

IT'S ALL ABOUT PRINCIPLE: HOW
PATENT TROLLING, OVER BROAD
PATENTS, EVERGREENING, AND
PATENT SHELVING REPRESENT A
DEPARTURE FROM THE PATENT
CLAUSE AND HOW TO RETURN TO THE
PRINCIPLE OF THE PATENT CLAUSE

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ABSTRACT *This article explores differing patent abuses that reflect how current patent law has swung drastically away from the Patent Clause of the U.S. Constitution. The purpose of the Patent Clause is to ensure that inventors are given a limited monopoly in order to encourage innovation, or to “progress the useful arts and sciences.” There are many forms of patent abuse, but this article will explore patent trolls, overbroad patents, evergreening, and patent shelving as forms of patent abuse that reflect a departure from the Constitutional principle of progress in patent law. Each of these patent abuses hinders progress, so according to the Patent Clause, Congress has the power to correct these abuses and must return to this Constitutional principle of progress. In addition, the Court must answer inconsistent or unanswered questions, where Congress has failed to do so. All of these patent abuses are related to one another, so solving one of these patent abuses will help prevent another patent abuse discussed. Furthermore, this article also proposes various solutions to decrease and prevent patent trolling, overbroad patents, evergreening, and patent shelving.*

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I. INTRODUCTION

Patent law goes as far back in the United States as the very founding. The Constitution states that Congress has the power, “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹ Allowing authors and inventors to maintain an exclusive right enables them to reap the rewards of a monopoly in exchange for revealing the “manner of making and using the invention” for the public good.² In addition, the Patent Clause states that “upon the expiration of the patent the public be left free to use the invention.”³ The purpose of patent law is clear. In order to promote science and the useful arts, Congress has the power to grant a limited exclusive monopoly to the author or inventor, in exchange for the public being able to later benefit. However, several abuses of the patent system have emerged. A doctrine intended to improve society through scientific and artistic advancement has now warped to become a way for corporations and individuals to maximize profit and maintain monopolies in a way that is antithetical to progress.

Four major ways for patent holders to abuse patents have emerged that this article will discuss: patent trolling, overbroad patents, evergreening, and patent shelving. It is vital to discuss these four patent abuses in conjunction with one another because together these abuses represent a shift in patent law away from the U.S. Patent Clause. In addition, curbing each of these abuses individually has an impact on another patent abuse that is discussed.

Part I of this article will discuss the origins of patent law and examples of how it has changed and developed. In addition, this part will also document the history of the various types of patent abuse discussed in this article. Part II of this article will discuss four types of patent abuses: (1) patent trolling, (2) overbroad patents, (3) evergreening, and (4) patent shelving. Part II will also discuss why and how these patent abuses must be corrected and how these abuses relate to one another. Often one of these patent abuses ending will help curb patent abuse present in another area. Additionally, these four patent abuses discussed in conjunction reveal the larger issue of patent law straying from the Patent Clause of the Constitution.

¹ U.S.C.A. Const. Art. I § 8, cl. 8.

² *Scott Paper Co. v. Marcalus Mfg. Co.*, 1945 SCC OnLine US SC 152 : 90 L Ed 47 : 326 US 249, 252 (1945 (citing *Special Equipment Co. v. Coe*, 1945 SCC OnLine US SC 62 : 89 L Ed 1006 : 324 US 370, 377 (1945))).

³ *Id.*

II. BACKGROUND

A. History of Patent Law and its Purpose

In 1624, English Parliament passed the Statute of Monopolies, which allowed inventors to have limited monopolies of 14 years, limiting the Crown's ability to grant more extensive monopolies.⁴ The statute only allowed for a monopoly over "manners of new manufacture."⁵ These monopolies were not granted if the invention was "mischievous to the state," or "generally inconvenient."⁶ One example of "mischievous to the state" would be if it raised the prices of commodities.⁷ The founders used the spirit of the English law in their own adaptation of patent law, which is reflected in the Patent Clause of the U.S. Constitution. The Patent Clause does not restrict patents based on mischievousness, nor does it limit patents to manners of new manufacture, like the English law, but it does include that a limited monopoly should be enjoyed by inventors, to encourage people to invent and once the limited monopoly ends, then that creation may be enjoyed by the public, who can then innovate and improve upon that invention. The ideas of progress and scientific achievement were very important to the founders, as they were influenced by the ideals of the Enlightenment. In fact, the founding fathers opposed perpetual monopolies. Thomas Jefferson stated that a complete monopoly would "embarrass society with monopolies for every utensil existing, and in all details of life."⁸

Passed in 1790, the US Patent Act granted a 14-year monopoly to "useful, important, and new" inventions.⁹ This statute also set up a commission which would grant patents. This commission consisted of the Secretary of State, the Secretary of War, and the Attorney General. At least two of the commission members had to find an invention to be "sufficiently useful and important," in order for a patent to be granted. However, this process was slow, as the members of the commission were not able to meet together as often as desired. In 1793, Thomas Jefferson, then Secretary of State, amended the Patent Act to grant patents for "any new and useful art, machine, manufacture, or composition of matter, and any new and useful improvement on

⁴ Ladas & Perry, Education Center, "A Brief History of the Patent Law of the United States." <http://ladas.com/a-brief-history-of-the-patent-law-of-the-united-states-2/>.

⁵ Ladas & Perry, *supra* note 4.

⁶ Ladas & Perry, *supra* note 4.

⁷ Ladas & Perry, *supra* note 4.

⁸ Ladas & Perry, *supra* note 4.

⁹ Pamela Collins, "A Brief History of U.S. Patent Law," Head, Johnson, & Kachigan, P.C. May 18, 2012. http://www.hjklaw.com/blogs/archive/entry/a_brief_history_of_us_patent_law.

any art, machine, manufacture, or composition of matter.”¹⁰ The law also provided that the inventor should give a petition for patent to the Secretary of State. This effectively eliminated a commission for patent approval.¹¹

The Patent Act of 1836 created a Patent Office within the Department of State, and created the office of Patent Commissioner, who would be appointed by the president. The statute also contained a provision for patent extensions. The extension would be for an additional seven years added on to the initial 14-year patent term, so it was possible to obtain a patent for 21 years. A patentee had to apply to the Commissioner of the Patent Office for an extension, then a hearing would take place before the Secretary of State, Patent Commissioner, and Solicitor of the Treasury. At the hearing, this committee would hear evidence for and against the patent extension. The Patent Act of 1836 provided that an extension could be granted if “without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same.”¹² In 1861, the extension was eliminated entirely and a term of 17 years was put into place.¹³

The Patent Act of 1952 continued the Patent Office, although previously, the Patent Office was moved to the Department of Commerce. The Patent Act of 1952 added an additional requirement to patentability: non-obviousness.¹⁴ Furthermore, patentees had to provide a specification, which included a written description of the patent, and drawings and models or specimens, if needed.¹⁵ The patent term was also later changed to 20 years, which is the current patent term.¹⁶ In 2011, the Leahy-Smith America Invents Act changed the patent system to where the patent is given to the first to file the patent, rather than the first to invent.¹⁷ This applies to any patents filed after March 16, 2013, but all other patents fall under the prior system of first to invent.¹⁸

¹⁰ Ladas & Perry, *supra* note 4.

¹¹ 1 Stat. 318, 2 Cong. Ch. 11, 1 Stat. 318, 2 Cong. Ch. 11.

¹² *Id.* at Sec. 18.

¹³ 12 Stat. 246, 249, 16.

¹⁴ 82 P.L. 593, 66 Stat. 792, 82 Cong. Ch. 950, Sec. 103.

¹⁵ *Id.*, at Sec. 112, 113, 114.

¹⁶ *Id.*

¹⁷ 112 P.L. 29, 125 Stat. 284, Sec. 3.

