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EXAMINING THE EXAMINERS

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Abstract

If the United States Patent and Trademark Office, Congress, or the Courts do not take action to provide a system of determining patent eligibility that is fair, clear, predictable, and encouraging of patent seekers, the result will be a stifling of innovation in the technology markets that help drive our national economy. Congress originally created 35 U.S.C. Section 101 of the Patent Act to preclude from patent eligibility certain subject matter that are fundamental truths available to all mankind, such as mathematical formulas, laws of nature, and abstract ideas. The Supreme Court created imprecise judicial exceptions to what is defined as patentable subject matter in Section 101 under Title 35 of the United States Code and revised the exceptions many times over the years. Recent Supreme Court decisions have been directed towards refining the treatment of patent claims that include abstract subject matter, resulting in vague rule interpretations that have not clarified when inventions in fields such as biotechnology and computer software amount to nothing more than abstract ideas per se, as opposed to when the claims might include “significantly more” than the abstract idea. The ill-defined rulings are impossible for patent examiners at the United States Patent and Trademark Office (“USPTO”) to apply in a consistent and constitutional manner. Instead of providing a bright-line rule that clearly defines non-patentable subject matter, the courts have burdened patent examiners with the task of interpreting thin slices of law and applying the interpretation to complex patent

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claims. Administrative fact-finders should not determine these matters of law because they have not been sufficiently trained in the law and do not preside within the judicial branch of government. Due to the burgeoning complexity of the Section 101 analysis, the USPTO has unofficially appointed a Section 101 expert or panel of experts to make patentable subject matter determinations in certain art units at the USPTO. These experts and panels are not available to inventors for questioning, thereby subverting the collaborative nature of the patent examination process and, in turn, creating due process issues. Thus, the application of Section 101 to make a threshold determination of patent eligibility is, at best, unfair to inventors, patent practitioners, and the examiners themselves, and is, at worst, unconstitutional.

Introduction

The Supreme Court has attempted to refine the treatment of patent claims that may be directed exclusively toward abstract subject matter and other judicial exceptions to patentable subject matter in cases such as *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014) and *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012). “Taking a renewed interest in patent law[,] the Supreme Court has made a mess of section 101 jurisprudence.”¹ Generally, abstract subject matter, as understood by the USPTO based on rulings such as these, includes inventions that are drawn to categories such as a fundamental economic practice, an idea of itself, methods of organizing human activity, and mathematical relationships.² A series of vague rulings by the Supreme Court in recent years has forced the USPTO to provide makeshift rules that have not served to clarify when claims for inventions in fields such as biotechnology and computer software are, or are not, directed to abstract ideas per se, versus when the claims might include “significantly more” than an abstract idea. Unfortunately, “despite years of trying, [courts have] been unable to define [what constitutes an] ‘abstract idea.’”³ The rulings have baffled practitioners, federal judges, inventors, and lawmakers alike. In the face of this confusion, the Patent Office is charged with training nearly 10,000 examiners, most without formal legal training, to perform a nuanced, threshold legal analysis of each new patent application.

Part I of this Note will discuss the role of USPTO patent examiners in the determination of patent eligible subject matter. These examiners are highly qualified fact-finders who are properly tasked with performing factually related tasks, such as finding prior art that anticipates the invention or makes obvious an invention’s improvements to the art. The examiners are accordingly selected from engineering, scientific, and other technical fields that provide sufficient training

¹ Daniel Cole, *Why Removing Section 101 Won’t Be Enough*, IP WATCHDOG (Aug. 7, 2016), <http://www.ipwatchdog.com/2016/08/07/removing-section-101-wont-be-enough/id=71693/>.

² UNITED STATES PATENT OFFICE, JULY 2015 UPDATE: INTERIM ELIGIBILITY GUIDANCE QUICK REFERENCE SHEET (2015), <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-qrs.pdf> [hereinafter July 2015 Eligibility Guidance].

