file will likely not have any affect whatsoever on the quality of patent applications.

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<sup>143</sup> See Macedo, *supra* note 39, at 221; see also Al Driver, *The Eastern District of Texas: A Magnet for Patent Litigation*, METROPOLITAN CORPORATE COUNSEL, Sept. 2006, at 53 (“Although it will not have much impact on IP litigation in general, it will affect patent prosecution practices by encouraging companies to rush to be the first to file . . .”).

<sup>144</sup> Associated Press, *Venture Capitalists Digesting Proposed Patent Act*, SAN JOSE MERCURY NEWS, Oct. 25, 2006, available at 2006 WLNR 18522950.

<sup>145</sup> See *supra* notes 137–139 and accompanying text.

<sup>146</sup> Gerald J. Mossinghoff and Vivian S. Kuo, World Patent System Circa 20XX, A.D., 80 J. PAT. & TRADEMARK OFF. SOC’Y 523, 543 (1998) (“By filing a complete technical disclosure of the invention, a small entity can readily secure priority rights in a first-to-file system without a major expenditure of resources. This then gives the small inventor a year in which to file a professionally prepared patent application.”).

<sup>147</sup> See generally Lemley and Chien, *supra* note 59, at 1313 (noting that “under a first to file system every inventor will be encouraged to file her patent application as early as possible. There is no reason to believe that those who are first to invent but last to file under the current system would be more affected by this incentive.”).

<sup>148</sup> *Id.* at 1313 (“The rest of the world uses a first to file system, so any inventor who wants protection outside the United States already has an incentive to file early.”); see also Paul F. Prestia, *Congress, PTO and Supreme Court Trying to Reform Patent System*, THE LEGAL INTELLIGENCER, Oct. 4, 2006, at 5 (“Since the rest of the world is already on a first to file system, U.S. applicants, substantially all of whom are interested in foreign patents as well, already operate in that regime. So this change should have little effect on patent application filing strategies.”).

Even more compelling is the fact that the Patent Act itself imposes statutory bars that require inventors to file a patent application within one year of publicly using or selling the invention in the United States.<sup>149</sup> These provisions indicate that Congress is willing to accept a filing race for the benefits of earlier disclosure. When considered along with market pressures and provisional applications, the American Rule simply does not withstand scrutiny.

### B. *First-to-File: The International Standard*

Proponents of the first-to-file system advocate two main advantages over the American Rule:

1. first-to-file is less costly<sup>150</sup> and more efficient;<sup>151</sup> and
2. first-to-file harmonizes United States patent law with the international standard.<sup>152</sup>

As with the first-to-invent arguments, this Note will examine each of these in turn and then concentrate on the counter-arguments.

#### 1. First-to-File is More Efficient

One of the most frequently cited arguments in support of first-to-file is that the system reduces cost.<sup>153</sup> There is no doubt that interference proceedings are expensive and time consuming, and that adopting first-to-file

<sup>149</sup> 35 U.S.C. § 102(b) (2000) (“[T]he invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . .”). The Patent Reform Act itself retains the grace period, which is often credited as protecting small entities and academic institutions in particular. Patent Reform Act, *supra* note 17, §3(b)(1); *see also* 153 CONG. REC. 62, E774 (2007) (statement of Rep. Berman) (“While cognizant of the enormity of the change that a ‘first inventor to file’ system may have on many small inventors and universities, we have maintained a grace period to substantially reduce the negative impact to these inventors.”).

<sup>150</sup> *See infra* notes 153-159 and accompanying text.

<sup>151</sup> *See* Macedo, *supra* note 39, at 218 (discussing the following “major criticism[s]” of the American Rule’s interference system’s inefficiency: “Efficiency concerns center around the cost of the system . . . the time it takes to make a determination . . . and the adverse effects that patent attorneys may suffer from a change to the first-to-file system.”).

<sup>152</sup> *See infra* notes 160-196 and accompanying text.

