Compulsory Patent Licensing: The Next Step in Adapting Patents to the Technological Age

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INTRODUCTION

At the core of intellectual property exists a desire to inspire innovation and creation in order to benefit the public interest. This lofty aspiration has motivated a complex, and often unruly, system of intellectual property protection. One of the most important subsections of intellectual property protection is the patent system. Under current patent law in the United States, the government grants an inventor a limited period of exclusive rights in exchange for the inventor's disclosure of his or her invention.[1] By permitting this limited monopoly, the government seeks to inspire innovation and creation whilst furthering society's collective knowledge.

As technology continues to advance at an increasingly rapid pace, so too do the number of patents issued.[2] The rights that accompany the granting of a patent cover most aspects of making, using, and selling inventions and have continuously been used to slow the pace of innovation.[3] The use of patents to hamper growth is not a recent phenomenon. Patents have historically been used to prevent new inventors from building upon an already patented invention.[4] This has been tolerated due to the belief that society must suffer certain costs in exchange for full disclosure of an invention.[5] It is time, however, to consider whether this monopolistic system continues to serve the central goal of intellectual property: the inspiration of innovation.

With the advent of patent trolls,[6] weaponized patents,[7] and

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1. ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 29 (5th ed. 2010).

2. *Patent Quality Enhancement in the Information-Based Economy: Hearing Before Subcomm. on Courts, the Internet, and Intellectual Property of the Comm. on the Judiciary*, 109th Cong. 17 (2006).

3. *See* Robert P. Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75 (1994).

4. *Id.*

5. Kurt M. Saunders, *Patent Nonuse and the Role of Public Interest as a Deterrent to Technology Suppression*, 15 HARV. J. L. TECH. 389, 448 (2002).

6. "Patent troll" refers to companies that use patents in a manner that is considered unduly opportunistic or aggressive. *See* MERGES, *supra* note 1, at 38 n.2. Generally, these are companies that purchase or create large numbers of patents solely for the purpose of generating profit either through licenses or litigation, with no intention of creating a product for the market. *Id.*

7. Saunders, *supra* note 5, at 391 (stating that patents can be used as competitive weapons since

suppression patents,[8] society must address whether the patent system, as it is currently implemented, actually benefits the public interest. Few would argue that the patent system should be abandoned entirely,[9] but many express a desire to reform the current system.[10] There are numerous ideas on how this could be done, and each idea has its own advantages and disadvantages.[11] This Comment focuses on one theory of reform, exploring general compulsory patent licensing as a means to expand the benefits received by the public and further the fundamental goal of patents.

Part I of this Comment begins where any discussion of a complicated and unruly system must: with context. Part I first provides a brief historical background of the patent system. It then examines the current state of patent law in the United States. Such examination demonstrates how and why compulsory patent licensing will drive innovation and creation.

Part II discusses how patents have been used, and continue to be used, to hinder the public interest. Part II explores concrete examples of patent suppression cases to demonstrate the need for substantial patent reform, specifically in the form of compulsory licensing.

Part III analyzes certain justifications for compulsory licensing, focusing on the classical foundations of intellectual property and the ideas behind innovation that both support and attack the need for such licensing. Part III also investigates whether compulsory patent licensing is constitutionally justified. Lastly, Part III explores and counters many of the arguments against compulsory licensing.

Part IV posits a system for a general compulsory patent licensing scheme that would serve to benefit the public interest without eliminating the current economic and competitive advantages of patents.

This Comment encourages the reader to think critically about the issues facing the current patent system in this technological age and to recognize the need to adapt old systems to better serve the founding principles of the patent system.

I. BRIEF HISTORY OF PATENTS

The following section offers a brief history of the patent system in the United States. It examines the historical beginnings of the patent system and elaborates on the current state of patents.

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they are filed with the specific intention to use against competitors in the same field in litigation).

8. *Id.* at 426 n.229 (stating that patent suppression, or the use of patents in order to keep better products from the market, constitutes unlawful infringement); *id.* at 403 (describing patents that are used to suppress as "blocking" or "dependent" patents).

9. *See* STAFF OF SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE S. COMM. ON THE JUDICIARY, 85TH CONG., COMPULSORY LICENSING OF PATENTS—A LEGISLATIVE HISTORY 2 (Comm. Print 1958) [hereinafter COMPULSORY LICENSING OF PATENTS].

10. *See id.*

11. *See id.*

A. PATENTS: A HISTORICAL PERSPECTIVE

The origins of patent law can be traced back to England's medieval age, where protection of an invention was granted through a letter of patent.[12] The earliest known patent was granted to John Kempe in 1331 for the purpose of "instructing the English in a new industry."[13] Royal grant remained the standard method for obtaining a patent until 1474,[14] when the first statutory provisions were created in Venice. The Venice statutes included all the basic elements seen in modern patent law: a requirement of novelty, proof of usefulness, and disclosure of the invention.[15]

The first patent in North America was granted to Samuel Winslow in 1641 for a new method of making salt.[16] Patents increasingly became a central form of intellectual property, and the framers of the United States Constitution granted Congress the power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[17] At the same time, however, the framers also viewed patents in the same manner as all other monopolies: "an evil to be suffered in order to advance the more important public interest."[18]

The purpose of the patent system in the United States has always been to promote innovation and encourage the development of new technology for the benefit of the public interest. From the very beginning, the philosophical basis for the patent system has been a matter of public debate, often changing to align with the predominant views of the time. As a result, the manner in which the United States patent system has historically operated has directly resulted from the prevailing viewpoints of the time.

In 1790, the first federal patent statute was enacted in the United States.[19] The act was designed to promote the "Progress of the Useful Arts"[20] for relatively simple technologies, such as the cotton gin, the chemical battery, or the light bulb.[21] This first attempt at authoring a patent statute only survived three years as the act was later repealed. In its place, Congress adopted the Patent Act of 1793 ("1793 Act"). The 1793 Act established the foundational definition of patentable subject matter as "any new and useful art, machine, manufacture or composition of matter, or any

12. *See* E. Wyndham Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 Law. Q. Rev. 141, 142–44 (1896) (describing the English patent system as a means of industrial protectionism).

13. *Id.* at 142.

14. MERGES, *supra* note 1, at 125.

15. *Id.*

16. JAMES W. CORTADA, RISE OF THE KNOWLEDGE WORKER 141 (1998).

17. U.S. CONST. art. I, § 8, cl. 8.

18. Saunders, *supra* note 5, at 448.

19. Patent Act of 1790, ch. 7, 1 Stat. 109.

20. *Id.*

21. Carol M. Nielsen & Michael R. Samardzija, *Compulsory Patent Licensing: Is It a Viable Solution in the United States?*, 13 MICH. TELECOMM. & TECH. L. REV. 509, 513 (2007).

new and useful improvement on any art, machine, manufacture, or composition of matter."[22] Specifically, the 1793 Act stated that an improvement upon a previously existing patented invention did not entitle the owner to rights over the originally patented invention.[23] The 1793 Act enshrined the basis for patent suppression and continued to function as the primary patent law for the next forty-three years.[24]

The Patent Act of 1836 ("1836 Act") replaced the 1793 Act following numerous complaints that patents were being issued to inventions that lacked the requisite level of novelty.[25] To address this issue, Congress created the Patent Office to examine "prior art"[26] and determine whether an invention meets the novelty requirement.[27] The 1836 Act also established a mechanism for resolving disputes related to priority of invention and, for the first time, expanded the scope of potential patentees to include resident aliens who intended to become citizens of the United States.[28] The next act, the Patent Act of 1839, only slightly expanded the 1836 Act, codifying certain statutory bars to clarify inconsistent judicial rulings and implementing a two-year grace period for publication or use of the invention prior to filing an application.[29] In 1870, Congress codified the various acts into a single piece of legislation: the Patent Act of 1870.[30] It was at this time that the seventeen-year patent term was promulgated.[31]

Throughout the following decades, many international organizations were established to protect international intellectual property.[32] In 1887, the United States joined the Paris Convention for the Protection of Industrial Property, which influenced subsequent changes to the patent system.[33] It was in this changing international landscape that the Sherman Act was passed in 1890.[34] The Sherman Act essentially places a constraint on monopolistic corporate practices and is fundamentally in tension with patent law.[35]

B. THE CURRENT STATE OF AFFAIRS

In 1952, Congress adopted "non-obviousness" as an additional

22. Patent Act of 1793, ch. 11, § 1, 1 Stat. 318-21.

23. *Id.*

24. *See* Patent Act of 1836, ch. 357, 5 Stat. 117.

