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Unreasonable Royalty: Realigning Economic Incentives Involving Innovation in the Age of Patent Assertion Entities

*Jordan Duenckel**

ABSTRACT

Patent litigation is a high-stakes endeavor when jury verdicts can be in the hundreds of millions or even billions. With this much at stake, the judicial system is ripe for abuse by parties that aren't inventors or producers: nonpracticing entities. Various steps have been taken to mitigate or discourage the gaming of the system but have not been successful for various reasons. This Article proposes the novel solution of incorporating a federal damages cap into 35 U.S.C. § 284 to shift the underlying economic incentives toward innovation. After discussing some likely challenges to the proposal, this Article concludes that the damages cap would shift the underlying economic incentives to practicing entities, reduce deadweight loss to society, allocate resources more effectively, and create a net societal gain.

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I. PATENTS FOR THE PEOPLE

The United States patent system is driven by the American people and their innovative spirit. This Article focuses on how this system is ripe for being manipulated and argues that a federal damages cap be incorporated into 35 U.S.C. § 284 to shift the underlying economic incentives towards innovation. The current patent system is broadly derived from “Letters Patent” in England to describe an open letter written by the monarch to convey a right or title to a person or entity.¹ The principle remains the same in the modern American patent system while the procedure has changed.

Today, the term patent typically refers to a utility patent, which conveys a public license to exclude others from using the patented invention for a limited time.² In exchange for this right, the inventor must show possession of the invention and provide an enabling disclosure.³ Inherent in this exchange is the transfer of novel and useful technology from the inventor into the public sphere.⁴ This bargain is designed to promote innovation and technological advancement.⁵ The resulting incentives provide an economic engine to create technology that is socially beneficial while also providing a means to achieve the constitutional aims of patent protection.⁶

Assuming that an inventor can navigate the costs and procedures required to obtain a patent from the United States Patent and Trade Office, the limited public license can be treated as any other license: commercialized, licensed, assigned, sold, or just hung on the wall.⁷ In some industries, patents are significant assets that create a competitive advantage and a resultant increase in market share.⁸ The technology industry depends heavily on patent protection, as evidenced by IBM being granted over 8,500 patents in 2021 alone.⁹ Like any other property right, patents can be enforced in civil suits in the judicial system. Facially, this system of rights and civil enforcement may work as intended by the Founding Fathers as evidenced by the inclusion of the Intellectual Property Clause in the Constitution.¹⁰

1. RICHARD TURPIN, *THE CHRONICLE OF CALAIS: IN THE REIGNS OF HENRY VII AND HENRY VIII TO THE YEAR 1540* 102 (John Gough Nichols ed. 1846).

2. *Herman v. Youngstown Car Mfg. Co.*, 191 F. 579, 584–85 (6th Cir. 1911).

3. *Id.*

4. 35 U.S.C. § 112(1).

5. Bojan Pretnar, *Patents and the Economic Incentive to Invent*, 6 MPI STUDIES ON INTELL. PROP., COMPETITION & TAX L. 841, 841 (2009); Lisa Larrimore Ouellette & Andrew Tutt, *How Do Patent Incentives Affect University Researchers?*, 61 INT'L L. REV. OF L. & ECON. 1, 16 (2020).

6. See U.S. CONST. art. I, § 8, cl. 8 (“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.”).

7. Adam Mossoff, *Who Cares What Thomas Jefferson Thought about Patents - Reevaluating the Patent Privilege in Historical Context*, 92 CORNELL L. REV. 953, 954 (2007).

8. See Dimitrios Exadaktylos et al., *What do Firms Gain from Patenting? The Case of the Global ICT Industry*, OESTERREICHISCHE NATIONALBANK (Project No. 18128) (2023).

9. Hartley Charlton, *Apple Ranks Seventh with Over 2,500 U.S. Patents Granted in 2021*, MACRUMORS (2022), <https://www.macrumors.com/2022/02/14/apple-ranks-seventh-with-2500-patents-in-2021> (last visited Nov. 6, 2022).

10. See U.S. CONST. art. I, § 8, cl. 8.

II. NPES, PAES, AND PATENT INFRINGEMENT

Perhaps unforeseen was the concept of the non-practicing entity (NPE). An NPE is an entity that does not, or cannot, manufacture a patented invention for a variety of reasons. It is presumed that anyone who goes through the process and costs of obtaining a patent through prosecution of an application or acquisition of an already issued patent would use the patent to commercialize the protected material. But what if the incentives align to produce a more lucrative method for a return on capital from the acquisition of intellectual property? Patent assertion entities (PAEs), derogatorily known as patent trolls, are a specific type of NPE that buys up portfolios of patents from financially struggling companies and then use those patents as legal weapons in litigation or threatened litigation.¹¹ The typical patent case can run up legal fees of over \$2.8 million through disposition.¹² Negotiations in the shadow of legal fees in the millions, and the uncertainty of jury verdicts that can award damages in the billions,¹³ cause claims without any merit to be settled outside of court to avoid the costs of defending the lawsuit. It has been estimated that up to 60% of patent litigation is initiated by these NPEs.¹⁴

The system as it exists creates a way for an unscrupulous organization to potentially game the system. Instead of discouraging the assertion of weak infringement claims and low-quality patents, the market can reward this offensive assertion of infringement against practicing entities. Many inventors and practicing entities have real inventions and should be able to easily access the courts to enforce those rights. However, the current system suffers from misaligned incentives creating a ripe environment for subversion of the patent system. Various groups have proposed solutions including legislation¹⁵, judicial activity,¹⁶ administrative procedures,¹⁷ and equitable review¹⁸ as part of a holistic approach to preventing manipulation of the patent system. As the numbers of patent troll infringement cases continue to rise, the effects are felt in direct costs, like frivolous litigation, as well as

11. Aaron Mackey, *Patent Trolls*, ELEC. FRONTIER FOUND., <https://www.eff.org/issues/resources-patent-troll-victims> (last visited Nov. 6, 2022).

