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JAMIE LEE*

An Un(frاند)ly Game: Preventing Patent Hold-Up by Improving Standardization

I. INTRODUCTION

IN TODAY'S CONSUMER MARKET, nearly all technological products contain standardized components and implement standardized functions.¹ Standardization is required for the product's functionality because many components need to be combined to create a final technological product.² Standardization also provides numerous benefits to consumers and producers. Consumers benefit through lower prices, increased options, and greater innovation,³ while producers benefit through lower research and development costs, reduced time to market, greater sales, and increased competition.⁴

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* J.D. Candidate, University of Maryland Francis King Carey School of Law, 2015; B.A. Government & Politics and Spanish, University of Maryland College Park, 2007. I would like to thank Professor James Grimmelmann and the *Journal of Business & Technology Law* staff for their invaluable feedback. I would also like to thank Professors Michelle Harner and Hilary Hansen for their support as faculty advisors. I dedicate this comment to my family and Hunton & Williams LLP's Competition Practice Group for showing me that it is never too late to pursue my dreams and defining who I am today.

1. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1896 (2002).

2. See Edith Ramirez, Commissioner, Fed. Trade Comm'n, Prepared Statement of the Fed. Trade Comm'n, Before the U. S. Comm. on the Judiciary Concerning Oversight of the Impact on Competition of Exclusion Order to Enforce Standard-Essential Patents 4 (July 11, 2012), available at http://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-concerning-oversight-impact-competition-exclusion-orders/120711standardpatents.pdf [hereinafter FTC Oversight] (discussing the "inoperability problem").

3. See Suzanne Munck, Chief Counsel for Intellectual Property, Fed. Trade Comm'n, Prepared Statement of the Fed. Trade Comm'n, Before the U.S. Comm. on the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights Concerning Standard Essential Patent Disputes and Antitrust Law 4 (July 30, 2013) ("Inclusion of patented technologies in a standard can benefit consumers because it allows SSOs and their members to choose from a broader set of available technologies. . . ." (internal citations omitted)).

4. Daniele Gerundino & Michael Hilb, *The ISO Methodology: Assessing the Economic Benefits of Standards*, ISO FOCUS+, June 2010, at 10, 12, 14, available at http://www.iso.org/sites/TC_Chairs_2011/assets/Gerundino_Hilb_ISO%20Focus%2010-06-E.pdf.

Nevertheless, these proposed benefits can often be delayed or even unrealized due to the patent hold-up game. The “game” begins when technology firms have the good fortune of having their patented technologies selected as part of an industry standard.⁵ The selected patents are designated as “essential” to the standard and the patent owners become “standard-essential patent” (“SEP”) holders.⁶ Once the standard is implemented, SEP holders “use the leverage that they may acquire as a result of the standard setting process to negotiate higher royalty rates or other favorable terms after the standard is adopted than they could have credibly demanded beforehand”⁷ or “hold-up” their SEP by threatening patent infringement litigation.⁸ By threatening costly litigation, SEP holders deter companies from pursuing innovation.⁹ In the end, consumers are the ultimate losers because they are forced to pay higher prices due to a decrease in product selection and lack of innovation that results from patent hold-up.¹⁰

Notwithstanding the detrimental impact on consumers and the economy, courts and administrative agencies have applied injunctive relief in SEP litigation inconsistently, thereby failing to deter SEPs from engaging in self-serving patent hold-up actions.¹¹ The U.S. Supreme Court, Federal Circuit, and International Trade Commission (“ITC”) have also failed to provide guidance on this issue.¹² In addition, administrative agencies, such as the Federal Trade Commission (“FTC”), have failed to deter patent hold-up despite their significant role in funding research and development in the private industry.¹³

Since the courts and administrative agencies have failed to properly define and limit the scope of injunctive relief in SEP litigation, Congress should provide direct guidance on this issue, but has failed to do so. The Leahy-Smith America Invents Act is the only legislation that even tangentially addresses the issue of patent hold-

5. Douglas H. Ginsburg, Taylor M. Owings & Joshua D. Wright, *Enjoining Injunctions: The Case Against Antitrust Liability for Standard Essential Patent Holders Who Seek Injunctions*, ANTITRUST SOURCE, Oct. 2014, at 1, 1.

6. See Munck, *supra* note 3, at 4.

7. *Id.*

8. *Id.* at 8 (internal citations omitted).

9. See James E. Bessen & Michael J. Meurer, *The Patent Litigation Explosion*, 45 LOY. U. CHI. L. J. 401, 429 (2013).

10. See Stewart Mitchell, *Microsoft and Apple Patents “Push Up Price of Android”*, PC PRO (Aug. 4, 2011), <http://www.pcpro.co.uk/news/369100/microsoft-and-apple-patents-push-up-price-of-android> (stating that Google’s patent war with Apple and Microsoft could lead to price increases for Google’s Android phones and less handset choice).

11. See *infra* Part III.C.3.

12. See *infra* Parts III, IV.

13. See FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 30 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> [hereinafter FTC Innovation] (“In FY 2003, federal investment in R&D hit a new record of \$117 billion, a 13.8 percent increase over FY 2002 and the largest dollar increase in history.” (internal citations omitted)).

up, but it only limits the ability of SEP holders to join unrelated parties to a patent suit.¹⁴ As such, this legislation does not clarify or limit the scope of injunctive relief for potential abuse by SEPs.¹⁵

Given that the courts, administrative agencies, and Congress have failed to deter SEPs from engaging in self-serving patent hold-up, this Comment proposes ways to prevent it. Part II discusses the patent system, standardization, and how they contribute to the patent hold-up game. Part III identifies issues embedded within standardization and discusses how these problems permit SEP holders to continually engage in patent hold-up. Finally, Part IV proposes ways to deter patent hold-up by discussing changes to standardization, which will allow producers and consumers to finally realize the benefits of standardization.