<sup>153</sup> *See* Lemley and Chien, *supra* note 59, at 1304-05 (“[T]hose who advocate a first to file system point to the savings that would result from avoiding the cost and delay of interference and priority proceedings.”). Inherent in the cost savings argument is an expectation that first-to-file creates more certainty for inventors. *See The Patent Reform Act of 2007: Hearing on H.R. 1908 Before the Subcomm. on Courts, the Internet, and Intellectual Property*, 110th Cong. (Apr. 26, 2007) (statement of Kevin Sharer, CEO and Chairman of the Board, Amgen, Inc.) (“[First-to-invent] creates a significant level of uncertainty for the patent holder because it is only after

will simplify the priority system by eliminating these costs.<sup>154</sup> Again, studies estimate the cost of determining inventorship to be anywhere from \$100,000 to \$500,000 on average.<sup>155</sup> These studies have also found that interference proceedings take an average of two and a half years to complete.<sup>156</sup> In the end, interferences become cost prohibitive for many applicants, especially small entities and independent inventors.

However, the problem with the cost savings argument is that there are simply not many interference proceedings—less than two in one thousand patents enter into interferences.<sup>157</sup> This is true simply because these proceedings are lengthy and expensive. This raises the issue of whether two out of one thousand is significant enough to raise concern. Advocates of first-to-file could of course emphasize that the cost and duration of these proceedings are still excessive, regardless of the relatively small number of proceedings.

Ultimately, empirical studies regarding the number, cost and duration of patent interference proceedings are not terribly effective in determining which system is more efficient.<sup>158</sup> What they do show, however, is that first-to-invent does not protect small entities to any significant extent and that determining inventorship is an expensive and lengthy process.<sup>159</sup>

litigation and discovery that the patent holder can be certain . . . that [she] is therefore the first inventor under the law.”).

<sup>154</sup> See Lemley and Chien, *supra* note 59, at 1304-05; see also Greenemeier and Hoover, *supra* note 65, at 60 (acknowledging that adopting first-to-file “would make the Patent Office much more efficient, creating less backlog.”).

<sup>155</sup> See Lemley and Chien, *supra* note 59, at 1331 n.99 (noting that interference proceedings may cost as much as \$500,000); see also Macedo, *supra* note 39, at 219 n.138 (explaining that interference proceedings cost \$100,000 on average).

<sup>156</sup> See Lemley and Chien, *supra* note 59, at 1331 n.99 (indicating interference proceedings take an average of 30.5 months to complete).

<sup>157</sup> See Mossinghoff, *supra* note 69, at 516.

“From 1983 through 2004, the USPTO received 4,500,649 utility, plant and reissue applications and granted 2,456,479 such patents. During that same period there were a total of 3,253 two-party decisions in interference cases, a tiny fraction of the applications filed and patents granted . . . . Using the number of applications filed as the denominator, the number of two-party decisions amounted to less than one in 1000 (0.1%) of the applications filed. Using the number of patents granted during the 22-year period as the denominator, the percentage of two-party decisions increases but is still less than two in 1000 (0.2%) of the patents granted.”

*Id.*

<sup>158</sup> See Lemley and Chien, *supra* note 59, at 1307 n.37 (acknowledging that “[u]nfortunately, because the cases on which we have entity status data may not be random, we cannot predict with statistical confidence that the results of our sample are representative of the population of overall interference proceedings.”).

<sup>159</sup> *But see* Macedo, *supra* note 39, at 215 (arguing that “a comparison of the current patent system with the proposed [first-to-file] model shows that neither system is so much better than its rival as to justify and outweigh the transaction costs of a change of systems.”).

So, if an empirical analysis falls short of producing a conclusive answer one way or the other, and if the Constitution and Supreme Court have cautioned against focusing on fairness and moral rights arguments, then what other policy considerations come into play? At least one other consideration, harmonizing United States patent laws with other countries, deserves attention.

## 2. First-to-File Harmonizes U.S. Patent Law with the International Standard

Harmonization with the international community remains the decisive factor in adopting the first-to-file system over the American Rule.<sup>160</sup> Gerald Mossinghoff, former Assistant Secretary of Commerce and Commissioner of Patents and Trademarks and former Chairman of the General Assembly of the United Nations World Intellectual Property Organization, emphasizes the importance of harmonizing patent laws worldwide:

I have been convinced for decades that that world must move to a true international or “borderless” patent system. There is a debilitating redundancy built into the current national/regional patent search, examination and enforcement systems . . . . This unnecessary redundancy drives up the costs of obtaining and enforcing worldwide patent protection to a level that can only be afforded by the largest multinational corporations.<sup>161</sup>