12. *How Much Does Patent Litigation Cost?*, COPPERPOD IP (May 11, 2022), <https://www.copperpodip.com/post/how-much-does-patent-litigation-cost>.

13. Matthew Bultman, *Investors Eye Patents After 'Extraordinary' Damage Awards Run*, BL (Nov. 6, 2020, 5:00 AM), <https://news.bloomberglaw.com/ip-law/investors-eye-patents-after-extraordinary-damage-awards-run>.

14. COPPERPOD IP, *supra* note 12.

15. *See* Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. (2013).

16. *See generally* Eric Rogers & Young Jeon, *Inhibiting Patent Trolling: A New Approach for Applying Rule 11*, 12 NW. J. TECH. & INTELL. PROP. 291, 295, 315, 317 (2014) (advocating for Federal Rule of Civil Procedure 11 sanctions as a method to inhibit patent trolls).

17. Anne S. Layne-Farrar, *The Cost of Doubling Up: An Economic Assessment of Duplication in PTAB Proceedings and Patent Infringement Litigation*, AM. BAR ASS'N (May 1, 2018), https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2017-18/may-june/cost-doubling-up [<https://perma.cc/A7RG-YNWX>] (Inter parties review is a comparatively inexpensive method of invalidating claims in an issued patent and have been used to defend against PAEs).

18. *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064 2022 WL 5240856, at *2 (P.T.A.B. Oct. 4, 2022) (USPTO Director Vidal stepped in and issued a Precedential Order finding that OpenSky had abused the IPR process in an attempt to extract a payment.); *Personalized Media Commc'ns, LLC v. Apple Inc.*, 57 F.4th 1346, 1358 (Fed. Cir. 2023) (affirming the invalidity of a patent based on the equitable principle of prosecution laches).

indirect costs, like a reduction in research and development spending by companies.¹⁹ Solutions have been debated as to the best method to curtail undesirable activities by NPEs. Importantly, any change should preserve the key aspect of the patent system: the ability of a patent owner to obtain meaningful redress. This Article does not contemplate a “silver bullet” decision between binary choices but will involve an intersection of corollary, and occasionally contradictory, policies to change the underlying economic incentives for patent litigation.

This comparative analysis looks at the tools already available, namely the fee-shifting section, 35 U.S.C. § 285, state-based “anti-patent troll” statutes, pending federal legislation, and views from the courts. Additionally, this analysis will highlight a viable two-step process that, if enacted, will shift the underlying economic incentives towards a patent system in line with the constitutional mandate to promote useful science.

III. THE PATENT ACT’S SOLUTION: 35 U.S.C. § 285

Traditionally, patent litigation adheres to the American rule, providing that each party pays its own legal fees and expenses win or lose.²⁰ Contrasted with the English rule, which provides that the losing party pays the fees of both parties, the American rule, in theory, ensures that plaintiffs will not be dissuaded from bringing meritorious claims for fear of prohibitive costs.²¹ Notable exceptions to the American rule include contract provisions that stipulate an alternative arrangement and statutes that shift the attorneys’ fees in certain cases or conditions.²² In 1952, 35 U.S.C. § 285 was enacted giving district courts the discretion to award attorneys’ fees to the prevailing party.²³ In its entirety, Section 285 reads, “The court in exceptional cases may award reasonable attorney fees to the prevailing party.”²⁴ Ostensibly, this rule is meant to function similarly to Rule 11 of the Federal Rules of Civil Procedure allowing sanctions for undesirable conduct during litigation.²⁵

The controversy hinges precisely on what qualifies as an “extraordinary case.” The previous standard from the Court of Appeals for the Federal Circuit required, “some material inappropriate conduct related to the matter in litigation, such as willful infringement, fraud or inequitable conduct in procuring the patent, misconduct during litigation, vexatious or unjustified litigation, conduct that violates Fed.R.Civ.P. 11, or like infractions,” to warrant an award of attorney’s fees based on conduct.²⁶ Further, the *Brooks* court provides that, “sanctions may be imposed against the patentee only if both (1) the litigation is brought in subjective bad faith, and (2) the litigation is objectively baseless.”²⁷ This standard for fee awards is extremely high and did not meaningfully discourage undesirable behavior.

19. James Bessen et al., *The Private and Social Costs of Patent Trolls*, 34 REGUL. 26, 31–33 (2011).

20. Will Kenton, *American Rule*, INVESTOPEDIA (July 17, 2022), <https://www.investopedia.com/terms/a/american-rule.asp>.

21. *Id.*

22. *Id.*

23. 35 U.S.C. § 285.

24. *Id.*

25. FED. R. CIV. P. 11.

26. *Brooks Furniture Mfg., Inc. v. Dutailier Int’l, Inc.*, 393 F.3d 1378, 1381 (Fed. Cir. 2005).