II. THE PATENT SYSTEM AND STANDARDIZATION

The goal of the patent system is to encourage firms to innovate against any fears of risk or high cost.¹⁶ Patents give their owners the right to prevent others from making, using, or selling any patented products within the United States during the term of the patent.¹⁷ This exclusive right allows innovators to recoup their investment in research and development (“R&D”) because prices for their product will not be lowered due to competition from “copycats” in the market throughout the duration of their patent.¹⁸

A. Standard-Setting Organizations

Due to the complexity of its products, the technology industry requires standardization.¹⁹ This is mainly due to the fact that popular products, including

14. See 35 U.S.C. § 299 (2011).

15. Charles Gorenstein, *America Invents Act Exercises “Con-Troll” Over Patent Litigation*, IP WATCHDOG (Sept. 19, 2011), <http://www.ipwatchdog.com/2011/09/19/controll-over-patent-litigation/id=19279> (describing the Act’s joinder restrictions, but noting that it is so far unclear how the courts will interpret this provision).

16. FED. TRADE COMM’N, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 1* (2011), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf> [hereinafter *FTC EVOLVING*].

17. See 35 U.S.C. § 271 (2012).

18. *FTC EVOLVING*, *supra* note 16, at 1 (“By preventing copying that might otherwise drive down prices, the patent system allows innovators to recoup their investment in research and development (R&D).”).

19. See, e.g., U.S. DEP’T OF JUSTICE & U.S. PATENT & TRADEMARK OFFICE, *POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS 3* (2013), available at <http://www.justice.gov/atr/public/guidelines/290994.pdf> (“Interoperability standards have paved the way for moving many important innovations into the marketplace, including the complex communications networks and sophisticated mobile computing devices that are hallmarks of the modern age.”); see also Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 *TEX. L. REV.* 1991, 2009–10 (2007) (arguing that patent hold-up is most prevalent in multi-component technological products because you cannot separate the infringing component from non-infringing ones after production).

smart phones, laptop and tablet computers, and gaming consoles, all depend on hundreds of different inventions working together in a single system.²⁰ These technologies may also create an “interoperability” problem because there are too many inventions that must work together to create one product.²¹

To address the interoperability issue, various industries have established standard-setting organizations (“SSO”) to determine the standards that firms will follow to create their products.²² These SSOs typically consists of a combination of universities, private companies, vendors, and government agencies.²³ For example, the Telecommunications Industry Association is an association of providers of communications and information technology products and services that prepares standards for performance testing and compatibility.²⁴ The XMPP Standards Foundation is an independent, nonprofit standards development organization whose experts define open protocols for presence, instant messaging, and real-time communication.²⁵

While it seems anticompetitive to allow interested industry members and competitors to develop new technology together,²⁶ patent and antitrust laws are “complementary, as both are aimed at encouraging innovation, industry, and competition.”²⁷ The Patent Clause “reflects a balance between the need to encourage innovation and the avoidance of monopolies which stifle competition” by limiting the duration of the patent.²⁸ Competition stimulates innovation by incentivizing firms to design new or better products and processes under the protection of patent rights.²⁹ Therefore, the economic benefits gained from standardization are generally seen to outweigh the risks of collusion and price-fixing violations, so long as

20. FTC Oversight, *supra* note 2, at 4.

21. *Id.*

22. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1896 (2002) (defining a standard as “any set of technological specifications that either provides or is intended to provide a common design for a product or process”).

23. See *Sector Members, Associates, and Academia*, INT’L TELECOMMS. UNION, <http://www.itu.int/en/membership/Pages/sector-members.aspx> (last visited Feb. 16, 2015).

24. *About*, TIA ADVANCED GLOBAL SOLUTIONS, <http://www.tiaonline.org/about/> (last visited Jan. 10, 2015).

25. *About*, XMPP STANDARDS FOUNDATION, <http://xmpp.org/about-xmpp/xsf/> (last visited Jan. 10, 2015).

26. See *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 221 (1940) (“Any combination which tampers with price structures is engaged in an unlawful activity.”).

27. *Atari Games Corp. v. Nintendo of Am.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990) (internal citations omitted); see *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989) (discussing how federal patent laws embody “a careful balance between the need to promote innovation and the recognition that imitation and refinement through imitation are both necessary to invention itself and the very lifeblood of a competitive economy”).

28. *Bonito Boats*, 489 U.S. at 146.

29. FTC Oversight, *supra* note 2, at 2.

discussions regarding new standards are approached from a purely technical point of view.³⁰

B. Standardization

During standardization, companies who voluntarily belong to SSOs are typically required to disclose patents or patent applications that would potentially be used in the industry standard.³¹ In other words, members only need to disclose their patents when there is some reasonable expectation that a license is needed to implement the standard.³² While SEPs are being identified by the SSO for the industry standard, companies must consent to enter license negotiations with anyone who wishes to implement the standard.³³ Approximately 63% of organizations require the use of fair, reasonable, and non-discriminatory terms (“FRAND” or “RAND”) in their licenses.³⁴ Non-discriminatory means that “a patentee who makes or sells compliant products cannot charge a higher royalty to an implementer against whom the patentee competes directly than to another party who sells very distinct compliant products.”³⁵

SSOs will then create standards to ensure that companies will communicate with each other and standardize the use of critical technologies.³⁶ If a company’s patent is implemented in the standard, the firm is known as a SEP.³⁷ Once a standard is

30. BRIAN G. BRUNSVOLD, DENNIS P. O’REILLY & D. BRIAN KACEDON, *DRAFTING PATENT LICENSE AGREEMENTS* § 29.01.G, at 422 (6th ed. 2008) (internal citation omitted).