¹⁸ *Id.*

B. Origins of Patent Law Abuse

i. Patent Trolls

Patent trolls are said to be as old as patent law in the United States itself. Some claim that Eli Whitney was a patent troll because when Whitney's first attempts to manufacture and sell the cotton gin failed, Whitney turned to suing the plantation owners who used Whitney's cotton gin to make money from his invention.¹⁹ In 1879, patent attorney George Selden claimed a patent for the automobile, but he did not "choose to issue the patent" until 1895. After the issuance of the automobile patent, Selden sued almost every automobile manufacturer, and he was able to obtain licenses and money from those licenses.²⁰ However, when Selden sued Henry Ford his success came to an end. Ford fought Selden's suit, and he won on appeal, where the court determined that neither Ford nor any other automobile manufacturer owed Selden anything.²¹

Patent trolls increased drastically after the 1970s and 80s. Jerome Lemelson, an independent inventor, was able to enforce his patents against other various entities, especially his patent on the barcode reader.²² However in a case that came to court involving this manner, the plaintiff in that case was not Lemelson, himself, but rather Symbol and Cognex,²³ who manufactured and sold bar code scanners and related products. In 1998, their customers received letters from Lemelson alleging that they were infringing on Lemelson's patents.²⁴ The plaintiffs would have to indemnify these customers if it was found that the customers had infringed on these patents.²⁵ so Symbol and Cognex sued on the customers' behalf. This case hinged on whether the prosecution of laches was available to bar Lemelson's claim of infringement.²⁶ Here, the Court held it was an available defense and the case was remanded.²⁷ However, in his total claims, Lemelson was awarded

¹⁹ Ryan Hauer, *Another Attempt at Patent Reform: S.1013 The Patent Abuse Reduction Act of 2013*, 24 DEPAUL J. ART TECH. & INTELL. PROP. L. 367, 370.

²⁰ Hauer, *supra*, note 19, at 370-71.

²¹ Hauer, *supra* note 19, at 371.

²² Robin M. Davis, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay v. Mercexchange*, 17 CORNELL J.L & PUB. POL'Y 431, 432. (Generally citing *Symbol Technologies Inc. v. Lemelson Medical, Education & Research Foundation LP*, 277 F 3d 1361 (Fed Cir 2002)).

²³ The trial court consolidated the separate cases of each plaintiff into one.

²⁴ *Symbol Technologies Inc. v. Lemelson Medical, Education & Research Foundation LP*, 277 F 3d 1361, 1363 (Fed Cir 2002).

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*, at 1363-68.

over \$1.5 billion in licensing fees.²⁸ This reward encouraged patent trolls to send demand letters for patents. The term patent troll was first used when Peter Detkin, Intel's Assistant General Counsel used the term "patent troll" to describe a "litigious-minded IP-holding company."²⁹ Detkin stated that a patent troll was "somebody who tries to make a lot of money off of a patent that they are not practicing and in most cases never practiced."³⁰

In modern times, patent trolls often own large shell companies.³¹ The largest patent trolls can own thousands of shell companies, which hold thousands of patents.³² It can be difficult in litigation to reveal the identities of these shell companies, or even to obtain damages from them because courts are "hesitant to pierce the corporate veil."³³

ii. Overbroad Patents

The broader the claim, the more protection the inventor has under the law. However, inventors realized they could further their monopolies by drafting overbroad patents, or claims that go beyond what the inventor has actually invented.

In 1922, Christian Nelson obtained a patent for the Eskimo Pie, an ice cream bar. The patent's claims described, "a core consisting of a block or brick of ice cream, of general rectangular configuration, that is sealed within a shell of edible material which may be like that employed in coating chocolate candies although preferably modified to harden at a lower temperature."³⁴ This patent shows that Nelson received a monopoly on chocolate covered ice cream. In fact, an internal report of Eskimo Pie's office states that they celebrated the broadness of the patent because they not only patented their invention, but every single variation of their invention as well.³⁵ Eskimo Pies then used its patent to sue competitors, but the patent was later invalidated for its broadness.³⁶

²⁸ Davis, *supra* note 22. (Citing Teresa Riordan, "The Lemelson Foundation, named for a Prolific Inventor, aims to Reward Inventions that Help Poor Countries Develop," *N.Y. Times*, Apr. 26, 2004 at C4).

²⁹ Davis, *supra* note 22. (Citing Raymond P. Niro & Paul K. Vickrey, *The Patent Troll Myth*, 7 *SEDONA CONF. J.* 153, 153 (2006)).

³⁰ Hauer, *supra* note 19, at 369.

³¹ Hauer, *supra* note 19, at 371.

³² Hauer *supra* note 19, at 371.

³³ Hauer, *supra* note 19, at 371-72.

³⁴ Charles Duan, "Ice Cream Patent Headache," *Slate*, Oct. 20, 2015, http://www.slate.com/articles/technology/future_tense/2015/10/what_the_history_of_eskimo_pies_says_about_software_patents_today.html.

³⁵ Duan, *supra* note 34.

³⁶ Duan, *supra* note 34, (citing *Eskimo Pie Corp'n. v. Levous*, 24 F 2d 599, 600 (DNJ 1928)).

In modern times, overbroad patents are increasingly seen in the technology sector. This is due to changing terminology, which can be imprecise, and the tendency of the claims to describe a function, which leads to general construction of claims.³⁷ Overbroad patents, once granted, can be used against competitors, who actually have invented what is claimed in the initial patent, unlike the initial patent holder.

iii. Evergreening

The origins of evergreening and even overbroad patent claims can be seen in the first surge of patent litigation that occurred between the mid-1840s to the mid-1880s. This litigation widely fell under the Patent Act of 1836.³⁸ Since 1793, the patent law operated more as a “registration regime,” wherein inventors would register patents, and the issue of the patent novelty or validity was left for the courts to decide. This led to widespread calls for change, and Congress responded with the Patent Act of 1836. This act created a staff of professional patent examiners within the Patent Office. Much of the litigation that arose in the mid-1840s resulted from inventions that fell under previous law or patents that were granted “term extensions.”

Term extensions could be granted “legislatively, by Congressional private act, or administratively, under the 1836 Patent Act, by a board of senior federal officeholders consisting of the Secretary of State, the Solicitor of the Treasury, and the Commissioner of Patents.”³⁹ Beginning in 1848, the Commissioner of Patents alone had the power to grant extensions.⁴⁰ The Commissioner of Patents granted extensions to certain patentees who had “without neglect or fault on his part...failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same.”⁴¹ These term extensions were “elastic” and lobbying efforts helped inventors gain extensions for the most innovative patents of the day.⁴²

One example of such a patent that was given a term extension and heavily litigated was Thomas Blanchard’s turning lathe, which enabled the user to make irregular wood forms, like gun-stocks, in ten minutes, which

³⁷ David J. Kappos, *Investing in America’s Future Through Innovation: How the Debate Over the Smart Phone Wars (Re)Raises Issues at the Foundation of Long-Term Incentive Systems*, 16 STAN. TECH. L. REV. 485, 495.

³⁸ Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 YALE L.J. 848, 858.

³⁹ Beauchamp, *supra* note 38, at 860 (citing § 18 5 Stat. at 124.)

⁴⁰ Beauchamp, *supra* note 38, f. n. 36.

⁴¹ Beauchamp, *supra* note 38, 860 (citing § 18, 5 Stat. at 125).

⁴² Beauchamp, *supra* note 38.

required less manual labor.⁴³ His patent was granted in 1819, but was not widely enforced, so in 1834, Blanchard received a private act from Congress which extended his patent another 14 years.⁴⁴ Blanchard, with the extension in his hand, then used his extended monopoly to sue dozens of other woodworkers.⁴⁵

Charles Goodyear also used patent extensions and litigation. After he patented his rubber vulcanization method in 1844,⁴⁶ Goodyear granted licenses to rubber goods manufacturers. Goodyear also gained a “reissue amendment to the patent that broadened its scope.”⁴⁷ Goodyear then sued both licensed and unlicensed manufacturers, bringing over 200 suits between the 1840s and 1850s.⁴⁸ After winning the “Great India-Rubber Case,” Goodyear was granted a patent extension for another seven years because “no inventor probably had ever been so harassed, so trampled upon, so plundered by that sordid and licentious infringers known as ‘pirates.’”⁴⁹

Some of the most contentious litigation in the 1850s was caused by the “Sewing Machine Wars,” because it was very difficult to manufacture a quality sewing machine without infringing on one of the many patents contained within a sewing machine.⁵⁰ Eventually the leading manufacturers created a “patent pool” called the “Sewing Machine Combination.”⁵¹ Lawsuits between the members of this pool decreased drastically; however, the suits against non-members remained in place.⁵² Elias Howe, who held many of the initial patents, also was able to extend his patents for another seven years, in which he earned \$2 million by the time his patent finally expired.⁵³

While these term extensions and patent reissues do not occur so explicitly in modern law, one can see how these reissues and extensions were used to perpetuate monopolies, rather than strike a balance between inventor rights and innovation. In fact, I argue that these term extensions became the precursor of evergreening. Additionally, the sewing machine debacle is an example of how overbroad patents can limit innovation. In modern times, evergreening is seen more in the pharmaceutical industry.