27. *Id.*

A. *The Supreme Court's Guidance*

The Supreme Court stepped in to lower the bar in a pair of decisions in 2014: *Octane Fitness, LLC v. ICON Health & Fitness, Inc.* and *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*²⁸ The Supreme Court in *Octane* determined that the *Brooks* standard was unduly rigid in the face of the statutory text of Section 285.²⁹ The relevant facts of *Octane Fitness* state that ICON owned a patent that discloses an elliptical machine that adjusts to the individual stride path of each user and sued Octane, another manufacturer of exercise equipment, alleging infringement of ICON's patent.³⁰ The district court granted summary judgment finding that Octane did not infringe ICON's patent.³¹ On the motion for fees under Section 285, the district court applied the *Brooks* standard and did not find "objective baselessness" or "subjective bad faith," on the part of ICON.³² Further, a new standard was set forth, increasing the equitable discretion of the district court with the Supreme Court holding:

an 'exceptional' case is simply one that stands out from others with respect to the substantive strength of a party's litigating position (considering both the governing law and the facts of the case) or the unreasonable manner in which the case was litigated. District courts may determine whether a case is 'exceptional' in the case-by-case exercise of their discretion, considering the totality of the circumstances.³³

The "exceptionalness" of a case is a high fact-specific determination and has the potential to be applied to a wide range of behavior that a judge may determine to be undesirable without a consistent basis or predictability of improper conduct or circumstances.

On the same day, the Court handed down a corollary decision in *Highmark*.³⁴ *Highmark* clarifies that determinations under Section 285 will be granted an abuse of discretion standard on appellate review.³⁵ Like in *Octane*, the Court relied substantially on the text of Section 285 to determine that the district court is better positioned to decide if a case is exceptional.³⁶ The *Highmark* decision solidifies the discretion of a district court to make equitable determinations under Section 285.³⁷ A recent example illustrates the mechanics of how Section 285 is applied following *Octane*.³⁸

28. *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 572 U.S. 545, 545 (2014); *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 572 U.S. 559, 559 (2014).

29. *Octane Fitness, LLC*, 572 U.S. at 554.

30. *Id.* at 552.

31. *Id.*

32. *Id.*

33. *Id.* at 554.

34. *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 572 U.S. 559 (2014).

35. *Id.* at 563.

36. *Id.* at 564 (citing *Pierce v. Underwood*, 487 U.S. 552, 559–60 (1988)).

37. See *Highmark*, 572 U.S. at 563.

38. *VirnetX Inc. v. Apple Inc.*, 324 F. Supp. 3d 836 (E.D. Tex. 2017), *aff'd sub nom.* *VirnetX Inc. v. Cisco Sys., Inc.*, 748 F. App'x 332 (Fed. Cir. 2019) (affirming that the damages award in amount of \$302,427,950 was reasonable.).

In *VirnetX Inc. v. Apple Inc.*, VirnetX filed suit alleging that Apple infringed patents pertaining to the technology behind FaceTime and VPN on Demand.³⁹ A unanimous jury found that Apple infringed VirnetX's patents and awarded \$302,427,950 in damages for the collective infringement.⁴⁰ A more risk-averse company could have certainly attempted to negotiate a licensing fee for a far smaller dollar figure than the hypothetical reasonable royalty awarded by the jury. However, an NPE can bargain for increasingly greater licensing fees in the shadow of litigation costs and potentially massive jury awards.

While one often thinks Section 285 is applied against the plaintiffs asserting a frivolous or meritless claim,⁴¹ the sword can cut both ways as Apple found out.⁴² In *VirnetX*, the district court found that Apple willfully infringed VirnetX's patents even after an adverse court ruling against Apple.⁴³ This entitled VirnetX to enhanced damages as well as a finding that the case was "exceptional" under Section 285 and attorneys' fees were warranted.⁴⁴ While willful infringement was independently sufficient in this case, the Court added the inappropriateness of the litigation tactics, like attempting to delay, conflicts involving a jury consultant, and "multi-forum kitchen-sink litigation tactics,"⁴⁵ that Apple employed supported the decision to award fees.⁴⁶

With a more discretionary standard for fee awarding, one might assume patent infringement suits by NPEs would decline. In actuality, after *Octane*, the overall rate of lawsuits filed by NPE continued to rise.⁴⁷ In 2017, the cases brought by NPEs outnumber the cases brought by practicing entities.⁴⁸ Statutory fee-shifting isn't the panacea that many hoped for largely due to the underlying economic incentives.

IV. THE INCENTIVES INVOLVED WITH SECTION 285

A review of the financials of a typical case is helpful to understand why fee shifting is insufficient to meaningfully shift incentives. The median damages award for patent cases that reached a jury in 2017 increased by almost 70% to \$10.2 million, from \$6.1 million in 2016.⁴⁹ Compare this to the median damages awarded to NPEs in 2017: \$14.8 million.⁵⁰ Of course, this doesn't limit damages, especially in areas of high-value technology like electronics.⁵¹ Because the survey is a meta-

39. *Id.* at 843–44.

40. *Id.* at 844.

41. See *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 572 U.S. 545 (2014).

42. See *VirnetX Inc.*, 324 F. Supp. 3d at 871–72.

43. *Id.* at 871.

44. *Id.* (citing *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1340 (Fed. Cir. 2004)).

45. See *VirnetX Inc.*, 324 F. Supp. 3d at 871.

46. *Id.* at 872.

47. See Lauren Cohen et al., *Empirical Evidence on the Behavior and Impact of Patent Trolls: A Survey*, 8–9 (Dec. 25, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2708224.

48. John Jarosz et al., *Patent Damages in US Courts: Overview of Current State of Play*, ANALYSIS GRP. ECON., FIN. AND STRATEGY CONSULTANTS, IAM YEARBOOK (2019), <https://www.analysisgroup.com/globalassets/content/insights/publishing/patent-damages-in-us-courts-analysis-group.pdf>.