Mossinghoff identifies various advantages to harmonization, focusing on eliminating redundancy in granting and enforcing patents in different countries.<sup>162</sup> Additionally, other advantages exist, including the “reduction of the transaction costs associated with obtaining a patent, . . . the enforcement of expectation interests, and the general simplification of the law.”<sup>163</sup> By adopting first-to-file, the United States would

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<sup>160</sup> See Gerald J. Mossinghoff, *Patent Harmonization Through the United Nations: International Progress or Deadlock?*, 86 J. PAT. & TRADEMARK OFF. SOC’Y 5, 10-11 (2004); see also 153 CONG. REC. 62, S4685 (2007) (statement of Sen. Leahy) (faulting the first-to-invent system for creating “a lack of international consistency, and a complex and costly system in the United States to determine inventors’ rights.”).

<sup>161</sup> See Mossinghoff, *supra* note 160 at 10-11 (citations omitted).

<sup>162</sup> *Id.*; see also Seifert, *supra* note 125, at 200 (“Furthermore, harmonization of substantive laws would allow patent offices to reduce the amount of duplicative work involved in searching, examining, and granting patents, which would in turn reduce the cost of prosecuting patents for the patent offices and the inventors.”).

<sup>163</sup> Macedo, *supra* note 39, at 229 (“The advantages associated with international harmonization are generally assumed but seldom explained in the literature.”); see also Danny Fortson, *Prepare to be Boarded*, DAILY DEAL, Sept. 22, 2006, available at 2006 WLNR 16510147 (“The legislation [the Patent Reform Act] would help harmonize IP rights across the U.S. and European markets, where differing

be taking another step towards harmonization and these resulting benefits.<sup>164</sup>

The move towards harmonization began as early as 1884 with the United States' participation in the Paris Convention.<sup>165</sup> This treaty established "two cardinal principles"<sup>166</sup> of patent law: (1) guaranteeing national treatment to all inventors,<sup>167</sup> and (2) allowing inventors "to establish an International Priority Date through a single patent filing in one of the member countries."<sup>168</sup> Over one hundred years later, building on the Paris Convention's "cardinal principles," the United States joined the Patent Cooperation Treaty ("PCT").<sup>169</sup>

Under a PCT application, inventors can use a two-step process to submit one application for patent protection in several countries.<sup>170</sup> During the first step, dubbed the "international phase," the applicant files an international application in one of several designated national patent offices.<sup>171</sup> That office then examines the application using methods similar to those employed currently by the USPTO.<sup>172</sup> During step two, designated the "national phase," patent officials in a particular country examine the application according to that country's requirements for patentability.<sup>173</sup>

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approaches to patent protection have led to a complex set of rules for companies with patented technologies in use in multiple countries.").

<sup>164</sup> Macedo, *supra* note 39, at 229; *see also* Anthony D. Sabatelli and J.C. Rasser, *Impediments to Global Patent Law Harmonization*, 22 N. KY. L. REV. 579, 581 (1995) ("Arguably the most serious of these impediments [to adoption of harmonization treaties] is whether the United States will adopt a first-to-file system to conform with the rest of the world.").

<sup>165</sup> Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, 53 Stat. 1748; *see also* Mossinghoff, *supra* note 160 at 5 ("The 'Grandparent' of all subsequent patent treaties, the Paris Convention established two cardinal principles that are as important today as they were at the dawn of the Industrial Revolution . . .").

<sup>166</sup> *Id.*

<sup>167</sup> *See* Oddi, *supra* note 34, at 1144 ("[N]ational treatment requires countries to treat foreign nationals as they treat their own. This principle dates back to the Paris Convention for the Protection of Industrial Property, to which the United States has been a party since 1893. Historically, however, the United States has not supported the national treatment principle.").

<sup>168</sup> Mossinghoff, *supra* note 160 at 5.

<sup>169</sup> Patent Cooperation Treaty, Jan. 24, 1978, 28 U.S.T. 7645.

<sup>170</sup> *See* Mossinghoff and Kuo, *supra* note 146, at 529 ("The PCT streamlined the international patent application, filing, searching and preliminary examination in a two-step procedure. It provides a mechanism for applicants to submit one application for patent protection in several countries.").