⁴³ Beauchamp, *supra* note 38.

⁴⁴ Beauchamp, *supra*, note 38, at, 860-61.

⁴⁵ Beauchamp, *supra*, note 38, at 861.

⁴⁶ Beauchamp, *supra*, note 38, at 864.

⁴⁷ Beauchamp, *supra* note 38, at 865.

⁴⁸ Beauchamp, *supra*, note 38, at 865.

⁴⁹ Beauchamp, *supra*, note 38, at 865 (citing Charles Goodyear, 101 N. AM. REV. 65, 98 (1865) (citing in re Goodyear Patent, 1858 Dec. Comm’r Pat. 9)).

⁵⁰ Beauchamp, *supra*, note 38, at 865.

⁵¹ Beauchamp, *supra*, note 38, at 865-66.

⁵² Beauchamp, *supra*, note 38, at 866.

⁵³ Beauchamp, *supra*, note 38, at 866.

iv. Patent Shelving

There are times when patents are not utilized or commercialized when a patent is simply not profitable, but at other times patentees will purposefully “shelf” a patent for strategic reasons.⁵⁴ One example of this was when Russian caviar manufacturer the Romanoff Caviar Company created artificial caviar, but it never marketed the artificial caviar because it did not want to compete with its real caviar in the U.S. market.⁵⁵ In the United States, Xerox obtained a series of patents in order to preserve its market in “plain paper photocopier technology,” but then Xerox never used or licensed those patents. In a lawsuit over this issue, the court ruled there was no antitrust violation because this was a lawful use of Xerox’s patent rights.⁵⁶

In an even more egregious example of patent shelving, Liggett & Myers Company believed they discovered a way to remove many of the harmful carcinogens in cigarettes.⁵⁷ However, the patent was never marketed and research halted. This was because revealing that a safer cigarette was discovered would also admit that cigarettes were dangerous.⁵⁸ Phillip Morris threatened to sue Liggett if Liggett “violated the industry agreement not to disclose negative information on smoking and health.”⁵⁹

Patent shelving also occurs in the pharmaceutical industry. A scientist developed a “protein-binding factor,” which allowed EPO (erythropoietin) to remain in the body, rather than being excreted, which increased the EPO uptake by a ten- to fifty-fold factor. EPO assists in the creation of “oxygen-carrying” red blood cells and is effective in treating anemic people, including pre-mature infants. The pharmaceutical company, Amgen, held many of the patents related to EPO technology. Since this medication was so effective, people would need less EPO, so Amgen was not interested in marketing the product due to concerns about profits. However, since Amgen held so many other vital components to EPO technology, no other pharmaceutical company could use the technology either.⁶⁰ Therefore, a lifesaving technology benefitted no one in the public, yet the patent law protected a corporation in maintaining profits, while ensuring no one else could develop that technology.

⁵⁴ Kurt M. Saunders, *Patent Nonuse and the Role of Public Interest as a Deterrent to Technology Suppression*, 15 HARV. J. LAW & TEC. 389, 391-92.

⁵⁵ Saunders, *supra* note 54, at 392-93.

⁵⁶ Saunders, *supra* note 54, at 393.

⁵⁷ Saunders, *supra* note 54, at 393.

⁵⁸ Saunders, *supra* note 54, at 393-94.

⁵⁹ Saunders, *supra* note 54, at 394.

⁶⁰ Saunders, *supra* note 54, at 394.

This history of patent law and its abuses reflect how patent law has shifted away from progress and public benefit in more favour of patent holders and encouraging monopolies. This shift away from the idea of limited monopolies in exchange for progress and public benefit has given rise to abuses in the patent system. These abuses must be addressed in order to begin the shift back to the Constitutional principle of progress. Also, addressing these abuses will hinder other forms of abuses once we begin a shift back to progress.

III. PATENT ABUSES AND SOLUTIONS

A. Patent Trolls

The first example of patent abuse that reveals a move away from the Patent Clause of the U.S. Constitution is “patent trolling.” The purpose of the Patent Clause is to encourage innovation, so if patent trolling is a “tax on innovation” and a “detriment to progress” then an argument can be made for reform to protect the Constitution’s goal of promoting progress in science and useful arts.”⁶¹ Patent trolls, or “patent assertion entities,” focus on aggressive litigation. For example, they threaten “to sue thousands of companies at once, without specific evidence of infringement against any of them; creating shell companies that make it difficult for defendants to know who is suing them; and asserting that their patents cover inventions not imagined at the time they were granted.”⁶² Patent trolls are the very anti-thesis of patent law’s original purpose because they hinder innovation.⁶³

i. Defining Patent Trolls

First, there is the daunting task of defining a patent troll. One must practice caution in defining patent trolls to avoid broad generalizations, which would result in legitimate entities inclusion in the definition. Patent troll is a pejorative term, but the use of the term is still permitted in court.⁶⁴ This article

⁶¹ Thomas H. Kramer, *Proposed Legislative Solutions to the Non-Practicing Entity Patent Assertion Problem: The Risks for Biotechnology and Pharmaceuticals*, 39 DEL. J. CORP. L. 467, 473.

⁶² Grace Heinecke, *Pay the Troll Toll: The Patent Model System is Fundamentally at Odds with the Patent System’s Goals of Innovation and Competition*, 84 FORDHAM L. REV. 1153. (quoting Exec. Office of the President, Patent Assertion and U.S. Innovation (2013)) https://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf.)

⁶³ See generally, Heinecke, *supra* note 62.

⁶⁴ Kramer, *supra* note 61, 472, FN 23 (citing James Beeson & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 420).

will not explore what term of art should be precisely used for patent trolls, but the term patent troll will be used throughout this article.

The White House uses the term “patent assertion entities” rather than the term, patent trolls,⁶⁵ but the terms are synonymous. The White House does not give a bright line definition of patent trolls, but rather, lists out factors that are typical behavior of patent trolls. Patent trolls should not have a bright-line definition, but rather be determined by a set of factors as they are in the White House Report.

a. The White House Factors

The White House outlines seven business characteristics of patent trolls. These characteristics in combination with other exigent factors should be used to determine if an entity is a patent troll.

“(1) They do not practice their patents; that is, they do not research or develop any technology or products related to their patents; (2) They do not help with ‘technology transfer’ (the process of translating the patent language into a usable product or process); (3) They often wait until after industry participants have made irreversible investments before asserting their claims; (4) They acquire patents solely for the purpose of extracting payments from alleged infringers; (5) Their strategies for litigation take advantage of their non-practicing status, which makes them invulnerable to counter-claims of patent infringement; (6) They acquire patents whose claim boundaries are unclear, and then (with little specific evidence of infringement) ask many companies at once for moderate license fees, assuming that some will settle instead of risking a costly and uncertain trial; (7) They may hide their identity by creating numerous shell companies and requiring those who settle to sign non-disclosure agreements, making it difficult for defendants to form common defensive strategies (for example, by sharing legal fees rather than settling individually).”⁶⁶

These factors strike a balance between adequately defining patent troll while avoiding overbroad drafting. For example, universities often licence their patents to other entities, and do not actually utilize the patents they created themselves. However, it would be absurd to characterize all universities who do this as patent trolls because this is a legitimate practice. This is why in addressing the issues of patent trolls, it is vital to avoid broad, sweeping

⁶⁵ “Patent Assertion and U.S. Innovation,” Exec. Off. Of the Pres., June 2013, https://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf.

