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IMPROVING PATENT QUALITY:

EVALUATING THE PTO’S JURISDICTION FOR PATENT REEXAMINATION TO COMPENSATE FOR CHANGING VALIDITY STANDARDS

Adam Aquino¹

Patent law in the United States recently underwent significant reform, and continues to be the subject of significant political discussion. Contemporary patent reform was ushered in with the Leahy-Smith America Invents Act (AIA) in 2011, which was the most significant alteration to patent law in over fifty years. Despite signing into law the AIA, President Obama stated that patent reform “only went about halfway to where we need [it] to go,”² and urged Congress to pass “a patent reform bill that allows . . . businesses to stay focused on innovation.”³

Current patent reform efforts are targeting patent assertion entities (PAEs)—entities whose primary business model entails acquiring patents with the sole intent of suing others for infringement. As a result, PAEs have developed a reputation as patent system exploiters, often pejoratively referred to as “patent trolls.” Although large cor-

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porations have significant disputes against PAEs, these “trolls” have largely earned their notoriety by using their superior know-how of the patent system to profit from lawsuits against those inadequately equipped to defend themselves, such as start-up technology companies and small businesses.

Various aspects of the PAE business model are being examined and critiqued to advance current patent reform efforts. Unpopular tactics used by PAEs include waiting until after industry participants have made irreversible investments before asserting patent claims, concealing their identity by creating shell companies, requiring those who settle to sign non-disclosure agreements to continue to conceal their identity, leveraging the cost of litigation against potential infringers to elicit a settlement, and suing without the threat of countersuit due to their non-practicing nature. In addition, PAEs are often accused of acquiring patents “whose claim boundaries are unclear” or overly broad. Many of these patents, when litigated, are invalidated. While all of the aforementioned issues are significant, this paper will primarily examine the issue of substandard patents—patents of dubious merit likely to be invalidated if their validity were challenged.

Research suggests that a large percentage of patents, particularly those asserted by PAEs, are invalidated in court. However, many alleged infringers with smaller budgets are reluctant to litigate, as litigation is particularly expensive for the defensive party. Currently, reexamination is allowable for any enforceable patent at the United States Patent and Trademark Office (PTO) if a petitioner submits prior art that raises a “substantial new question of patentability.” The reexamination eligibility requirements were expanded under the post-grant review provision of the AIA for the most recently granted applications to include statutory considerations. Since the courts

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4 Executive Office of the President, supra note 2, at 4.
continue to establish new fundamental doctrines concerning the appropriate scope of patent applications, alleged infringers should have an alternative to costly litigation in the courts to determine patent validity, particularly of those patents granted before patent narrowing doctrines were established. Extending the eligibility requirements allowable under the post-grant review provision of the AIA may lessen the negative impact that substandard patents impose on the patent system.

The paper is structured as follows: Part I will discuss the background information regarding the current patent system. Part II will discuss problems arising as a result of substandard patents. Part III will review current procedures of patent reexamination. A discussion of how the courts approach patent validity, and how they clarify the definitions governing patentability will be covered in part IV. Part V will evaluate the current process of reexamination and will submit a partial solution. Part VI will address opposing views to the expansion of reexamination. Finally, part VII will address the opposing views.

I. BACKGROUND

The foundation for intellectual property legislation in the United States is given, as follows, in the Constitution: “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.”

The purpose of the patent system in the United States is to promote innovation for the general benefit of society. It was thought that an inventor would lack the requisite motivation to discover and to implement useful inventions without certain protections from those who, seeking profit, would duplicate those inventions without the burden of development. Additionally, it was thought that if inventors had motivation to disclose details of their inventions to the public domain, the gained insight from these disclosures would spur further research and innovation.

7 U.S. CONST. art. XIII, § 1.1.
Over time, certain standards were established in the United States Code (USC), and they are currently enforced by the United States Patent and Trademark Office (PTO) along with the judicial courts. The USC states that only a process, a machine, an article of manufacture, a composition of matter, or improvements thereon can be patented. Laws of nature, physical phenomena, and abstract ideas are not patentable. In addition, the law requires that the patented invention be novel, nonobvious, adequately described or enabled (for one of ordinary skill in the art to make and use the invention), and claimed by the inventor in clear and definite terms.