31. *Id.* at 423 (discussing Rambus’ duty to disclose its patents during standardization) (internal citation omitted); see *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1101 (Fed. Cir. 2003) (“[U]nder such an amorphous duty [to disclose], any patent or application having a vague relationship to the standard would have to be disclosed. [SSO] members would be required to disclose improvement patents, implementation patents, and patents directed to the testing of standard-compliant devices—even though the standard itself could be practiced without licenses under such patents.”).

32. *Rambus*, 318 F.3d at 1100–01 (“Rambus’s duty to disclose extended only to claims in patents or applications that reasonably might be necessary to practice the standard.”).

33. See Michele K. Herman, *Negotiating Standards-Related Patent Licenses: How the Deal Is Done*, A.B.A. SECTION OF INTELLECTUAL PROPERTY LAW 25TH ANNUAL INTELLECTUAL PROPERTY LAW CONFERENCE (Apr. 7–10, 2010).

34. Benjamin Chiao, Josh Lerner & Jean Tirole, *The Rules of Standard Setting Organizations: An Empirical Analysis*, 19 n.20 (Nat’l Bureau of Econ. Research, Working Paper No. 11156, 2006), available at <http://www.nber.org/papers/w11156.pdf> (“The majority (63%) of organizations use RAND in the patent licensing rules. Only 9% of organizations use royalty-free rules. Even fewer organizations use assignment (2%) and compulsory rules (2%).”).

35. Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 *BERKELEY TECH. L.J.* 1135, 1149 n.42 (2013) [hereinafter Lemley 2013].

36. See FTC Oversight, *supra* note 2, at 2.

37. See *Standardized Technology and Standard-Essential Patents*, FED. TRADE COMM’N, <http://www.ftc.gov/sites/default/files/attachments/press-releases/google-agrees-change-its-business-practices-resolve-ftc-competiti-on-concerns-markets-devices-smart/130103google-seps.pdf> (last visited Feb. 24, 2015).

established, SEP holders are expected to uphold their prior RAND commitments and enter into negotiations with any firm that is seeking a license based on the standard.³⁸ Yet as Judge Posner previously noted, “once a patent becomes essential to a standard, the patentee’s bargaining power surges because a prospective licensee has no alternative to licensing the patent; he is at the patentee’s mercy.”³⁹ This is the beginning of the patent hold-up game.⁴⁰

C. The Patent Hold-Up Game

Theoretically, there are many economic benefits in standardizing technology,⁴¹ but the patent hold-up game diminishes any such benefit (except for the SEP holder). When an SSO incorporates a patented technology into the adopted standard, industry participants will make investments according to this new standard.⁴² In reliance of this standard, participants will often make sunk-cost investments⁴³ without realizing that the technology may implicate another participant’s patent.⁴⁴ It is then no longer feasible for firms to deviate from the standard because they “face substantial switching costs in abandoning initial designs and substituting a different technology.”⁴⁵ As a result, a SEP holder disregards its initial commitment to license its patent on RAND terms⁴⁶ and instead, “holds up” its patent to negotiate higher royalty rates and other favorable terms than would have been possible prior to the standard adoption, or threaten costly litigation and an injunction.⁴⁷

III. STANDARDIZATION ISSUES THAT PERMIT PATENT HOLD-UP

There are a number of issues in standardization that allow SEP holders to continually engage in patent hold-up. First, companies may fail to provide proper notice of their patent interests in an attempt to obtain future profit.⁴⁸ Second,

38. See Herman, *supra* note 33, at 2.

39. Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012).

40. See *infra* Part II.C. The patent hold-up game may also be referred to as “patent hold-up.”

41. See FTC Oversight, *supra* note 2, at 4 (“[S]tandards can create enormous value for consumers by increasing competition, innovation, product quality, and choice.”).

42. *Id.* at 5.

43. See *Unsinkable Sunk Cost*, LIVING ECON., <http://livingeconomics.org/article.asp?docId=37> (last visited Jan. 31, 2013) (defining “sunk cost” as a “[c]ost that cannot be recovered or diverted towards alternative uses”).

44. Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1179 (2009) (“The elements of patent hold up . . . are present [when] the patent reads on a component of a multicomponent end product, the owner is a nonmanufacturing patentee, and the prospect of obtaining injunctive relief ex post facilitates the extraction of substantially higher royalties than would be attributable to the value of the patented feature alone.”).