⁶⁶ “Patent Assertion and U.S. Innovation,” *Supra*, note 65.

language. On the other hand, patent trolls must be adequately defined to address the issues that they cause. The White House Factors should serve as a guideline for defining patent trolls by Congress. Additionally, these factors should serve as a guideline for the courts when determining if a suit is, in fact, a frivolous suit brought by a patent troll. Furthermore, these factors can also serve as guidelines for assessing if an entity or individual is a patent troll for the purposes of levying damages against them.

b. Patent Troll Prevention Act (Arizona Statute)

One statute that addresses the issue patent trolls is the Patent Troll Prevention Act, which was passed by the Arizona legislature. This statute outlines factors that the court may consider in determining if an entity has made a bad faith patent infringement assertion or a good faith patent assertion. This statute is similar in the approach suggested in this article. The court should utilize factor tests in order to determine if an entity is in fact a patent troll to prevent overbroad bright line rules, while addressing the issue of patent trolls effectively.

One of the factors for considering an entity as a patent troll is (1) if the demand letter does not contain all of the following: “(a) the patent number issued by the USPTO or foreign agency, (b) name and address of the patent owner or assignee, if any, (c) facts relating to the specific areas in which the target’s product, service, or technology infringes the patent or is covered by the claims of the patent, (d) an explanation of why the person making the assertion has standing, if the assignment system of the USPTO does not identify the person asserting the patent infringement as the owner.”⁶⁷ The statute outlines other factors as well. (2) If the patent troll’s “target requested the information mentioned before, and the other party failed to give that information in a reasonable time,” then the other party may be considered a patent troll.⁶⁸ Other factors include: (3) if the person making the demand did not previously compare the complaints in the patent to the target’s own product, (4) the demand requires a licensing payment “within an unreasonably short period of time, (5) the person knew or should have known that the assertion was without merit, (6) the assertion of patent infringement contains false, misleading or deceptive information, (7) the person or a subsidiary or an affiliate of the person has previously filed or threatened to file one or more lawsuits based on the same or substantially equivalent assertion of patent infringement and a court found the person’s assertion

⁶⁷ 2016 Ariz. HB 2386

⁶⁸ *Id.*

of patent infringement to be without merit.⁶⁹ The statute also allows courts to consider other factors, the court deems relevant, as well.⁷⁰ This statute, like the White House factors, clearly takes measures to identify patent trolls without making an overbroad bright line rule. The Arizona statute should serve as a guideline for Congress to adopt similar federal standards. This set of factors prevents legitimate companies and inventors from being swept up by an overly broad definition of patent trolls. This factor test should also be used to empower the judiciary to determine what entities are patent trolls on a case-by-case basis, rather than an overly broad statutory standard.

ii. Patent Trolls and Their Impact on Innovation

Now the question turns to if in fact patent trolls harm innovation.⁷¹ Direct “out-of-pocket” expenses for defendant firms total \$29 billion, “in aggregate, patent litigation destroys over \$60 billion in firm wealth each year.”⁷² Research also shows that entities targeted by patent trolls reduced innovation compared to entities that were not targeted.⁷³ Surveys found that entities significantly decreased in their ability to innovate due to patent trolls.⁷⁴ Frequent patent trolls also caused a decline in venture capitalism investments.⁷⁵ It is clear that patent trolling has, in fact, inhibited innovation, and as the purpose of patent law is to promote innovation there must be change.

There is an argument that patent trolls actually add to the economy by creating a secondary market. One feature of this secondary market is the rise of corporations emerged which help people buy and sell patents.⁷⁶ Patent auctions are also increasing. Previously, this type of auction would only happen with bankrupt sellers auctioning off patents. Recently, a wide variety of patent sellers and purchasers buy and sell patents in this way.⁷⁷ Thereby, it is argued, that this creates more innovation because this gives inventors the ability to make a profit by selling their patents. As a result, inventors will be encouraged to invent from this incentive because of the inventor’s ability to make a profit from the invention quickly. However, these auctions also present an opportunity for patent trolls to purchase patents, which will then

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ See U.S.C.A. Const. Art. I § 8, cl. 8.

⁷² James Bessen, “The Evidence is in: Patent Trolls Do Hurt Innovation.” *Harvard Business Review*, <https://hbr.org/2014/07/the-evidence-is-in-patent-trolls-do-hurt-innovation>.

⁷³ Bessen, *supra* note 72.

⁷⁴ Bessen, *supra* note 72.

⁷⁵ Bessen, *supra* note 72.

⁷⁶ Don Clark, “Inventors See Promise in Large-Scale Public Patent Auctions,” *The Wall Street Journal* Mar. 9, 2006. <http://www.wsj.com/articles/SB114187357457393357>.

⁷⁷ Clark, *supra* note 76.

inhibit innovation. There is a way in which patentees can sell and other entities can purchase patents while encouraging innovation. The key to solving that issue is by ensuring that those patents are actually utilized. This article will explain how to solve the issue of patent trolls obtaining these patents, yet doing nothing with them, can be solved through compulsory licensing in the patent shelving section.

It is also proposed that patent trolls actually encourage inventors to use their patents, since they usually target patents that are not in use; however, this argument is weak. It is clear that there are other ways to encourage inventors to utilize or license their patents legitimately without the looming threat of patent trolls. Additionally, the negative impact that patent trolls have on innovation and development heavily outweighs the mere possibilities that they create a secondary market or encourage innovation in a circular way.

iii. Solutions to the Patent Troll Problem

The Constitution permits Congress to change patent law to promote innovation, so a legislative response to patent trolling is warranted. One of the reasons that patent trolling is so prevalent is because people keep “feeding the trolls,” in other words, legitimate entities are more likely to pay a patent troll’s demands, rather than go through expensive litigation. The first way this could be solved is through the patent process itself. More resources must be given to the USPTO in order to prevent patent trolls from obtaining patents in the first place. In addition, since the Patent Clause gives Congress the power to enforce laws in order to encourage progress in the useful arts and sciences, then Congress should use the White House Factors as a guide for defining patent trolls, then pass a law that is similar to the Arizona statute, in which federal courts will then have guidelines by which to determine whether or not an entity or individual is a patent troll.

The determination of an entity being a patent troll or not should be a question of law and not fact. One reason that entities settle with patent trolls is because patent verdicts are unpredictable, which makes litigating against patent trolls risky.⁷⁸ This causes many entities to believe it is safer and easier to simply “pay the troll.” A legal standard used to determine if an entity is a patent troll would be more consistent and precedent could build which would make this litigation much more predictable. More predictable

⁷⁸ Ashley Chuang, *Fixing the Failures of Software Patent Protection: Deterring Patent Trolling by Applying Industry-Specific Patentability Standards*, 16 S. CAL. INTERDIS. L.J. 215, 229.

outcomes would decrease the risk in litigating patent trolls. Patent trolls would no longer be able to take advantage of this unpredictability to force entities into paying them.

The punishments for patent trolls should also be more severe. Entities are hesitant to fight patent trolls because the cost of litigation often outweighs the benefits.⁷⁹ Judges should be encouraged to award punitive damages more often in cases of egregious and clear patent trolling. The use of possible punitive damages will also encourage targets of patent trolls to countersue rather than pay the patent trolls' demands, since there is a financial incentive. This would reduce the amount of settlements, upon which patent trolls rely, and in turn, reduce patent trolling.

In addition, judges should also be encouraged to award attorney's fees to help offset the cost of fighting a patent troll. Currently the awarding of attorney's fees in a patent infringement suit is governed by 35 U.S.C. § 285 which provides that attorney's fees are awarded if the case is exceptional.⁸⁰ It is understandable that judges are hesitant to find a case exceptional, since there are little other guidelines. Under the Patent Abuse Reduction Act, this statute is slightly amended to shift the costs to an affiliated party of the non-prevailing party, which would be a way to get into the pockets of the shell company that often is the entity truly behind the patent troll.⁸¹ This statute has not led to increased cost shifting because there is little outlining in how the procedure for shifting costs should be done.⁸² The proper way to solve this is instead of simply stating that judges can shift the costs, is to outline when that may be appropriate. The proper solution to this would once again be the factor tests that are outlined in the Arizona statute and the White House's defining factors of a patent troll. By using those tests it will be clear when an entity is indeed a patent troll and if those factors are convincing, then damages for attorney's fees should be imposed and encouraged. Using these factors in future cases will also allow courts to build precedent for when to award these damages.