49. Jarosz, *supra* note 48.

50. Jarosz, *supra* note 48.

51. See generally *VirnetX Inc.*, 324 F. Supp. 3d at 850–51 (litigating the technology underlying Apple's FaceTime technology resulted in a jury award of over \$300 million).

analysis of jury awards, it does not take into account the out-of-court settlements that are far more prevalent.⁵²

A principled stand against an NPE asserting what may be viewed as a frivolous claim can create disastrous financial results.⁵³ Large manufacturing companies like Apple, IBM, or Ford are established bluebloods that are more risk-averse than a startup or NPE backed by investment money. NPEs have no infrastructure or meaningful operations to protect and can afford to take on more risk, making the area ripe for moral hazard and rent-seeking. Economist Paul Krugman describes moral hazard as “any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly.”⁵⁴ Moral hazard becomes apparent when analyzing the potential range of outcomes for an NPE using an equation and a numerical example.

Economic formulas that detail when a rational plaintiff will file a lawsuit look primarily at the costs and award distribution.⁵⁵ Variables for the following formulas are:

A = The amount at stake in the case, or the amount that plaintiff claims to win;

C_p = Plaintiff’s cost of litigation, including attorneys’ fees;

C_d = Defendant’s cost of litigation, including its own attorneys’ fees.⁵⁶

Further, the perceptions of the parties are critical to the formula and are:

P_p = Plaintiff’s self-perceived chance of winning (percentage);

P_d = Defendant’s perceived chance that the plaintiff will win (percentage).⁵⁷

A formula using the traditional American Rule will result in the filing of a lawsuit when $P_p A > C_p$.⁵⁸ However, with the implication of the potential for fee shifting (P_s = plaintiff’s self-perceived percentage chance fees will be shifted under Section 285), the formula looks more like: $P_p A - C_p > P_s(1 - P_p)(C_d)$. This creates a higher range of potential positive outcomes while also creating risk for the risk-averse large defendants.

If a hypothetical NPE receives \$5 million in investment money, the NPE can buy a portfolio of patents from a company that is financially struggling or is

52. Jarosz, *supra* note 48.

53. See *VirmetX Inc.*, 324 F. Supp. 3d at 870.

54. PAUL KRUGMAN, THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008 63 (2009).

55. Mark Liang & Brian Berliner, *Fee Shifting in Patent Litigation*, 18 VA. J. L. & TECH. 59, 73 (2013).

56. *Id.* at 74. (The costs of litigation for either a plaintiff or a defendant can include many indirect costs such as time of witnesses, opportunity costs, freezing expenditures, and other costs but for simplicity, in this Article, the primary costs of litigation are the direct costs of attorneys’ fees.).

57. *Id.*

58. *Id.* at 75.

liquidating assets for fractions of the portfolio's value,⁵⁹ say \$2 million in this example. The NPE may then send out demand letters for a licensing fee of \$500k to dozens of companies that the NPE thinks may be infringing. The NPE breaks even if only four companies agree to pay the fee instead of litigating the matter. This is an example of a singular patent, whereas many NPEs own hundreds to hundreds of thousands of patents, allowing this process to be repeated over and over.⁶⁰ All of this is done with nominal costs and the potential for a substantial return on capital. The range of outcomes that a business might have to pay in this example is zero dollars to \$500 thousand, whereas if the NPE sends a demand letter to ten companies, the NPE's range of outcomes is zero to \$5 million. "High litigation costs provide a fertile environment for an exploitive business model that uses shotgun tactics to threaten patent infringement claims against numerous companies."⁶¹ Rather than spend more money to defend themselves, businesses will make a financial decision to pay a licensing settlement.⁶²

However, if in contrast to the patent portfolio approach, an NPE chooses the litigation approach, as in *VirnetX*, the range of outcomes becomes significantly larger. If the NPE spends the same \$2 million from the previous example to acquire the patent and contributes the average cost of patent litigation (2.8 million),⁶³ the sum of costs for the NPE is approximately \$5 million. If successful in litigation, say that the NPE earns a jury verdict of the median award to NPEs from 2017: 14.8 million.⁶⁴ The net return on the patent is \$10 million or a rate of 400% on the initial two million investment. Even if the NPE were to lose, the NPE would only have lost \$4.8 million, creating a total range of \$-4.8 million to \$10 million in net proceeds. The business would potentially have to pay damages for infringement (\$14.8 million), their own attorneys' fees (\$2.8 million), and the ongoing cost of a license to use the infringed technology.

The range of outcomes in this example that a business might have to pay, incorporating the best-case scenario of being awarded fees under Section 285, is zero dollars to \$17.6 million, not including any ongoing compulsory licensing fees or loss of technology. The wide range of outcomes creates uncertainty for practicing entities that are risk averse. The chilling effect that potential NPE litigation has on companies inflates expenses at the company and diverts resources from the new research and development of the firm, even incorporating the risk into the companies' 10-K disclosures.⁶⁵

V. WHAT NOW?

Proponents of NPEs often argue that NPEs serve a critical function of providing capital and creating an efficient market for trade of technological innovation,

59. Brendan Bordelon, *FTC Details the Business of 'Patent Trolls'*, MORNING CONSULT (Oct. 6, 2016, 4:59 PM), <https://morningconsult.com/2016/10/06/ftc-details-business-patent-trolls>.

