

# MISGUIDED PATENT REFORM: THE QUESTIONABLE CONSTITUTIONALITY OF FIRST-TO-FILE

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*In 2011, Congress passed the most radical change to the patent law in fifty years, intending to remedy the extensive backlog of patent applications at the U.S. Patent Office, increase efficiency, and lower costs. The America Invents Act's biggest change is the move from a first-to-invent regime to a first-to-file system. It is no longer enough for an individual to be the first to create an invention; now, the first individual to file is entitled to the patent, regardless of whether that individual was the first to invent. While the change may increase efficiency, there are serious questions as to whether a first-to-file system is worth the toll it will take on individual inventors and small entities. Not only are the policy justifications dubious, but first-to-file likely violates two separate Constitutional provisions. First, Article I, Section 8 provides Congress the power to grant patent rights to "inventors." However, the America Invents Act allows patents to issue to secondary inventors, those who were not the first to create a certain subject matter. Because it is impossible to invent something that already exists, only the first inventor is the true inventor under Section 8. For Congress to award patent rights to anyone else is to exceed its Article I powers. Second, first-to-file ratifies the systematic violation of the Takings Clause under the Fifth Amendment. The Supreme Court has delineated certain properties of private property that is protected by the Takings Clause. Because the patentable ideas owned by first inventors qualify as private property, for the patent office to revoke those rights would be to take private property without just compensation.*

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## INTRODUCTION

On March 10, 1876 Alexander Graham Bell electronically transmitted the words, “Mr. Watson—come here—I want to see you,” giving birth to the age of telecommunication.<sup>1</sup> He subsequently applied for, and received, a patent for his new invention.<sup>2</sup> Bell was not, however, the only person to lay claim to the telephone.<sup>3</sup> A man by the name of Elisha Gray independently invented a similar device, actually filing with the Patent Office just a few hours before Bell’s application.<sup>4</sup> Unfortunately for Gray, the patent system did not award patents to the first person to file an application; it awarded the patents to the first inventor.<sup>5</sup> Alexander Bell could prove that he had been the first to conceive of a method to electronically transmit the human voice, and Gray eventually abandoned his application.<sup>6</sup> Bell was granted a patent on the telephone and

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1. A. EDWARD EVENSON, *THE TELEPHONE PATENT CONSPIRACY OF 1876: THE ELISHA GRAY—ALEXANDER BELL CONTROVERSY AND ITS MANY PLAYERS* 98 (2000).

2. ROBERT V. BRUCE, *BELL: ALEXANDER BELL AND THE CONQUEST OF SOLITUDE* 174 (Cornell Paperbacks 1990) (1973).

3. *Id.* at 138.

4. EVENSON, *supra* note 1, at 85.

5. 35 U.S.C. § 102(g) (2006).

6. BRUCE, *supra* note 2, at 171. This is the popularly accepted theory. *See id.* However, it should be noted that there is significant controversy over whether Bell was actually the first inventor of the telephone or whether he bribed individuals at the patent office to prevent an interference proceeding that would prove Gray first conceived of the idea. EVENSON, *supra* note 1, at 85–87.

formed the Bell Telephone Company, today known as AT&T, the world's largest telephone company.<sup>7</sup> Elisha Gray, the founder of the Western Electric Manufacturing Company, was forced to sell his company to Bell's company shortly after the patent dispute.<sup>8</sup> As a result of this unique quirk exclusive to American patent law, the name Elisha Gray lives only in obscurity.

Patents award the applicant a government-sanctioned monopoly on the subject matter of the patent; in most countries, these rights are granted to the first person to file a patent application.<sup>9</sup> In the United States, however, the patent system historically awarded patent rights to the first person to invent the subject matter, regardless of filing date.<sup>10</sup> Had American law followed the laws of the rest of the world, Elisha Gray would be known as the father of the telephone.

The venerable 220-year-old patent system is straining under the burdens of modern technological progress, exposing the system to a variety of problems that hinder invention.<sup>11</sup> The patent office is inundated with 450,000 applications per year, with more than a million currently waiting to be reviewed by over worked patent examiners.<sup>12</sup> Detractors have argued that the system burdens innovation, imposes astronomical litigation costs, and is prone to abuse.<sup>13</sup> Sensing growing

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Curiously, Bell made his first voice transmission on March 10, 1876, *id.* at 98, while his patent was granted on March 7, 1887, *id.* at 94. Conspiracy theories notwithstanding, for illustrative purposes, I will assume Bell was both the first independent inventor and the second applicant to file.

7. *AT&T Inc. Stock: T Competitors*, YAHOO! FINANCE, <http://finance.yahoo.com/q/co?s=T+Competitors> (last visited Mar. 11, 2012) (showing that AT&T had a market capitalization of \$184.86 billion, about \$50 billion more than its closest competitor, Vodafone, with \$135.91 billion).

8. EVENSON, *supra* note 1, at 13.

9. At the time of the telephone controversy, both Canada and the Philippines were using some form of first-to-invent. Michael F. Martin, *The End of the First-To-Invent Rule: A Concise History of its Origin*, 49 IDEA 435, 439 n.16 (2009). However, Canada moved to a first-to-file regime in 1989, and the Philippines system is no longer a true first-to-invent. *Id.*

10. *Id.*

11. *Are Patent Problems Stifling U.S. Innovation?*, BLOOMBERG BUSINESSWEEK (Apr. 8, 2009), [http://www.businessweek.com/innovate/content/apr2009/id2009048\\_138177.htm](http://www.businessweek.com/innovate/content/apr2009/id2009048_138177.htm).

12. *Id.*

13. *Id.* Strong public opinions concerning the patent system often center on the rise of "patent trolls," which are nonpracticing entities, corporations, or individuals that purchase patent rights in bulk for the sole reason of extracting licensing fees and infringement judgments. Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1583 (2009). The intuitive unfairness of patent trolling contributes to

support for the vaguely broad goal of patent reform, in 2011, Congress passed the most comprehensive change to patent law in nearly sixty years.<sup>14</sup>

The Leahy-Smith America Invents Act (hereinafter “America Invents Act”)<sup>15</sup> radically changed the existing patent priority rules, awarding patents based on the “first-to-file” rather than “first-to-invent” system.<sup>16</sup> As a result, the United States has joined the rest of the world in awarding patent rights to the first person to file an application, regardless of whether he or she was the first inventor.<sup>17</sup> Congress intended the change to make the patent system more transparent and cost efficient, thus stimulating job growth and the economy.<sup>18</sup> Although the change may increase the efficiency of the patent system,<sup>19</sup> it may also violate both the Fifth Amendment and Article I of the Constitution.

This Note summarizes the potential conflicts that arise from the first-to-file patent system created by the America Invents Act and concludes that it is inconsistent with both Article I<sup>20</sup> and the Takings Clause of the Fifth Amendment.<sup>21</sup>

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public outrage because the simplicity of the scheme can be easily understood by unsophisticated observers. *See id.* at 1587. Therefore, patent trolling is often a rallying point for proponents of broader patent reform. *When Patents Attack!*, THIS AMERICAN LIFE (July 22, 2011), <http://www.thisamericanlife.org/radio-archives/episode/441/when-patents-attack>.

14. Leahy-Smith America Invents Act, Pub L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.). *See generally* Jason Rantanen & Lee Petherbridge, *Toward a System of Invention Registration: The Leahy-Smith America Invents Act*, 110 MICH. L. REV. FIRST IMPRESSIONS 24 (2011). The last major amendment to patent law was the codification of contributory patent infringement and the nonobvious patentability requirement. Act of July 19, 1952, Pub. L. No. 82-593, 66 Stat. 792 (1952).

15. Leahy-Smith America Invents Act, Pub L. No. 112-29, 125 Stat. 284. The America Invents Act changed several longstanding provisions of patent law. First and foremost, it shifted the law from first-to-invent to first-to-file. *Id.* § 3. It also eliminated the grace period for prior art; previously, publications describing the invention within one year of the application did not destroy patentability. 35 U.S.C. § 102(b) (2006). As a result of the America Invents Act, any prior publication destroys novelty. Leahy-Smith America Invents Act § 3. Additionally, it eliminated claims for falsely claiming patentable products were patented. *Id.* § 16. Numerous smaller changes were also made. *Id.*

16. Leahy-Smith America Invents Act § 3. This Note will refer to the old American system as “first-to-invent” and to the new system as “first-to-file.”