25. Nielsen & Samardzija, *supra* note 21, at 513.

26. "Prior art" refers to all publicly available information relevant to a patent's claims of originality. *See* 35 U.S.C. § 102 (2012). A patent will not be granted on an invention that has been described in prior art. *Id.*

27. *See* Patent Act of 1836, ch. 357, 5 Stat. 117.

28. *Id.* § 12.

29. *See* Patent Act of 1839, ch. 88, 5 Stat. 353.

30. *See* Patent Act of 1870, ch. 230, § 22, 16 Stat. 198.

31. *Id.* at 198–217.

32. Nielsen & Samardzija, *supra* note 21, at 514.

33. *Id.*

34. *Id.*

35. *See infra* Part II. This interplay between deference to antitrust principles and the need to inspire innovation forms the heart of the debate in the literature on compulsory patent licensing. *See id.*

requirement that must be satisfied before an inventor can receive a patent.[36] With this addition, which still stands today, the patent system evaluates whether an invention is novel, non-obvious, and useful and whether it has been fully disclosed by the inventor.[37] The next significant change to the patent system occurred in 1982, when the Federal Circuit Court was established to resolve patent disputes.[38] This change, however, did not affect any statutory requirements for patents.[39]

In 1994, as a result of the Uruguay Round of the General Agreement on Tariffs and Trade ("General Agreement"), the United States extended the patent term from seventeen to twenty years to conform to international perceptions of intellectual property.[40] The General Agreement resulted in the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS Agreement"), which has significantly affected the manner in which the international community utilizes compulsory patents.[41] Many industrialized nations that have joined the TRIPS Agreement "have followed the language of Article 31 [of the TRIPS Agreement] and made provisions for the grant of compulsory patent licenses."[42]

The most recent alterations to the patent system came in 2011, with the adoption of the Leahy-Smith America Invents Act.[43] This act changed the patent system from a first-to-invent to a first-to-file system[44] and altered the definition of prior art.[45] The United States was the last country still using a first-to-invent system to join the TRIPS Agreement, but with this adoption, the country is again adhering to the international consensus on intellectual property protections.[46] The Leahy-Smith America Invents Act represents the most significant change to patent law since 1952, and the principal provisions of the act became operative on March 16, 2013.[47]

Current patent law is meant to protect "anything under the sun that is made by man."[48] The idea behind the law is that "[i]n exchange for

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36. Nielsen & Samardzija, *supra* note 21, at 515.

37. *Id.* ("The basic structure of current patent law was adopted in 1952 and has been amended several times, often as a result of different international and domestic policy considerations.").

38. MERGES, *supra* note 1, at 129.

39. *Id.* (citing Rochelle Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 25–26 (1989); Ellen R. Jordan, *Specialized Courts: A Choice?*, 76 NW. U. L. REV. 745, 745 (1981) (describing competing arguments over specialized courts)).

40. Joseph A. Yosick, *Compulsory Patent Licensing for Efficient Use of Inventions*, 2001 U. ILL. L. REV. 1275, 1285 (2001).

41. *Id.*

42. Richard T. Jackson, *A Lockean Approach to the Compulsory Patent Licensing Controversy*, 9 J. TECH. L. & POL'Y 117, 120 (2004).

43. 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.).

44. With the passage of the America Invents Act, the first inventor to file or publicly disclose the invention, rather than create the invention, is entitled to the patent. *See id.*

45. The bill adopts a one-year grace period for the inventor's own disclosure or any other disclosure that was derived from the inventor's original disclosure. *Id.* All other prior art, however, is measured from the filing date of the application. *Id.*

46. Jackson, *supra* note 42, at 120.

47. *See* Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284.

48. Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980).

disclosing an invention that is useful, novel, and non-obvious, the patentee is granted a limited exclusive right to exclude others from making, using, offering for sale, or selling the invention for a period of twenty years from the date of filing."[49] The rapid pace of technological advancement, however, particularly in the field of digital technology, has generated debate over the challenges facing the United States patent system.[50]

Generally, United States patent law is written so as to apply equally to all types of technology, regardless of the industry in which the technology may be used.[51] In theory, patent law is neutral; in practice, however, the law is often applied with particularity.[52] This differential application has caused widespread debate and apprehension as to the validity of such a subjective system.[53] "Moreover, while most legal theorists agree on the goal and framework of the patent law, numerous different theoretical approaches to interpretation and application of patent law have been offered."[54]

Although no significant action was taken until 1911, compulsory patent licensing has been a part of patent reform discussions since 1877.[55] Generally, these reformative discussions call for across the board licensing, where anyone could apply for and receive a compulsory license upon payment of some royalty rate set by the commissioner.[56] The call for compulsory licensing has persisted throughout our history, as seen through the proposal of various bills, including the Hart Bill in 1973,[57] which would have permitted compulsory licensing for patents benefitting public health or safety or protection of the environment.[58] Notably, none of the general compulsory licensing proposals has ever been adopted.[59]

Despite the lack of general compulsory licensing provisions, the United States has legislation that permits the use of compulsory licenses in certain fields. Twenty-eight U.S.C. § 1498(a) grants the federal government the power to use, or authorize a third party to use, any issued United States patent. This power, however, has only been invoked in narrowly tailored circumstances.[60] Similarly, the Atomic Energy Act has provisions that

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49. Umar R. Bakhsh, *The Plumpy'Nut Predicament: Is Compulsory Licensing a Solution?*, 11 CHI.-KENT J. INTELL. PROP. 238, 242 (2012).

50. *See id.*

51. Nielsen & Samardzija, *supra* note 21, at 516.

52. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1576–77 (2003).

53. *Id.*

54. Nielsen & Samardzija, *supra* note 21, at 515–16.

55. *See* COMPULSORY LICENSING OF PATENTS, *supra* note 9, at 2.

56. *Id.*

57. S. 1167, 93d Cong., 1st Sess. (1973).

58. A. Jason Mirabito, *Compulsory Patent Licensing for the United States: A Current Proposal*, 57 J. PAT. OFF. SOC'Y 404, 432 (1975).

59. *See Patent Quality Enhancement in the Information-Based Economy: Hearing Before the Subcomm. on Courts, the Internet, and Intellectual Property of the Comm. on the Judiciary*, 109th Cong. 17 (2006).

60. *See* Yosick, *supra* note 40, at 1278 (quoting 42 U.S.C. § 2183(c) (1994)).

require the licensing of patents "useful in the production or utilization of special nuclear material or atomic energy."[61] The Clean Air Act also has a provision for compulsory licensing of patents related to the control of air pollution, thereby allowing industries greater access to air pollution control technology.[62] The Plant Protection Act stipulates that the Secretary of Agriculture may grant a compulsory license when "necessary in order to ensure an adequate supply of fiber, food, or feed in this country and its owner is unwilling or unable to supply the public needs . . . at a price which is reasonably deemed fair."[63] The Bayh-Dole Act[64] permits compulsory licensing of patents owned by universities that have received federal grants if necessary to meet public health or safety requirements when the university has not taken, or is not expected to take, adequate steps for practical application of the invention.[65]

Moreover, the federal government may also exercise "march-in rights"[66] by issuing a compulsory patent license if it is necessary "to alleviate health or safety needs"[67] or "to meet requirements for public use specified by Federal Regulations."[68] In these instances, a compulsory license may only be granted after the licensee shows: (1) a strong public interest or need for the invention; (2) the unavailability of a sufficient substitute; and (3) that there is no other way to license the patent.[69]

These statutory provisions permitting compulsory patent licensing show that legislators, while reluctant to adopt general proposals, will permit compulsory licensing in narrowly tailored situations to promote the public good.[70] Thus, the United States, especially the judiciary, remains reticent to adopt a comprehensive compulsory patent licensing system.[71] Opponents of compulsory licensing argue that there is no significant evidence of patent suppression and such a system would discourage invention, promote concealment, and violate the very foundation of the patent system.[72]

II. DEMONSTRATING A NEED FOR COMPULSORY LICENSING

The patent system seeks to encourage inventions and innovations that might not otherwise be pursued absent the incentive of a monopoly.[73] Such

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61. *Id.*

62. *Id.* at 1279 (citing 42 U.S.C. § 7608 (1994)).