When inventors seek to apply for patent protection, they (or a certified patent agent or attorney) file an application demonstrating compliance with the above-mentioned criteria. The part of a patent that defines the scope of the protection granted by the patent monopoly is known as the claims. In addition to the claims, a written description (specification) is accompanied by an appropriate figure set describing (or “adequately enabling”) the invention in detail. Once submitted, the patent application undergoes examination where an examiner carefully reads the application to ascertain not only the validity of the claims, but also that the claims are supported in the written description and figures such that a person having ordinary skill in the art (PHOSITA) could reproduce the disclosed invention. Any discrepancy in the claims with the legal standard found by an examiner is disclosed to the submitting party. While the specification of the invention cannot be substantially altered once submitted, the claims may be justified or changed to conform to the legal standard. Once the examiner has approved the claims, inventors are granted exclusive rights to their inventions for a finite period of time (approximately twenty years from the filing date). A record of the

8 35 U.S.C § 101 (1946).
communication between the PTO and the patent owner is held publicly available.

The value of a patent is largely measured by the extent to which it excludes competitors from a given market. In other words, a valuable patent will cover a considerable amount of patentable “space.” As a result, inventors are economically motivated to acquire patents with broadly defined claims. If the claims are too narrow, the scope of the protection granted by the patent is significantly impeded, devaluing the patent. Examiners are tasked with assuring that inventors are only granted claims deemed valid under the definitions previously mentioned.

In order for examiners to reject a claim, they must find evidence that the substance of the claim has been previously disclosed in the prior art. Prior art may include previously granted patents, marketed technologies, textbooks, academic journals, etc. In short, prior art is all the information disclosed to the public domain before a patent application is submitted. Considering the boundless volume of prior art in existence, the scope of prior art searches performed by patent examiners is necessarily limited.

II. Problems Arising from Substandard Patent Applications

Ideally, the patent system mutually benefits both the inventors and the public; inventors are granted exclusive rights to their inventions in exchange for a frank disclosure that would not otherwise be publicly available. The goal, therefore, of a patent system is to establish and enforce a standard that effectively balances the value of disclosure against the economic loss incurred as a result of the patent monopoly. However, a patent system that grants patent monopolies too liberally may disproportionately favor private inventors at the public’s expense. When such is the case, consumers are unnecessarily subjected to inflated prices resulting from the monopoly, resources may be diverted from pursuing related research on the basis of avoiding allegations of infringement, and patent owners may
find more value in patent assertion and royalty collection than in the manufacture and sale of a product.\textsuperscript{12}

A preliminary study conducted in 2007 claims that substandard patents are responsible for an economic loss of 25.5 billion dollars annually.\textsuperscript{13} Of that 25.5 billion, 21 billion is associated with deterring valid research, and 4.5 billion is estimated to come from litigation and administrative costs associated with substandard patents.

While substandard patents are owned by a variety of parties, PAEs are receiving most of the negative political attention for their behavior associated with the assertion of substandard patents. A recent study shows that a high percentage of cases litigated involving PAEs result in patent invalidation, suggesting that PAEs are more likely to possess and assert a substandard patent than are practicing entities.\textsuperscript{14} This assertion is supported by statistics demonstrating the overall percentage of invalidated patents subject to litigation is significantly lower than the proportion of invalidated patents litigated by PAEs.\textsuperscript{15}