17. *Id.*

18. 157 CONG. REC. S5319 (2011) [hereinafter HEARING] (statement of Sen. John Kyl).

19. *See infra* Part I.B.

20. U.S. CONST. art. I, § 8, cl. 8 (granting Congress the power “[t]o promote the progress of science and useful arts, by securing, for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries”).

Part I compares the relative advantages and disadvantages of the old first-to-invent system with the new first-to-file system.

Part II explains how Congress exceeded its authority under Article 1, Section 8, clause 8 (known as the Intellectual Property Clause and hereinafter the “IP Clause”) by awarding patent monopolies to persons other than true first inventors. The IP Clause grants Congress the power to issue patents to “inventors.”<sup>22</sup> Those who are not the first to create certain subject matter are not “inventors” within the meaning of the IP Clause because only the first person to create is the true inventor.<sup>23</sup> Therefore, the IP Clause does not authorize Congress to institute a first-to-file patent system.<sup>24</sup>

Finally, Part III explains how the first-to-file mandate will invite systematic violations of the Takings Clause. Awarding patent rights to a first filer instead of the first inventor grants the first filer a monopoly over the subject matter originally created by the first inventor. The patent allows the first filer to prevent the first inventor from practicing the invention, thus revoking the inventor’s right to practice his or her own invention. As the first inventor has a private property interest in his or her invention, the grant of the patent to another effectively revokes the inventor’s right to his private property. Because the taking is without compensation, it violates the Fifth Amendment.

## I. FIRST-TO-FILE VERSUS FIRST-TO-INVENT

Society runs on creativity, technology, and innovation.<sup>25</sup> Inventive activity spurs the economic growth required by a capitalist economy.<sup>26</sup> However, from the time of the Constitution’s drafting, the government realized that “inventions are public goods that are costly to make and that

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21. U.S. CONST. amend. V (“[N]or shall private property be taken for public use without just compensation.”).

22. U.S. CONST. art. I, § 8, cl. 8.

23. JONATHAN S. MASSEY, H.R. 1249 WOULD VIOLATE THE CONSTITUTION, HURT INNOVATION, AND COST AMERICAN JOBS 3, [http://saveourjobs.net/articles/wp-content/uploads/2011/06/HR1249\\_Violates\\_Constitution.pdf](http://saveourjobs.net/articles/wp-content/uploads/2011/06/HR1249_Violates_Constitution.pdf).

24. *See id.*

25. WILLIAM J. BAUMOL, THE FREE-MARKET INNOVATION MACHINE: ANALYZING THE GROWTH MIRACLE OF CAPITALISM 1 (2002). Innovative activity is required to survive in a capitalist economy. *Id.* A firm that fails to innovate will quickly die. *Id.*

26. *Id.* at 5–6.

are difficult to control once they are released into the world.”<sup>27</sup> Without protection, inventors would have no reason to expend the resources and energy necessary to spur the technological innovation that drives the economy and society at large.<sup>28</sup> The framers accommodated the need for inventor protection and innovation by using the IP Clause, which authorized Congress to create a system of patent protection.<sup>29</sup> One of the very first congressional actions was passing the Patent Act of 1790, creating a panel charged with issuing patent rights to those with valid claims.<sup>30</sup> For the first time, Congress laid out the basic requirements for patent protection.<sup>31</sup> Chief among the requirements was that patents only issue to the “first and true inventor.”<sup>32</sup>

Section A of this Part reveals the historical underpinnings of the first-to-invent system and the extent to which the idea of the “first, true inventor” influenced the framers’ intentions in drafting the IP Clause. Many framers of the Constitution had a hand in developing the first patent laws, which laid the foundation of the first-to-file system. An analysis of the history surrounding the Constitution, and the subsequent development of the patent system, reveals that it was never intended to allow Congress to award patent rights to those other than the first inventor.

Section B explores some advantages of first-to-file and how the first-to-file rule may make the patent system more cost effective and efficient by eliminating the interference proceedings normally used to determine priority as the first inventor.

Section C explains how a first-to-invent system is superior to first-to-file by ensuring higher quality patent applications

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27. ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 133 (5th ed. 2010). The public policy justifications for patent protections date back to the fifteenth century when Venice created the first true patent system. *Id.* at 125. The idea survived through British common law and was eventually imported to the colonies. *Id.* at 127. The Articles of Confederation permitted individual states to issue patents, which inevitably led to conflicts. *Id.* These conflicts were resolved by adopting federal patent protection under the new Constitution. *Id.*

28. *See id.*

29. U.S. CONST. art. I, § 8, cl. 8.

30. Patent Act of 1790, ch. 7, § 1, 1 Stat. 109. The panel consisted of the Secretary of Defense, the Secretary of State, and the Attorney General. *Id.* If two of the three agreed, a patent was issued. *Id.*

31. *Id.*

32. *Id.*

and supporting smaller entities. Awarding patent rights to the first inventor serves fundamental notions of fairness by avoiding a patent system that rewards speedy attorneys over speedy innovation.

#### A. *History of American Priority Rules*

American patent law's novelty requirement has always necessitated patent recipients to be the first inventor to both conceive of and reduce an idea to practice.<sup>33</sup> Novelty prohibited any patent to be issued on an idea previously known or used by others in the country.<sup>34</sup> Although the rest of the world eschewed novelty as a patent requirement, it was a fundamental building block of American patent law until the first-to-file provision of the America Invents Act took effect on March 16, 2013.<sup>35</sup>

The original patent act, the Patent Act of 1790, awarded patent rights to the first inventor; however, it did not envision two individuals laying claim to the same invention.<sup>36</sup> The need to adjudicate conflicting claims immediately became clear in 1791, when four different inventors laid claim to the same idea.<sup>37</sup> Jury trials were summarily dismissed due to the need for a technically sophisticated finder of fact; therefore, Congress settled on a procedure called interference proceedings.<sup>38</sup> In the event the subject matter of a patent is disputed among multiple parties, the inventor that proves he or she was the first, true inventor in such a proceeding wins

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33. *Id.* § 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 . . .”).

34. 35 U.S.C. §102(a) (2006). An invention is not patentable if “the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent.” *Id.*

35. *Id.* § 102(g). Section 102(g) will not affect any patent applications filed after March 16, 2013, when the first-to-file provisions came into effect. Leahy-Smith America Invents Act, Pub L. No. 112-29, § 3(n)(1), 125 Stat. 293 (2011) (stating that first-to-file takes effect eighteen months after the bill’s passage on Sep. 16, 2011). The rest of the provisions took effect one year after the bill’s passage, on September 16, 2012. *Id.* § 35.

36. Gene Quinn, *First U.S. Patent Laws Were First to File, Not First to Invent*, IPWATCHDOG (June 19, 2011, 3:05 PM) <http://www.ipwatchdog.com/2011/06/19/first-u-s-patent-laws-were-first-to-file-not-first-to-invent/id=17747/>.

37. Each inventor laid claim to a method of powering steamboats. Martin, *supra* note 9, at 459.

38. *Id.*; 35 U.S.C. § 102(g).

“priority” over the patent rights.<sup>39</sup> Interference proceedings<sup>40</sup> occur when the United States Patent and Trademark Office (USPTO), the body charged with issuing patents, decides that a patent application conflicts with another patent or patent application.<sup>41</sup> Upon “declaring an interference,”<sup>42</sup> the Board of Patent Appeals and Interferences (BPAI)<sup>43</sup> holds a hearing to decide which individual was the first, true inventor.<sup>44</sup> An inventor must prove that he or she completed two steps: (1) conceiving the idea for the invention; and (2) reducing it to practice.<sup>45</sup> The party that proves it was the first inventor wins priority.<sup>46</sup> Such interference proceedings are often extremely complicated due to the difficulty of proving the exact date of invention.

The public perception of an inventive “eureka!” moment is largely fictitious; rather, inventions are generally the result of intensive work over a period of time.<sup>47</sup> Despite this reality, interference proceedings must determine the precise moment in time an invention was “made,” a task not dissimilar to determining where a circle begins. In creating the legal fiction of a moment of invention, the Patent Office must apply the complex set of rules found under section 102(g), the subsection of the Patent Act that defines interference proceedings.<sup>48</sup> The

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39. Martin, *supra* note 9, at 459.