B. Overbroad Patents

Overbroad patents are another issue that must be reformed to return to the constitutional principle of innovation. Software patents are often overbroad because the patent will give the inventor patent rights that "go beyond the

⁷⁹ Chuang, *supra* note 78.

⁸⁰ Hauer, *supra*, note 19, at 375.

⁸¹ Hauer, *supra*, note 19, at 396.

⁸² Hauer, *supra*, note 19, at 396.

technology that an inventor has actually invented and disclosed.”⁸³ Then the inventor will threaten litigation against other inventors whose inventions may happen to fall under such broad construction claims. In this way, inventors use patent law as a sword to cut down competitors and innovation, instead of as a shield to protect their legitimate interests, as patent law intended.

Overbroad patents are often taken advantage of by patent trolls as well, who are then able to assert patent infringement against their targets for a patent that goes beyond what was even created.⁸⁴ Preventing overbroad patents would also help solve the previously mentioned patent trolling issue. Congress has not taken many effective recent measures in combatting overbroad patents. However, the judiciary has addressed overbreadth in claim construction. The courts should develop more concise and clear rulings on claim construction and answer questions regarding this issue that were previously left unanswered.

i. Claim Construction and a Solution? Claim Construction and a Solution?: Why the Court Should Have Granted Cert to Hear *Google Inc. v. Cioffi* and Should Solve Overbroad Patents in the Future

Overbroad patents are granted because the USPTO is “overworked, understaffed, and underfunded.”⁸⁵ Overbroad patents are often granted because of the claim construction process. In this process, patent attorneys write claims for a patent as broadly as possible, in order to expand a patent holder’s rights and monopoly as broadly as possible.

Google asserted a petition for *cert* in *Google Inc. v. Cioffi*. In the petition, Google claimed that the current claim construction process “leads patent lawyers to play games with the Patent Office, and in the event of a lawsuit, to allow patent owners to benefit from ambiguous phrasing they’re responsible for in the first place.”⁸⁶ This petition arose out of *Cioffi v. Google Inc.* over Cioffi’s patent for anti-malware software. Cioffi claimed that Google Chrome infringes on its “web browser process.”⁸⁷ The district court ruled in favor of Google, but the appeals court held that Chrome’s method of finding

⁸³ Collins, *supra* note 9, 1400.

⁸⁴ Chuang, *supra* note 78, at 227.

⁸⁵ Chuang, *supra* note 78, at f.n. 15.

⁸⁶ Jeff John Roberts, *Fortune*, “Google Asks Supreme Court to Hear Chrome Case Over Patent History” Aug. 25, 2016. <http://fortune.com/2016/08/25/google-supreme-court-chrome/>.

⁸⁷ Roberts, *supra* note 86.

malware infringed Cioffi's patent.⁸⁸ Earlier the Patent Office rejected Cioffi's claim because the Office stated that the process they described, which was a secondary computer process outside the browser itself, was already invented. So, Cioffi tweaked the language.⁸⁹ However, there is no clear definition for "web browser process." The Appeals Court held that there was no "clear and unmistakable statement" which supported Google's case, so the court reversed in favor of Cioffi.⁹⁰ Google argued in its petition that the "clear and unmistakable standard" is too high, and this uncertainty in software patents benefits patent trolls.⁹¹ "Overbroad patent claims are a plague, especially in the vital and growing high-tech sector. All of this plays into the hands of entities that buy patents and then use litigation or the threat of litigation to extract settlements from alleged infringers."⁹²

Google's petition asked the Supreme Court to address the questions once and for all: should courts examine prosecution history to determine an ambiguous term's meaning, and when a patented claim is amended should that amended language then be strictly construed against the applicant, or should the court continue to use the "clearly and unambiguously disavows" standard?⁹³ The Court denied *cert* to Google,⁹⁴ but the Court should have granted *cert* to examine prosecution history in context to determine ambiguous terms. Technology advances quickly, and in that timeframe, the Court should not reward those innovators who are best able to play with language and semantics, rather the Court should enforce a "say what you mean and mean what you say" standard. The Supreme Court should decide to hear cases involving claim construction in the future, in order to prevent overbroad claim construction.

ii. A Silver Lining for a Claim Construction Solution: *Columbia University v. Symantec Corpn.*

It appears that The Federal Circuit adopted the standard that Google proposed in its petition, in the case, *Columbia University v. Symantec Corpn.* In this case, the term in the claim at issue is "byte sequence feature."⁹⁵ Columbia's claim construction, which was the subject of litigation,

⁸⁸ Roberts, *supra* note 86.

⁸⁹ Roberts, *supra* note 86.

⁹⁰ Roberts, *supra* note 86.

⁹¹ Roberts, *supra* note 86.

⁹² Roberts, *supra* note 86.

⁹³ Dennis Crouch, *PatentlyO* "Strictly Construing Amended Claims Against the Patentee," Feb. 4, 2016, <http://patentlyo.com/patent/2016/02/strictly-construing-patentee.html>.

⁹⁴ Google Inc. v. Cioffi, No. 16-200, 2017 WL 69713 (US Jan 9, 2017).

⁹⁵ Columbia University v. Symantec Corpn., (Fed Cir 2015), <http://www.ca9c.uscourts.gov/sites/default/files/opinions-orders/15-1146.Opinion.1-29-2016.1.PDF>, 2.

referred to language Columbia used in two previous different patents, but that language seems to contradict one another. The court cited to *Phillips* in which the court held that the “specification made is always highly relevant.”⁹⁶ The court also stated in this case that the patentee cannot rely on its own confusing language in order to support a patent. The court states, “the claims are nonsensical in the way a claim to extracting orange juice from apples would be, and thus are indefinite.”⁹⁷ Therefore, Columbia’s patent claims are invalid. The Court sent a clear statement that patentees crafting language ambiguously and overly broad should not be permitted. The Court especially frowned upon patentees who then relied on the ambiguous and overly broad claim constructions to claim a patent beyond what the inventor actually invented. Other courts should follow the logic of the Federal Circuit in order to assert that an entity cannot rely on its own confusing language to broaden a patent, in other words, “mean what you say and say what you mean.” Rulings of this kind would ensure that patent trolls and overbroad patent abuses are limited. Confusing litigation over confusing terms would also decrease because patentees could no longer play semantic games with the courts.

Additionally, Microsoft has called for the Court to abolish the “plain and ordinary” meaning standard.⁹⁸ “Plain and ordinary” meaning has been interpreted by courts to mean something outside the context of the patent.⁹⁹ Claim construction should be interpreted in the full context of the patent, and the Court should clarify this point, rather than an overly broad, “plain and ordinary” meaning standard.¹⁰⁰ This means that, like Google’s claims, patent holders will be held to the language they use in their patent, and the context of the patent will determine the patent’s claims, rather than an ambiguous “plain meaning standard.”

The Court should have granted *cert* to *Google Inc. v. Cioffi*, but when another opportunity to hear a similar case arises, the Court should rule on it. For now, courts should adopt the standard of *Columbia University v. Symantec Corpn.*, to curb overbroad claims by abolishing the “plain and ordinary” meaning standard. In the future, the Court should adopt a “say what you mean and mean what you say” standard, in which the Court interprets claim construction strictly and in the context of the patent.

⁹⁶ *Id.*, at 10 (quoting *Phillips v. AWH Corpn.*, 415 F 3d 1303, 1315 (Fed Cir 2005) (en banc).

⁹⁷ *Id.*, at 13.

⁹⁸ “Brief of Microsoft Corporation and Professors Vincent Chiappetta and Lee A. Hollaar as *Amici Curiae* in Support of Neither Party,” for *Cuozzo Speed Tech. v. Lee*, No. 15-446. Hereinafter, “Brief of Microsoft Corporation.”

⁹⁹ “Brief of Microsoft Corporation.”