45. FTC Oversight, *supra* note 2, at 5.

46. Ginsburg, Owings & Wright, *supra* note 5, at 1.

47. FTC EVOLVING, *supra* note 16, at 5.

48. See *infra* Part III.B.2 (discussing Rambus Inc. v. Fed. Trade Comm’n).

companies are expected to license their patents on “reasonable” terms but reasonableness has not been clearly defined, which has resulted in significant litigation.⁴⁹ Third, even if a company is found to have engaged in patent hold-up, the available patent remedies are inappropriate for patent hold-up because they may not apply or do not adequately compensate aggrieved companies.⁵⁰

A. Notice Issues

During standardization, notice may fail to adequately inform the participants’ expectations on the boundaries of their products. Notice is defined as “how well a patent informs the public [a person skilled in the relevant art] of what technology is protected.”⁵¹ Clear notice is important because it increases innovation by encouraging collaboration, technology transfer, and design-around.⁵² Clearly-defined patent rights also help companies easily identify and license technology they wish to develop or adopt.⁵³ On the other hand, poor patent notice can undermine innovation because “potential collaborators or licensees may not find relevant patents, or they may hesitate to invest in technology when the scope of patent protection is unclear.”⁵⁴

During standardization, patents are included on some reasonable expectation that a license is needed to implement the standard.⁵⁵ Since there is some amount of speculation, a producer may unknowingly infringe on a patent that ends up being selected for the industry standard. In patent hold-up, SEP holders will rely on this unknowing infringement to threaten patent litigation and demand higher royalties.⁵⁶

B. The Definition of “Reasonable” RAND Terms is Unclear

SSOs attempt to prevent patent hold-up by requiring participants to license their patents on RAND terms.⁵⁷ Although RAND commitments attempt to solve the patent hold-up problem by requiring SEP holders to reveal their licensing terms, the SSOs’ failure to clearly define “reasonableness” has resulted in inconsistent

49. See *infra* Part III.B.

50. See *infra* Part III.C.3.

51. FTC EVOLVING, *supra* note 16, at 2.

52. *Id.* at 3.

53. *Id.*

54. *Id.*

55. See *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081 (2003) (stating that members only need to disclose patents when there is a reasonable expectation that a license is needed to implement the standard).

56. FTC EVOLVING, *supra* note 16, at 3 (“When firms choose technologies and market products despite an uncertain patent landscape, they risk post-launch patent assertions and litigation.”).

57. FTC Oversight, *supra* note 2, at 6 (internal citation omitted).

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application of commitment terms.⁵⁸ Finding a consistent definition of what constitutes a RAND term is difficult because there is no set formula.⁵⁹ In addition, a company's commitment to an SSO is not an actual license in and of itself; instead, it is a willingness to offer a license on RAND terms when the opportunity arises.⁶⁰ Therefore, this lack of clarity has caused a significant amount of litigation for firms entangled within the patent hold-up game.⁶¹

1. Broadcom Corp. v. Qualcomm Inc.

In *Broadcom Corp. v. Qualcomm Inc.*, Qualcomm, a wireless telecommunications products company, acquired monopoly power in the telecommunications industry after convincing an SSO to adopt a standard that incorporated its patents.⁶² In response, Broadcom, a chipset manufacturer, alleged that Qualcomm violated antitrust laws by charging more than a RAND fee to the licensees.⁶³ The Third Circuit held that “a patent holder’s intentionally false promise to license essential proprietary technology on [RAND] terms . . . is actionable anticompetitive conduct.”⁶⁴

The case illustrates the court’s failure to adequately define RAND terms, which permits SEP holders to continually engage in patent hold-up and makes the future of standardization uncertain. On one hand, the Third Circuit’s rule that a SEP holder must have committed an “intentional” false promise encourages patent hold-up since companies can escape scrutiny by simply claiming that they are renegeing on their earlier commitment. On the other hand, the future of standardization is in jeopardy because high-cost antitrust remedies will deter companies from participating in standardization.⁶⁵

58. See Jorge L. Contreras, *An Empirical Study of the Effects of Ex Ante Licensing Disclosure Policies on the Development of Voluntary Technical Standards*, NAT’L INST. OF STANDARDS & TECH. STANDARDS SERVS. GRP., GCR 11-934, at 3–4 (June 27, 2011) (discussing “FRAND Licensing Requirements” cases).

59. *Id.* at 1; see also Herman, *supra* note 33, at 5 (“Some critics argue that RAND is too indefinite and, as a result, an implementer may only learn after it is locked into a standard that a patentee’s view of ‘reasonable’ is very different from its own. . . . Some similarly argue that the cumulative RAND royalties for patented technology incorporated into a standard may turn out to be excessive because there are no specific limitations placed on the RAND commitment and no way to gauge in advance of adoption the cumulative amount of royalties to be charged.”).

60. Herman, *supra* note 33, at 2.

61. See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012); *Broadcom Corp. v. Qualcomm, Inc.*, 501 F.3d 297 (3d Cir. 2007); *Apple, Inc. v. Motorola Mobility, Inc.*, 886 F. Supp. 2d 1061 (W.D. Wis. 2012); *Apple, Inc. v. Samsung Elecs. Co., Ltd.*, 888 F. Supp. 2d 976 (N.D. Cal. 2012); *Microsoft Corp. v. Motorola, Inc.*, 864 F. Supp. 2d 1023 (W.D. Wash. 2012).

62. *Qualcomm Inc.*, 501 F.3d at 304.

63. *Id.*

64. *Id.* at 314.

65. Kenneth Ewing, *Private Anti-Trust Remedies Under US Law*, 1 PLC CROSS-BORDER: COMPETITION HANDBOOK 87, 87 (2007), available at <http://www.steptoec.com/assets/attachments/2804.pdf> (“[S]pecial rules,

2. Rambus Inc. v. Federal Trade Commission

The FTC claimed that Rambus, Inc., a technology development firm, deceptively failed to disclose the patent interests it held in four technologies that were used to standardize a faster architecture for dynamic random access memory (“DRAM”) to the SSO.⁶⁶ The SSO adopted an industry standard that caused the SEP holder to gain a 90 percent market monopoly over licensing of DRAM technology.⁶⁷ As a result, the FTC found that Rambus breached SSO policies and violated Section 2 of the Sherman Act, which prohibits monopolistic conduct.⁶⁸ On appeal, the court held that there was an insufficient basis for liability. The court noted that even if Rambus’ nondisclosure contravened the SSO’s policies, it only prevented the SSO from extracting a RAND commitment from Rambus when standardizing its technology, which does not constitute an antitrust violation.⁶⁹ *Rambus* reiterates the importance of incorporating standards that clarify the standardization process.⁷⁰