63. Saunders, *supra* note 5, at 446 (quoting 7 U.S.C. § 2404 (1994)).

64. 35 U.S.C. §§ 200–212 (1994).

65. Saunders, *supra* note 5, at 446–47.

66. March-in rights give the federal government the right to grant itself or others a license if the government aided the patent holder with funding. 35 U.S.C. § 203 (2012).

67. *Id.* § 203(a)(2).

68. *Id.* § 203(a)(3).

69. Saunders, *supra* note 5, at 446.

70. *See id.*

71. Yosick, *supra* note 40, at 1278.

72. *Id.*

73. *Id.*

a system, however, generates significant social costs, typically in the form of monopolistic pricing and patent suppression.[74] Implementing a system of general compulsory licensing could alleviate these costs.[75] Many critics of such a system argue there are only a limited number of instances of patent suppression and claim patents stimulate, rather than impede, technological innovation.[76] The following section describes how the current patent system has hindered the public interest by slowing the rate of technological advancement and argues that a general compulsory patent licensing scheme would have, historically, better served the general public by requiring that patented technology be accessible to those who could improve the art.

Due to the recent increase in the number of patents granted in modern fields, such as business methods, software, and biotechnology, the number of situations in which parties have conflicting claims has increased. This has often resulted in patent suppression and/or patent thickets.[77] Such "blocking patents"[78] are not new and have often been seen as a reason to use compulsory licenses.[79]

A classic patent suppression case is *Marconi Wireless Tel. Co. of Am. v. United States*.[80] In the mid twentieth century, the Marconi Wireless Telegraph Company held the patent for the diode used in the radio industry, and De Forest held patents for the triode—an improvement to the diode.[81] Since the Marconi-held patent was the dominant technology in the field, Marconi was able to use its patent to block the improvement of radio technology, thereby ensuring that its product continued to dominate the market.[82] By stifling the growth of radio technology, the development of the radio was delayed until World War I.[83] Had a compulsory license been a viable alternative at the time, De Forest likely would have been able to provide the public with the better triode products.

Another example of a blocking patent comes from Thomas Edison and his patent on a light bulb filament.[84] Edison was issued U.S. Patent No. 223,898 for the use of a carbon filament as the source of light.[85] With this grant, Edison was able to prohibit competitors from using carbon paper—

74. *Id.*

75. *Id.* at 1291–95.

76. *Id.* at 1292.

77. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, *in* INNOVATION POLICY AND THE ECONOMY 119–50 (Adam Jaffe et al., eds., MIT Press 2001) (describing a "patent thicket" as a dense web of patents around a specific type of technology that must be navigated in order to allow a new competitor to enter the field).

78. A "blocking patent" is a patent that can be used by one inventor to stop another from being able to use an invention that builds upon the original. *See* Yosick, *supra* note 40, at 1293–94.

79. *Id.* at 1294.

80. 320 U.S. 1 (1943).

81. *Id.*; Yosick, *supra* note 40, at 1295.

82. Yosick, *supra* note 40, at 1295.

83. Robert P. Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 85 (1994).

84. Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 885 (1990).

85. U.S. Patent No. 223,898 (filed Nov. 4, 1879).

the basic source for filaments—thereby ensuring his company's economic dominance in the light bulb market.[86] Edison used his patent to exclude competitors from utilizing their nearly simultaneous discovery of carbonized paper as a filament source in light bulbs.[87] Due to the inability of competitors to challenge Edison's patent, the pace of technological advancement slowed to a crawl in the lighting industry.[88] "The Edison interests concentrated on eliminating competition rather than outstripping it. . . . [Only a]fter 1894, when it was no longer protected by a basic lamp patent, General Electric devoted more attention to lamp improvement to maintain its market superiority."[89] Had there been a compulsory license option in existence, Edison would have either voluntarily or compulsorily licensed his patent and been forced to continue improving his invention to maintain market dominance.

The Wright brothers' patent for improving lateral stability in airplanes is another instance where patent suppression prohibited the growth of a technological industry.[90] The Wright brothers' largest competitor of the age, Glen Curtis, received a valid patent in ailerons.[91] When Curtis exercised his patent rights, such use was held to infringe the Wright brothers' patent.[92] The Wright brothers not only engaged in litigation against Glen Curtis to keep his technology from becoming the new standard, but they also refused to license him their patent.[93] It was only with the outbreak of World War I, when new flight technologies were needed for the war effort, that the patenting conflict was finally resolved through an automatic cross-licensing bargain.[94] With a compulsory licensing system, this patent dispute would have never arisen, and the public would have been better served with multiple parties developing flight technology.

Another case of blocking patents involved a method of key encryption that was invented and patented by Stanford University and then licensed to Cylink.[95] Around the same time, a team at MIT created an algorithm to perform a similar style of encryption, which the team then licensed to RSA, a security and encryption company.[96] The MIT algorithm performed exceedingly well and quickly became the industry standard.[97] Cylink claimed that the algorithm used by RSA infringed the Stanford patent, and

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86. Merges & Nelson, *supra* note 84, at 885.

87. *Id.* at 849–50.

88. *Id.* at 866.

89. ARTHUR AARON BRIGHT, THE ELECTRIC-LAMP INDUSTRY: TECHNOLOGICAL CHANGE AND ECONOMIC DEVELOPMENT FROM 1800 TO 1947, at 139 (1949).

90. Yosick, *supra* note 40, at 1295.

91. An aileron is part of an airplane wing that is used to improve lateral stability. *See id.*

92. Merges & Nelson, *supra* note 84, at 888–91.

93. *Id.* at 890.

94. *Id.* at 891.

95. Steven C. Carlson, Note, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 359, 364 (1999).

96. *Id.*

97. *Id.*

at the same time, RSA refused to license the MIT patent to Cylink. The result was an impasse where neither party could move forward.[98] Eventually, however, the parties agreed to cross-license their patents.[99] The example further demonstrates how, without a compulsory license alternative, the pace of innovation is halted.[100]

A more recent example of patent suppression can be seen in the Ninth Circuit case, *Image Technical Servs., Inc. v. Eastman Kodak Co.*[101] In this case, a group of independent service organizations (ISOs) in the photocopy industry brought an antitrust claim against Kodak after Kodak stopped selling patented and unpatented repair parts to the ISOs.[102] By halting the sale of these parts, Kodak limited the ISOs' ability to compete in the industry.[103] The ISOs claimed that Kodak violated the Sherman Act by monopolizing the sale of service for Kodak machines.[104] The Ninth Circuit took the position that Kodak's actions were indeed a violation of the Sherman Act but simultaneously recognized the need to give weight to the intellectual property rights of the monopolist.[105] The court noted that, after its decision, patent and copyright holders would frequently be found to possess monopoly power.[106] The *Kodak* case is another example of a patent holder utilizing monopoly rights to further its own competitive advantages and generate an economic windfall, thereby hindering the public interest.