<sup>171</sup> *Id.*

<sup>172</sup> *See generally id.*

<sup>173</sup> *Id.* at 530.



Over the past three decades, the United States has taken further steps to harmonize other areas of patent law. Previously, the United States issued patents extending 17 years from the initial grant date.<sup>174</sup> After the Uruguay Round of trade negotiations under the General Agreement on Trade and Tariffs (“GATT”)<sup>175</sup> and the “Trade-Related Aspects of Intellectual Property” (“TRIPs”) agreement,<sup>176</sup> the United States changed the term and adopted the international standard of 20 years from filing.<sup>177</sup> The term is lengthened for many patents, but may be shortened if applications take longer than three years from filing to the grant date.<sup>178</sup> In addition, the United States formerly kept patent applications secret, publishing details of the invention only after granting the patent.<sup>179</sup> Today, however, the USPTO publishes applications 18 months after filing.<sup>180</sup>

Despite all the progress towards harmonization—PCT applications, patent terms and publication—“by far the most significant difference remains: the United States grants patents to the first person to invent, while the rest of the world gives a patent to the first person to file a patent application on a particular invention.”<sup>181</sup>

This significant difference has led many foreign applicants to complain that they cannot enter the United States patent market.<sup>182</sup> Regrettably,

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<sup>174</sup> See Lemley and Chien, *supra* note 59, at 1302-1303.

<sup>175</sup> General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. pt. 5, 55 U.N.T.S. 194.

<sup>176</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 81 (1994) [hereinafter TRIPS].

<sup>177</sup> 35 U.S.C. § 154(a)(2) (“Term.—Subject to the payment of fees under this title, such grant shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed in the United States . . .”); see also ROBERT P. MERGES, PETER S. MENELL, AND MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 212-213 (4th ed. 2006) (discussing domestic changes following GATT-TRIPs).

<sup>178</sup> See generally Lemley and Chien, *supra* note 59, at 1302-1303.

<sup>179</sup> See MERGES, MENELL & LEMLEY, *supra* note 177, at 213 (discussing the American Inventors Protection Act of 1999).

<sup>180</sup> 35 U.S.C. § 122(b)(1)(A) (2000) (“Subject to paragraph (2), each application for a patent shall be published, in accordance with procedures determined by the Director, promptly after the expiration of a period of 18 months from the earliest filing date . . .”); but see 35 U.S.C. 122(b)(2)(B)(i) (“If an applicant makes a request upon filing, certifying that the invention disclosed in the application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing, the application shall not be published . . .”).

<sup>181</sup> Lemley and Chien, *supra* note 59, at 1303.

<sup>182</sup> Andrew H. Thorson and John A. Fortkort, *Japan’s Patent System: An Analysis of Patent Protection Under Japan’s First-to-File System (Part II)*, 77 J. PAT. & TRADEMARK OFF. SOC’Y 291, 310 (1995) (“The British Technology Group (BTG),

defending against patent litigation—interference proceedings included—is simply cost prohibitive.<sup>183</sup> In addition, foreign applicants tend to distrust the United States judicial process,<sup>184</sup> largely because, until recently, the United States did not allow foreign applicants to present evidence of conception and reduction to practice that occurred outside the United States.<sup>185</sup> In fact, before January 1, 1996, the United States prohibited foreign patent applicants from using events that took place in another country to prove the date of inventorship.<sup>186</sup> Finally, many foreign patent owners believe that the U.S. court-system generally favors domestic litigants.<sup>187</sup>

Adopting the international standard of first-to-file is another step towards eliminating any bias against foreign applicants. This is particularly important considering that foreign companies and individuals generally own a number of U.S. patents—Japanese firms and individuals alone file for and receive nearly twenty percent of patents granted.<sup>188</sup>

established in 1949 to facilitate the technology transfers from university and research centers to worldwide industry says the world is losing patience with the costs and delays of defending a patent in the United States.”).

<sup>183</sup> *Id.* at 310-312.

<sup>184</sup> *Id.* at 312 (“[T]he Japanese view the United States’ highly litigious patent system with disfavor. The Japanese think of [the United States] as the ‘law-suit society,’ or *soshoshakai*.”).