³ Cole, *supra* note 1.

for fact-finding tasks, with the occasional attorney included. However, because the subject matter patentability of an application is “a question of law and is normally based on very few factual determinations,”⁴ these fact-finders are being asked to provide a nuanced finding on a question of law—whether the idea qualifies as patentable subject matter under Section 101. Questions of law should not be determined by an administrative fact finder. Part I will further discuss the legality of the use of someone other than the examiner to interpret the patent eligibility of an application. Due to the complexity of the Section 101 analysis, the USPTO has unofficially appointed a Section 101 “guru” or panel for making subject matter eligibility determinations.⁵ The members of the panel are not named to the inventor, and the inventor has no opportunity to question the panel. In this situation, the legal question of patentable subject matter under Section 101 is decided, not only by an administrator who is not a judge (or likely even trained in the law), but also by a mysterious and unavailable panel.

Part II of this Note will analyze the effect of the USPTO practices regarding Section 101 on the due process rights of an inventor. The private interests of the inventor in his or her intellectual property rights are balanced against the governmental interests in managing the vast number of patents filed each year and the likelihood of these patents being erroneously rejected.

Part III of this Note will propose potential solutions to clarify the patent application examination process. The interpretation of Section 101 in the manner being performed by the USPTO causes good patent applications to be rejected, abandoned, or not even filed due to rules that are ill-defined, at times capricious, poorly applied, and potential violations of an inventor’s due process rights. To fix this untenable situation, the USPTO or Congress should act to remove the determination of this question of law from the purview of patent examiners.

I. Background

The patent system in the United States seeks to accomplish its stated goal of encouraging and incentivizing innovation “by granting to the inventor a limited monopoly in exchange for disclosure. That is, patent law encourages disclosure of ideas by rewarding it.”⁶ The question of what is patentable subject matter is defined in Section 101 of the Patent Act of 1790 as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”⁷ Despite the simple language of this section, the courts

⁴ Dennis Crouch, *Does the Presumption of Validity Apply to Section 101 Subject-Matter-Eligibility Questions?*, PATENTLYO (Feb. 12, 2013), <http://patentlyo.com/patent/2013/02/101-eligibility-requirement.html>.

⁵ Matthew T. Kitces, *Comment Regarding USPTO Proposal 3: Clarity of Record*, BERKELEY TECH. L.J. (Mar. 12, 2016), <http://btlj.org/2016/03/comment-regarding-uspto-proposal-3-clarity-of-record/>.

⁶ Stephan Kinsella, “*The Purpose of Patent Law*”, CTR. FOR STUDY INNOVATIVE FREEDOM (Dec. 6, 2010), http://c4sif.org/2010/12/the-purpose-of-patent-law/#footnote_0_684.

⁷ 35 U.S.C.A. § 101 (West) (“[W]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful

carved out judicial exceptions “so that a patent will not wholly preempt a natural law, natural phenomenon or product, or an abstract idea, and thereby foreclose future innovation.”⁸

A. Judicially Created Confusion

In recent years, the Supreme Court has imbued the relatively simple Section 101 statute with complex and intricate interpretations related to the judicial exceptions. In rulings such as *Bilski v. Kappos* in 2010,⁹ *Mayo Collaborative Services v. Prometheus Laboratories Inc.* in 2012,¹⁰ and *Association for Molecular Pathology v. Myriad Genetics* in 2013,¹¹ the Supreme Court has introduced numerous complications to the application of Section 101. The vagueness of the Court’s rulings has resulted in an “I know it when it see it” test that must be applied by judges and USPTO examiners.¹²

Important for this discussion, the application of the Supreme Court’s decision in *Mayo* provided a new two-part test for the examiners to employ in their analysis of the patent eligibility of the claims of a patent.¹³ The claims define what the inventor believes constitutes the invention and “establish the boundaries or scope of an invention.”¹⁴ The claims included in a patent “define the exclusive right granted to the patent applicant.”¹⁵

In the first part of the test, the Examiner must determine if the invention described in the claims is directed to one of the judicial exceptions to patent eligible subject matter, such as a law of nature or an abstract idea.¹⁶ The second part examines the remainder of the claim “as an ordered combination” to determine whether remaining claim elements “transform the nature of the claim”

improvement thereof, may obtain a patent therefor subject to the conditions and requirements of this title.”)