¹⁰⁰ “Brief of Microsoft Corporation.”

iii. Kill Two Birds with One Stone: Answering the Questions in *Bilski*

The Court should also comment on, if not hold, a more specific ruling for software patents in future cases. There is a proposition that patent law requires a “software-specific patch.”¹⁰¹ A solution is to “root a protectable invention in the algorithms that an inventor actually employs to achieve a claimed function, and they can limit the scope of functional software claims to particular algorithms for achieving the claimed functions.” This approach is the best way to solve the issue of overbroad patents.

The very nature of software, in that it is functional and expands rapidly, means that patents in this area must be scrutinized for overbreadth. As software technology advances and develops exponentially, a patent for 20 years is a very serious and could create a powerful monopoly. This article will not address whether software patents in themselves should be limited less than 20 years. With that consideration, if an overbroad patent is granted, it will mean that no development of what is claimed can be done for 20 years other than that of the patent holder; therefore, to keep innovation moving forward software needs its own patch, and overbroad patents must be reined in.

In *Bilski v. Kappos*, the Supreme Court held that a “machine-or-transformation” test, is not the sole test to determine the patentability of a business practice algorithm, but the Court failed to discuss the standards under which other algorithms or software patents should be held to.¹⁰² The “machine or transformation” test requires a restriction to one machine or device or “transform[ation] from one form to another.”¹⁰³ The Court in *Bilski* held that the machine-or-transformation test was a “useful and important clue, an investigative tool, for determining whether some claimed inventions are [patentable processes]. The machine-or-transformation test is not the sole test for determining whether an invention is a patentable “process.”¹⁰⁴ The Court left open many questions with this case, and these questions must be resolved to prevent overbroad patents and improve innovation. This standard should be clearer regarding algorithms and software. The way in which to do this would be to provide the “patch” for software patents in patent law. Software patents should be treated differently than other patents. The standard should be the specific tasks, unique to that particular software, that is claimed are patented, and nothing more. The claim construction in

¹⁰¹ Collins, *supra* note 9, at 1405.

¹⁰² Jeremy R. Hager, *God in the Machine: Encryption Algorithms and the Abstract Exception to Patentability*, 16 MARQ. INTELL. PROP. L. REV.483, 502-503.

¹⁰³ Hager, *supra* note 102.

¹⁰⁴ *Bilski v. Kappos*, 2010 SCC OnLine US SC 89 : 177 L Ed 2d 792 : 561 US 593, 604 (2010).

software patents should also be interpreted more narrowly, since software develops from previous software. This would be a proper judicial solution to the issues that Congress has failed to address. Congress also has the power to abolish software patents entirely, but that issue is beyond the scope of this article.

The judiciary solution would help streamline the software patent process, reduce confusing terms, reduce litigation, reduce patent trolling, and reduce overbroad patents. In this way, the courts will be able to solve software patent issues more efficiently under this new system, since the law on software would be more clear. Also, this will increase other developers' ability to innovate without fearing lawsuits due to infringing on an overbroad patent.

Additionally, the USPTO should have its own division that deals specifically with software patents. The USPTO should be divided per industry, in order to organize and improve the patent process overall. This will obviously require more investment in the USPTO, but innovation would then go forward.

Limiting the use of overbroad patents would also help to limit patent trolls. Patent trolls often buy overbroad patents in order to sue as many entities as possible. By not granting these overbroad patents in the first place, then the issue of patent trolling is also partially resolved. Additionally, limiting overbroad patents will help to solve the next patent abuse discussed, evergreening.

C. Evergreening

Evergreening is another issue that must be solved by returning to the Patent Clause. Evergreening occurs when a patent holder modifies a patent while under patent protection, so they can then apply for an extension of the patent, thereby extending the monopoly granted to the patent holder by the initial patent.¹⁰⁵ Often these modifications are arbitrary¹⁰⁶, so the patent holder is able to extend their monopoly, while not making any truly innovative modifications to the patent. Extending that monopoly is harmful to innovation.

Evergreening is especially problematic and prevalent in the pharmaceutical industry, so this article will mainly focus on evergreening in that context. Evergreening, in the context of the pharmaceutical industry, "occurs when a

¹⁰⁵ Brian R. Bouggy, *Follow-On Biologics Legislation: Striking a Balance Between Innovation and Affordability*, 7 *IND. HEALTH L. REV.* 367, 380.

¹⁰⁶ Bouggy, *supra* note 105, at 381.

drug manufacturer makes small improvements to an old medicine, allowing it to renew its patent and to extend the time it will enjoy monopoly control rights.”¹⁰⁷

A few examples of small modifications for drugs to obtain evergreen status include changing the milligram strength of medication, changing the medication's form (such as from a pill to a capsule), changing the delivery method (such as from injection to inhalation), expanding the medicine's application to more conditions, using time-release mechanisms, and adding sugar molecules to the formula.¹⁰⁸ These small modifications are not innovative, so these changes should not lead to an extension of a patent. The whole purpose of patent law is to give an inventor a monopoly over the patent for a limited time in exchange for eventually allowing the public to use that patent. Innovation occurs when people develop off of their predecessor's ideas.¹⁰⁹ If that monopoly is simply perpetuated over and over, then it will be impossible for innovation to occur, which is antithetical to the Patent Clause. The Constitution calls for Congress to act to encourage innovation, so this issue calls for a legislative solution.

In 2003, Congress enacted legislation to curb evergreening by allowing no more than one 30-month stay per product.¹¹⁰ In addition, Congress passed the Patent Reform Act of 2007, which only allows a patent holder to file two continuation or continuation-in-part applications and one request for continued examination.¹¹¹ However, continuations still make up a large percentage of the patent applications received by the USPTO. The USPTO estimates that about one third of the patent applications they receive are continuation patents.¹¹² It is also estimated that without continuation patents, the USPTO would be able to operate more efficiently.¹¹³ Therefore, further actions should be taken in order to decrease continuations, so the USPTO will operate more efficiently. A more efficient USPTO will progress the useful arts and science by ensuring that patents are granted in a timely and proper manner. It is evident that the Patent Reform Act of 2007 has not been effective in curbing continuation patents. Further actions must be taken by Congress to prevent evergreening.

¹⁰⁷ Zoe Lynn Turrill, *Finding the Patent Balance: The Novartis Glivec Case and the TRIPS Compliance of India's Section 3(d) Efficacy Standard*, 44 GEO. J. INT'L L. 1555, 1557.

¹⁰⁸ Bouggy, *supra* note 105, at 380.

¹⁰⁹ Bouggy, *supra* note 105, at 380.

¹¹⁰ Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Abuse Continuations*, 84 B.U.L. REV. 63, 82.

¹¹¹ Hedwig A. Murphy, *Limiting Continuations: A Pharmaceutical Based Perspective*, 6 RUTGERS J.L. & PUB. POL'Y 856, 861.

¹¹² Turrill, *supra* note 107

¹¹³ Turrill, *supra*, note 107, at 861-62.

i. It's Not Easy Being Green: India's Section 3(d)

India addressed the issue of evergreening through section 3(d). India's section 3(d) law does not allow the granting of patents if the claim is a "mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy."¹¹⁴ India's Supreme Court held that "under the scheme of a patent, a monopoly is granted to a private individual in exchange of the invention being made public so that, under the end of the patent term, the invention may belong to the people at large who may be benefited by it."¹¹⁵ The Supreme Court of India further stated that "[p]rotecting inventions that are already generally known to a skilled person does not induce inventors to undertake commercially relevant research."¹¹⁶ India's principle of patent law is the same as it is in the United States. A monopoly is given in exchange for the limited nature of the monopoly, so innovation will be encouraged, and then others can develop on that innovation, thus progress in the useful arts and sciences will be made. Therefore, a statute such as the one in India would provide a valid framework for preventing evergreening. And that statute, with modifications, would be constitutional, since the principles of our patent laws: innovation and progress are nearly identical.