<sup>185</sup> See 35 U.S.C. § 104 (2001); see also TRIPS, *supra* note 176; see also Lemley and Chien, *supra* note 59, at 1327 (“That anti-foreign bias was reduced in 1994 and again in 1999, when U.S. law changed in compliance with TRIPS to permit a patent applicant to prove inventive activity in any WTO member country.”); see also Thorson and Fortkort, *supra* note 182, at 312-313 (“Unless it is being claimed that one or more parties ‘derived’ an invention from another, U.S. law only recognizes evidence of invention and reduction to practice arising in the U.S. This puts foreign inventors at an obvious disadvantage during interference proceedings.”) (citation omitted) (criticizing pre-TRIPS law).

<sup>186</sup> See Carnathan, *supra* note 96, at 794-795 (“The first-to-invent system has historically handicapped foreign inventors applying for patents in the United States, because only inventive acts in this country were recognized to establish the date of invention. NAFTA and the GATT, however, have changed the law . . . .”) (citation omitted).

<sup>187</sup> See Kimberly A. Moore, *Xenophobia in American Courts*, 97 NW. U. L. REV. 1497, 1497-1498 (2003) (“Perceptions that American courts are hostile to foreign parties are widespread. . . . The fear of bias is so pervasive that at least one jury consulting firm offers its Japanese clients a scale that predicts anti-Japanese bias among potential jurors throughout the United States.”); but see Kevin M. Clermont and Theodore Eisenberg, *Xenophilia in American Courts*, 109 HARV. L. REV. 1120, 1122 (1996) (“Available data, however, do not support the conclusion that xenophobia is rampant in American courts. In fact, in federal civil actions, foreign plaintiffs and defendants win substantially more often than domestic litigants.”).

<sup>188</sup> See Thorson and Fortkort, *supra* note 182, at 214 n.5 (“In 1990, the top four patent assignees of U.S. patents were: Hitachi Ltd. (first-908); Toshiba (second-891);

Another argument in support of harmonization is that different people may own patents on the exact same invention in different nations.<sup>189</sup> Consider two competing inventors, independently working on the same invention, but in different countries. Inventor A, working in the United States, invents today, and Inventor B, working in Japan, invents six months later. Inventor A is likely to receive a patent in the United States regardless of whether she files first because the American Rule tracks first-to-invent. However, if Inventor B files in Japan before Inventor A, then Inventor B will receive exclusive rights to the invention *in Japan* even though Inventor B invented six months later. Thus, different inventors own patents on the exact same invention in different nations.

While this presents an interesting academic exercise, adopting the first-to-file rule does not remedy the undesirable result because Inventor A could file first in the United States but file second in Japan. Thus, this hypothetical suggests adopting a global patent administration, along the lines of PCT applications, as opposed to simply advocating the first-to-file priority system. In any event, regardless of the priority system, different people may own patents on the same invention in different countries, depending on how quickly they were able to file.

Despite these arguments, there is still inherent value in conforming U.S. laws to international standards.<sup>190</sup> In 2003, for example, the United States Supreme Court upheld the Copyright Term Extension Act,<sup>191</sup> partially grounding its decision on the desire to harmonize domestic intellec-

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Canon K.K. (third-868); and Mitsubishi Denki K.K. (fourth-862). There were only three U.S. firms within the top ten assignees: General Electric (fifth-785); Eastman Kodak (seventh-720); and International Business Machines (ninth-608).”)

<sup>189</sup> See Sabatelli and Rasser, *supra* note 164, at 587 (“The difference raises the possibility that a patent for the same invention could be awarded to different parties in the United States versus other countries of the world.”); see also Lemley and Chien, *supra* note 59, at 1303 (“The difference between the ‘first to invent’ and ‘first to file’ systems not only means that in some cases different people will own patents on the same invention in different countries, but also leads to radical differences in procedure.”); see also Seifert, *supra* note 125, at 200 (“One advantage is that harmonization would allow for more uniform international patenting. An invention that is patentable in the United States would also be patentable in Europe and Japan. This could possibly lead to a single patent issuing in each of the participating countries.”).

<sup>190</sup> See Taylor and Cayford, *supra* note 23, at 366 (arguing that any foreign policy decision “involves balancing U.S. economic interests associated with a harmonized global patent system against other international interests of the United States and the interests”).