In *In re Indep. Servs. Orgs. Antitrust Litig. (Xerox)*,[107] often seen as a sister case to *Kodak*, the Federal Circuit rejected the Ninth Circuit's analysis.[108] Here, an ISO group that serviced Xerox copiers sued Xerox for violating antitrust laws when Xerox refused to sell its patented repair parts, thereby monopolizing the market for servicing Xerox copiers.[109] The Federal Circuit found that Xerox had no duty to sell or license its intellectual property, essentially institutionalizing an unlimited monopoly for Xerox through the creation of a per se rule validating unilateral refusals to deal.[110]

Xerox is not the only precedent for valid unilateral refusals deal. In fact, Congress has effectively enshrined the right of patent holders to unilaterally refuse to license or use their patented technologies. Thirty-five U.S.C. § 271(d)(4) states that "[n]o patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied

98. *Id.*
99. *Id.*
100. *Id.*
101. 125 F.3d 1195 (9th Cir. 1997).
102. *Id.* at 1201.
103. *Id.*
104. *Id.*
105. *Id.* at 1217.
106. *Id.*
107. 203 F.3d 1332 (Fed. Cir. 2000).
108. *Id.*
109. *Id.* at 1329.
110. *Id.*

relief or deemed guilty of misuse . . . by reason of his having . . . refused to license or use any rights to the patent."[111] As this section makes clear, both the judiciary and Congress have been reluctant to mandate compulsory licensing as a remedy for patent suppression.[112]

Companies are not only legally allowed to let their patents fall into nonuse, but in many cases, patent suppression and nonuse is a calculated decision—a behavior that will persist until the patent system is reformed. The future development and profitability of any given invention is nearly impossible to know when a technology is first developed; a new technology may be completely revolutionary or fail miserably.[113] "A unilateral refusal to license a patent or sell patented inventions can be supported by a variety of legitimate business reasons."[114] A patented technology faces challenges from many competitive forces, including competition from pre-existing technologies, competition from alternative technologies, and the potential threat of developing technology.[115]

Development of technology may be suppressed for many reasons. A radically new technology may be resisted simply because it poses a threat to the status quo. Alternatively, incremental technology changes may be seen as unnecessary expenses for unsubstantial gain.[116] This resistance to change only shows that those seeking to suppress the invention put a premium on non-use—forbidding others from using or improving upon a new innovation. More simply, the relative importance of an invention may be misinterpreted—an inventor may not know that an invention is of great value and therefore choose not to pursue the technology.[117] On the other hand, a company that already enjoys a substantial market share and subsequently develops a new technology may choose to hold on to its new development until its current product becomes less desirable or until a competing company produces a technologically superior alternative.[118]

The concerns articulated above are separate from the additional cost issues that companies face when first introducing new products to market. When introducing an invention, a company must implement new manufacturing procedures, often resulting in expensive retooling costs. Additionally, the company will likely encounter further expenses when marketing the new technology to the public.[119] When technology is suppressed, society incurs dual losses: first, it is denied the use of the new invention; and second, the incremental development of technology is delayed.[120] Running throughout patent suppression is the common theme

111. 35 U.S.C. § 271(d)(4) (2006).
112. Yosick, *supra* note 40, at 1278–79.
113. *Id.* at 1297.
114. Saunders, *supra* note 5, at 417.
115. *Id.* at 418.
116. Saunders, *supra* note 5, at 419.
117. Yosick, *supra* note 40, at 1297.
118. Saunders, *supra* note 5, at 424.
119. *Id.* at 420–22.
120. *Id.* at 419.

that a tool designed to "promote the progress of . . . [the] useful arts"[121] to benefit the public interest is being used to its detriment. In the cases described above, patents are used to slow the art's progression in order to maintain a single entity's economic and competitive advantage.[122]

Section two of the Sherman Act regulates monopolization of entire economic industries, but rarely can it be used to regulate monopolies in the patent context.[123] This is because a patent only confers a monopoly in the specific art under the grant, and alternatives may be used as substitutes to compete in the market.[124] "Therefore, a patent only confers monopoly power on the patentee in the antitrust sense when there are no substitutes for the patented product."[125] While patented technologies often compete with each other in their relevant markets, antitrust constraints, as seen in the above examples, have not proven effective against unilateral patent suppression.[126] Only in the case of blocking patents does the patent holder's action enter the realm of antitrust violations, yet it is the actual anticompetitive behavior and not the patent suppression itself that the Sherman Act seeks to remedy.[127]

Under current United States patent law, it is only when suppression rises to the level of misuse that it is possible to invalidate a patent.[128] Patent misuse is conduct that improperly attempts to extend the scope of the patent or abuse the patent rights.[129] Generally, patent misuse has only been found when a patentee has attempted to use his or her patent to fix prices, restrict territories, or tie products illegally.[130]

While it is true that the acquisition of a patent's rights with the "intent to suppress the patent is anticompetitive as well as against the public interest,"[131] it seems evident that antitrust law is an insufficient means by which to attack patent suppression.[132] When nonuse is unilateral, and the patentee is not a monopolist, antitrust violations are unlikely to be found, regardless of the anticompetitive nature of suppression.[133] Additionally, the judiciary is reluctant to invalidate a patent on grounds of nonuse since a quintessential right of a patentee is to use or not use a patent as he or she sees fit.[134] It is in this landscape that general compulsory licensing can play

121. *Id.* at 426 (quoting U.S. CONST. art I, § 8, cl. 8).

122. *Id.* at 430–33.

123. *Id.* at 431–34.

124. Bakhsh, *supra* note 49, at 244.

125. *Id.*

126. Yee Wah Chin, *Unilateral Technology Suppression: Appropriate Antitrust and Patent Law Remedies*, 66 ANTITRUST L.J. 441, 441–42 (1998).

127. Saunders, *supra* note 5, at 433.

128. *Id.* at 430.

129. *Id.*

130. *Id.*

131. *Id.* at 434.

132. *Id.*

133. *Id.*

134. 35 U.S.C. § 271(d)(4) (2006).

a beneficial role in the inspiration of innovation for the benefit of the general public.

III. COMPULSORY PATENT LICENSING CONSIDERATIONS

The following section provides a general rationale for why compulsory licensing is a viable remedy for the problems facing the current patent system—theoretically, constitutionally, and practically. Additionally, it discusses certain classical theories of intellectual property as well as patent-specific theories, such as cumulative innovation and competitive innovation. An analysis of the various theories reveals that none of the justifications present a bar to the adoption of a general compulsory patent licensing provision.

A. THEORETICAL CONSIDERATIONS

Congressional authority to grant a patent is derived from the United States Constitution, but the justification for having a patent right can only be found in theory.[135] Generally, intellectual property rights can be supported through a number of theoretical justifications, but "courts and commentators widely agree that the basic purpose of patent law is utilitarian: We grant patents in order to encourage invention."[136] Agreement on the general purpose for granting patents, however, has not lead to a unified theory of how the patent system should be implemented.[137] The growing literature on patent theory offers a number of different approaches, with most approaches existing in considerable tension with the others.[138]

John Locke's labor theory is regarded as a basic justification for the privatization of real property, and some scholars argue that the theory can be extended to justify the ownership of intellectual property rights.[139] The labor theory essentially claims that all property begins with God as a grant to the commons.[140] The individual is then able to convert this common property into private property by exerting his own labor upon it, thereby appropriating the property.[141] However, this can only be done so long as there is "enough and as good" left in the commons for appropriation by others and the items appropriated do not go to waste.[142] The labor theory claims that since ideas are produced by our own person, which is unquestionably our own property, then our thoughts must also be our

135. Jackson, *supra* note 42, at 117–18.

136. Burk & Lemley, *supra* note 52, at 1597.

137. *Id.* at 1599.

138. *Id.*

139. Jackson, *supra* note 42, at 123–24.

140. JOHN LOCKE, SECOND TREATISE OF GOVERNMENT 17 (Richard H. Cox ed., Harlan Davidson, Inc. 1982) (1690). To begin with God as a grant to the commons is essentially to say that before property was private it was held in common by all men.