C. Patent Law Remedies are Inappropriate for Patent Hold-up

While patent law remedies are crucial to promote innovation and commercialization of new products,⁷¹ these remedies also encourage patent hold-up. Successful remedies will “compensate for past infringement, prohibit future infringement, and deter infringement in the first instance.”⁷² However, poor notice and lack of clarity when it comes to disclosure and reasonableness suggest that the full range of available patent law remedies may be inappropriate for patent hold-up litigation.⁷³

such as the automatic trebling of damages, award of attorneys’ fees and costs, and aggregation of hundreds to thousands or more claims within a single action on behalf of a class of similarly placed claimants, dramatically increase both the attractiveness of bringing private claims and the stakes for defendants.”)

66. *Rambus Inc. v. Fed. Trade Comm’n*, 522 F.3d 456, 461 (D.C. Cir. 2008).

67. *Id.* at 459.

68. *Id.*; 15 U.S.C. § 2 (2012) (“Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof. . .”).

69. *Rambus*, 522 F.3d at 462.

70. *Id.* at 469 (“[A]lthough antitrust can serve as a useful check on abuses of the standard-setting process, it cannot substitute for a general enforcement regime for disclosure rules.” (citing 2 IP & ANTITRUST § 35.5 at 35–51)).

71. FTC EVOLVING, *supra* note 16, at 140.

72. *Id.* at 141. Three types of redress accomplish these tasks: compensatory damages, enhanced damages, and injunctive relief.

73. See Jorge L. Contreras, *So That’s What “RAND” Means?: A Brief Report on the Findings of Fact and Conclusions of Law in Microsoft v. Motorola*, PATENTLYO (Apr. 27, 2013), <http://patentlyo.com/patent/2013/04/so-thats-what-rand-means-a-brief-report-on-the-findings-of-fact-and-conclusions-of-law-in-microsoft-v-motorola.html> (“Thus, unlike most patent licensing negotiations, the licensing of standards-essential patents takes

1. *Compensatory Damages*

Compensatory damages seek to make a patent holder “whole again” in spite of the infringement.⁷⁴ This is accomplished by reflecting the economic realities of the market and rendering the “patentee no worse off, but also no better off, than it would have been absent the infringement.”⁷⁵ Two measures are used to calculate compensatory damages: lost profits and reasonable royalties.⁷⁶ “Lost profits” assumes that a patent holder is selling a product in the marketplace and seeks its entitled return.⁷⁷ When the patent holder does not actually sell the product, compensatory damages are calculated “based on a hypothetical negotiation between a willing licensor (the patentee) and a willing licensee (the infringer), otherwise known as the ‘reasonable royalty’ analysis.”⁷⁸ This calculation is based on hypothesis because the SEP is not a final product, but rather, a component of the final product,⁷⁹ but is also supported by common law.⁸⁰ Since it is difficult to conclusively determine what is reasonable, aggrieved companies will never become “whole again.” Therefore, compensatory damages are an inadequate remedy for patent hold-up.

2. *Enhanced Damages*

Enhanced damages are awarded when there has been “willful infringement.”⁸¹ The concept of “willfulness” generally applies to circumstances where the technology

on a public character. It is not merely a closed-door negotiation between two private parties. It must be conducted, and reviewed, with these public benefits in mind.”).

74. FTC EVOLVING, *supra* note 16, at 141 (following a finding of infringement, a court shall award damages “adequate to compensate for the infringement” (citing 35 U.S.C. § 284)); *see also* Riles v. Shell Exploration & Prod. Co., 298 F.3d 1302, 1312 (Fed. Cir. 2002) (“Compensatory damages, by definition, make the patentee whole, as opposed to punishing the infringer.”).

75. FTC EVOLVING, *supra* note 16, at 142 (internal citations omitted).

76. *Id.*

77. *Id.* at 143.

78. *Id.*

79. *See supra* Part I.

80. Unisplay, S.A. v. Am. Elec. Sign Co., Inc., 69 F.3d 512, 517 (Fed. Cir. 1995) (“The statute contemplates that when a patentee is unable to prove entitlement to lost profits or an established royalty rate, it is entitled to ‘reasonable royalty’ damages based upon a hypothetical negotiation between the patentee and the infringer when the infringement began.”).

81. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed Cir. 2007) (establishing that willful infringement requires clear and convincing evidence that “the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent” and that “this objectively-defined risk . . . was either known or so obvious that it should have been known to the accused infringer”); *see also* Roderick R. McKelvie et al., *Nine Unanswered Questions After In re Seagate Technology LLC*, 20 INTELL. PROP. L.J. 1, 2 (2008) (“[The Federal Circuit held] ‘that proof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness.’ This meant, the court explained, that a person acts ‘in the face of an unjustifiably high risk of harm that is either known or so obvious it should be known.’ This new standard requires a party

has been in existence for years before the patent owner sends a letter to the developer alleging infringement.⁸² Suddenly, a company that believed it had independently developed the technology becomes a willful infringer and is now potentially liable for damages.⁸³ This is another way that a SEP holder can “hold-up” an independent developer.⁸⁴ Furthermore, this is a unique remedy because it seeks to punish the infringer, so the court will intentionally award the patentee more than the market would have.⁸⁵

Enhanced damages are nevertheless inappropriate for patent hold-up. Since participating firms already know that there will be some reliance on each other’s patents during standardization, companies cannot claim independent development as is required by enhanced damages. In addition, poor patent notice during standardization creates a level of uncertainty⁸⁶ that would make it difficult to prove that an “infringer” knowingly violated a patent. Therefore, enhanced damages are an inadequate remedy for patent hold-up.