<sup>191</sup> Sonny Bono Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat 2827 (extending the life of copyrights by twenty years, on average) (codified as amended in scattered sections of 17 U.S.C.).

tual property law with international standards.<sup>192</sup> The Court, emphasizing that “harmonization . . . has obvious practical benefits,”<sup>193</sup> set the tone for a harmonization trend in future years. Most recently, the USPTO’s *Strategic Plan for 2007-2012* announced a goal to “Improve Intellectual Property Protection and Enforcement Domestically and Abroad.”<sup>194</sup> In accomplishing that goal, the USPTO plans to “[c]ontinue efforts to develop unified standards for international IP practice”<sup>195</sup> and “[a]dvocate progress toward global harmonization of IP, recognizing that many U.S. applicants conduct their businesses in a global environment.”<sup>196</sup>

#### SUMMARY AND CONCLUSION

This Note began with a dispute between Henry Smith and Harry Townsend over a machine to cut multiple-threaded screws.<sup>197</sup> Despite the fact that Townsend invented within six months of Smith and filed a patent application first, the first-to-invent rule dictated that Smith should receive exclusive rights.<sup>198</sup> Not only did the rule deny Townsend a patent on the invention, but it resulted in Smith effectively stopping Townsend from making or selling the machine.<sup>199</sup> Of course, not every interference proceeding is such a convenient poster-child for adopting the first-to-file rule. However, most proceedings require expending limited resources in costly litigation for extensive periods of time.<sup>200</sup> Even Smith had to wait nearly eight years to resolve the issue of inventorship.<sup>201</sup>

Commentators have justified maintaining the first-to-invent rule on grounds that it protects small entities,<sup>202</sup> which includes individual inven-

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<sup>192</sup> *Eldred v. Ashcroft*, 537 U.S. 186, 198 (2003) (“[T]he CTEA ‘matches’ the baseline term for ‘United States copyrights [with] the terms of copyrights granted by the European Union . . . [I]n an era of multinational publishers and instantaneous electronic transmission . . . harmonization in this regard has obvious practical benefits’ and is ‘a “necessary and proper” measure to meet contemporary circumstances rather than a step on the way to making copyrights perpetual.’”) (citing *Eldred v. Reno*, 239 F.3d 372, 379 (D.C. Cir. 2001)); see also Qianwei Fu, *Eldred v. Ashcroft: Failure In Balancing Incentives and Access*, 38 U.C. DAVIS L. REV. 1755, 1764 (2005).

<sup>193</sup> *Eldred*, 537 U.S. at 198.

<sup>194</sup> United States Patent & Trademark Office, *Strategic Plan—2007-2012* (draft version, Aug. 21, 2006), available at <http://www.uspto.gov/> (follow “Strategic Planning” hyperlink; then follow “Strategic Plan 2007-2012” hyperlink) (last visited Oct. 16, 2006).

<sup>195</sup> *Id.*

<sup>196</sup> *Id.*

<sup>197</sup> *Townsend*, 36 F.2d at 292.

<sup>198</sup> *Id.*

<sup>199</sup> *Id.*

<sup>200</sup> See Lemley and Chien, *supra* note 59, at 1331.

<sup>201</sup> *Townsend*, 36 F.2d at 296.

<sup>202</sup> See Lemley and Chien, *supra* note 59, at 1299.

tors such as Smith; that it is more fair;<sup>203</sup> and that it improves the quality of patent applications.<sup>204</sup> However, this Note has relied on empirical studies that demonstrate the American Rule fails to protect small entities against large corporations.<sup>205</sup> Both Thomas Jefferson's utilitarian vision and the United States Supreme Court's focus on maximizing social utility refute reliance on natural-rights theories.<sup>206</sup> Finally, inherent market pressures, statutory bars, and the option of filing a provisional patent all demonstrate that abandoning first-to-invent will not result in lower-quality patent applications.<sup>207</sup>

However, many of the arguments for adopting first-to-file are also flawed. In particular, the cost savings from abandoning first-to-invent are not likely to be significant.<sup>208</sup> Despite these uncertainties, the United States should still adopt first-to-file for settling patent priority disputes on the basis of harmonizing domestic law with international standards.