60. *Id.*

61. See Rogers & Jeon, *supra* note 16.

62. *Id.*

63. COPPERPOD IP, *supra*, note 12.

64. Jarosz, *supra* note 50.

65. *Patent Trolls Are Worse Than You Think*, SMITH BUS. INSIGHT (July 18, 2019), https://smith.queensu.ca/insight/content/patent_trolls_are_worse_than_you_think.php.

similar to a third-party litigation financier.⁶⁶ Acolytes of Coasean economic theory will assert that the NPEs drive efficiency towards Pareto efficient outcomes by incentivizing optimal resource allocation.⁶⁷ “Applied to the patent law, the Coase theorem suggests that low patent quality does not detract from efficient operation of markets. As stated in the manner of the Coase theorem, the allocation of initial entitlements of patent rights between rival inventors is irrelevant to reaching economically efficient outcomes.”⁶⁸ The assumptions that the Coase theorem relies upon are often the downfall of the application of theory to practice. The central assumption that Coase relies on is clearly defined property rights, originally exemplified by radio station bandwidth.⁶⁹ Patent law contains property rights that are less definite than Coase’s radio waves, both in the potential scope of the rights at issue⁷⁰ and the validity of those rights.⁷¹

The impracticability of the tripartite secondary assumptions of perfect information, utility-maximizing behavior by both parties, and little to no transaction costs become apparent when applying Coase’s theorem to real-world practice.⁷² The ambiguity created by imperfect information and uncertainty incentivizes NPEs to ironically act as a transaction cost to reduce efficiency and decrease spending on innovation.⁷³ Rather than the effective allocation of resources that Coase would predict, NPEs capitalize on this ambiguity through rent-seeking behavior. Rent-seeking is an economic concept that occurs when an entity seeks to increase its own wealth without creating any benefits or wealth for society.⁷⁴ The classic example of rent-seeking is lobbying politicians; however, when applied to patent law, the concept and resultant detriment to society are clear.

Current NPE litigation follows these same principles of rent-seeking to extract monetary value from the system.⁷⁵ NPEs do not provide inventions or seek to commercialize the inventions of others. Rather, they seek to extract wealth from patents through litigation. The Tullock Paradox states that the rent seekers gain marginal utility at a fraction of the marginal cost, or in other words, a large financial gain with a relatively low cost.⁷⁶ The minimal costs of purchasing the patents and litigation costs, potentially zero if working on a contingent fee arrangement, are far exceeded by the relatively large infringement awards. This rent-seeking that is detrimental to society should be reduced by a shifting of the economic incentives to create an environment favoring innovation.

66. Sannu K. Shrestha, *Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 149 (2009).

67. See generally Ronald H. Coase, *The Problem of Social Cost*, 3 J. OF L. & ECON. 1 (1960) (discussing the allocation of property rights and total costs imposed on a system).

68. CONG. RSCH. SERV., RL31281, PATENT QUALITY AND PUBLIC POLICY: IMPLICATIONS FOR INNOVATIVE FIRMS IN DOMESTIC MARKETS 11 (2002).

69. Coase, *supra* note 67, at 1.

70. James Bessen et al., *supra* note 19, at 34.

71. *Id.*

72. Elizabeth Hoffman & Matthew Spitzer, *The Coase Theorem: Some Experimental Tests*, 25 J. OF L. & ECON., 73–98, 96 (1982).

73. See Bessen et al., *supra* note 19.

74. *Rent-seeking*, CORP. FIN. INST. (Dec. 15, 2022), <https://corporatefinanceinstitute.com/resources/economics/rent-seeking>.

75. See, Richard Cornes & Roger Hartley, *Loss Aversion and the Tullock Paradox*, 2-7 CENTRE FOR ECONOMIC RESEARCH, Keele University (2003) (finding that various factors affect how much rent is transferred).

76. *Id.* at 1.

Various solutions have been proposed to reform the patent system and the issue remains contentious among the public at large.⁷⁷ The proposed solutions are varied and target different areas of the patent law ecosystem. Federal legislative solutions have suggested heightened pleading standards for patent infringement petitions,⁷⁸ fee shifting to the party bringing meritless claims,⁷⁹ transparency of ownership,⁸⁰ posting of a bond by the plaintiff,⁸¹ or changes in discovery rules to reduce costs,⁸² but failed to gain meaningful traction. In absence of federal action on the issue, numerous state legislatures have taken up the issue.⁸³ These laws attempt to identify factors, tests, or indicia of bad faith patent assertion. Specifically, the Vermont law identifies factors that might indicate bad faith including demand letters, unreasonable royalties, or unreasonable response deadlines.⁸⁴ Courts have recognized the problem, and taken small steps like in *Octane*⁸⁵ and *TC Heartland v. Kraft Foods*,⁸⁶ but have largely left substantial change in the hands of the legislature.

VI. A UNIQUE LEGISLATIVE PROPOSAL

Former Chief Judge Rader described the problem perfectly, “The onslaught of litigation brought by “patent trolls” . . . has slowed the development of new products, increased costs for businesses and consumers, and clogged our judicial system.”⁸⁷ Many solutions have been proposed, but none of these solutions effectively shift the underlying incentives toward the general goal of innovation and economic growth. Patents occupy a unique place in the American discussion of property in that they arise entirely out of federal law.⁸⁸ As such, the most reliable pathway for meaningful reform is a legislative adjustment of this federal law. This Article proposes a specific reform to the damages in NPE cases through the amendment of 35 U.S.C. § Section 284 to provide a federal statutory cap on damages awarded to NPEs as a method to realign incentives in favor of innovation.

77. *See Improving the Patent System to Promote American Innovation and Competitiveness: Hearing on H.R. 3309 Before the H. Comm. on the Judiciary*, 113th Cong. (2013) (statement of Rep. Bob Goodlatte, Chairman, H. Comm. on the Judiciary).

78. Innovation Act, H.R. 3309, 113th Cong. (2013).

79. Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. (2013).

80. Patent Transparency and Improvements Act, S. 1720, 113th Cong. (2013).

81. Patent Litigation Integrity Act, S. 1612, 113th Cong. § 285 (2013).

82. Patent Litigation and Innovation Act, H.R. 2639, 113th Cong. (2013).

83. H.R. 2837, 54th Leg., 2d Sess. (Ok. 2014); H.D. 1540, 77th Leg., Reg. Sess. (Or. 2014); H.D. 143, Reg. Sess. (Sd. 2014); H.R. 2117, 108th Leg., Reg. Sess. (Tn. 2014); H.R. 117, Gen. Sess. (Ut. 2014); H.R. 375, Reg. Sess. (Va. 2014).