40. Interference proceedings are also called “102(g) proceedings” after the authorizing section in the Patent Act. 35 U.S.C. § 102(g).

41. *Id.* § 135.

42. When either the patent examiner or a third party discovers a conflicting patent claim, the examiner will “declare an interference,” triggering an interference proceeding in front of the Board of Patent Appeals and Interferences. MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 233 (3d ed. 2009).

43. The Board of Patent Appeals and Interferences is the group charged by the USPTO with legal review of patent examiner decisions. 35 C.F.R. § 41.2 (2011).

44. 35 U.S.C. § 102(g). An interference proceeding is essentially a trial to determine the evidentiary support for the competing claims. 37 C.F.R. § 41.200 (2011).

45. The “reduction to practice” requirement may be met in two ways, constructive and actual. *Solvay S.A. v. Honeywell Int’l, Inc.*, 622 F.3d 1367, 1376 (Fed. Cir. 2010). Constructive reduction to practice merely requires a patent application be filed, while actual reduction requires that a working model be created. *Id.*

46. 35 U.S.C. § 102(g).

47. SCOTT BERKUN, THE MYTHS OF INNOVATION 8 (Mary Treseler ed., 2007).

48. 35 U.S.C. § 102(g) (“(1) [D]uring the course of an interference conducted under section 135 or section 291, 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

first inventor to both conceive of the idea and then reduce it to practice is entitled to priority.<sup>49</sup> However, in the event one inventor conceives of an idea and a second individual both conceives of and reduces it to practice before the first inventor, the first inventor nevertheless retains priority if he or she proves that the idea was pursued with “reasonable diligence.”<sup>50</sup> It is a complicated and expensive process due to the intrinsic vagueness of the evidence involved.<sup>51</sup>

Two hundred and twenty years of a first-to-invent patent system were erased in 2010 when Congress enacted the America Invents Act.<sup>52</sup> The change was made to harmonize the American novelty requirements with those of the rest of the world; prior to 2010, the United States remained the only country in the world to award patents to the first inventor.<sup>53</sup> The discrepancy meant that the United States protected different intellectual property rights than other nations, which often resulted in different people owning patents on the same invention in different countries.<sup>54</sup> The United States was accused of intentionally maintaining different legal standards as a way to gain an edge in international intellectual property negotiations.<sup>55</sup> Scholars called the United States a “pirate nation,” because it discriminated against foreign intellectual property interests in order to benefit domestic industry.<sup>56</sup> The push then came for “harmonization,” with calls for the end to

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concealed, or (2) before such person’s invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. 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.”).

49. *Id.*

50. *Id.*; Ryan K. Dickey, *The First-To-Invent Patent Priority System: An Embarrassment to the International Community*, 24 B.U. INT’L L.J. 283, 295 (2006).

51. HEARING, *supra* note 18.

52. Leahy-Smith America Invents Act, Pub L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

53. Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1299 (2003).

54. *Id.* at 1303. The United States’ eventual switch to first-to-file reduces the possibility of multiple inventors owning patents to the same invention in different countries by reducing the complexity of dealing with differing international patent systems. *Id.*

55. Dickey, *supra* note 50, at 312.

56. Lemley & Chien, *supra* note 53, at 1301.

the “first-to-invent ‘embarrassment.’”<sup>57</sup> Advocates promoted synchronizing American intellectual property laws with those of the rest of the world as a way to foster durable international relationships.<sup>58</sup> For Congress, the issue boiled down to a cost-benefit analysis.<sup>59</sup>

### B. *Advantages of First-to-Invent*

The traditional first-to-invent patent system has numerous benefits over first-to-file. It favors smaller entities over the large, multinational corporations that dominate the modern patent system.<sup>60</sup> It also serves fundamental notions of fairness by ensuring that patent rights go to the true inventor, not to the party with the quickest patent attorneys.<sup>61</sup> Finally, first-to-invent ensures patent applications are filed after careful consideration instead of promoting the mad dash to the patent office that is encouraged by first-to-file.<sup>62</sup>

Awarding patent rights to the first inventor instead of the first-to-file favors smaller entities that may not have the same access to the patent system enjoyed by larger companies.<sup>63</sup> The days of Alexander Graham Bell and the influential lone inventors are over.<sup>64</sup> Companies, employing hundreds of individuals to work in large corporate labs, now obtain more than 80 percent of modern patents.<sup>65</sup> Individual inventors now struggle to obtain patents due to the overwhelming cost and complexity involved.<sup>66</sup> First-to-file will require the few individual patent applicants still remaining to engage in a race to the patent office, a race corporations with deep pockets will win.<sup>67</sup> Corporations have the resources to file large numbers of applications, they can hire the most competent attorneys, and

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57. Dickey, *supra* note 50, at 295.

58. *Id.* at 312.

59. See HEARING, *supra* note 18.

60. MASSEY, *supra* note 23, at 7.

61. *Id.* at 8.

62. Dickey, *supra* note 50, at 301–02.

63. MASSEY, *supra* note 23, at 8.

64. See EVAN I. SCHWARTZ, *THE LAST LONE INVENTOR: A TALE OF GENIUS, DECEIT, AND THE BIRTH OF TELEVISION* 165–67 (2002).

65. John R. Allison & Mark A. Lemley, *Who's Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2101 (2000).

66. MASSEY, *supra* note 23, at 8–9. The costs for small entities complying with the new first-to-file requirements will skyrocket as a result of increased attorney's fees and expenditures of employee time. *Id.* at 9.

67. Kevin Cuenot, *Perilous Potholes in the Path Towards Patent Law Harmonization*, 11 U. FLA. J.L. & PUB. POL'Y 101, 114 (1999).

they have the procedures in place to quickly file an application after an employee conceives of an idea.<sup>68</sup> Individual applicants do not have the resources to file numerous applications, and they generally do not have attorneys on retainer ready to file an application.<sup>69</sup> As a result, large, well-funded corporations will systematically win the patent race, and their share of the economy will further grow.<sup>70</sup>

Additionally, first-to-invent promotes fundamental notions of fairness by rewarding technological ingenuity instead of procedural acumen.<sup>71</sup> Under first-to-invent, the first individual responsible for bringing a scientific advancement into existence is entitled to patent rights.<sup>72</sup> Under first-to-file, the entity entitled to patent rights may not have actually created something new, which will frequently happen.<sup>73</sup> In fact, “nearly half of first inventors lose the race to the Patent Office.”<sup>74</sup> In those situations, patent rights are not determined by scientific prowess, technological ingenuity, or even dumb luck. Patent rights rest solely on the inventor’s speedy access to competent patent attorneys. No American institution should systematically dispose of disputes in favor of the party with the superior lawyers.

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68. *Id.*

69. *Id.*

70. Of course, that first-to-file is better for corporations than individuals does not mean it is *per se* bad for society. Indeed, it is unclear whether favoring individual inventors over corporate interests has any intrinsic benefit to society as a whole. David Abrams & R. Polk Wagner, *Poisoning the Next Apple: How the America Invents Act Harms Inventors*, 65 STAN. L. REV. 517, 562 (2013). However, from Thomas Edison to Steve Jobs, individual inventors have long played an integral role in industry and culture, effectively molding the United States into the world leader it is today. See SCHWARTZ, *supra* note 64, at 165–67. If, in the future, inventors must work for large corporations in order to protect their rights, society runs the risk of suppressing individual creativity in favor of a corporate bottom line. *Id.* It would be a shame if the age of the great American inventor has finally ended.

71. MASSEY, *supra* note 23, at 4.

72. *Id.*

73. In a study of one hundred priority disputes, both interference proceedings and district court cases, thirty-three final dispositions awarded patent rights to the party that did not file first. Lemley & Chien, *supra* note 53, at 1309. Forty-three percent of the disputes featured a party that had invented first but failed to file first. *Id.* The results corroborated a similar, earlier study where junior filers won patent rights about 42 percent of the time. Mark T. Banner & John J. McDonnell, *First-to-File, Mandatory Reexamination, and Mandatory “Exceptional Circumstance”: Ideas for Better? Or Worse?*, 69 J. PAT. & TRADEMARK OFF. SOC’Y 595, 602 (1987). The result is that “the first to invent is quite frequently not the first to file.” Lemley & Chien, *supra* note 53, at 1309.