3. *Permanent Injunctions*

Permanent injunctions play a critical role in protecting exclusivity and maintaining the control that allows a patent holder to reap the market reward following a finding of infringement.⁸⁷ There is a debate, however, over whether injunctive relief should be available to parties under RAND commitments.⁸⁸ A prospective licensee would have already spent much of their R&D to comply with the new industry standard, as well as relied on the RAND terms.⁸⁹ The licensee would then face significant cost in defending against patent hold-up litigation and would be deterred from pursuing more innovation.⁹⁰ Therefore, although permanent injunctions provide important protections for a patent holder, they should not be allowed in patent hold-up because they would potentially reward self-serving SEP

claiming willfulness to ‘show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.’”).

82. Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not To)*, 48 B.C. L. REV. 149, 164 (2007) (internal citation omitted).

83. *Id.*

84. *Id.*

85. FTC EVOLVING, *supra* note 16, at 141.

86. *See supra* Part III.A.

87. FTC EVOLVING, *supra* note 16, at 143.

88. *See* Letter from Donald S. Clark, Secretary, Fed. Trade Comm’n to Commenters (July 23, 2013) (on file with Fed. Trade Comm’n), available at <http://www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolaletter.pdf>.

89. *See supra* Part II.C.

90. *See* Bessen & Meurer, *supra* note 9, at 429.

holders who pursue injunctive relief solely to demand higher royalties for their patents.⁹¹

The Patent Act requires that following a finding of infringement, the court should consider “principles of equity” in deciding whether to grant a permanent injunction against an infringer.⁹² Prior to 2006, permanent injunctions were virtually automatic after a district court found infringement on a presumption of irreparable harm.⁹³ In 2006, however, the Court in *eBay v. MercExchange*, rejected the presumption of irreparable harm in favor of applying “traditional equitable principles.”⁹⁴ These “traditional equitable principles” require that a plaintiff must demonstrate:

*(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.*⁹⁵

Although *eBay*'s traditional equitable approach seems clear on its face, Chief Justice Roberts' concurring opinion in *eBay* suggests that applying equitable principles permits courts to exercise considerable discretion, which has resulted in inconsistent rulings on injunctive relief.⁹⁶ Chief Justice Roberts observed that courts historically granted injunctive relief upon a finding of infringement and suggested that the district courts should use this as a rule of thumb.⁹⁷ On the other hand, Justice Kennedy's concurrence alluded that this general rule may be inappropriate in some cases, including those involving patent hold-up.⁹⁸ He observed that SEP holders represent a new breed of patentees who “use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees,”⁹⁹ and cautioned that SEP holders employ injunctive relief “as a bargaining tool to charge exorbitant fees.”¹⁰⁰ In such cases, “legal damages may well be sufficient to

91. See *supra* Part II.C.

92. 35 U.S.C. § 283 (2012).

93. FTC Oversight, *supra* note 2, at 7 (internal citation omitted).

94. 547 U.S. 388, 393–94 (2006).

95. *Id.* at 391 (internal citation omitted).

96. See *id.* at 394–95 (Roberts, C.J., concurring).

97. *Id.* at 395.

98. *Id.* at 396–97 (Kennedy, J., concurring) (“In cases now arising trial courts should bear in mind that in many instances the nature of the patent being enforced and the economic function of the patent holder present considerations quite unlike earlier cases.”).

99. *Id.* at 396.

100. *Id.*

compensate [SEP holders] for the infringement[,] and [that] an injunction may not serve the public interest.”¹⁰¹

The courts are unclear on when SEP holders are entitled to injunctive relief.¹⁰² After the Supreme Court remanded the case, the district court in *eBay* denied injunctive relief to MercExchange.¹⁰³ The court stated, “MercExchange’s consistent practice of licensing, rather than developing, its patents . . . is one factor that [the] court must consider in weighing the equities.”¹⁰⁴ Therefore, despite the Supreme Court’s stated caution against inflexible rules, courts maintain that SEP holder status influences whether they will receive injunctive relief.¹⁰⁵

In fact, some courts have granted injunctive relief to SEP holders. For example, in *Commonwealth Scientific & Industrial Research Organisation v. Buffalo Technology Inc.*, a Texas federal court found that the plaintiff was entitled to injunctive relief because it lost irrevocable research opportunities and suffered reputational damage, even though it did not license its inventions in the marketplace.¹⁰⁶ As a result, courts have inconsistently applied *eBay*’s traditional equitable principles by either granting permanent injunctions, regardless of the patent holder’s status, or denying them entirely for SEP holders who use them as a means of acquiring more licensing fees.¹⁰⁷

IV. PROPOSED CHANGES TO STANDARDIZATION

Since patent hold-up threatens corporate innovation and harms consumers, the following discussion proposes changes to standardization that could deter patent hold-up since courts, Congress, and administrative agencies have failed to adequately address this issue.¹⁰⁸

A. Changes to Standardization

Despite the SSO’s attempt to facilitate cooperation among technologies, its failure to define key concepts, such as “reasonableness” and its inability to enforce

101. *Id.* at 396–97.