⁸ *Amendment or Abolition of 35 U.S.C. § 101*, THINK FORWARD (Apr. 15, 2016), <http://www.brinksgilson.com/amendment-or-abolition-of-35-usc-101>.

⁹ *Bilski v. Kappos*, 561 U.S. 593 (2010).

¹⁰ *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012).

¹¹ *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

¹² Ryan Davis, *Kappos Calls for Abolition of Section 101 of Patent Act*, LAW360 (Apr. 12, 2016, 4:32PM EDT), <http://www.law360.com/articles/783604/kappos-calls-for-abolition-of-section-101-of-patent-act>.

¹³ *Mayo*, 566 U.S. 66; see generally Veronica Lambillotte, *An Overview of Patentable Subject Matter and the Effect of Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 63 CASE W. RES. L. REV. 635 (2012) (“[A] summary of the Supreme Court’s most recent decision analyzing the bounds of patent eligibility.”).

¹⁴ Richard Stim, *Patent Claims: The Basics*, NOLO, <http://www.nolo.com/legal-encyclopedia/patent-claims-the-basics.html> (last visited Mar. 11, 2017).

¹⁵ Gene Quinn, *Understanding Patent Claims*, IPWATCHDOG (July 12, 2014), <http://www.ipwatchdog.com/2014/07/12/understanding-patent-claims/id=50349/> (stating “the patent claims define the exclusive right granted to the patent applicant; the rest of the patent is there to facilitate understanding of the claimed invention. Therefore, patent claims are in many respects the most important part of the patent application because it is the claims that define the invention for which the Patent Office has granted protection.”).

¹⁶ *Mayo*, 566 U.S. 66.

into eligible subject matter.¹⁷ While the *Mayo* test seems reasonable on its face, federal judges, who are immersed in this issue, believe that the “two-part test for analyzing patent validity is too subjective,”¹⁸ even for them.

After *Mayo*, the patent prosecution industry was thrown further into turmoil by the decision in *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014). In *Alice*, the Supreme Court held that implementing an abstract idea on a computer did not make the abstract idea patent eligible.¹⁹ At least, such may be what the Supreme Court intended the *Alice* decision to articulate. In practice, *Alice* has been applied by the Patent Office to disqualify inventions merely because the inventions are implemented on a computer “even though courts began making such decisions without defining what an abstract idea is.”²⁰ In a subsequent decision, the federal courts stated outright that the term “abstract idea” has no defined meaning that can be applied to new inventions.²¹

When federal judges believe that the test for Section 101 is too broad, and the lack of clarity “puts judges in the difficult position of determining on a case-by-case basis what [constitutes] abstract idea,”²² the USPTO’s rejections of applications by fact-finding examiners trying to apply the same test seems even more unreasonable.

B. Industry Effects

The effect of Supreme Court and Federal Circuit decisions on the patent rights of companies and corporations within certain industries, such as software-related and biotech-related industries, has been dramatic. As a result of the *Alice* decision, an unprecedented number of computer-related patents have been challenged and invalidated both in the federal trial courts and at the USPTO’s

¹⁷ *Id.* at 78–79.

¹⁸ Dorothy Atkins, *Federal Judges Slam Alice at Event Honoring Judge Whyte*, LAW360 (Oct. 18, 2016, 9:49 PM EDT), http://www.law360.com/ip/articles/853103/federal-judges-slam-alice-at-event-honoring-judge-whyte?nl_pk=f97af752-6af7-469e-a1bf-bf978e3a0625&utm_source=newsletter&utm_medium=email&utm_campaign=ip.

¹⁹ See generally Jordana Goodman, *Case Update: Alice Corp. v. Cls Bank Int'l*, 21 B.U. J. SCI. & TECH. L. 224, 224 (2015) (discussing the *Alice* decision in depth and explaining the Court’s rationale).