141. *Id.*

142. *Id.* These two provisions are known as the sufficiency proviso and the spoilage proviso. *See id.*

personal property.[143] Therefore, the labor one exerts in the creation of an invention entitles that person to ownership of that idea in the form of a property right.[144]

Information, unlike real property, is inexhaustible. One's use of information does not deprive another of use of the same and therefore does not require private ownership in order to be fully used.[145] In a Lockean view, "[a]ny intellectual property system that grants the appropriator the right to exclude others from use under every circumstance goes too far."[146] Intellectual property, unlike real property, has the unique ability to create more information when put to full use and is wasted when its use is artificially limited by exclusive rights.[147] "Locke's concern with avoiding spoilage, and his possible desire to ensure full use, cuts in favor of Congress placing a provision for compulsory patent licensing in the U.S. Patent Code."[148]

A similar, yet distinct, theory for justification of the patent system can be found in prospect theory. In 1977, Edmund Kitch proposed the prospect theory in an attempt to integrate patents with the general theory of property rights.[149] The prospect theory is a derivation of the classic incentive theory, but it emphasizes the ability of the intellectual property owner to force the efficient management of inventions and creations through licensing.[150] The economic basis for this theory is grounded in the tragedy of the commons—the belief that individuals, acting rationally and in their own self-interest, will deplete a shared limited resource even when they understand that depletion is contrary to the group's long-term interest.[151] Using the tragedy of the commons as the basis for prospect theory, the only solution to avoid the tragedy is to assign resources and assets as private property so they will be used more efficiently.[152] In Kitch's view, the "primary point of the patent system is to encourage further commercialization and the efficient use of as yet unrealized ideas by patenting them, just as privatizing land will encourage the owner to make efficient use of it."[153] In this view, "technological information is a resource which will not be efficiently used absent exclusive ownership."[154] Proponents of the theory justify its use based on its ability to foster innovation through securing the commercial rights of patent developers for

143. Jackson, *supra* note 42, at 126.
144. *Id.* at 123.
145. *Id.* at 139.
146. *Id.* at 140.
147. *Id.*
148. *Id.*
149. Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266 (1977).
150. *Id.* at 276–78.
151. Nielsen & Samardzija, *supra* note 21, at 517.
152. *Id.*
153. Burk & Lemley, *supra* note 52, at 1601.
154. Kitch, *supra* note 149, at 276.

future creations derived from the original technology.[155]

The prospect theory presupposes that the inventor will have sufficient market competition to force him to reduce the prices of his goods to near marginal cost.[156] When the owner achieves a true monopoly, Kitch's theory assumes that the owner will continue to raise the costs of his goods to the detriment of consumers and social welfare.[157] Kitch believes that patent owners will be subject to producers of other fungible goods that can replace the patent owner's goods, and, in this manner, the patent owners will be sufficiently incentivized to price their goods competitively.[158] The prospect theory has been challenged by numerous other theories, such as the competition theory.[159]

The competition theory claims that "competition, not monopoly, best spurs innovation because, to simplify greatly, companies in a competitive marketplace will innovate in order to avoid losing, while monopolists can afford to be lazy."[160] The competition theory rests on the idea that because intellectual property cannot be depleted and is "a public good for which consumption is nonrivalrous," a tragedy of the commons problem is unlikely.[161] Under this theory, the purpose of intellectual property rights is to create incentives.[162] Therefore, if patents are to be justified, they should be limited to specific implementations of an invention and confer less than monopolistic control.[163]

The competition theory finds support in a growing number of empirical studies.[164] In markets with greater competition, innovation gives companies a competitive advantage; therefore, the company with the greatest level of innovation is able to simultaneously benefit consumers and increase profit margins. A general compulsory patent licensing scheme would increase competition, thereby generating greater levels of innovation—all of which would benefit the public interest.

Recently, a growing number of scholars have begun to focus their attention on cumulative innovation.[165] The basic thrust of cumulative innovation is that a final product is the result of a series of continuous

155. Burk & Lemley, *supra* note 52, at 1603.

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.* at 1604.

160. *Id.*

161. *Id.* at 1605.

162. *Id.* at 1607.

163. *Id.*

164. *See* ROBERT D. ANDERSON ET AL., COMPETITION POLICY AND INTELLECTUAL PROPERTY RIGHTS IN THE KNOWLEDGE-BASED ECONOMY, cmt. 105–08 (1998) (comment authored by F.M. SCHERER); Michele Boldrin & David Levine, *The Case Against Intellectual Property*, 92 AM. ECON. REV. 209, 209 (2002) (arguing that strong intellectual property protection hurts rather than helps innovation); Howard A. Shelanski, *Competition and Deployment of New Technology in U.S. Telecommunications*, 2000 U. CHI. LEGAL F., 85, 97–117 (discussing ten empirical studies of the telecommunications industry showing that competition spurred greater innovation than monopolies).

165. Burk & Lemley, *supra* note 52, at 1607.

improvements made upon an initial invention.[166] Under this theory, patent rights are essential in determining how best to allocate rights to the initial inventor as well as to those who may improve upon the patented invention.[167] Cumulative innovation theory rests on three beliefs. The first is that society cannot trust pioneers to efficiently license their patents to allow for improvements upon an invention.[168] Secondly, inventions are capable of expansion, but improvements are often unexplored by the initial inventor.[169] Lastly, granting a strong right to first inventors generates wasteful patent races and encourages rent-seeking behavior by the patent holder.[170] For these reasons, cumulative innovation theorists believe that patent rights are important but should be balanced against the social harm of excluding prospective inventors from improving previously patented works.[171]

Cumulative innovation theorists argue that patents should be granted to both the initial inventor and the subsequent improver to incentivize both parties to create.[172] Though cumulative innovationists would grant patents for each subsequent improvement, they would confer significantly fewer protections than granted under the current patent system.[173] The cumulative innovation theory "encourages the grant of divided interests in an innovation to both the inventor and the improver."[174] In this manner, cumulative innovation theory benefits the public interest by forcing initial inventors to license existing technologies to improvers and thereby generating a greater incentive to innovate. Further, by encouraging the use of divided interests, more people would be able to use and experiment with the technology, thereby fostering even more innovation.

Anticommons theory can be understood by looking at the limitations of cumulative innovation theory.[175] The anticommons literature argues that "too many different patent rights can impede the development and marketing of new products where making the new product requires the use of rights from many different inventions."[176] The anticommons theory is plagued by fragmented property rights, the accumulation of which are necessary to make an effective use of the property.[177] Anticommons theory imagines an environment where an inventor has created something new, but in order to produce the invention, the inventor must use patents that are

166. *Id.*

167. *Id.*

168. *Id.* at 1609–10 n.108.

169. *Id.*

170. *Id.* Rent-seeking behavior is displayed when a company waits for a competitor to bring a product to market, takes the innovations of the product, and then capitalizes on the innovations without investing in independent research and development.

171. *Id.* at 1609–10.

172. *Id.* at 1610.

173. *Id.*

174. Nielsen & Samardzija, *supra* note 21, at 518.

175. Burk & Lemley, *supra* note 52, at 1611.

176. *Id.*

177. Burk & Lemley, *supra* note 52, at 1611.

held by others.[178] Since a project will fail without the cooperation of all the patent holders, the patent holders are in a position to holdout or demand an unreasonable fee for the inventor to use their technology.[179] In anticommons literature, the scope of the patentee's granted patent protection is less important than the difficulty created by the sheer volume of patent licenses that an inventor must accumulate in order to create a new product.[180] The literature suggests two ways of solving the anticommons problem: "consolidate ownership of rights among fewer companies or grant fewer patents."[181]

Closely related to the anticommons theory is that of patent thickets. Dan Burk and Mark Lemley differentiate the two theories by stating: "Anticommons exist where several different inputs must be aggregated together to make an integrated product. Patent thickets, by contrast, occur when multiple intellectual property rights cover the same technology and therefore overlap."[182] This overlap creates patent thickets and is caused by the broad scope of rights given to patent holders.[183] Patent thicket analysis suggests that there must be an efficient manner in which patent owners can cross-license their patents or that the scope of the patent right must be narrowed to mitigate the overlap.[184]

Anticommons and patent thicket analyses suggest that, due to either the level of protection given to patent holders or to the large number of patents issued, inventors are unable to efficiently use patented technologies to further innovation.[185] A general compulsory patent license would cut through these issues. The compulsory patent license would allow the inventor to use any patented technology necessary for the creation of an invention without being subjected to holdouts or extortion techniques. By increasing the availability and ease of using previously patented technologies, a general compulsory license would serve the public interest and, at the same time, guarantee the patent owner commercial and economic benefits for public disclosure of the innovation.