102. *See, e.g., id.* at 394 (holding that the District Court erred in denying injunctive relief and the Court of Appeals erred in granting injunctive relief); *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1352 (Fed. Cir. 2009) (holding that the district court abused its discretion by failing to consider the eBay factors when denying a permanent injunction).

103. *MercExchange, L.L.C. v. eBay, Inc.*, 500 F. Supp. 2d 556, 556 (E.D. Va. 2007).

104. *Id.* at 570.

105. *See id.* at 587–88.

106. 492 F. Supp. 2d 600, 607–08 (E.D. Tex. 2007).

107. *See, e.g., Andrei Iancu & W. Joss Nichols, Balancing the Four Factors in Permanent Injunction Decisions: A Review of Post-eBay Case Law*, 89 J. PAT. & TRADEMARK OFF. SOC’Y 395, 404 (2007) (noting that most courts since the *eBay* decision continued to grant permanent injunctions, but denied such relief for patent trolls).

108. *See supra* Parts I, III.

previous RAND commitments by SEP holders has resulted in significant litigation.¹⁰⁹ Therefore, specific changes to standardization may prevent SEP holders from engaging in patent hold-up.

1. Define “Reasonable” Royalty During Standardization

“Reasonable royalty” is essential to a SEP holder’s RAND commitment, but the SSO has failed to provide guidance on this key concept during standardization.¹¹⁰ Reasonable royalties are based on a “hypothetical negotiation between a willing licensor (the patentee) and a willing licensee (the infringer).”¹¹¹ Therefore, the hypothetical negotiation needs to take place during the standardization process and under conditions where the alternative technological components are identified. Under this approach, all firms are well-informed about the best potential non-infringing alternatives to the proposed standard and will be able to make an informed decision.¹¹² This approach is ideal because it would allow SSOs to take each patent holder’s licensing terms and royalty rates into account when deciding what technological improvements to use, which would impede a SEP holder’s ability to leverage any new bargaining power resulting from being incorporated into an SSO standard.¹¹³

Georgia-Pacific Corp. v. U.S. Plywood Corp.’s 15-factor test to determine reasonable royalty during standardization¹¹⁴ is not instructive because the numerous factors may create opportunities for a SEP holder to distort their conduct. For example, if a SEP holder can satisfy the cost-benefit analysis factor by proving that protecting their technology is more desirable,¹¹⁵ then a SEP holder may achieve the higher royalty that it sought as part of patent hold-up.

The SSO should select only a few of *Georgia-Pacific*’s 15 factors as a guide to determine whether the participating firm’s RAND terms are reasonable before finalizing the industry standard. Some of the factors that would be worth considering include: (1) the utility and advantages of the patent property over the

109. See *supra* Part III.B.

110. Lemley 2013, *supra* note 35, at 1146.

111. FTC EVOLVING, *supra* note 16, at 143.

112. See, e.g., *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1341, 1350–51 (Fed. Cir. 1999). The Federal Circuit held that the determinative question is: “had the Infringer not infringed, what would the Patent Holder–Licensee have made?” *Id.* In responding to this question, the court required sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture. *Id.* A fair and accurate reconstruction of the “but for” market also must take into account, where relevant, alternative actions the infringer foreseeably would have undertaken had he not infringed. *Id.*

113. *Id.* at 1351.

114. 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (providing a comprehensive list of evidentiary facts that are relevant to determine the amount of a reasonable royalty).

115. *Id.* (“The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.”).

old modes or devices, (2) the amount which a prudent licensee would have been willing to pay as a royalty, as well as the amount that would have been acceptable by a prudent patentee who was willing to grant a license, and (3) the testimony of qualified experts. These factors will not only provide the SSO with a value estimate of the patent before standardization, but they will also provide the SSO with greater support in enforcing a SEP holder's RAND commitment because SSOs can now point to specific guidelines that justify the pre-determined royalty rate. A smaller number of factors would also encourage a SEP holder to comply with their previous RAND commitments because they would no longer be able to rely on other factors to hide engaging in patent hold-up.

2. Enforce Previous "RAND" Commitments by Deeming it an Enforceable Agreement

Since a RAND commitment is nothing more than a promise from a SEP holder to license its patent to another competitor,¹¹⁶ the SSO should deem RAND commitments as an enforceable agreement. For example, including explicit third-party beneficiary clauses that grant all prospective licensees the right to enforce the RAND commitment would discourage SEP holders from rescinding their original promise because SEP holders would now be liable to many licensees—not just the specific party that is named.¹¹⁷ In addition, a SEP holder would also be bound by the doctrine of promissory estoppel and would most likely not want to risk involvement in costly litigation.¹¹⁸

3. Include a Binding Arbitration Provision

Once a SEP holder's prior RAND commitment becomes an enforceable agreement, the SSO can include an arbitration provision that would prevent SEP holders from flooding the courts with frivolous infringement lawsuits due to their self-serving patent hold-up.¹¹⁹ When enforcing an arbitration agreement, the courts and arbitrators must "give effect to the contractual rights and expectations of the parties."¹²⁰ Arbitration is considered to be a legitimate judicial venue to resolve

116. See Ginsburg, Owings & Wright, *supra* note 5, at 1.

117. *General Contract Clauses: Third-party Beneficiaries*, PRACTICAL LAW, <http://us.practicallaw.com/6-519-7630> (last visited Jan. 11, 2015).

118. See *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012) (discussing how Microsoft alleged that Motorola improperly refused to offer it licenses for patents essential to industrial standards on reasonable and non-discriminatory (RAND) terms, asserting claims for breach of contract, promissory estoppel, and declaratory relief).