²⁰ Erin Coe, *Ruled Out: Has The Supreme Court Set The Patent-Eligibility Bar Too High?*, LAW360 (Sept. 6, 2016), http://www.skf.com/uploads/1426/doc/Ruled_out.pdf.

²¹ *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (“[A] search for a single test or definition in the decided cases concerning section 101 from this court, and indeed from the Supreme Court, reveals that at present there is no such single, succinct, usable definition or test. The problem with articulating a single, universal definition of ‘abstract idea’ is that it is difficult to fashion a workable definition to be applied to as-yet-unknown cases with as-yet-unknown inventions.”).

²² Dorothy Atkins, *Federal Judges Slam Alice At Event Honoring Judge Whyte*, LAW360 (October 18, 2016, 9:49 PM EDT) <https://www.law360.com/articles/853103/federal-judges-slam-alice-at-event-honoring-judge-whyte>.

Patent Trial and Appeal Board.²³ These Alice motions “have an overall success rate of about 65% for software patents and 78% for business method patents,”²⁴ casting a pall over innovation in these industries. Further upsetting these industries is the precipitous drop in the number of successful patent applications. For example, “in a division of the Patent Office responsible for electronic commerce technology, the average number of patents issued per month after *Alice* dropped by 95%.”²⁵ Former USPTO director David Kappos noted that “[i]t’s a disturbing trend for the U.S. to take [these industries], which are the crown jewel of the innovation economy, and provide less protection for them than other countries.”²⁶

II Fact-Finding Examiners Are Not Trained to Perform a Legal Analysis

Instead of a critique of the Supreme Court’s interpretations of Section 101, the bigger issue being addressed in this Note is the effect of the muddled rulings on the application of Section 101 by the examiners at the USPTO. The back and forth results of the rulings are received by the USPTO, synthesized into a series of theoretically digestible rules for each art unit of examiners, and then provided to the examiners in training sessions and summary memos.²⁷ Thus, the examiners, with minimal legal training, are applying vague rules and examples to applications that may be the life’s work of an inventor or the lifeblood of a small business.

A. The Patenting Process

Throughout this Note, we will consider the patenting journey of a fictional solo inventor, Jane, who created a product in which her small business invested its future. Jane owns and operates Jane’s Mousetraps, Inc., and she has invented a better mousetrap that will revolutionize the industry. Jane spent seven years experimenting and perfecting her invention in her garage. The mousetrap system in the invention includes a smartphone application that allows the mousetrap system to operate at a much greater efficiency through user customization of the mousetrap features based on the environment in which the mousetrap is placed. Jane has leveraged Jane’s Mousetraps, Inc., to hire a top patent attorney to prepare her patent application for her. Jane recently learned that Monster Exterminating, a multinational pest control corporation, is preparing to duplicate

²³ See, e.g., Nam Kim, *Software and Business Method Inventions After Alice*, INTELL. PROP. L. BLOG (Sept. 23, 2016), <http://www.intellectualpropertylawblog.com/archives/software-and-business-method-inventions-after-alice> (“There has been a sharp increase in the number of so-called ‘Alice’ motions filed in the federal courts . . . challeng[ing] the validity of patents asserted in infringement lawsuits.”).

²⁴ *Id.*

²⁵ Kim, *supra* note 23.

²⁶ Davis, *supra* note 12. Compare Steve Brachmann & Gene Quinn, *China Increasingly a Preferred Venue for Patent Litigation, Even for U.S. Patent Owners*, IPWATCHDOG (Nov. 10, 2016), <http://www.ipwatchdog.com/2016/11/10/china-increasingly-preferred-venue-patent-litigation/id=74585/> (China “has pivoted towards a position of promoting [Intellectual Property] rights and enforcement mechanisms”).

²⁷ See, e.g., July 2015 Eligibility Guidance, *supra* note 2.

her invention with a competitive product, and Jane is in a rush to take the product to market. If Jane is unsuccessful in obtaining her patent for the mousetrap, Monster Exterminating will crush Jane's business because Monster is already established in the marketplace.