Since 1977, patent owners have consistently worked to reduce competition in their individual markets, gain monopolies, and increase prices—all to the detriment of consumers.[186] Monopolists use their positions to create further innovations, yet refuse to bring these innovations to market.[187] A general compulsory patent license provision would threaten such monopolists by minimizing many of the barriers to entry in

178. *Id.*

179. *Id.* at 1612–13.

180. *Id.* at 1612.

181. *Id.* at 1613; *see also* Nielsen & Samardzija, *supra* note 21, at 518 (suggesting the elimination of patents as a remedy to the anticommons problem).

182. Burk & Lemley, *supra* note 52, at 1627.

183. *Id.* at 1610–15.

184. *Id.*

185. *Id.*

186. *See* Yosick, *supra* note 40.

187. *Id.*

monopolized markets. However, while a general compulsory patent license provision would threaten some, it would also incentivize creators to use their patents for greater commercial gain, thereby benefitting consumers. A compulsory license system would encourage owners to actually use, rather than sit on, their patents. Either the owners themselves would use the patents, or they would voluntarily license the technology to others. Otherwise, they would face the possibility of being forced to license the technology by compulsory provisions, which most likely would contain less beneficial terms than those created through voluntary licensing.

B. CONSTITUTIONAL CONSIDERATIONS

Regardless of whether a compulsory licensing statute could benefit the public interest, such a law could only be legislated and enforced if it were constitutional. As stated above, Article I, section 8, clause 8 of the United States Constitution grants Congress the authority to enact intellectual property laws.[188] Clause 8, generally referred to as the Patents and Copyrights Clause, gives 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."[189] This sentence has been understood as the basis for intellectual property rights in the United States, and a general compulsory patent license would be subject to judicial scrutiny under this clause.[190]

Various authors have determined that the word "exclusive" in the clause requires Congress to bestow a monopolistic right that cannot be limited or encroached upon.[191] Such authors claim that the constitutional power to grant an exclusive right "may not carry with it the power either to encroach on that right or to grant a right conditioned upon subsequent government interference."[192] While some commentators believe a compulsory patent licensing system is unconstitutional,[193] their analyses are flawed. One commentator, B.R. Pravel, has asserted that clause 8 can be interpreted so as to prohibit non-exclusive grants.[194] However, this interpretation of clause 8 is limited by Pravel's construction of the public purpose behind the patent grant.[195]

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188. U.S. CONST. art. I, § 8, cl. 8.

189. *Id.*

190. *See* Marbury v. Madison, 5 U.S. 137 (1803) (establishing that the Supreme Court will interpret and review legislation in accordance with the U.S. Constitution).

191. B.R. Pravel, *Say "No" to More Compulsory Licensing Statutes*, 2 AIPLA Q.J. 185, 191 (1974); *see also* Tom Arnold & Paul Janicke, *Compulsory Licensing Anyone?*, 55 J. PAT. OFF. SOC'Y 149, 160 (1973).

192. Cole M. Fauver, *Compulsory Patent Licensing in the United States: An Idea Whose Time Has Come*, 8 NW. J. INT'L L. & BUS. 666, 678 (1978–1988).

193. *See generally* Pravel, *supra* note 191 (discussing the constitutionality of compulsory licensing and concluding that it is an invasion of constitutional rights).

194. *Id.* at 160 (stating that clause 8 can be construed so as to prohibit Congress from passing legislation granting non-exclusive rights).

195. Mark W. Lauroesch, *General Compulsory Patent Licensing in the United States: Good in Theory, but Not in Practice*, 6 SANTA CLARA COMPUTER & HIGH TECH. L.J. 41, 42 (1990).

Pravel concedes that the government has the power to take patents under eminent domain, but he stresses that such power is limited to takings for the public benefit.[196] He argues that compulsory licenses are a confiscatory taking beyond the scope of congressional authority.[197] Pravel reaches this conclusion by finding that the inventor's burden of satisfying a public purpose is entirely met by disclosure of the technology.[198] He has stated, "the word 'exclusive' in clause 8 should not be interpreted as establishing the only type of intellectual property right that Congress may grant, but instead only as emphasizing the greatest extent of the rights it may grant."[199]

The Patents and Copyrights Clause contains the phrase "for limited times,"[200] suggesting that Congress retains the authority to determine the length of the exclusive grant. While this terminology has been generally accepted as allowing Congress to determine the length of patent protection,[201] it can equally be read as allowing an exclusive grant up to and until the grant no longer serves the public interest. The plain language of the Constitution requires the promotion of the sciences and the useful arts in order to receive an exclusive grant. However, when the user of that right is no longer promoting the sciences, the grant moves beyond the scope of exclusivity and should lose its validity. The limited time of the exclusive grant should be tied to the constitutional requirement of promoting science and the useful arts. A general compulsory patent licensing system would allow the patentee to receive compensation in exchange for disclosure.

Further indications of the constitutionality of a general compulsory licensing provision can be found in the government's eminent domain power.[202] In *Kelo v. City of New London*,[203] the Supreme Court indicated that a state could constitutionally use the power of eminent domain to transfer property from one private party to another if the taking were for future use by the public.[204] Eminent domain is a commonly accepted power of the state with regard to real property, and it can be extended to intellectual property so long as the taking reasonably compensates the owner and is necessitated by a public interest.[205] It is clearly within the power of Congress to promote economic development,[206] and the adoption

196. Pravel, *supra* note 191, at 191.

197. *Id.*

198. *Id.* at 190.

199. Lauroesch, *supra* note 195, at 45.

200. U.S. CONST. art. I, § 8, cl. 8.

201. Congress has been able to unilaterally alter the length of patents throughout history. *See supra* text accompanying Part I.A.

202. U.S. CONST. amend. V.

203. 545 U.S. 469 (2005).

204. *Id.* at 477.

205. Pravel, *supra* note 191, at 191–92 (noting that the government's eminent domain power is sufficient to force a license for a public benefit).

206. *Kelo*, 545 U.S. at 484.

of a general compulsory patent licensing scheme would further technological development and foster economic growth. The Supreme Court has given great deference to Congress in this matter, having yet to strike down a compulsory licensing statute.[207]

The Supreme Court has consistently interpreted the framer's intent regarding the Patents and Copyrights Clause broadly.[208] The Court has stated that "the text of the Constitution makes plain, it is Congress that has been assigned the task of defining the scope of the limited monopoly that should be granted to authors or to inventors in order to give the public appropriate access."[209] The "framer's intent has been interpreted not merely to ensure disclosure of inventions, but also to encourage innovation so that society can enjoy and benefit from the disclosure of inventions."[210] There is a long history of judicially endorsed compulsory license remedies,[211] suggesting a strong presumption in favor of their constitutionality.[212]

As previously stated, there are a number of limited compulsory licensing statutes in the United States, none of which have been struck down on constitutional grounds.[213] The existence of limited compulsory licensing statutes suggests that a general compulsory patent licensing scheme would be constitutional. A statutory general compulsory licensing provision would ensure that the public benefits from technological innovations soon after their disclosure and would comprehensively address the issue of patent reform in a uniform and efficient manner.

C. PRACTICAL CONSIDERATIONS

Currently, compulsory licensing is used as a remedy for detriments caused to the public interest in many international jurisdictions through country-specific laws and various international agreements.[214] As previously discussed, the United States is a signatory to some of these agreements, such as the TRIPS Agreement and the Paris Convention.[215] The Paris Convention specifically allows for members to grant a nonexclusive compulsory license to prevent abuses of the patent system.[216]

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207. Yosick, *supra* note 40, at 1297–98.