74. Dickey, *supra* note 50, at 300.

All things being equal, a priority dispute under first-to-invent will result in one party losing the rights to its work because someone else performed that work first. The second person to create the subject matter may not believe first-to-invent is fairer, arguing that he or she did just as much work as the first inventor with the same level of ingenuity. However, while each did the work, the first inventor did the work faster. Imagine two athletes competing in the one-hundred meter dash. Each completes the race doing the same amount of work. One gets a medal; the other does not, because the first to finish was fastest. It is fair to award first place to the fastest runner, just as it is fair to award the patent to the first inventor.

First-to-file advocates have pointed to some empirical evidence that the first-to-invent doctrine may not actually favor smaller entities and individual inventors.<sup>75</sup> In a representative study considering interference proceedings from 1983 to 2004, 286 decisions favored small entities while 289 disadvantaged small entities.<sup>76</sup> Additionally, 167 independent inventors were disadvantaged, while just 139 were advantaged.<sup>77</sup> The numbers seem to suggest that small entities were not substantially benefited by interference proceedings.<sup>78</sup> More individual inventors were actually disadvantaged.<sup>79</sup> The inference is that eliminating the proceedings altogether would have no effect on small entities and would actually benefit individual inventors.<sup>80</sup>

The study relies on a fatal assumption. In concluding that interference proceedings do not benefit small entities, the study assumes that the behavior of the parties under first-to-invent would be comparable to their behavior under first-to-file. Now that the America Invents Act<sup>81</sup> has taken effect, patent applicants must be aware that they can no longer rely on interference proceedings as a safety net to protect their rights.

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75. 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, 516–17 (2005).

76. *Id.* For the purposes of the study, a small entity was considered disadvantaged if it was the first to file an application but did not receive priority through the interference. A small entity was advantaged if it was the second to file, but still received priority.

77. *Id.* at 520.

78. *Id.*

79. *Id.*

80. *Id.*

81. Leahy-Smith America Invents Act, Pub L. No. 112–29, 125 Stat 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

The possibility of losing patent rights by losing the patent race will incentivize all parties to file as soon as possible.<sup>82</sup> The study does not consider the inability of smaller entities to file as quickly as larger entities. The patent applicant's behavior under first-to-invent is so dissimilar to his or her behavior under first-to-file that the comparison of raw data would be meaningless.

Finally, first-to-invent ensures higher quality patent applications when compared to applications under first-to-file.<sup>83</sup> Applicants know that only the first person to file is entitled to patent rights and will rush to file.<sup>84</sup> They also know it is entirely possible another inventor is working toward the same goal at the same time.<sup>85</sup> Because patent applications do not require the production of a working prototype,<sup>86</sup> applicants who would have otherwise taken the time to flesh out the idea and reduce the invention to practice will instead rush to file an incomplete application, knowing they can always amend the claims later.<sup>87</sup> As a result, patent examiners will be forced to consider both the incomplete application and the inevitable amended application, instead of considering one complete application.<sup>88</sup> The time and resources spent refiling and considering amended claims will further drain the resources of the USPTO.<sup>89</sup>

Lower quality patent applications can be observed in foreign patent systems.<sup>90</sup> Japan, which uses first-to-file, sees 600,000 patent applications filed annually, while the United States sees just 130,000.<sup>91</sup> Many Japanese patent applications are simple scraps of paper intended to reserve a priority date.<sup>92</sup> By contrast, the American first-to-invent system provided inventors with enough time to develop the invention with

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82. Dickey, *supra* note 50, at 301–02.

83. *Id.* at 301; 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, 221–22 (1989).

84. MASSEY, *supra* note 23, at 8–9.

85. *See id.*

86. *See* 35 U.S.C. §§ 102–03 (2006).

87. Karen E. Simon, *The Patent Reform Act's Proposed First-to-File Standard: Needed Reform or Constitutional Blunder?*, 6 J. MARSHALL REV. INTEL. PROP. L. 129, 146 (2006).

88. Gabriel P. Katona, *First-to-File—Not in the United States*, 73 J. PAT. & TRADEMARK OFF. SOC'Y 399, 402 (1991).

89. *Id.*

90. Macedo, *supra* note 83, at 221–22.

91. *Id.* at 122 n.153.

92. *Id.* at 122 n.155.

sufficient experimental data, resulting in more informative and complete applications.<sup>93</sup>

Of course, while first-to-file undoubtedly encourages incomplete applications, the free market may exert pressure to file such applications regardless of the patent regime.<sup>94</sup> Competition encourages applicants to bring products to market as quickly as possible.<sup>95</sup> The sooner an application is filed, the sooner the applicant can market and license the invention.<sup>96</sup> Presumably, the market pressure forces companies to file incomplete applications in a bid to bring products to market faster, even under first-to-invent.<sup>97</sup> However, those market forces exert pressure to bring a *completed product* to market, not pressure to file a patent application. The specific application date presumably has no effect on the date a marketable product is achieved, because product design is the provenance of the scientists and engineers whose work is not affected by the status of the patent application. The sole benefit to an earlier filing date is priority under first-to-file patent law, because under first-to-invent, the company retains patent rights regardless of filing date.<sup>98</sup> Therefore, the incentive to file preemptive incomplete applications is not nearly as strong under first-to-invent.

Additionally, companies may already file incomplete applications due to the incentives created by first-to-file systems around the world.<sup>99</sup> The global reach of the modern economy means that companies must patent the same invention multiple times in different countries in order to achieve the desired protection.<sup>100</sup> Because each non-American country operates under first-to-file, those companies must engage in a race to patent offices all over the world.<sup>101</sup> Consequently, the incentive to file incomplete applications may exist even while the United States remains a first-to-invent nation.<sup>102</sup> Therefore, the change to first-to-file may not even

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93. *Id.*

94. Dickey, *supra* note 50, at 302.

95. *Id.*

96. *Id.*

97. *See id.*

98. *See* 35 U.S.C. § 102(g) (2006).

99. Lemley & Chien, *supra* note 53, at 1313.

100. *Id.*

101. *See id.*

102. Paul F. Prestia, *Congress, PTO and Supreme Court Trying to Reform Patent System*, THE LEGAL INTELLIGENCER (ONLINE), Oct. 4, 2006, available at LEXIS, doc-id #900005464130#.

affect the current actions of many patent applicants at all, making the change in law an exercise in futility.<sup>103</sup>

### C. *Advantages of First-to-File*

First-to-file patent systems have some advantages over first-to-invent systems. First, the costs of administering interference proceedings are completely eliminated, resulting in savings for both the government and private parties.<sup>104</sup> Second, the patent process's efficiency is increased by relieving patent examiners of the duty to determine date of invention.<sup>105</sup> The newfound consistency with international novelty rules will result in improved international relations.<sup>106</sup> Finally, the newfound efficiency increases the patent system's predictability.<sup>107</sup>

First, administration of the patent system under a first-to-file regime is less expensive than under first-to-invent due to the complete elimination of interference proceedings.<sup>108</sup> On average, interference proceedings cost \$500,000 between the two parties and the USPTO.<sup>109</sup> There is no equivalent cost under a first-to-file regime because priority has been eliminated as a legal claim.<sup>110</sup> However, while priority has been eliminated by the America Invents Acts, the other claims against patentability have not.<sup>111</sup> Historically, interference proceedings were also used to adjudicate issues such as fraud, inequitable conduct, and patentability.<sup>112</sup> Those claims, which

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103. *Id.*

104. See Lemley & Chien, *supra* note 53, at 1305–06.

105. Congress contended that the America Invents Act will result in a patent system that is cheaper, more predictable, more efficient, and more transparent. HEARING, *supra* note 18.