In our example, Jane's attorney files the patent application, and a USPTO examiner is ready to examine it. If the examiner rejects Jane's patent application in view of *Alice*, the time and money required for Jane to overcome this rejection may be more than she can justify. Conversely, if the examiner erroneously determines that the invention passes the Section 101 analysis, Jane may find her company involved in costly post-grant proceedings and/or litigation when Monster Exterminating later challenges the validity of its patent based on subject matter eligibility of its application. Either way, a proper analysis of Section 101 is essential for an inventor like Jane to properly manage her intellectual property.

B. The Examiners

The examiner assigned to Jane's patent is one of nearly 10,000 examiners trained and managed by the USPTO. The examiners hired by the USPTO are required to have a degree in engineering, such as electrical or chemical engineering, or a degree in a science, such as physics, biology, or chemistry.²⁸ The USPTO does not require examiners to possess any formal legal training, such as a law degree. In fact, the percentage of examiners with a Juris Doctorate degree is below 5% of the 10,000 examiners.²⁹ The USPTO is thus required to train the vast majority of the examiners from a novice level to a level of competency sufficient to perform a thorough, accurate, and timely Section 101 analysis.

Applying Section 101 to claims based on the Supreme Court and federal court decisions, such as *Mayo* and *Alice*, has been described by former USPTO director David Kappos as "a real mess,"³⁰ and by federal district court judges as "a challenge to interpret . . . and apply . . . faithfully."³¹ Still, the USPTO entrusts this legal analysis, which might determine the future viability of a company, primarily to those without adequate legal training.

While examiners are typically not graduates of law school, the USPTO provides a training academy program to introduce legal concepts to new

²⁸ UNITED STATES PATENT OFFICE, PATENT EXAMINER POSITIONS, www.uspto.gov/web/offices/pac/exam.htm (last modified June 16, 2017).

²⁹ H. Whei Hsueh, *Standardizing Patent Examiner Training and Qualifications*, BERKELEY TECH. L.J. (Apr. 11, 2016), <http://btlj.org/2016/04/standardizing-patent-examiner-training-and-qualifications/> ("In Art Unit 2100 for Computer Architecture and Software, in 2014, there were only 14 examiners with doctorate degrees (including J.D.), compared to 315 examiners with bachelor's degrees and 47 examiners with master's degrees. Thus, only 3.7% of examiners in the 2100 Art Unit potentially have J.D. degrees—or these may be comprised of all Ph.D.'s. In the 3600 Art Unit for e-commerce (i.e., business method software), there are only 4 examiners who potentially have law degrees.").

³⁰ Davis, *supra* note 12.

³¹ See Ryan Davis, *Gilstrap, Stark Say Alice, ALA 'Sea Change' Means More Work*, LAW360 (Apr. 11, 2016, 8:34 PM EDT), <http://www.law360.com/articles/783102> (quoting Judge Rodney Gilstrap of the Eastern District of Texas).

examiners. A newly hired examiner begins at the training academy, which is a “two-phase, 12-month training program to teach new examiners everything they need to know to do their job.”³² The program is “essentially college for patent examiners, for about six months,”³³ where the examiners receive “initial legal training, automation training and training in examination practice and procedure.”³⁴ New examiners begin patent examinations quickly after being hired, but their work is monitored by more experienced examiners.³⁵ Further, examiners are provided ongoing training, such as the “Patent Examiner Technical Training Program [created] to make scientists and engineers available to examiners for purposes of educating them on the latest state-of-the-art technology, advancements, and emerging trends in their technical fields.”³⁶ Thus, examiners are trained to a reasonable level for performing the fact-finding activities with which they are typically charged.

In the application for Jane’s mousetrap invention, the newly-trained examiner is perfectly qualified for the technical fact-finding aspects of the examination. Our fictional examiner is an electrical engineer with experience in using smartphone applications to customize characteristics of real world products. The question that arises when this examiner performs a Section 101 analysis for Jane’s application is whether this fact-finder is in a position to adequately analyze the claims in light of Supreme Court and federal court decisions and interpretations.