208. Lauroesch, *supra* note 195, at 45.

209. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 429 (1984). Though *Sony* concerned copyrights, both patents and copyrights are ensured by the same clause of the Constitution and should therefore be subject to the same judicial scrutiny. *See id.*

210. Lauroesch, *supra* note 195, at 45.

211. Compulsory licensing, which had been granted as a judicial remedy in 107 antitrust settlements by 1959, generally required the payment of a reasonable, judicially-determined royalty. F.M. Scherer, *Antitrust, Efficiency, and Progress*, 62 NYU LAW REV. 998, 1017 (1987) (citing STAFF OF SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE S. COMM. ON THE JUDICIARY, 86TH CONG., COMPULSORY PATENT LICENSING UNDER ANTITRUST JUDGMENTS 1–5 (Comm. Print 1960)).

212. Fauver, *supra* note 192, at 678.

213. Lauroesch, *supra* note 195, at 46.

214. Yosick, *supra* note 40, at 1286–87.

215. *Id.*

216. *Id.* at 1286.

However, a compulsory license cannot be applied for until the patent has gone unused for four years from the date of the application, and it will only be granted if the patentee cannot offer legitimate reasons for nonuse.[217] The TRIPS Agreement has similar provisions for compulsory licensing when the licensing will protect public health or will "promote the public interest in sectors of vital importance."[218] In accordance with these agreements, many jurisdictions have chosen to implement compulsory licensing terms that apply in circumstances where a dependent patent is blocked, a patent is not being used, or when the invention relates to food or medicine.[219] However, the United States continues to reject and resist the notion of compulsory patent licensing despite a consistent voice for its adoption since 1877.[220]

Those opposed to general compulsory patent licensing claim that such a measure would strike against the core rationale of patent protection by reducing the incentive to develop and disclose new inventions.[221] These opponents argue that a compulsory patent would decrease the value of the patent because anyone would be able to use the technology.[222] Further, with the loss of the monopoly in a market, the inventor would also fail to realize all potential profits, thereby limiting the inventor's potential return.[223] Due to this limited gain, opponents believe inventors would be less likely to invest money on research and development, thereby stifling innovation.[224] Empirical studies on this matter, however, suggest that a compulsory patent license would have little or no effect on the rate of innovation.[225]

Through the study of seventy companies, Professor Scherer demonstrated that a compulsory licensing scheme had no negative effective on research and development practices.[226] In fact, the study showed that companies subject to compulsory licenses had a significant increase in research and development investment.[227] This evidence suggests that critics of compulsory licenses have overstated the negative effects of compulsory licensing, and that such a measure may actually increase invention.[228] The evidence shows that competition flourishes as compulsory licenses force firms to create better and more innovative technologies to maintain market

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217. *Id.*

218. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 320 (1999), 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994).

219. Saunders, *supra* note 5, at 439.

220. *See* COMPULSORY LICENSING OF PATENTS, *supra* note 9, at 2–15 (describing several unsuccessful legislative bills to impose compulsory licensing introduced between 1877 and 1950).

221. *See* Yosick, *supra* note 40, at 1292.

222. *See id.*

223. *Id.*

224. *Id.* at 1297.

225. ANDERSON, *supra* note 164, at 105–08.

226. *Id.*

227. *Id.*

228. *See id.*

dominance, rather than allow them to exploit their monopoly markets.[229]

In a similar vein, opponents of compulsory patent licensing often claim that the public interest would suffer because inventors would keep their inventions secret.[230] This argument assumes that inventors would attempt to carry out research and development in total secrecy and, once developed, continue to use the technology secretly to avoid the possibility of a compulsory license being granted. However, such an argument overestimates the power of a compulsory license and assumes that a license would destroy any utility a patent holder would retain after disclosing the invention. If it were more beneficial to utilize secrecy rather than face the threat of a compulsory license, developers in atomic energy and environmental technologies would have stopped seeking patents years ago. Companies in these sectors would want to protect their research and development investments by utilizing secrecy rather than disclosure. However, empirical evidence reveals an increase in the number of patents issued per annum, suggesting that this critique is unjustified.[231]

Critics of compulsory licensing also argue that a general compulsory patent licensing scheme would reduce the competitive incentive between companies and ultimately reduce innovation.[232] However, Scherer's evidence suggests that competition between companies to develop the best product in an attempt to gain market dominance is what drives invention and benefits the public.[233] The fear is that the companies that once competed for dominance of the market would wait until a competitor spends money on research and development. Once a competitor creates an invention, other companies would simply purchase the license, bypassing the requisite development costs of the new technology. However, this is an unfounded fear. As seen by Scherer's multiple studies on compulsory licensing, companies have continued to compete, regardless of fear or ability to force a license from a competitor.[234] This fear can only become a reality if licenses are granted liberally and immediately upon invention. This has not been the case with any compulsory licensing statute worldwide.[235] If the compulsory license were to be available only after satisfying a clearly enumerated and equitable number of requirements, companies would be certain of their rights, and free riding would not become a viable alternative to independent creation.

Critics often claim that there is little need for compulsory licensing provisions in the United States.[236] They assert that there is almost no

229. *Id.*

230. Yosick, *supra* note 40, at 1292.

231. *Patent Quality Enhancement in the Information-Based Economy: Hearing Before Subcomm. on Courts, the Internet, and Intellectual Property of the Comm. on the Judiciary*, 109th Cong. 8 (2006) (statement of Jon W. Dudas, Under Sec. of Commerce for Intellectual Prop.).

232. Yosick, *supra* note 40, at 1291.

233. *Id.* at 1292.

234. ANDERSON, *supra* note 164, at 105–08.

235. *Id.*

236. *Id.*

evidence of patent suppression; therefore, there is no need for compulsory licensing in order to remedy a nonexistent situation.[237] These opponents also cite the limited use of compulsory licenses in the United States and abroad as evidence of the *de minimus* concern.[238] In Canada, between 1935 and 1970, only fifty-three applications for compulsory licenses were filed, of which merely eleven were granted.[239] However, in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*,[240] the Court held that a potentially valuable patent could be used to suppress the use of a manufacturing process.[241] The examples described in this Comment demonstrate that there is substantial evidence of patent suppression. Even minimal evidence of suppression shows the need for general compulsory patent licensing provisions.

Both consumers and the public interest would benefit from a compulsory licensing system. A general compulsory licensing provision would put unused and undeveloped technologies into the hands of researchers and developers for almost immediate use by consumers.[242] Numerous countries have implemented compulsory licensing provisions based on this rationale.[243] These countries encourage the use of patented technology so that inventions are available to the public upon invention and so that patent owners cannot suppress other developments of the technology.[244] Patent holders in the United States are currently allowed to sit on unused patents, blocking competitors and retaining the exclusive rights in their prior technology.[245] In amending § 271(d),[246] "Congress seems to have overlooked the fact that the promotion of the sciences and arts is not advanced by allowing a patentee to suppress intellectual property for the preservation of an old inferior market."[247] Without a provision limiting patent suppression, consumers run the risk of losing some benefits of the invention simply because the patentee may prefer to sell a product based on the original, yet now obsolete, patent.[248]

A compulsory patent licensing provision could also reduce efforts wasted on inventing around patented technology. While some critics of the

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237. Leroy Whitaker, *Compulsory Licensing–Another Nail in the Coffin*, 2 AIPLA Q.J. 155, 155–57 (1973).

238. *Id.* at 155–56.

239. ECONOMIC COUNCIL OF CANADA, REPORT OF INTELLECTUAL AND INDUSTRIAL PROPERTY 68 (1971).

240. 210 U.S. 405 (1908).

241. *Id.* Eastern Paper Bag Co. owned a patent covering a "self opening paper bag" and Continental sought to use this technology. *Id.* Eastern filed a complaint to keep Continental from using the patented technology, and the Court held that Eastern had no obligation to use its patents. *Id.*

242. Lauroesch, *supra* note 195, at 42.

243. *Id.* at n.3 (citing British Patents Act, 1949, 12, 13 & 14 Geo. 6, ch. 87 § 37; R.S.C., ch. P–4 § 67 (1990) (Canada); J.O. 13, art. 32–33, Ind. Prop. 67 (1968) (France)).

244. *Id.* at 43.

245. 35 U.S.C. § 271(d)(4) (2006).