Historically, the United States has had difficulty adopting international benchmarks in various areas of law. For example, the United States signed but never ratified both the Convention on the Rights of the Child<sup>209</sup> and the Comprehensive Test Ban Treaty.<sup>210</sup> In addition, the United States would not sign the Antipersonnel Mine Ban Convention<sup>211</sup> or the Kyoto Protocol.<sup>212</sup> These, of course, are just the tip of the iceberg. We have not done better in the world of intellectual property—the United States held out for decades before fully adopting the Berne Convention.<sup>213</sup> In fact, the United States “failed to adhere to the Berne Con-

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<sup>203</sup> See *id.* at 1309.

<sup>204</sup> See *id.* at 1313.

<sup>205</sup> See Hall, Jaffe and Trajtenberg, *supra* note 113; see also Mossinghoff, *supra* note 69, at 520. At the very least, these empirical studies prove that neither system is particularly beneficial to small entities.

<sup>206</sup> See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330-331 (1945).

<sup>207</sup> See Lemley and Chien, *supra* note 59, at 1313.

<sup>208</sup> See Mossinghoff, *supra* note 69, at 516.

<sup>209</sup> Convention on the Rights of the Child, concluded Nov. 20, 1989, 1577 U.N.T.S. 3; see also Kenneth Roth, *The Charade of US Ratification of International Human Rights Treaties*, 1 CHI. J. INT'L L. 347, 350 (2000) (“[T]he United States is one of only two countries not to have ratified the underlying Convention on the Rights of the Child (the other being Somalia, which has no functioning government).”).

<sup>210</sup> Comprehensive Nuclear Test-Ban Treaty, Sept. 10, 1996, 35 I.L.M. 1439.

<sup>211</sup> Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, Sept. 18, 1997, 36 I.L.M. 1507.

<sup>212</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22; see also Monica S. Mathews, *The Kyoto Protocol to the United Nations Framework Convention on Climate Change: Survey of its Deficiencies and why the United States Should Not Ratify this Treaty*, 9 DICK. J. ENVTL. L. & POL'Y 193 (2000) (arguing that the United States should not ratify the Kyoto Protocol in its current state).

<sup>213</sup> Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, revised at Paris July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221 (the United

vention for almost 100 years because we did not want to relinquish our insistence on the formalities of notice, registration, publication, and deposit in copyright.”<sup>214</sup>

The United States continues to have difficulties negotiating over multi-lateral intellectual property agreements. Some commentators attribute the refusal to adopt first-to-file as a means of maintaining bargaining power during international intellectual property negotiations.<sup>215</sup> That antiquated strategy, however, will continue to raise problems and hostility before fostering durable international relationships.<sup>216</sup> It also ignores potential benefits from adopting the international first-to-file priority rule. Whatever the reason, the United States ought to continue the trend of harmonizing domestic law with international standards and put an end to the first-to-invent “embarrassment.”<sup>217</sup>

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States did not accede to the Berne Convention until Mar. 1, 1989); *see also* Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853, 2853-61 (1988).

<sup>214</sup> Lemley and Chien, *supra* note 59, at 1301.

<sup>215</sup> *See* Sabatelli and Rasser, *supra* note 164, at 607 (“More importantly, the United States should use the potential adoption of a first-to-file system as a significant bargaining chip in guaranteeing other important concessions from other parties in the WIPO patent harmonization negotiations.”); *see also* Thorson and Fortkort, *supra* note 182, at 312 (“This is because the complaints buttress the U.S.’s international bargaining power in the world patent harmonization agreements. If the U.S. easily conceded the switch to first-to-file it would lose the leverage the U.S. holds on foreign countries in the patent harmonization negotiations.”); *see also* Macedo, *supra* note 39, at 232 (“Commentators suggest that the United States withhold its willingness to change to a first-to-file system as a bargaining chip, in exchange for which it could obtain greater protection in the treaty for American patents in developing countries.”).

<sup>216</sup> *See* Robert C. Bird, *Defending Intellectual Property Rights in the BRIC Economies*, 43 AM. BUS. L.J. 317, 329 (2006) (arguing that coercion is “an ineffective strategy in promoting intellectual property protection” and discussing “six reasons why coercive tactics against foreign states fail to achieve their long-term policy objectives and potentially harm U.S. interests”).

<sup>217</sup> Letter from Thomas Jefferson to Isaac M’Pherson, *supra* note 1, at 712-713.