\textbf{III. Patent Reexamination}

After a patent is granted, there are certain allowances by which the patent’s validity can be challenged. Any third party may submit at any time additional prior art or written “statements of the patent owner filed in a proceeding before a Federal court,” to be included in the official file of a patent.\textsuperscript{16} While this can appear to make tactical sense in cases where the patent in question is likely to undergo reexamination, there is little this provision actually provides to as-

\begin{itemize}
  \item \textsuperscript{12} T.R. Beard, George S. Ford, Thomas M. Koutsky, & Lawrence J. Spiwak, \textit{Quantifying the Cost of Substandard Patents: Some Preliminary Evidence}, \textit{12 Yale L.J.} 241 (2009).
  \item \textsuperscript{13} George S. Ford, Thomas M. Koutsky, & Lawrence J. Spiwak, \textit{Quantifying the Cost of Substandard Patents: Some Preliminary Evidence in Phoenix Center Policy Paper No. 30} (2007).
  \item \textsuperscript{14} Allison et al., \textit{supra} note 5.
  \item \textsuperscript{16} 35 U.S.C. § 301 (1980).
\end{itemize}
sure that the additional submitted prior art is considered to invalidate questionable patent claims. If a third party, presumably a potential or alleged infringer, wants to take a more aggressive approach to invalidate an enforceable patent, they may request that the PTO perform a reexamination. The USC states that “any person at any time may file a request for reexamination by the Office of any claim of a patent on the basis of any prior art.”17 Once a request for reexamination is submitted, the director of the PTO decides “whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request.”18

Upon the PTO director’s approval, an examiner is assigned to reexamine the application in light of, but not limited to, the additional prior art submitted by the third party. When a third party is included in the negotiations arguing the validity of a patent between an inventor and an examiner, the examination is referred to as inter partes reexamination. When negotiations involve only the patent owner and the PTO, the examination is known as ex partes reexamination. In an inter partes examination, the third party bringing the argument against the patent cannot remain anonymous. In an ex partes examination, the third party may remain anonymous. This helps eliminate worries that submitting an argument against an existing patent would make the third party more vulnerable to a countering infringement lawsuit.

In addition to ex partes and inter partes reexaminations, the Leahy-Smith America Invents Act (AIA) implemented a post-grant review process; within nine months of the granting of a patent, a petitioner may request reexamination “on any ground that could be raised regarding . . . novelty, obviousness, written description, enablement, [or] indefiniteness.”19 This is a significant change in the scope of reexaminable patents, as ex partes and inter partes reexam-

nations are only granted on the basis of prior art that raises concerns of novelty and obviousness.

IV. The Courts

Courts’ decisions often clarify the terminology used in the law, and redefine or reinterpret certain norms that are applied not only to patents granted after the courts’ decisions, but to all enforceable patents ex post. The courts’ decisions significantly impact how legal principles regarding patent validity are interpreted both in the courts and at the PTO. Consequently, significant patent reform regarding principles of invalidity occurs outside of the Legislature through the courts. Doctrines established in the courts, such as the Supreme Court and the Federal Circuit, have substantially affected the way examiners (and other judges) measure patent validity. In this section, several examples of the evolution of the interpretation of patent legislation in the United States Patent System will be discussed.

(i) Obviousness

Prior to 1850, novelty and utility were the only two standards used to measure patent validity. Non-obviousness was introduced as a requirement for patent validity in *Hotchkiss v. Greenwood*.\(^{20}\) The patent being disputed related to “an improvement in making doors and other knobs.” The judge ruled that “if no more ingenuity and skill was necessary to construct the new knob than was possessed by an ordinary mechanic acquainted with the business, the patent was void.”\(^{21}\) The court in the *Hotchkiss* case established precedent to reject the validity of certain patent applications based on obvious substitution of known materials. However, the standard was not consistently applied until the requirement of non-obviousness was codified in the Patent Act of 1952, which states that “A patent for a claimed invention may not be obtained ... if the differences between the claimed invention and the prior art are such that the claimed


\(^{21}\) Id. at 284.
invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”

After non-obviousness was added to the U.S.C., the application of the law varied widely between examiners and courts. In *Graham v. John Deere*, the Supreme Court further clarified the non-obviousness standard in an effort to make the interpretation of requirement more uniform. They ruled as follows:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances.