Monopolies negatively impact consumers; however, a balance must also be struck to encourage innovation.¹¹⁷ The Constitution does allow a limited monopoly to inventors in exchange for the innovation their invention fosters. Balance is key in solving this issue. Groups such as Doctors Without Borders are concerned that a lower for patentability would cause a market for generics to disappear.¹¹⁸ This would perpetuate a pharmaceutical company's monopoly and drug costs for consumers would remain high. Furthermore, a patent would prevent other pharmaceutical companies from creating new medications for a longer period of time. Conversely, there is a valid concern that drug manufacturers will choose not to sell drugs in nations with higher patentability standards, thus, the drug costs will also remain high in that scenario.¹¹⁹ Therefore, a careful balance must be struck. A limited monopoly must be granted to encourage pharmaceutical companies to develop, market, and sell their products in the United States. A limit to continuation patents and patents that are truly not innovative based on prior art should also

¹¹⁴ Turrill, *supra* note 107. (quoting The Patents (Amendment) Act, No. 15 of 2005, § 3(d), India Code (2005)).

¹¹⁵ Turrill, *supra* note 107, at 1568 (quoting *Novartis AG v. Union of India*, (2013) 6 SCC 1, at p. 172, available at <http://judis.nic.in/supremecourt/chejudis.asp>).

¹¹⁶ Turrill, *supra* note 107.

¹¹⁷ Turrill, *supra* note 107.

¹¹⁸ Turrill, *supra* note 107, at 1568.

¹¹⁹ Turrill, *supra* note 107, at 1570-71.

be imposed. This would ensure that the monopolies granted stayed limited, a competitive market flourishes, and others are able to innovate based on the patented medication within a reasonable time. I advocate that a measure similar to § 3(d) would benefit the United States, although with modification to strike a balance between creating incentives to invent through granting limited monopolies and fostering innovation.

ii. How the United States Can Use Section 3(d) as a Framework for a Statute to Prevent Evergreening

The United States should enforce a measure such as § 3(d), but enforcement of the statute should only occur after the pharmaceutical company begins to enjoy the initial patent. An efficacy standard from this statute would not bar all continuations in entirety. Rather, issuing continuances on patents would be rarely granted, and the standard for issuing continuances would be strict. There should be a “clear and convincing” standard that the product is truly innovative for approving any continuance, and those continuances should not extend nearly as long as a patent itself. This would prevent pharmaceutical companies from filing frivolous claims, but the claims would not be barred completely. In this way, the pharmaceutical company would not be able to perpetuate a monopoly; however, they would still be encouraged to innovate and continue research on medications.

The “improvement” justifying a continuation must be scrutinized, particularly under the no obviousness standard. A drug earning a continuation based on being offered in a capsule rather than a tablet, or even by a milligram change are obvious changes, so continuations should not be granted in those scenarios. If a continuation is granted, then it should just be based on the specific improvement. In other words, people should be allowed to freely develop on the original patent, so long as they do not infringe on the original patent holder’s improvement. In particular, pharmaceutical continuations should still be permitted rather than barred. This is because pharmaceuticals are highly complex, the product takes a long time to develop, and time and expenses for experimentation are high.¹²⁰ The regulatory review that a new drug must undergo can take up to 14 years. This time period effectively “eats up” much of the patent time period, which is 20 years.¹²¹

Pharmaceutical companies argue that limiting continuations would actually impede on innovation.¹²² This is because without proper patent

¹²⁰ Murphy, *supra* note 111, at 862.

¹²¹ Murphy, *supra* note, 111, at 868.

¹²² Murphy, *supra* note 111, at 885.

protection, they claim that there would be no incentive to develop drugs because the research costs would outweigh the profits earned by a limited monopoly.¹²³ However, if FDA reform happened to where the process of regulatory review were streamlined to shorten the review period for new drugs, then the monopoly enjoyed by the pharmaceutical company would not be “eaten up” as much. This article will not explore ways to reform the FDA, but it is a viable option to balance both safety and efficiency performed by regulatory review in the future. Additionally, there would still be benefits to developing new and innovative drugs, not all of them financial. Also, the purpose of the Patent Clause is to create innovation, not to perpetuate monopolies and protect industries, so the industry’s incentives are not the patent clause’s priority, but balance must be struck for public policy reasons.

The backup in the Patent Office caused by continuation patents are hindering innovation. It is evident that the Patent Reform Act of 2007 has not effectively hindered pharmaceutical companies from filing continuations, nor has it helped entirely in streamlining the process of patent approval. Also, the remedy proposed in this article does not hinder continuations completely, the standard is simply raised in order to return from the unconstitutional practice of granting perpetual monopolies and return to the constitutional practice of granting limited monopolies to benefit society. This solution will help return the principles of the Patent Clause, but it will also benefit consumers. Limiting evergreening will ensure that pharmaceutical companies cannot maintain a perpetual monopoly, so competition will be able to enter the marketplace. This competition will cause prices to drop and consumers will be able to afford the medication they need.

Limiting evergreening will also help to curb overbroad patents. Evergreening allows an entity to maintain a monopoly, so that patent holder can keep other competitors out of their particular market for longer. By curbing evergreening, the monopoly will not be as broad, which will encourage innovation, rather than limit it.

D. Patent Shelving

Another form of patent abuse this article will discuss is “patent shelving.” Patent shelving occurs when a company obtains or creates “a patent to prevent its development and marketing.”¹²⁴ All a company must do is buy the patent,¹²⁵ or choose to not utilize a patent of its own creation. Patent shelving

¹²³ Murphy, *supra* note 111, at 885.

¹²⁴ Charles Allen Black, *The Cure for Deadly Patent Practices: Preventing Technology Suppression and Patent Shelving in the Life Sciences*, 14 ALB. L.J. SCI. & TECH. 397, 422.

¹²⁵ Black, *supra* note 124.

ensures that the patent holding entity maintains a patent, but never utilizes it; rather, the patent is used to prevent other potential competitors from innovating or utilizing similar inventions. Patent shelving can increase profits due to control of the market, but this can lead to deadly consequences in industries such as the pharmaceutical companies because companies are intentionally not marketing potentially life-saving technology.¹²⁶ Patent shelving also can occur to ensure an industry holds its power or prevent radical changes in that industry.¹²⁷ This action is an obvious hindrance to innovation. The very concept of patent shelving should not be seen as an innovative business practice, but rather a violation of the spirit of patent law. Science and the useful arts cannot progress if inventions are obtained solely to preserve a monopoly or stronghold in a market.

Sometimes patents simply have no value, so those patents' lack of utilization is not the concern. Those patents do raise a question of if those patents should have been granted based on utility in the first place though. However, there are other valid reasons to not utilize a patent, such as profitability and marketing. Solutions to patent shelving should be made mindfully of those valid concerns, while still preventing entities from manipulating and controlling the market.

The Supreme Court held that patentees are not required to "use or commercialize their patents."¹²⁸ However, the public would benefit greatly if patentees were at least required to make a good faith effort to utilize, commercialize, or license the patent in order for the public to benefit. Patent shelving is clearly opposed to the principle of the Patent Clause because patent shelving is used simply to bar competitors from competing in the marketplace. Protections against this behavior should be enforced, since patent shelving is not conducive to innovation, but rather hinders it.

Additionally, many researchers obtain government funding and grants to perform research and eventually develop patents. There is especially an interest in utilizing those patents for public use, rather than allowing government funds to help someone maintain a monopoly or get rid of competition with zero benefit to the public.¹²⁹

¹²⁶ Black, *supra* note 124, at 425

¹²⁷ Neil S. Tyler, *Patent Nonuse and Technology Suppression: The Use of Compulsory Licensing to Promote Progress*, 162 U. PA. L. REV. 251, 458.

¹²⁸ Tyler, *supra* note 127, at 453 (citing *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 1908 SCC OnLine US SC 137 : 52 L Ed 1122 : 210 US 405, 429 (1908)).