106. See Lemley & Chien, *supra* note 53, at 1301.

107. Macedo, *supra* note 83, at 216.

108. See Lemley & Chien, *supra* note 53, at 1305.

109. See Lemley & Chien, *supra* note 53, at 1331 n.99 (“Interferences are less expensive [than patent litigation as a whole] but still may cost \$500,000 on average.”) (citing AM. INTELLECTUAL PROP. LAW ASS’N, COMMITTEE REPORT: PATENT- RELATIONS WITH THE U.S. PATENT AND TRADEMARK OFFICE, *available at* <http://www.aipla.org> (data reported by Administrative Patent Judge Anthony M. Zupcic)).

110. See Leahy-Smith America Invents Act, Pub L. No. 112-29, 125 Stat 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

111. Other challenges to a patent’s validity include claims that the invention is obvious, lacks utility, is not a patentable subject matter, or is barred by statute. ADELMAN ET AL., *supra* note 42, at v.

112. JOHN GLADSTONE MILLS III ET. AL., 5 PATENT LAW FUNDAMENTALS §16:19, at 16–86 (2d ed. 2012).

have not been eliminated, must now be brought in federal district court.<sup>113</sup> While interference proceedings sometimes cost up to \$500,000,<sup>114</sup> a patent trial in federal court will cost an average of \$1.5 million *per side*.<sup>115</sup> Although there are no statistics of the number of preliminary patentability matters decided in interference proceedings that must now be brought in federal court, the number could be significant enough to offset the savings achieved by eliminating interferences.

Second, the elimination of interference proceedings may make the patent process more efficient.<sup>116</sup> Interference proceedings generally take up to two years,<sup>117</sup> while some have been known to take decades.<sup>118</sup> The delay caused by the interference significantly increases the time required to obtain a patent.<sup>119</sup> Under a first-to-file system, the patent examiner need only look at the filing date of the conflicting applications, and the earlier date receives priority.<sup>120</sup>

Finally, first-to-file may tend to produce significantly more predictable results than first-to-invent.<sup>121</sup> Interference proceedings necessarily require a panel to determine the date of conception and reduction to practice from a multitude of different factors.<sup>122</sup> Proving conception necessarily requires proving a person's mental state.<sup>123</sup> "An inventor who has not yet [become subjectively aware of any] aspects of the claimed invention . . . [has] not completed the mental part of the inventive process."<sup>124</sup> Thus, an interference proceeding requires the parties to prove exactly what an inventor knew at a certain point in time. As each additional factor is considered, the claim's likelihood of success becomes impossible to

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113. *See id.*

114. *See* Lemley & Chien, *supra* note 53, at 1331 n.99.

115. *Id.*

116. Macedo, *supra* note 83, at 221.

117. U.S. DEP'T. OF COMMERCE, U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2301.02 (8th ed. 2010).

118. Lemley & Chien, *supra* note 53, at 1331 n.99. For example, a dispute between two biotechnology companies over ownership of an artificial blood vessel resulted in a twelve-year interference proceeding. Alison Frankel, *Blood Money*, THE AM. LAW., Nov. 2009, at 6, [http://www.lw.com/upload/pubcontent/\\_pdf/pub2868\\_1.pdf](http://www.lw.com/upload/pubcontent/_pdf/pub2868_1.pdf).

119. *See* Lemley & Chien, *supra* note 53, at 1331 n.99.

120. Macedo, *supra* note 83, at 221.

121. *Id.* at 216.

122. *Id.*

123. *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985).

124. 2 MOY'S WALKER ON PATENTS § 8:46 (4th ed. 2012).

determine.<sup>125</sup> By contrast, first-to-file eliminates any need to determine mental states, focusing only on whose filing date was earlier, thus eliminating any uncertainty or subjectivity regarding priority.<sup>126</sup>

Despite the advantages of first-to-file, the venerable American first-to-invent system is superior to first-to-file because it benefits smaller entities over large corporations and avoids awarding patent rights to the party with the more competent patent agents. While first-to-file eliminates the cost of interference proceedings, it does so at the cost of the fairness intrinsic to first-to-invent. Of course, Congress did not agree when it passed the America Invents Act to convert the patent system to first-to-file.<sup>127</sup> As Part II explains, in doing so, Congress violated the IP Clause in Article I of the Constitution.

## II. UNCONSTITUTIONALITY OF FIRST-TO-FILE ARISING FROM ARTICLE I, SECTION 8

Much of the debate surrounding the America Invents Act has arisen from Congress's perceived overreach of its authority under Article I of the Constitution, which authorized Congress to promote the progress of science by securing for limited times to inventors the exclusive right to their discoveries."<sup>128</sup> Because common usage and Supreme Court precedent indicate that the term "inventor" actually means the "*first* inventor," Congress is only authorized to endow first inventors with patent rights.<sup>129</sup> Additionally, unlike the other enumerated powers, the IP Clause both grants and limits congressional power.<sup>130</sup> Because first-to-file results in only first filers obtaining patent rights, not first inventors, the America Invents Act is outside the scope of Congress's constitutional authority.<sup>131</sup>

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125. See Macedo, *supra* note 83, at 216.

126. *Id.* at 221.

127. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

128. U.S. CONST. art. I, § 8, cl. 8.

129. ADAM MOSSOFF, THE FIRST-TO-FILE PROVISION IN H.R. 1249 IS UNCONSTITUTIONAL: A TEXTUAL AND HISTORICAL ANALYSIS 3 (2011), [http://homepages.law.asu.edu/~dkarjala/Patent/MossoffHR1249Unconstitutional\(2011\).pdf](http://homepages.law.asu.edu/~dkarjala/Patent/MossoffHR1249Unconstitutional(2011).pdf).

130. *Graham v. John Deere Co.*, 383 U.S. 1, 6 (1966) ("Within the limits of the constitutional grant, the Congress may, of course, implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim." (emphasis added)).

131. MOSSOFF, *supra* note 129, at 3.

This Part considers the textual meaning of the word “inventor,” as used in the IP Clause, and whether under that meaning the first inventor is the true inventor. It explains how the framers intended to embed first-to-invent in the IP Clause based on the First Congress’s immediate adoption of the standard. It also describes how the framers intended to limit the government’s power under the IP Clause, and how the conversion to first-to-file provides the government with too much power and discretion in awarding patent rights.

The true meaning of the word “inventor” is integral to determining the framers’ true intent. The textual and common meanings of the word “inventor” specifically refer to a first inventor, not the second individual to discover the idea.<sup>132</sup> Black’s Law Dictionary defines the verb “invent” as “[t]o create (something) for the *first* time.”<sup>133</sup> A second individual who creates an invention does not create it for the first time, even if he or she created it independently. Such an individual does not “invent” the subject matter because he or she has created it for the *second* time. Additionally, when the Constitution was drafted, the common understanding of the word “inventor” was “one who produces something new; a deviser of something not known before.”<sup>134</sup> Only a first inventor can devise something not previously known; a second inventor does not produce anything new.<sup>135</sup> Therefore, while a second *rediscovers* an idea, he or she does not actually *discover* the idea.<sup>136</sup>

Additionally, the framers intended to codify the first-to-invent standard in the Constitution itself based on the First Congress’s adoption of first-to-invent.<sup>137</sup> The Patent Act of 1790 explicitly adopted first-to-invent by awarding patents to those with ideas “not before known or used”<sup>138</sup> and prohibited patent rights to anyone other than “the first and true inventor or discoverer.”<sup>139</sup> Further, in the first-ever dispute over patent priority in 1781, a Patent Board consisting of Thomas Jefferson and others explicitly rejected a first-to-file provision, instead

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132. MASSEY, *supra* note 23, at 3.

133. BLACK’S LAW DICTIONARY 901 (9th ed. 2009) (emphasis added).

134. MASSEY, *supra* note 23, at 3 (quoting SAMUEL JOHNSON, A DICTIONARY OF THE ENGLISH LANGUAGE (6th ed. 1785)).

135. MASSEY, *supra* note 23, at 3.

136. *Id.*

137. *See id.* at 4.