The administrative functions served by the USPTO are properly classified as a quasi-judicial administration, particularly when the examiners are performing their primary functions of examining patent applications.³⁷ The examiners are selected and hired by the USPTO because of their abilities to understand, ascertain, and interpret the facts related to a particular area of patent technology art. This fact-finding function is an important driver behind the requirement that each examiner must possess an engineering or science degree along with experience in the field. Examiners are extraordinarily qualified for this role. Few organizations of any sort could provide the technical and scientific punch of the collective expertise of the 10,000 examiners of the USPTO.

³² Clayton Browne, *How to Work as a Patent Examiner*, OUR EVERYDAY LIFE, <http://oureverydaylife.com/work-patent-examiner-4098.html> (last visited Jan. 20, 2018).

³³ Stephen Key, *Former Patent Examiner Pulls Back the Curtain at the USPTO*, <http://www.inc.com/stephen-key/a-former-patent-examiner-pulls-back-the-curtain-at-the-uspto.html> (last visited Jan. 20, 2018).

³⁴ UNITED STATES PATENT OFFICE, THE NATURE OF TRAINING PROVIDED TO USPTO EXAMINERS, https://www.uspto.gov/web/offices/com/annual/2007/50200_natureoftrain.html (last modified Aug. 30, 2017).

³⁵ Key, *supra* note 33.

³⁶ UNITED STATES PATENT OFFICE, USPTO-LED EXECUTIVE ACTIONS ON HIGH TECH PATENT ISSUES, <https://www.uspto.gov/patent/initiatives/uspto-led-executive-actions-high-tech-patent-issues#heading-7> (last modified Aug. 1, 2017).

³⁷ John A. Jeffery, *Preserving the Presumption of Patent Validity: An Alternative to Outsourcing the U.S. Patent Examiner’s Prior Art Search*, CATH. U. L. REV. 761 (2003); Dennis Crouch, *Revision of PTAB Policies*, PATENTLYO (Mar. 30, 2015), <http://patentlyo.com/patent/2015/03/revision-ptab-policies.html>.

C. The Examination

The body of examiners is properly directed to performing its fact-finding mission but not to performing legislative or judicial functions.³⁸ In the example, when the examiner of Jane's application is determining the novelty or obviousness of a patent application over previous patent applications, publications, articles, or any other documents collectively referred to as the "prior art," the examiner is operating as a fact-finder. The examiner is performing a proper quasi-judicial role of analyzing the technology of the patent, searching the state of the art in the field, applying facts uncovered in the search to the claims under examination, and deciding if the claims are novel over the prior art. The examiner is charged with having a thorough understanding of the field of the invention and an ability to grasp the improvement provided in the claims. The examiner engages in a robust back-and-forth with Jane and Jane's attorney to identify any thin slice of inventiveness that is not suggested by the prior art documents.

Although this search for facts and the application of the facts to the claims is a role for which examiners are well-selected and well-trained, this technical expertise does not overcome the legal training deficiencies of the examiners when questions of law are to be decided. The subject matter patentability of a claimed invention is "a question of law and is normally based on very few factual determinations."³⁹ "The 'threshold' question of patent eligibility is . . . a question of law, not fact, for a court to decide."⁴⁰ The Supreme Court "has never treated any aspect of the patent eligibility analysis as factual or deferred to any findings of fact on that question."⁴¹ When determining such a matter of law, a person in a judiciary position must "apply the correct legal standard and do away with any other evidentiary burden."⁴² Such function is inherently contrary to that for which an examiner is trained and qualified, i.e. fact finding. While "invalidity contentions under [Sections] 102 and 103 might require at least some discovery . . . [Section] 101 can be addressed purely as a matter of law."⁴³

³⁸ John M. Golden, *The USPTO's Soft Power: Who Needs Chevron Deference*, 66 SMU L. REV. 541, 543-45 (2013) ("the USPTO can accomplish much to improve the workings of patent law by using its existing fact-finding and non-binding rulemaking powers According to current judicial precedent what the USPTO really lacks is the capacity to issue binding substantive rules—i.e., so-called 'legislative rules' on substantive questions of patent law that 'carry[] the force of law' and would be presumptively binding both within the USPTO itself and externally upon courts charged with reviewing its actions.").