84. *See* VT. STAT. ANN. tit. 9, §§ 4195–99 (2013).

85. *See generally* *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 572 U.S. 545 (2014) (relaxing the attorney fee shifting standard to be applied in patent infringement).

86. *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S. Ct. 1514, 1521 (2017).

87. Randall R. Rader et al., *Make Patent Trolls Pay in Court*, N.Y. TIMES (June 4, 2013), <https://www.nytimes.com/2013/06/05/opinion/make-patent-trolls-pay-in-court.html>.

88. *See, e.g.* *Christy, Inc. v. United States*, 141 Fed. Cl. 641, 649 (2019), *aff'd*, 971 F.3d 1332 (Fed. Cir. 2020).

A. Reasonable Royalty Uncertainty

The current remedy for patent infringement damages, for NPEs and others alike, is codified in 35 U.S.C. § 284, reading in relevant part: “Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”⁸⁹

Remedies for patent infringement usually fall into one of three categories: injunction, reasonable royalty, and lost profits. An injunction is simply a court order requiring the infringing party to stop infringing activity. Lost profits are similarly straightforward: the plaintiff is awarded damages that the plaintiff can reasonably prove are a result of the defendant’s infringement. However, of the three primary remedies that are sought for patent infringement, reasonable royalty damages are by far the most enticing to NPEs, as they often have nominal lost profits and a difficult path to monetize an injunction. A reasonable royalty is defined as “the amount of royalty payment that a patent holder and the alleged infringer would have agreed to in a hypothetical negotiation taking place at a time prior to when the infringement first began.”⁹⁰ Historically, in the determination of this royalty, courts used a list of fifteen factors known as the *Georgia-Pacific* factors.⁹¹ However, the Federal Circuit has simplified the factors into three for the purposes of model jury instructions, as well as allowing any other factors that the jury may find relevant.⁹² Additionally, an analytical method has been found to be a valid method of calculating damages.⁹³

The wide range of potential factors, and the resultant jury awards, creates a range of risk that can result in an allocation of more resources away from innovation in risk-averse larger companies.⁹⁴ Any calculation of a reasonable royalty *ex post facto* is subject to two factors that are built into the hypothetical negotiation that tend to skew the results away from a true representation of the damages: hindsight bias and the presumption of validity of patents. Hindsight bias eliminates the uncertainty of commercial viability that would be present at the moment of negotiation for a potential license of the property and artificially inflates the royalty payment needed.⁹⁵ Furthermore, an *ex post facto* determination of royalty payments fails to include a discount for the uncertainty of patent validity.⁹⁶ At the time of the hypothetical negotiation, a discount would have to be applied because the patent does not have the benefit of the court’s finding that the patent is valid in the instant case.

89. 35 U.S.C. § 284.

90. FEDERAL CIRCUIT BAR ASS’N, MODEL PATENT JURY INSTRUCTIONS, INSTRUCTION No. 5.6 (2020).

91. John D. Luken & Lauren Ingebritson, *Recent Trends in Reasonable Royalty Damages in Patent Cases*, REMEDIES IN INTELL. PROP. CASES 2, https://www.dinsmore.com/content/uploads/2018/11/2018_02_Remedies_01_Patents_A_Royalty_Damages.pdf (last visited Nov. 6, 2022).

92. *Id.* at 3.

93. *Id.*

94. See *VirnetX Inc. v. Apple Inc.*, 324 F. Supp. 3d 836, 858 (E.D. Tex. 2017), *aff’d sub nom.* *VirnetX Inc. v. Cisco Sys., Inc.*, 748 F. App’x 332 (Fed. Cir. 2019).

95. Christopher S. Marchese et al., *Retooling Patent Damages Law for NPE Cases*, 14 SEDONA CONF. J. 47, 52 (2013).

96. *Id.* at 54 n.27

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The artificial inflation by these two factors further increases the range of risk for a company.

B. Added language to Section 284

Mechanically, implementing a federal damages cap for infringement awards to NPEs would be a relatively straightforward process. An inclusion into Section 284 would need to be tri-partite: a proper definition of NPEs, the language defining the damages cap, and the language that triggers the cap.

The definition would need to be crafted to include the proper parties and exclude the parties that are operating entities.⁹⁷ Language from a North Carolina statute is an example of how an operating entity might be defined:

Operating entity -A person primarily engaged in, when evaluated with its affiliates over the preceding 24-month period and when disregarding the selling and licensing of patents, one or more of the following activities:

- a. Research and technical or experimental work to create, test, qualify, modify, or validate technologies or processes for commercialization of goods or services;
- b. Manufacturing; or
- c. The provision of goods or commercial services.⁹⁸

The setting of the damages cap would also likely be a contentious issue. The cap would have to be low enough to disincentivize frivolous litigation, but also high enough to create a valuable right that can be reasonably licensed in a free market. This Article proposes that the damages cap be set at two million dollars for NPEs. The reason for this number is that it provides a sufficient value range to bargain while also providing an upper limit for risk exposure.

An example of a federal damages cap in action is the damages cap for cases of intentional discrimination in employment under Title VII.⁹⁹ This statute provides a numerical cap on the amount of damages that can be recovered and adjusts the scale based on the size of the defendant company, ranging from \$50,000 to \$300,000.¹⁰⁰ The limits contained in this statute are self-executing in that the trial is conducted in a normal fashion, without mention of the statutory cap to the jury,¹⁰¹ and if the jury verdict exceeds the statutory limit, the court issues a remittitur to the statutory limit.