119. See *Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc.*, 473 U.S. 614, 628 (1985) ("By agreeing to arbitrate . . . , [a party] trades the procedures and opportunity for review of the courtroom for the simplicity, informality, and expedition of arbitration.").

120. *Volt Info. Scis., Inc. v. Bd. of Trs. of the Leland Stanford Junior Univ.*, 489 U.S. 468, 479 (1989).

costly patent disputes.¹²¹ In fact, the FTC has used judicially-facilitated negotiation in settling its own patent hold-up suits.¹²²

In addition, arbitration minimizes the courts' inconsistent rulings on patent hold-up cases.¹²³ Arbitrators are typically "those who are prominent and experienced members of the specific business community in which the dispute to be arbitrated arose."¹²⁴ Therefore, the arbitrator would be a neutral and knowledgeable third party who thoroughly understands standardization procedures and would decide the infringement allegations fairly to both parties involved.¹²⁵ Therefore, instituting an arbitration provision is a simple fix that will not only effectively decrease a SEP holder's ability to engage in patent hold-up, but also create little disruption to the standardization process once RAND terms become an enforceable agreement.

B. Prevent Access to the International Trade Commission

Eliminating the International Trade Commission ("ITC") as a potential judicial resource is important for patent hold-up because ITC orders can prohibit standardized technological products from being sold to consumers domestically and internationally. The ITC is a quasi-judicial, independent federal agency established by Congress to investigate a wide-range of trade matters, which may include products that are developed by SEP holders.¹²⁶ After finding patent infringement, under Section 337 of the Tariff Act of 1930, the ITC will issue either a cease and desist order, which prohibits a defendant from selling infringing articles out of U.S. inventory,¹²⁷ or an exclusion order, which directs the U.S. Customs Service to bar infringing articles from entering the U.S.¹²⁸

121. See *Southland Corp. v. Keating*, 465 U.S. 1, 10 (1984) (declaring a national policy in favor of arbitration); see also *AT&T Mobility LLC v. Concepcion*, 131 S. Ct. 1740, 1755–56 (2011) (enforcing a clause banning class actions in favor of arbitration).

122. See, e.g., *Motorola Mobility LLC*, Docket No. C-4410, at *10 (F.T.C. July 23, 2013) (decision and order), available at <http://www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolado.pdf>. The final Decision and Order included the following provision: "Respondents shall file for arbitration and deliver to the Qualified Recipient(s) of the Potential Licensee a proposed License Agreement for the Respondents' FRAND Patents Essential to the Covered Standards, and, if either party is seeking Reciprocity, to the Potential Licensee's FRAND Patents essential to the Covered Standards, in each case to the extent not already licensed." *Id.*

123. See *supra* Part III.C.3.

124. *Int'l Produce, Inc. v. A/S Rosshavet*, 638 F.2d 548, 552 (2d Cir. 1981).

125. See *United Steelworkers of Am. v. Warrior and Gulf Navigation Co.*, 363 U.S. 574, 581 (1960) (noting that an arbitrator is "a system of self-government created by and confined to the parties" and he has no "general charter to administer justice for a community which transcends the parties." (internal citation omitted)).

126. FTC Oversight, *supra* note 2, at 9.

127. 19 U.S.C. §§ 1337(a)(1)(A)–(B) (2012).

128. *Id.* § 1337(f).

Although all federal courts must follow the *eBay*'s equitable standard when deciding whether to grant an injunction, the ITC is not required to follow such a standard.¹²⁹ This discrepancy has significantly increased litigation because SEP holders have turned to this court to grant injunctions despite violating their RAND terms.¹³⁰ Therefore, drafting an arbitration provision that limits patent infringement proceedings to U.S. courts during standardization will prevent SEP holders from retreating to the ITC for more favorable treatment.

IV. CONCLUSION

Patent hold-up is not only a significant legal bottleneck,¹³¹ but also presents a losing situation for both the producer and the consumer. If a producer develops a product that is unknowingly covered by a patent, the producer faces expensive and time-consuming litigation.¹³² At the same time, if the infringer chooses to negotiate royalties with a SEP holder, the cost for product development skyrockets as the infringer would now need to account for higher royalties than anticipated to pursue its product innovation.¹³³ The consumer loses financially, as it has to pay for higher prices for this patent infringement litigation and personally, as the number of product options decreases.¹³⁴ Therefore, it is important for courts, administrative agencies, and Congress to provide more guidance on the limits of injunctive relief in patent hold-up and make the changes to standardization, which would prevent SEP holders from continually interfering with innovation for their own financial benefit.

129. See *Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1359 (Fed. Cir. 2010) ("Given the different statutory underpinnings for relief before the Commission in Section 337 actions and before the district courts in suits for patent infringement, this court holds that *eBay* does not apply to Commission remedy determinations under Section 337.")

130. Use of the ITC as a venue for patent challenges has tripled in the last ten years. Colleen V. Chien, *Patently Protectionist? An Empirical Analysis of Patent Cases at the International Trade Commission*, 50 WM. & MARY L. REV. 63, 68 (2008). Sixty-five percent of those cases proceed simultaneously in federal district court. *Id.* at 64. See also FTC EVOLVING, *supra* note 16, at 239–40 ("Expanded use of the ITC and the parallel proceedings in district courts have led some commentators to raise concerns about inconsistent results in individual cases and incoherent development of patent policy." (internal citation omitted)).

131. See Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1594 (2009) (noting that the federal district courts handled 2,300 patent infringement suits between 2000–2008; mostly in the technology sector).

132. FTC Innovation, *supra* note 13, at 6.

133. *Id.*

134. See *supra* note 10 and accompanying text.