138. Patent Act of 1790, ch. 7, 1 Stat. 110.

139. *Id.* at 109, 111.

awarding the patent to the original inventor.<sup>140</sup> The Patent Act of 1793 created the first interference proceedings in order to deal with priority issues and, therefore, produced the first-to-invent patent system.<sup>141</sup> The First Congress was responsible for the 1793 Act.<sup>142</sup> Thirty-two members of the First Congress were also delegates to the Constitutional Convention; therefore, the actions of the First Congress are highly probative of the framers' intent to implement first-to-invent.<sup>143</sup> When tasked with deciding how to resolve priority disputes, the First Congress understood the word "inventor" to mean the first inventor, which is why it created a system to award patents to the first inventor.<sup>144</sup>

It was not just the First Congress that understood "inventor" to mean the first inventor; early Supreme Court decisions turned on the same construction.<sup>145</sup> In *Pennock v. Dialogue*, the Supreme Court noted that under the Constitution, the patent property right "is created by the invention . . . not by the patent."<sup>146</sup> The Court could only come to this conclusion if it meant the term "inventor" to mean the first inventor because, otherwise, the property right would be created by the patent grant.<sup>147</sup>

Of course, the framers may not have been aware of the very existence of possible priority issues when drafting the Constitution because they did not address the issue in the first Patent Act.<sup>148</sup> Instead, they waited to implement first-to-invent until the Patent Act of 1793, after being alerted to the problem by the first patent priority dispute.<sup>149</sup> Presumably, first-to-invent could not have been written into the Constitution because the framers were unaware of the very existence of priority disputes until well into the First Congress.<sup>150</sup> Because it was initially conceived during the First Congress, first-to-invent could have merely represented the First Congress's interpretation of the IP Clause.

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140. Simon, *supra* note 87, at 134.

141. MASSEY, *supra* note 23, at 5.

142. *Id.*

143. *Id.* at 4–5.

144. *See id.* at 5.

145. *Id.* at 6.

146. 27 U.S. 1, 7 (1829).

147. MASSEY, *supra* note 23, at 5.

148. Martin, *supra* note 9, at 456.

149. *Id.*

150. *See id.*

Nevertheless, although the framers may not have been aware of the possibility of priority disputes, the meaning of “inventor” indicates a first inventor, not merely the first to file an application.<sup>151</sup> The framers need not have been aware of priority disputes, because they never considered that the word “inventor” could mean anything else.<sup>152</sup>

First-to-file also violates another core principle of the IP Clause: the government’s power to decide who gets patent rights should be limited.<sup>153</sup> The old English system, in addition to allowing patents to true inventors, permitted the king to assign monopoly rights to any person he deemed fit.<sup>154</sup> Thomas Jefferson, the author of the original 1790 and 1793 Patent Acts, noted his intent to not provide the federal government with the same power.<sup>155</sup> He favored extreme limitations on “the public embarrassment” of exclusive patent rights.<sup>156</sup> Accordingly, he limited the government’s power to award monopoly rights to only “authors and inventors.”<sup>157</sup>

Due to the framers’ intent to establish a system very different from the one in place in England at the time, the word “inventor” should be construed in a way that provides that separation.<sup>158</sup> If “inventor” merely means the first person to file with the Patent Office, then the government necessarily has the right to define who receives the patent rights.<sup>159</sup> When the government has that much discretion to determine who receives patent rights, its powers are very similar to those exercised by the king under the common law in England. The framers strongly desired to avoid such a system due to its potential for abuse.<sup>160</sup> Therefore, patent rights should be restricted to the first inventor as a way to limit the control the

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151. MASSEY, *supra* note 23, at 3.

152. *See id.*

153. *Id.* at 4.

154. MERGES ET AL., *supra* note 27, at 126 (“Patents [were] less an incentive for inventors of new arts and more a royal favor dispensed to well-placed courtiers.”).

155. *Graham v. John Deere Co.*, 383 U.S. 1, 7 (1966) (“Jefferson, like other Americans, had an instinctive aversion to monopolies. It was a monopoly on tea that sparked the Revolution and Jefferson certainly did not favor an equivalent form of monopoly under the new government. His abhorrence of monopoly extended initially to patents as well.”).

156. *Id.* at 9.

157. U.S. CONST. art. I, § 8, cl. 8.

158. *See MASSEY, supra* note 23, at 4.

159. *See id.*

160. *See id.*

government exerts over the identity of patent recipients.<sup>161</sup>

It is worth noting that first-to-file may not actually allow the government more control over the recipients of patent rights than it had under first-to-invent. While it allows “the government to redefine an ‘inventor’ . . . on the basis of a procedural filing,”<sup>162</sup> the government has no more discretionary control over filing dates than it does over invention dates. In fact, the government has less discretion. With interference proceedings, the Patent Office had discretion to decide the party entitled to priority.<sup>163</sup> Under first-to-file, there is no longer such discretion.<sup>164</sup> However, while first-to-file may result in less control over individual patent applications, the first-to-file system itself is the result of the government unilaterally changing the meaning of the word “inventor.”<sup>165</sup> The framers did not intend to allow the Government such wide latitude.<sup>166</sup>

The definition of “inventor” used by the IP Clause specifically references first inventors, not first filers, because of the textual and common meanings of the term when the Constitution was drafted. Furthermore, the framers intended the IP Clause to limit the government’s discretion in granting patent rights, an intention thwarted by using administrative filing standards instead of scientific standards. As Part III contends, while the America Invents Act offends the meaning of the word “inventor” in the IP Clause, it also violates the Takings Clause of the Fifth Amendment.

### III. CONSTITUTIONALITY OF FIRST-TO-FILE UNDER THE TAKINGS CLAUSE

In addition to its conflict with the IP Clause, the America Invents Act<sup>167</sup> invites systematic violations of the Takings

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161. *See id.* The Supreme Court confirmed the framers’ intent to restrict the government’s power under the IP Clause in *Graham v. John Deere Co.* 383 U.S. 1, 5 (1966). The IP Clause was written “against the backdrop” of the Statute of Monopolies, in which the English parliament prohibited the Crown from arbitrarily issuing patent monopolies. *Id.*

162. MASSEY, *supra* note 23, at 4.

163. *See* 35 U.S.C. § 102(g) (2006).

164. *Graham*, 383 U.S. at 7.

165. *See* MASSEY, *supra* note 23, at 4.

166. *See id.*; *Graham*, 383 U.S. at 7.

167. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

Clause of the Fifth Amendment.<sup>168</sup> The Takings Clause states that “private property [shall not] be taken for public use, without just compensation.”<sup>169</sup> While the Takings Clause traditionally applies to eminent domain seizures, it also prevents the government from taking any constitutionally protected private property without just compensation.<sup>170</sup> Because patent rights exist at the moment the idea is conceived and implemented, rather than when the patent application is filed,<sup>171</sup> an inventor has a property right in the patentable subject matter. When the Patent Office awards patent rights to an individual other than the first inventor, it allows that individual to prevent the first inventor from using the invention.<sup>172</sup> That revocation effectively appropriates the rights to the invention and awards it to the first filer.

Four conditions must be met in order to declare that first-to-file violates the Takings Clause: (1) an individual must have private property; (2) the government must take the private property; (3) the taking must be without just compensation; and (4) the taking must be for the public interest.<sup>173</sup> Section A will show how the Supreme Court’s reasoning in *Ruckelshaus v. Monsanto* explains how first inventors have protectable private property rights in their patentable inventions.<sup>174</sup> Section B will explain how the federal government is estopped from revoking patentable ideas from first inventors because the Takings Clause forbids it from arbitrarily changing the law to revoke property rights. Section C will complete the Takings Clause analysis, explaining how first inventors’ private property will be constitutionally taken without compensation and for the public use.

#### A. Patentable Inventions as Private Property

Patentable inventions<sup>175</sup> qualify as intangible private

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168. U.S. CONST. amend. V.

169. *Id.*

170. *United States v. Willow River Power Co.*, 324 U.S. 499, 502 (1945).

171. *Pennock v. Dialogue*, 27 U.S. 1, 7 (1829) (“[T]he right is created by the invention, and not by the patent.”).

172. The taking would not occur when the patent is issued, but rather when the infringement action is brought against the first inventor.

173. U.S. CONST. amend. V.

174. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984).