97. *See, e.g.*, Saving High-Tech Innovators from Egregious Legal Disputes Act of 2013, H.R. 845, 113th Cong. (2013) (the proposal does not apply when the claimant is an original inventor, substantial investor, university, or technology-transfer organization).

98. N.C. GEN. STAT. ANN. § 75-142.

99. 42 U.S.C. § 1981(b)(3).

100. *Id.*

101. *E.g.*, *Sasaki v. Class*, 92 F.3d 232, 235 (4th Cir. 1996).

C. Advantages

A similar structure to the damages cap discussed above would be beneficial as a front-end sorting of cases and encouraging out-of-court negotiation. The range of recovery would be narrowed and could disincentivize litigation and meritless demand letters.

The advantages of this proposal are numerous: shifting of the underlying economic incentives to practicing entities, reduction of deadweight loss to society, and a more efficient allocation of resources. Each of these advantages hinges on the assumption that with the potential upside to patent litigation capped, fewer demand letters and subsequent litigation will be targeted at companies, allowing allocation of funds that would be diverted to legal fees to be used for innovation or production.¹⁰²

VII. POTENTIAL CHALLENGES TO THE PROPOSAL

Nearly any proposed federal legislation faces the hurdles involved with the legislative process including lobbying, and potentially adverse political interests. However, beyond the political discourse, if the proposal of this Article was enacted, the legislation would likely face various constitutional challenges. The remainder of this Article will discuss three of the most likely constitutional challenges and how a court may determine the validity of these challenges. Other challenges may be made but the most likely grounds for a challenge to this proposed amendment to Section 284 are constitutional in nature: implications of the Takings Clause under the Fifth Amendment,¹⁰³ a potential violation of the Seventh Amendment's right to a jury,¹⁰⁴ and the application of the Equal Protection Clause of the Fourteenth Amendment.¹⁰⁵

A. Fifth Amendment: Takings Clause

In the context of patent infringement, courts have been generally unwilling to extend the Takings Clause beyond direct infringement by the federal government.¹⁰⁶

102. See John A. Amster, *The Patent Troll Toll*, INTELL. PROP. MAG., June 2013, at 33, 33. ("These cases are transfers of value between patent users and patent owners. Using the legal system to make that transfer—and incur 50% of transaction costs—makes the tax on innovation far more burdensome than it needs to be.")

103. See *James v. Campbell*, 104 U.S. 356, 357–58 (1882) (patents are property that the government cannot apportion without just compensation); Atomic Energy Act, 42 U.S.C. § 2181(a) (requiring the government to compensate patent owners for revoking patents related to nuclear material and atomic weapons); *Horne v. Dep't of Agric.*, 135 S. Ct. 2419, 2427 (2015) (treating patents as property regarding seeds).

104. See generally, U.S. CONST. amend. VII ("In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law."); *Feltner v. Columbia Pictures Television, Inc.*, 523 U.S. 340, 353 (1998).

105. See generally, U.S. CONST. amend. XIV, § 1 ("or deny to any person within its jurisdiction the equal protection of the laws.")

106. Compare *Wright v. United States*, 53 Fed. Cl. 466, 468 (2002) (pursuant to 28 U.S.C. § 1498, the Court found that the federal government was liable for patent infringement and granted reasonable and entire compensation to the plaintiff) with *Lakeview Dev. Corp. v. City of S. Lake Tahoe*, 915 F.2d 1290, 1291 (9th Cir. 1990) (repeal of law did not create a cause of action under the Takings Clause).

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Retroactive application of *inter partes* review,¹⁰⁷ actions under the Tucker Act,¹⁰⁸ and prohibition of disclosure under the Invention Secrecy Act¹⁰⁹ have all been deemed to not constitute a taking under the Fifth Amendment. Courts, at this moment, seem firmly entrenched against any application of the Takings Clause against a patent;¹¹⁰ however, a viable challenge to the use of a damage cap could be asserted. The Eighth Circuit recently inquired into whether a damages cap violated the Takings Clause in *Schmidt v. Ramsey*.¹¹¹ The analysis hinged on whether the plaintiff had a vested property right in uncapped damages in a medical malpractice case.¹¹² To determine the nature of the rights, the Eighth Circuit followed the Supreme Court's standard to look at the independent source that created them.¹¹³ In *Schmidt*, the Court held that uncapped damages were not a vested right based on the governing state law.¹¹⁴ Applying this to the proposal, the amendment to Section 284 would have to apply to patents issued after the date the amendment is signed and not apply retroactively to avoid interfering with a vested property right. Sans *ex post facto* application, the proposal serves to modify the rights created by the Patent Act at the outset of the grant of the patent.

B. Seventh Amendment: Right to a Jury

The right to a jury is a hallmark of the American judicial system and the proposal in this Article does not upset this fundamental right. The Supreme Court has provided guidance in this area.¹¹⁵ A statute cannot provide for a procedure that allows a judge to determine the amount of damages initially.¹¹⁶ Rather, as illustrated in *Schmidt*, a jury finds liability and assesses damages and the statute acts as an upper limit.¹¹⁷ This conforms to the standards set out in *Feltner* as well as the Seventh Amendment. The proposal from the Article has a similar structure to not disrupt the role of the jury. The proposal indicates an upper limit to damages and may or may not be invoked depending on the factual findings of the jury.

107. *Christy, Inc. v. United States*, 141 Fed. Cl. 641, 658–59 (2019), *aff'd*, 971 F.3d 1332 (Fed. Cir. 2020).

108. *Id.*; *See also* *Stroughter v. United States*, 89 Fed. Cl. 755, 763 (Fed. Cl. 2009).

109. *Damnjanovic v. United States Dep't of Air Force*, 135 F. Supp. 3d 601, 607 (E.D. Mich. 2015).