In short, *Graham* allowed for increased discretion to be applied when ascertaining the obviousness of a given invention. These factors of determining obviousness (often referred to as Graham factors) were applied in patent validity cases thereafter, such as in *Anderson’s-Black Rock, Inc v. Pavement Salvage Co.*, *Dann v. Johnston*, and *Sakraida v. Ag Pro., Inc.*

*Anderson’s-Black Rock, Inc v. Pavement Salvage Co.* further established a “synergism standard,” which suggested that “combinations of elements resulting in more than the sum of their individual parts constitute evidence of nonobviousness.” This standard was later rejected by the Court of Appeals for the Federal Circuit.

As time progressed, a “motivation-suggestion-teaching” (MST) standard was established, which stipulated that in order to reject a patent for obviousness, there had to exist a motivation or a teaching in the prior art for a combination of ideas expressed in more than one

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24 *Id.* at 6.
art reference. Under the MST standard, patent applications became harder to reject on the basis of obviousness, as examiners and judges needed to find explicit evidence in the prior art suggesting a combination of ideas evident in a patent claim.

The MST standard was challenged, and ultimately deemphasized in *KSR v. Teleflex*, where the Supreme Court ruled that a “person of ordinary skill is also a person of ordinary creativity, not an automaton.” KSR, in essence, allowed for a more liberal application of patent rejection on the basis of obviousness. This type of reasoning was soon implemented in the Federal Circuit.

(ii) Non-Patentable Subject Matter

For many years, patents claims covering the use of certain discovered genes were considered valid. A recent court case challenged this presumption. Myriad Genetics obtained extensive patent coverage after discovering the composition and location of the BRCA1 and BRCA2 genes, which are critically important in diagnosing a person’s risk to certain types of breast and ovarian cancer. Myriad’s patents gave it “exclusive right to isolate an individual’s BRCA1 and BRCA2 genes, and . . . synthetically create BRCA cDNA.” Many opposed the Myriad patents, considering genes to be unpatentable because it was a “product of nature.” In *Association for Molecular Pathology v. Myriad Genetics*, the Supreme Court ruled that “separating [a] gene from its surrounding genetic material is not an act of invention,” and subsequently invalidated several of the claims in Myriad’s patents. Similar rulings narrowing the definition of “an act of invention” have occurred regarding method claims in software and biotechnology patents.

The fluxing standards of patent validity pose a substantial challenge to a patent system that oscillates between definitions of pat-

27 Leapfrog Enterprises v. Fisher-Price, Inc. 485 F.3d 1157 (Fed. Cir. 2007).
28 Association for Molecular Pathology v. Myriad Genetics, Inc., et al., 569 U. S. 1, 6 (2013).
29 Id. at 12.
entable subject matter in an effort to optimize the benefits between patent owners and the public; this challenge is largely due to the fact that continuously changing standards may only be reasonably applied to previously granted patent applications through litigation and reexamination.

V. EVALUATING THE REEXAMINATION REQUIREMENTS

It is useful to distinguish the differences in methodologies used by courts as opposed to the PTO to determine patent validity. At the PTO, examiners are, by definition, PHOSITAs with a detailed understanding of the legal requirements associated with patent validity. Examiners, therefore, are uniquely qualified to evaluate patent claims against similar prior art disclosures to determine if patent protection is warranted. Judges and juries, on the other hand, are more likely to misunderstand elements of an invention due to a lack of technical expertise. More particularly, judges and juries are less likely to understand the extent to which a patent claim overcomes the closest prior art. Judges and juries are also limited to information presented by counsel, whereas PTO examiners may consider evidence not disclosed by the petitioner. These differences suggest that PTO examiners are more likely to find basis for declaring patent invalidity on grounds of novelty or obviousness than are judges and juries.  

A recent case illuminates the district court’s acceptance of a PTO reexamination that conflicted with its own analysis. In *Fresenius v. Baxter*, a certain patent was being considered simultaneously by a district court and the PTO. The district judge initially found that the patent was nonobvious. Shortly thereafter, before the case settled, the PTO found the patent to be obvious, and invalidated all of the claims. In the end, the district court accepted the PTO’s ruling, even though it conflicted with the conclusion arrived at in the court.