175. *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 60 (1998) (explaining which inventions are patentable). “[I]nvention . . . unquestionably refers to the inventor’s conception rather than to a physical embodiment of that idea.” *Id.* Any inventor

property rights for the same reason that trade secrets qualify as constitutionally protected property. In *Ruckelshaus v. Monsanto Co.*, the Court found that trade secrets are protected by the Fifth Amendment because trade secrets share many characteristics with real property, characteristics patentable ideas also share.<sup>176</sup>

*Ruckelshaus* concerned Environmental Protection Agency (EPA) rules regulating the use of pesticides.<sup>177</sup> Federal regulations required all pesticides to be registered with the Secretary of Agriculture prior to use in interstate commerce.<sup>178</sup> Additionally, the EPA was required to publically disclose “all health, safety, and environmental data to qualified requestors.”<sup>179</sup> When the Monsanto Company registered its pesticide, the “health, safety, and environmental” data could have been useful to its competitors in reducing money spent in research and development.<sup>180</sup> Thus, the data was protected under Missouri law as a trade secret.<sup>181</sup> Monsanto brought suit alleging that the disclosure of the data would misappropriate its private property without just compensation in violation of the Takings Clause.<sup>182</sup>

The *Ruckelshaus* Court held that the data was private property because trade secrets share many characteristics with real property.<sup>183</sup> The Court first noted that it had previously found property interests in other types of intangible property, such as real estate liens and valid contracts.<sup>184</sup> It also noted that trade secrets share similarities with real property, such as assignability.<sup>185</sup> Citing an earlier decision, the Court stated that “[i]t is conceivable that [the term “property” in the Takings Clause] was used . . . to denote the group of rights inhering in the citizen’s relation to the physical thing, as the right to

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who conceives of “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” is in possession of a patentable invention. *Id.* at 61 n.9 (quoting 35 U.S.C. § 101 (2006)).

176. *See Ruckelshaus*, 467 U.S. at 987.

177. *Id.* at 990.

178. *Id.* at 991.

179. *Id.* at 995–96.

180. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1014 (1984).

181. *Id.* at 1001.

182. *Id.* at 998–99.

183. *Id.* at 1003.

184. *Id.*

185. *Id.* at 1002.

possess, use and dispose of it.”<sup>186</sup> Implicit in this reasoning is the support for the proposition that intangible property qualifies for Takings Clause protection.<sup>187</sup> Therefore, the Takings Clause protected Monsanto’s property right to the extent it was protected as a trade secret.<sup>188</sup> The reasoning indicates that the legally recognized property right establishes Fifth Amendment protection.

First-to-file implicates the private property rights of first inventors because the first inventor owns a property right in the invention at the time of conception, rather than at the time of a patent grant. First, there is an important distinction between the invention and the patent. The invention is the underlying mechanism made by the individual, while the patent is merely the government’s acknowledgment of the property right.<sup>189</sup> The individual owns a right to the underlying invention, not just the patent.<sup>190</sup> As noted above, the Supreme Court has affirmed that “the right is created by the invention, and not by the patent.”<sup>191</sup> Additionally, “the discoverer of a new and useful improvement is vested by law with an inchoate<sup>192</sup> right to its exclusive use, which he may perfect and make absolute by proceeding in the manner which the law requires.”<sup>193</sup> Therefore, the right to the invention does not arise pursuant to grant by the government; rather, the right arises at the moment of invention.<sup>194</sup> Ultimately, “whatever invention [an inventor] may thus *conceive and perfect* is his individual property.”<sup>195</sup>

That an individual has property rights in his or her patentable inventions also finds support in the Court’s *Ruckelshaus* analysis, where it determined trade secrets are private property due in part to their similarities to real property.<sup>196</sup> Property consists of “the group of rights which a

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186. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1003 (1984) (quoting *United States v. General Motors Corp.*, 323 U.S. 373, 377–78 (1945)).

187. *Id.*

188. *Id.* at 1003–04.

189. *Gayler v. Wilder*, 51 U.S. 477, 493 (1851).

190. *Id.*; see also *Pennock v. Dialogue*, 27 U.S. 1, 7 (1829).

191. *Pennock*, 27 U.S. at 7.

192. Inchoate rights are defined as “[a]n inventor’s right that has not yet vested into a property right because the patent application is pending.” BLACK’S LAW DICTIONARY, *supra* note 133, at 830.

193. *Gayler*, 51 U.S. at 493.

194. *Id.*; *Pennock*, 27 U.S. at 7.

195. *Solomons v. United States*, 137 U.S. 342, 346 (1890) (emphasis added).

196. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1002 (1984).

so-called owner exercises in his or her dominion of the physical thing, such as the right to possess, use, and dispose of it,”<sup>197</sup> as well as the ability to assign the rights.<sup>198</sup> An inventor retains a possessory interest in the invention, even before patent rights are received, because he or she exercises control over what is done with the invention.<sup>199</sup> The inventor may choose to obtain patent rights, to pursue trade secret protection, or even to do nothing at all. And patentable ideas are assignable, just like real property.<sup>200</sup> While patents themselves are indisputably assignable,<sup>201</sup> “[i]t is . . . well established that an inventor can assign his rights in [the underlying] invention to a third party.”<sup>202</sup> Using the Court’s *Ruckelshaus* reasoning, patentable inventions are private property because those inventions possess many elements of real property.

One potential drawback to this interpretation is a conflict with the traditional treatment of trade secrets in patent law.<sup>203</sup> In *Gillman v. Stern*, decided in 1940, Judge Learned Hand of the Second Circuit Court of Appeals established that use of an invention in secret, with trade secret protection, does not prevent a third party from patenting the invention and enforcing its rights against the trade secret holder.<sup>204</sup> Applying *Ruckelshaus*, such an event would also be tantamount to a revocation of the trade secret holder’s private property.<sup>205</sup> Therefore, even the first-to-invent system apparently allowed the uncompensated taking of private property in the form of

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197. *Phillips v. Wash. Legal Found.*, 524 U.S. 156, 170 (1998) (citing *United States v. Gen. Motors Corp.*, 323 U.S. 373, 378 (1945)).

198. *Ruckelshaus*, 467 U.S. at 1002.

199. *See id.*

200. *Id.*

201. “A patent is property, and title to it can pass only by assignment.” *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933).

202. *Bd. of Trustees of Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 131 S. Ct. 2188, 2195 (2011).

203. Trade secrets do not prevent a patent from issuing to a third party, despite the prior use. *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940). When an individual obtains a patent on another’s trade secret, the trade secret rights are abolished. In light of the Supreme Court defining trade secrets as protected private property, *Gillman* actually authorizes the taking of protected private property. Thus, *Ruckelshaus* and *Gillman* are directly contradictory. However, because patentable ideas are not yet trade secrets, the consequences of the conflict are beyond the scope of this Note.

204. *See* 114 F.2d at 29.

205. This appears to be an unanticipated result of the *Ruckelshaus* decision, decided forty-three years after *Gillman*, and one no court to date has acknowledged. It should be noted that *Gillman* was decided by the Second Circuit while *Ruckelshaus* was decided by the Supreme Court.

trade secrets. However, the adoption of first-to-file further expands the systematic taking of private property to inventions that have not yet earned trade secret status.<sup>206</sup> Where the first-to-invent system allowed the confiscation of inventions with trade secret protection,<sup>207</sup> first-to-file allows the taking of inventions that are not yet trade secrets. Therefore, first-to-file will expand the scope of the systematic taking of private property.

*B. The Government Cannot Revoke Private Property by Simply Changing the Law*

Before the passage of the America Invents Act, first inventors had a federally protected property right in their patentable inventions.<sup>208</sup> The courts have repeatedly found that patent rights are created by the act of invention, not by the receipt of patent protection.<sup>209</sup> For over two centuries, first-to-invent has ensured that first inventors enjoy a long-standing property interest in their patentable ideas. That long-standing interest cannot simply be confiscated by the legislature.<sup>210</sup>

In *Phillips v. Washington Legal Foundation*,<sup>211</sup> the Supreme Court held that “a State may not sidestep the Takings Clause by disavowing traditional property interests long recognized under state law.”<sup>212</sup> The America Invents Act revokes first inventors’ property interests long recognized under the law. By redefining first inventors’ patents rights, which have existed since 1790,<sup>213</sup> as belonging to the first

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206. *Gillman* defined the subject invention as secret because the inventor took pains to conceal his invention by enforcing non-disclosure agreements on employees, restricting access to his shop, and even agreeing to testify only if the records were sealed by the court. 114 F.2d at 30.