110. *But see* Matthew Rizzolo & Kathryn Thomson, *United States: Paying Just Compensation for "Taking" Patents?*, KLUWER IP L. (May 21, 2019), <http://patentblog.kluweriplaw.com/2019/05/21/united-states-paying-just-compensation-for-taking-patents>.

111. *Schmidt v. Ramsey*, 860 F.3d 1038, 1046 (8th Cir. 2017).

112. *Id.*

113. *Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 161 (1980) (quoting *Board of Regents v. Roth*, 408 U.S. 564, 577 (1972) "[P]roperty interests ... are not created by the Constitution. Rather, they are created and their dimensions are defined by existing rules or understandings that stem from an independent source such as state law.").

114. *Schmidt*, 860 F.3d at 1047–48.

115. *Feltner v. Columbia Pictures Television, Inc.*, 523 U.S. 340, 353 (1998).

116. *Id.* (internal citations omitted).

117. *See* NEB. REV. STAT. § 44-2825(1) (1976) (effective date July 18, 2014) ("The total amount recoverable under the ... Act ... may not exceed..."); *see also* *Schmidt*, 860 F.3d at 1046 (describing the relevant statute as "limiting the collectible amount of adjudicated compensation only after a jury places a fair value on the property deprivation that plaintiffs have suffered").

C. Fourteenth Amendment: Equal Protection Clause

The proposal in this Article suggests that it would be appropriate to exempt different classes of people from this legislation based on their status; therefore, an Equal Protection Clause analysis is prudent. For purposes of this analysis, a comparison to a recent federal district court ruling gives insight into how a federal judge may rule on a similar classification.¹¹⁸ Any evaluation of an equal protection claim must start with a determination of the appropriate standard of scrutiny to apply.¹¹⁹ The Supreme Court has “long held that a classification neither involving fundamental rights nor proceeding along suspect lines ... cannot run afoul of the Equal Protection Clause if there is a rational relationship between the disparity of treatment and some legitimate governmental purpose.”¹²⁰ Absent an implication of fundamental rights or suspect classes, the rational basis test is appropriate.¹²¹

The rational basis requires a two-prong analysis to determine (1) whether the purpose of the law is legitimate and (2) whether it is reasonable for lawmakers to believe that the classification would promote that purpose.¹²² In *NAPCO*, the purpose of avoiding additional costs to local businesses and the state economy was a legitimate purpose, satisfying prong one.¹²³ Further, the legislature believed that the law as written attempted to isolate a group that was undeterred by existing law and the Court concluded the legislature’s Act was not unreasonable.¹²⁴

The proposal in this Article suggests a similar delineation of classes based on an economic basis as North Carolina has done. Fundamental rights are not at issue unless a court takes up the Fifth or Seventh Amendment concerns addressed above. Similarly, a distinction based on an economic classification does not implicate a “suspect class” that would trigger the need for a strict scrutiny test.¹²⁵ Moving on to the rational basis test, the legitimate purpose of the state action could not be clearer or more legitimate: encourage innovation for inventors. Beyond enumeration in the Constitution,¹²⁶ a policy designed to incentivize the effective allocation of resources and the prevention of deadweight loss is a legitimate governmental interest. For the second prong, personal skepticism about the effectiveness of the categorization might be reasonable, but for purposes of the rational basis test, deference to the legislature is proper.¹²⁷

118. *NAPCO, Inc. v. Landmark Tech. A, LLC*, 555 F. Supp. 3d 189, 220 (M.D.N.C. 2021) (Named the Abusive Patent Assertion Act, the statute at issue is a North Carolina statute that has the aim of addressing bad faith assertions of patent infringement).

119. *See Armour v. City of Indianapolis, Ind.*, 566 U.S. 673, 680 (2012).

120. *Id.* (quoting *Heller v. Doe*, 509 U.S. 312, 319–20 (1993)) (internal quotations omitted).

121. *See United States v. Garren*, 893 F.2d 208, 210 (9th Cir. 1989) (“[E]conomic classifications not based on race or gender are reviewed at minimum level of equal protection analysis. The legislation need only classify persons it affects in manner rationally related to legitimate governmental objectives”).

122. *NAPCO*, 555 F. Supp. 3d at 220 (quoting *Adkins v. Rumsfeld*, 464 F.3d 456, 469 (4th Cir. 2006)).

123. *Id.* at 221.

124. *Id.*; *see also* N.C. GEN. STAT. § 75-142(5) (2014).

125. *Armour*, 566 U.S. at 680 (quoting *Regan v. Taxation With Representation of Wash.*, 461 U.S. 540, 547 (1983)).

126. *See* U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have Power . . . To Promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

127. *Armour*, 566 U.S. at 680.

VIII. CONCLUSION

The patent system is built on the idea that a patent is presumptively valid and enforceable, and this presumption promotes progress and technological innovation. However, this status quo can be perverted when an NPE enforces or threatens to enforce a patent, especially when the intent of the NPE is to exploit the realities of patent litigation to obtain a quick payoff. The current mechanisms for curtailing this abuse are ineffective and the reform efforts fail to sufficiently consider the underlying incentives driving this behavior. This Article's proposal would be a useful addition to current patent law to realign the economic incentives in favor of innovation.

This Article's proposal imposes a significant task on Congress to create a framework that provides the courts with a viable mechanism to impose a balance of damages and rights. More important than the effect of the proposal in litigation is the effect of the proposal before litigation is initiated. The damages cap is most effective as a front-end deterrent, reducing litigation overall and limiting large damage awards for NPEs. This Article posits that an increased and systemic use of a statutory damage cap could punish NPEs for bringing exploitative lawsuits, disincentivize frivolous lawsuits, and thus deter patent-trolling behavior to return worthy patent protection to innovators.