246. *See id.* (granting patent holders the right to not use or license their patents with or without a reason).

247. Lauroesch, *supra* note 195, at 52.

248. *Id.* at 43.

compulsory license assert that inventing around patents brings about technological advancement,[249] this point is largely overstated. While it is true that valuable discoveries have been made while attempting to imitate patented technology, compulsory licenses would not make such discoveries less common.[250] Researchers would likely continue to research their own patented inventions because of the potential value in exclusive rights of further patentable inventions.[251] Competitors would also be free to explore the ability to invent around a patent to avoid paying royalties for the use of the patent.[252] If competitors in similar fields exercise good business judgment, compulsory patents will benefit the consumers by lowering prices and reducing the amount of inefficient duplicative research.[253]

Adoption of a compulsory licensing scheme in the United States would effectively reduce frivolous and unnecessary courtroom congestion. Currently, the patent system is subject to gaming by "patent trolls." Patent trolls are individuals or corporations with large intellectual property portfolios that have not invented the technology to which they own the rights.[254] "[P]atent trolls do not invent or otherwise use technology to generate improvements, and they do not produce or manufacture products."[255] Instead, these trolls use their intellectual property rights to litigate against alleged infringers and collect royalties, creating extraneous litigation that only clogs the courts.[256] Trolls may use patents to impede innovation, directly conflicting with the stated purpose of the United States patent system.[257] Due to legislative action[258] and judicial precedent,[259] only a further legislative act could affect substantive change. It is clear that patent trolls are abusing the current patent system, and compulsory licensing "may be a way to deal with specific monopolistic behavior or extortionists (like patent trolls)."[260]

A general compulsory patent licensing provision would provide both patentees and the public with clear and advanced notice of the scope of the terms. Currently, compulsory licensing in the United States is a patchwork of various legislative efforts and federal exceptions that provide little guidance as to when such a provision will be exercised.[261] "[A] legislative definition of compulsory licensing . . . would have the double advantage of

249. Whitaker, *supra* note 237, at 165.

250. Lauroesch, *supra* note 195, at 43 n.8.

251. *Id.*

252. *Id.*

253. *Id.*

254. Nielsen & Samardzija, *supra* note 21, at 512.

255. *Id.*

256. *Id.*

257. *Id.*

258. *See* 35 U.S.C. § 271(d) (2006) (indemnifying patent holders, under subsection (4), from liability for refusing to license or use patent rights).

259. *See In re* Indep. Servs. Orgs. Antitrust Litig. (*Xerox*), 203 F.3d at 1332 (holding that refusal to patented parts did not violate antitrust laws).

260. Nielsen & Samardzija, *supra* note 21, at 535.

261. 35 U.S.C. §§ 200–212.

definiteness on the one hand and probable improvement of the public and judicial image of our patent system on the other hand."[262] Adopting such a legislative provision would allow researchers to know specifically what rights they retain.[263] Such a provision would also allow the courts to freely interpret proper licensing restrictions as specified in the act, rather than create a patchwork of compulsory licensing provisions when forced to find equitable solutions on a case-by-case basis.[264] The public interest and the legal system benefit from a definite and clear expression of the law. Only with the creation of a general compulsory licensing scheme would the predictability of patent law improve. While such an adoption would likely mean less work for patent attorneys, it would greatly enhance stability within the business community and the economy as a whole.[265]

IV. A GENERAL COMPULSORY PATENT LICENSING PROVISION

The following section proposes a general compulsory patent licensing scheme for adoption in the United States. The proposed scheme includes a provision for inventors who wish to utilize patented technology for an innovation that would otherwise not be available to them.

Prior to obtaining approval for a compulsory license, the requestor must satisfy the following basic criteria. First, the requestor must demonstrate that he or she attempted to obtain a voluntary license from the patent owner. This could be shown through correspondences with the patent owner in which the requestor asked for the use of the technology in return for some benefit.[266] Second, the requestor must demonstrate that the requested technology is necessary to further his or her interests.[267] Third, the requestor must show that the patent owner has had sufficient time to commercialize the patented technology. Once these initial criteria have been satisfied, the requestor must then prove that the patent he or she desires to license fits within one or more of the categories stated below. Should a requestor act in bad faith,[268] the patent owner will be able to reclaim attorney's fees for litigation directly relating to the act of bad faith.

A compulsory license will be granted to a requestor when the patent owner is using his or her patent in bad faith. With respect to the patent owner, bad faith means any time the patent owner accidentally or

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262. Delvalle Goldsmith, *The Case for "Restricted" Compulsory Licensing*, 2 AM. PAT. L. ASS'N Q.J. 146, 153 (1974).

263. *Id.*

264. *Id.*

265. *Id.*

266. A benefit to the patent owner may be, but need not be, monetary to satisfy this requirement. As long as the benefit is negotiated, it will not matter what the patent owner receives.

267. "Necessary" in this context means that the requestor has no alternative to the patented technology. Generally, this requirement will be satisfied by showing that the intended use will infringe the patent. "Interest" is to be broadly defined since this provision will allow competitors to obtain the patented technology in order to directly compete with the patent owner.

268. "Bad faith" refers only to the manner in which the requestor acts. It would be bad faith, for instance, if the requestor acted fraudulently, or in any other manner that would indicate an attempt to abuse the system.

deliberately impedes the public interest by use or non-use of the patent. This may occur through: non-use of a patent, using a patent to keep competitors from improving upon the technology, suppressing the introduction of an invention for reasons other than safety concerns, holding out on a license to gain exorbitant royalty fees, or requiring the payment of exorbitant royalty fees. This list is not exhaustive.

A compulsory license will be granted to a requestor when the requestor is engaged in the creation of a product that relies on three or more previously patented inventions. This provision should be particularly useful in situations where the requestor has attempted to negotiate in good faith with the necessary parties, but one or more of the parties act(s) as a holdout. The granting of a compulsory license in such situations will be used to spur innovation while balancing a patent owner's legitimate patent rights.

A compulsory license will be granted to a requestor when the patent owner's technology has become an industry standard. Industry standard means a component of any type that is widely used throughout the field in which the requestor will be engaged. This is meant to grant consumers the use of technology that is ubiquitous within an industry, allow the continued innovation within an industry, and avoid the monopolistic tendencies that inundate the current patent system.

A compulsory license will be granted to a requestor when the public interest would benefit from the issuance of a compulsory license. For example, if the requestor were engaged in the production of motor vehicles, and a patent owner refused to license technology for head lights, the public interest would be served by granting a compulsory license since all drivers would then be safer on the roads at night. However, this is only one example, and the public interest can be served by technology with applications other than in health and safety.

Once a compulsory license is determined to fit within one of the above categories, and the requestor has satisfied the initial criteria, the requestor must pay a reasonable royalty. The determination of a reasonable royalty may be negotiated and agreed upon by the parties. Should the parties be unable or unwilling to agree on a reasonable royalty, an independent neutral third-party[269] will set the royalty rate. Calculation of the rate will consider the cost of research and development, the cost the owner incurred for patenting the technology, and a percentage of profit. However, the royalty may not be so extreme as to prohibit the requestor from being able to effectively compete.

CONCLUSION

This Comment presents a strong argument for patent reform in the United States. Specifically, a general compulsory patent licensing scheme

269. "Third-party" refers to an impartial mediator, arbitrator, or judge that the parties obtain to resolve the dispute.

would provide efficient and substantive change to the patent system, greatly benefitting consumers and the public at large. As discussed above, patent holders currently use their patent rights to slow the flow of technological advancement and bolster their personal interests, ultimately hindering the public interest. A general compulsory patent licensing provision would provide a bright line rule for the courts, companies, and individuals. Inventors would be aware of the scope of their rights and how the system determines those rights. Additionally, compulsory patent licensing would provide a threat to patent holders and force conflicting parties to negotiate an amicable resolution. Despite criticisms of a compulsory patent licensing system, the rapid pace of technological growth should provide ample incentive for Congress and the United States public to rethink, debate, and initiate substantive patent reform.