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The *Fresnius* court’s decision ostensibly validates the assertion that PTO evaluations of invalidity supersede a court’s determination of validity. It should be noted that the reverse also holds; a court’s “final judgment of patent invalidity binds the PTO in any concurrent or future reexamination.”\(^{32}\) This apparent bias towards rulings of invalidity are further shown by recent trends suggesting that patents are currently being evaluated on stricter standards than were previously applied both in the courts and the PTO. In other words, there are probably a lot of patents that, if reexamined, would be invalidated.

As previously mentioned, a number of alleged infringers are being sued by PAEs. Many times, these alleged infringers do not challenge the patents in court, not because they lack confidence in a positive ruling, but because the cost of litigation outweighs the cost of settling. Reexamination at the PTO is considerably cheaper than litigation. Smaller entities that tend to be more heavily affected by patent infringement charges benefit from a reexamination option through the PTO. However, under current law, a request for reexamination cannot be granted if the third party petitioner does not provide additional prior art against an enforceable patent, excepting in cases where the patent was granted within nine months of the petition.

Many patents are invalidated in the courts not on the merits of new prior art, but by redefining the standard (or applying an updated standard) on which the patent is judged. If a patent’s validity can be litigated in court without additional prior art, why should it be necessary to provide additional prior art references to the PTO in order to establish a “substantial new question of patentability”?\(^{33}\) In fact, the shifting standard of patent validity as determined by the courts often proves to be the most cogent argument against a patent’s validity. Ironically, by law an examiner does not even need to use the prior art submitted by a petitioner to invalidate a patent subject to reexamination. Therefore, a third party should be able to petition

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for reexamination without having to submit an argument against the patent’s validity on the basis of prior art. Expanding the availability of post-grant review to include the entire enforceable lifetime of a patent, and not just within nine months of the patent validation, would accomplish this improved reexamination.

There are many benefits in increasing the amount with which patent validity is argued in the PTO and not in the courts. First, this change could significantly reduce the cost to an alleged infringer to defend itself. This would lead to more cases being decided on their merits, rather than being decided by a lack of resources or experience. Second, having the PTO determine validity would decrease the number of substandard patents in circulation. Third, in addition to the previously mentioned benefits to third parties, increased determination of patent validity in the PTO has a significant potential advantage to patent owners; when a patent claim is invalidated in court, the patent owner loses all rights to the enforceability of those claims. When a patent claim is rejected in a reexamination, the patent owner has a chance to narrow the claim in order to conform to the most recent standard. In this way, reexamination can be seen as a way not only to invalidate claims but to update them. Fourth, when a patent survives a reexamination, it is perceived as stronger and more enforceable. For this reason, many patent owners submit their own patents for reexamination before asserting them.34

VI. ARGUMENTS AGAINST THE EXPANSION OF REEXAMINATION

Significant opposition exists against measures being taken to expand the scope of reexamination in the PTO. One of the most compelling arguments submits that lowering the threshold on granting a patent reexamination undermines an inventor’s rights by disproportionately favoring infringers. They argue that the government dis-incentivizes inventors from disclosing new inventions when patents are too easily invalidated.

In addition, “decisions affirming patent validity are never final, while patent invalidity decisions are always final.”\(^{35}\) Even if a court (or the PTO) rules several times that a patent is valid, one final ruling of invalidation is sufficient to permanently overturn a patent. Additionally, there is no limit to the number of times a patent can be challenged and submitted for reexamination. Hypothetically, an anonymous third party can petition for “serial reexamination with increasing specificity and success to introduce an endless chain of challenges to an inventor’s patent rights.”\(^{36}\) Third parties may also feel more empowered to submit various requests for reexamination because they may do so anonymously, and thus exploitation of the reexamination procedures may spin out of control.