207. A trade secret “(i) derives independent economic value . . . from not being generally known . . . and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.” Uniform Trade Secrets Act § 1 (1985).

208. As stated above, the old priority rules explicitly awarded patent rights to the first inventor to the exclusion of everyone else. 35 U.S.C. § 102(g) (2006). Each patent act since 1790 has recognized the first inventor’s property right, intrinsic in the first-to-invent scheme. *See infra* Part I.

209. *Pennock v. Dialogue*, 27 U.S. 1, 7 (1829); *Evans v. Jordan*, 8 Fed. Cas. 872, 873–74 (Cir. Ct. D. Va. 1813). In *Evans*, Chief Justice John Marshall explained, sitting as a circuit court judge, that the property right “commences with the discovery itself, and is only perfected by the patent.” 8 Fed. Cas. at 873–74.

210. *See Phillips v. Wash. Legal Found.*, 524 U.S. 156, 164 (1998).

211. *Id.*

212. *Id.* at 167.

213. Patent Act of 1790, ch. 7, § 1, 1 Stat. 109.

individual to file an application, the America Invents Act sidesteps the Takings Clause. While the Supreme Court outlined the rule with respect to the States, the Court cited the Fifth Amendment as authority.<sup>214</sup> Because the Fifth Amendment applies equally to the state and federal governments,<sup>215</sup> the reasoning in *Phillips* would also prohibit the federal government from taking first inventors' property via congressional action. Therefore, Congress cannot simply revoke the Fifth Amendment protection that first inventors enjoy in patentable inventions.

### C. Takings Clause Analysis

The government's confiscation of private property violates the Takings Clause if it satisfies three conditions: (1) the private property was taken; (2) for public use; and (3) without just compensation.<sup>216</sup> Even though first inventors retain minimal "prior user rights,"<sup>217</sup> those rights do not permit the inventor to retain the right to transfer the invention; therefore, first-to-file qualifies as a taking. Second, the taking is for the public use because it is motivated by the underlying theory of patent law, to enrich the public domain. Finally, the first inventor is not compensated for the taking.

The *Ruckelshaus* Court's Takings Clause analysis may be used to determine whether the private property (the patentable idea) is actually taken. According to *Ruckelshaus*, "[g]overnmental action . . . if its effects are so complete as to deprive the owner of all or most of his interest in the subject matter, [amounts] to a taking."<sup>218</sup> Thus, because the value of a patentable idea lies in the power to use that idea, the grant of a patent on that idea to a third party results in the complete deprivation of any and all value the idea held to its original inventor. It may be argued that because first inventors retain prior user rights, there is not a deprivation of enough rights

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214. *Id.*

215. *See* *Chicago, Burlington & Quincy R.R. Co. v. City of Chicago*, 166 U.S. 226, 258 (1897) (incorporating the Fifth Amendment against the states by way of the Due Process Clause).

216. *Id.*

217. Leahy-Smith America Invents Act, Pub L. No. 112-29, § 5, 125 Stat 284 (2011) (codified as amended in scattered sections of 35 U.S.C.) (entitled "Defense to Infringement Based on Prior Commercial Use").

218. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1005 (1984) (citing *United States v. Gen. Motors Corp.*, 323 U.S. 373, 378 (1945)).

sufficient to qualify as a taking. Section Five of the America Invents Act<sup>219</sup> allows the first inventor to practice the invention; however, the prior user does not have the right to license the invention, transfer the invention, or exclude others from using the invention.<sup>220</sup> Therefore, because an inventor would otherwise have each of these rights with a valid patent,<sup>221</sup> first inventors are deprived of most of the value of their inventions.

After determining that there was a taking, the next requirement is that the taking be “for a public use.”<sup>222</sup> A taking is for a public use “[s]o long as the taking has a conceivable public character.”<sup>223</sup> In *Ruckelshaus*, the EPA’s regulatory scheme (the taking) was intended to “eliminate costly duplication of research and streamline the registration process, making new end-use products available to consumers more quickly.”<sup>224</sup> First-to-file appropriates property for public use in the same way Monsanto’s pesticide data was publically used. While first-to-file does not put the first inventor’s property to specific use by the general public, the “taking has a conceivable public character” resulting from Congress’s intent in passing the patent statute.<sup>225</sup> Specifically, Congress implemented first-to-file to make the patent system more transparent and less expensive to operate, thus stimulating job growth and the economy.<sup>226</sup> As stated in *Ruckelshaus*, “the public purpose behind the data-consideration provisions is clear from the legislative history.”<sup>227</sup> Similarly, the public purpose behind the America Invents Act was stated unambiguously in the legislative history.<sup>228</sup>

The Supreme Court case of *Kelo v. City of New London*<sup>229</sup> illustrates how the legislative intent behind the America Invents Act proves that such a taking would be for the “public use.” In *Kelo*, the city of New London approved a development plan intended to boost the local economy.<sup>230</sup> In pursuit of the

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219. Leahy–Smith America Invents Act § 5.

220. *See id.*

221. MERGES ET AL., *supra* note 27, at 132.

222. *Ruckelshaus*, 467 U.S. at 1012.

223. *Id.* at 1014.

224. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1015 (1984).

225. *See id.* at 1014; *see also* HEARING, *supra* note 18.

226. HEARING, *supra* note 18.

227. 467 U.S. at 1014.

228. HEARING, *supra* note 18.

229. 545 U.S. 469 (2005).

230. *Id.* at 472.

plan, the city sought to condemn several parcels of private property and then transfer ownership to a private developer.<sup>231</sup> The Supreme Court held that the taking was for a public use, despite the private developer's windfall, because the overall intent was to benefit the public.<sup>232</sup> The takings under first-to-file are indistinguishable. When the USPTO awards patent rights to a second inventor, it effectively takes those rights from the first inventor and awards them to the second inventor. Despite the discrete benefit to the second inventor, a private party, the taking is still for the public use because of the overall intended benefit to society.

Patentable ideas are private property under the Fifth Amendment.<sup>233</sup> Under first-to-file, the government takes that property by revoking the first inventor's ability to obtain the patent rights that permit the transfer, license, or exclusion of others. That taking is for the public use, because it serves the general utilitarian goal of patent law by enriching the public domain. Finally, the taking is without compensation. As a result, the America Invents Act will result in the systematic violation of the Fifth Amendment each and every time a first filer is awarded patent rights over a first, true inventor.

## CONCLUSION

Due to the difficult issues involved, the courts will no doubt look to the public policy differences between first-to-invent and first-to-file when deciding the inevitable constitutional challenge.<sup>234</sup> As it stands, neither is the clear winner in a debate fraught with both emotions and skewed data. Eventually, the Court may simply defer to Congress's judgment and institutional expertise.

However, beyond public policy concerns, Congress's adoption of first-to-file under the America Invents Act is vulnerable both to claims that it exceeds Congress's power under the IP Clause and that it violates the Takings Clause of the Fifth Amendment. First, both the textual and commonly understood meaning of the word "inventor" denotes an

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231. *Id.* at 474.

232. *Id.* at 489–90.

233. *See supra* Part III.A–B.

234. The first of such challenges was recently filed by an independent inventor in Florida. *See* Complaint for Injunctive and Declaratory Relief, *Madstad Eng'g, Inc. v. U.S. Patent & Trademark Office*, No. 8:12-cv-01589 (M.D. Fla. July 18, 2012).

individual who creates something new, something that has never been created before. Consequently, the framers, while drafting the IP Clause, intended to allow Congress to bestow patent rights only on first inventors, not on second inventors who happen to file first. Second, first inventors enjoyed a legally protectable right in their patentable inventions for 220 years under first-to-invent, and the Court's *Monsanto* opinion denotes support for such intangible rights. The government is estopped from simply revoking those rights. Finally, when the Government awards a second inventor a patent monopoly under first-to-file, it revokes the first inventor's right to exploit the patentable invention. Because the Government takes the invention for public use, and without compensation, it runs afoul of the Fifth Amendment. The portion of the America Invents Act that converts the patent system from first-to-invent to first-to-file fatally conflicts with both Article I and the Fifth Amendment. While the changeover may achieve legitimate public policy goals, it must be accomplished using a constitutional amendment, not an act of Congress.