¹²⁹ See Saunders, *supra* note 54, at 396.

i. The Precedent for Shelving Patent Shelving and How We Got Away from the Constitution

It appears as if precedent shows that there is an absolute right to not utilize a patent.¹³⁰ Yet there is judicial precedent for patent holders to make a good faith effort to utilize their patents in some way. In fact, federal courts initially “attempted to precondition an infringement remedy on the patentee’s use of the patent.”¹³¹ In *Hoe v. Knap*, the court declined to enjoin a patent infringer of a printing press patent. The court held, “...under a patent which gives the patentee a monopoly, he is bound to either use the patent himself or allow others to use it on reasonable or equitable terms.”¹³² In another case, the court held that “[a] patent for invention which the patentee refuses to make available himself, and refuses to allow others to make useful, is not within the spirit of the provision of the constitution which assigns as a reason for securing exclusive rights to authors and inventors to desire ‘to promote the progress of science and useful arts...’”¹³³ It is clear that the courts in these cases clearly understood that patents were to be granted in exchange for progress. However, later rulings reflected a shift in the law. In *Continental Paper Bag*, the Court held that not using a patent, yet refusing to license a patent was fully within the rights of a patentee.¹³⁴ This marks a dramatic shift away from the spirit of the Patent Clause. The Patent Clause does not ensure that inventors have an exclusive right solely because they invented a thing; rather the right of a patent is granted for the progress of the useful arts and sciences. It is evident that the purpose of patent law has been lost in recent times, it must be corrected.

ii. Compulsory Licensing

Many World Trade Organization members have compulsory licensing laws to prevent this patent abuse.¹³⁵ Compulsory licensing occurs “when a government allows someone else to produce the patented product or process without the consent of the patent owner.”¹³⁶ Article 5 of the Paris Convention states that a compulsory license cannot be issued for less than four years

¹³⁰ Black, *supra* note 124, at 436

¹³¹ Saunders, *supra* note 54, at 398

¹³² Saunders, *supra* note 54, at 398-99 (quoting *Hoe v. Knap*, 27 F 204, 212 (ND Ill 1886)).

¹³³ Saunders, *supra* note 54, at 399, (quoting *Ewart Mfg. Co. v. Baldwin Bicycle-Chain Co.*, 91 F 262, 265 (D Mass 1898)).

¹³⁴ Tyler, *supra* note 127, at 399-400, (citing *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 1908 SCC OnLine US SC 137 : 52 L Ed 1122 : 210 US 405, 429 (1908)).

¹³⁵ Tyler, *supra* note 127, at 460.

¹³⁶ World Trade Organization, “Compulsory Licensing of Pharmaceuticals and TRIPS,” https://www.wto.org/english/tratop_e/trips_e/public_health_faq_e.htm

after the patent application is filed or three years after the patent is issued.¹³⁷ In addition, the compulsory licence is not mandated if the patentee has a legitimate excuse such as legal, economic, or technical reasons why the patentee has chosen not to utilize the patent.¹³⁸ The United States attempted to enact this in the Hart Bill in 1973, which would implement compulsory licensing for “patents related to public health, safety, energy, or protection of the environment.”¹³⁹ This bill also would not have compulsory licensing unless three years after the patent was issued or four years after filing.¹⁴⁰ However, powerful lobbying defeated this bill.¹⁴¹

A form of the Hart Bill should be passed and patents related to technology should be added to the list as well, since technology is such a quickly developing and increasingly vital sector of modern society. In this legislation, compulsory licensing should be very limited in order to strike a balance between the patentee’s rights and the public benefit. The patentee should be allowed to give legitimate economic, legal, or technical excuses for not being required to attempt to licence. In addition, industries that are more complicated such as pharmaceuticals should be given a time period longer than 3 or 4 years. Instead, pharmaceutical industries should be given 5 to 7 years to make a good faith effort to develop or commercialize their patent.

This supposed “absolute right” to not use a patent clashes with the principles of the Patent Clauses. The purpose of a patent is to encourage innovation, not to hinder others from innovating, so compulsory licenses would be in line with the Constitution. The precedent that there is an absolute right to not use a patent should be overturned by the Court, and legislation for compulsory licences should be enacted, so as to return to the principle of innovation in the Patent Clause.

There is also an argument that large corporations may be able to litigate compulsory licences for a lengthy period of time and competitors may decide to not take advantage of the compulsory licence in an attempt to control and manipulate the market.¹⁴² However, a situation where no corporation licenses the product purely for anti-competitive purposes, could be solved by anti-trust provisions. But, it may be difficult to prove that corporations

¹³⁷ Tyler, *supra* note 127, at 460, (citing Paris Convention for the Protection of Industrial Property, at art. 5(A)(4), March 20, 1883).

¹³⁸ Tyler, *supra*, note 127, at 460.

¹³⁹ Tyler, *supra* note 127, at 463, (citing S. 814, 94th Cong. § 7 (1975) and Joseph A. Yosick, *Compulsory Patent Licensing for Efficient Use of Inventions*, 2001 U. ILL. L. REV. 1275, 1278).

¹⁴⁰ Tyler, *supra* note 127, at 463.

¹⁴¹ Tyler, *supra* note 127, at 463.

¹⁴² Black, *supra* note 124, at 434.

are purposely refusing to market a patent made available by a compulsory license so they can control the market; however, it is unlikely that all competitors would conspire together to shelve a product if it was truly innovative and beneficial. The incentive for potential profits without having to pay for the initial development would likely outweigh a corporation's interest in participating in those anti-competitive measures.

Ceasing patent shelving will also help to prevent patents from being unused. Often, patent trolls will buy up unused patents. By ensuring that unused patents are very limited through compulsory licensing, then patent trolls will be unable to purchase unused patents for litigious purposes. Thereby, preventing patent shelving will also prevent patent trolling, while also encouraging innovation and progress.

IV. CONCLUSION

Patent trolling, overbroad patents, evergreening, and patent shelving are all patent abuses that reveal one problem: Patent law has abandoned the principle of the Patent Clause in the U.S. Constitution. The principle underlying the Patent Clause is simple: progress. An inventor is given a limited monopoly as an encouragement for inventors to invent. These inventions will benefit society, and eventually society is given the rights to that patent, so others may innovate that patent. Patent trolling seems as if it is a minor nuisance, but it is more than that. Patent trolls hinder corporations and individuals from innovating. Rather than broad legislation that may punish genuine businesses and entities, a factor test should be passed by Congress as a way for the judiciary to determine if an entity is a patent troll. Furthermore, the standard for awarding damages such as attorney's fees must be lowered by using that same factor test to determine the egregiousness of the conduct. In this way, the courts can build a precedent for dealing with and punishing patent trolls.

Overbreadth in patents is another abuse, especially prevalent in high technology. The Court should have granted *cert* to Google in order to solve this issue by requiring narrower claim construction in a "say what you mean and mean what you say" standard. *Columbia University* follows that logic, so courts should follow this reasoning. In addition, the Court should use future software patent cases as an opportunity to address the questions left open by *Bilski*. There needs to be a specific software "patch" in patent law, in which software patents are granted patents more appropriate in the context of the technology industry.

Evergreening in an age of increasing drug costs must also be prevented. Evergreening can be prevented by using India's Section 3(d) law as a framework for a United States statute. This statute should be modified in order to not ban continuations completely, so pharmaceutical companies will still research and develop their drugs, but also stop the abuse of the continuation patent in order to preserve monopolies, rather than create progress.

Patent shelving can be prevented by compulsory licensing and the Court returning to the law that a monopoly is granted, but only in exchange for progress and innovation. Compulsory licensing simply requires that a patentee make a good faith effort to utilize their patent, so the public may benefit within a certain time period within certain patents involving health, technology, and environmental industries. When a compulsory licence is granted other corporations can then utilize that patent which will improve innovation while also improving lives. Legitimate economic, legal, and technical excuses would still be allowed as to not require compulsory licensing. However, entities should not be allowed to deprive the public of a patent's use to perpetuate a monopoly, when the whole reason that monopoly is granted is in the name of progress.

Discussing these patent abuses together does not just reveal a shift in patent law away from the patent law, but discussing these patent abuses together and solving these abuses individually will assist in curbing other forms of patent abuses as well. Limiting patent shelving and overbroad patents will help curb patent trolling, and limiting evergreening will help curb overbroad patents. So, it is important that patent abuses are discussed in conjunction with one another. Only when we address various types of patent abuses as a whole and examine how they are connected, can one truly realize the issues with patent law and how to best solve these issues.

All of these patent abuses point to a swing in the pendulum from progress to using patent law to protect corporate interests. Balance must be restored. There is Constitutional basis under the Patent Clause for these issues to be addressed and resolved. The United States must return to the principle of progress as mandated in the Patent Clause in order to balance the economic interests of inventors and progress.