This argument is made more valid given that, in reexamination, “the PTO dispenses with the presumption of validity in reexamination and must demonstrate unpatentability only by a preponderance of the evidence.”\(^{37}\) This means that no deference is given to the initial evaluation of the patent. In a way, the patent is examined not only on the basis of additional prior art submitted or only in light of updates in the interpretation of the law, but also with respect to the holistic evaluation by the examiner. This gives rise to a potentially detrimental phenomenon that results when two separate examiners arrive to differing conclusions concerning “old” questions of patentability as opposed to “new” ones. This could further encourage anonymous third parties to serially submit patents for reexamination with the hopes of getting “lucky” with an examiner.

In addition, it does not seem fair that third parties can submit reexamination requests that may subsequently force patent owners to narrow their claims in light of differing requirements, and not allow patent owners the opportunity to broaden claims through reexamination. While current trends seem to suggest that courts are more inclined to narrow the scope of patentability, courts may issue opinions broadening it.

\(^{35}\) Duff, supra note 30, at 701.

\(^{36}\) Id. at 703.

\(^{37}\) Janis, supra note 32.
Finally, an increase in the demand for patent examinations can be thought to put too much strain on an already backed up office.\footnote{Protecting Small Business and Promoting Innovation by Limiting Patent Troll Abuse: Hearing on S. 1720 Before the U.S. Sen. Judiciary Comm., 113\textsuperscript{th} Cong. 27 (2013) (statement of Q. Todd Dickinson, Executive Director, American Intellectual Property Law Association).} In other words, an underfunded USPTO would not be able to handle the increased patent requests that would result from an allowance of increased reexamination, and the delay in granting new patents would be increased.

\textbf{VII. Responding to Counter Arguments}

By making stricter requirements for patents, the courts have essentially modified the definition of the word “inventor.” Cases like \textit{KSR v. Teleflex} have redefined disclosures previously classified as “inventions” to obvious combinations of known materials from the perspective of a PHOSITA.\footnote{KSR v. Teleflex, 550 U.S. 1 (2007).} This would suggest that, in some cases, persons who were previously defined as “inventors” would now only be characterized as PHOSITAs; the former being characterized as “inventive,” while the latter is only capable of ordinary engineering. Thus, a change in the law to the detriment of those who are no longer defined as inventors does not violate the Constitutional mandate to provide to “inventors exclusive rights to their . . . discoveries.”\footnote{U.S. Const. art. XIII, § 1.1.}

It is also important to note that in order for a reexamination to be granted, the director of the PTO must determine that there is a “substantial new question of patentability.”\footnote{35 U.S.C. § 303 (1980).} Thus, there is some protection offered towards patent owners from having their patents subjected to reexamination indefinitely. While it may be inadvisable to impose a strict limit to reexamination petitions that include new prior art not considered by the PTO, there may be justification for applying some limitations on those reexamination petitions that are challenging patent validity based on patentable subject matter. For
example, regulations may be put into place that make a previously reexamined patent harder to reexamine without the submission of additional art.

Finally, it is important to remember that the party petitioning for the reexamination, not the patent owner, pays for the reexamination. It costs a patent owner very little to have a patent reexamined, particularly where the patent is found to be valid. However, when a patent is asserted against an alleged infringer, the cost of defense to the alleged infringer is significant. Whereas the cost of defense in patent infringement litigation often makes smaller entities particularly vulnerable to frivolous lawsuits, the nature of the reexamination process is such that frivolous “reexamination” does not significantly affect legitimate inventors.

**VIII. Conclusion**

Substandard patents constitute a significant problem in opposition to the innovator-friendly environment envisioned by patent system supporters. In order to effectively address continually advancing technology and a fluxing economic environment, the United States Patent System should demonstrate adequate flexibility to enforce a fluid standard of patentable subject matter. Various court decisions modifying the definition of what is patentable demonstrate the need for this flexibility. Expanding the scope of the standard put forth in the post-grant review provision of the AIA, while not a comprehensive solution to the substandard patent problem, would further empower the PTO to more effectively enforce a consistent standard among all enforceable patents. Furthermore, an expansion of the post-grant review provision would facilitate more periodic updates among enforceable patents. Problems associated with patent trolling may be significantly attenuated as a result.