³⁹ Crouch, *supra* note 4.

⁴⁰ Brief of Google Inc., et al. as Amici Curiae in Support of Respondents at 18, *Alice Corporation Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014) (No. 13-298), 2014 WL 828041, at *19.

⁴¹ *Id.*

⁴² Crouch, *supra* note 4.

⁴³ *Navigating the Murky Morass of Section 101*, LAW360 (July 5, 2012, 1:02 PM EDT), <https://www.law360.com/articles/353304/navigating-the-murky-morass-of-section-101>.

Not only are the examiners not trained to perform this legal analysis, “it is not part of their job to think like attorneys.”⁴⁴ Even if examiners have a proper legal background (i.e., have obtained a Juris Doctor degree), the examiners “are not to apply that sort of reasoning. They are meant to be technical specialists, who carry out USPTO memos and holdings found in the Manual of Patent Examining Procedure (“MPEP”).”⁴⁵ The training provided to the examiners does not encourage them “to interpret case law from judicial opinions. Instead, the USPTO has already determined how they intend to interpret these sources, and has distilled these decisions into memos for their examiners to follow.”⁴⁶ Without a clear understanding of the law, patent examiners are not able to properly perform the necessary legal analysis of subject matter eligibility.

D. The Mayo Two-Step Test

When performing a subject matter eligibility analysis, the Supreme Court in *Mayo* created the two-step test.⁴⁷ In the first step, a determination that a set of claims is directed to an abstract idea, for example, might be a function for a fact-finder or at least more readably quantifiable in a bright-line rule. The identification of the ineligible subject matter within the claims may be performed by a comparison of the features of the claims to a standard, a set of examples, a series of rules, or other suitable fact-based examination.⁴⁸ However, the matter of law encompassed by this second step is where the quasi-judicial proceedings of the USPTO requires an analysis beyond the competency level created by the training of the examiners currently hired and trained by the USPTO. When an analysis of the second step of the two-step test begins, the examiner must show that the “patent in practice amounts to significantly more than a patent upon the natural law itself.”⁴⁹

⁴⁴ Raina Haque, *Message from the USPTO: It’s Patent Prosecution, not Persecution*, IPWATCHDOG (July 21, 2016), <https://www.ipwatchdog.com/2016/07/21/uspto-patent-prosecution-not-persecution/id=71148/>.

⁴⁵ *Id.*

⁴⁶ *Id.*; see generally *Patent Attorney Versus Patent Agent*, PATENTNOW.COM (July 10, 2016), <http://www.patentnow.com/patent-attorney-versus-patent-agent/> (“[F]rom going to law school, from obtaining a Law Degree, from passing one or more state bar examinations, and from practicing law on a range of issues, [attorneys] have a deep understanding of the Law. How to research it. How to apply it. How different cases, statutes, rules, and regulations can interact and affect one another.”).

⁴⁷ *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 556 U.S. 66, 78 (2012).

⁴⁸ See generally Robert W. Bahr, *Memorandum: Formulating a Subject Matter Eligibility Rejection and Evaluating the Applicant’s Response to a Subject Matter Eligibility Rejection* (May 4, 2016), <https://www.uspto.gov/sites/default/files/documents/ieg-may-2016-memo.pdf> (stating that Examiners must “explain why [the claim] corresponds to a concept that the courts have identified as an abstract idea.”). See also UNITED STATES PATENT OFFICE, MAY 2016 SUBJECT MATTER ELIGIBILITY UPDATE (2016), <https://www.uspto.gov/sites/default/files/documents/ieg-may-2016-fr.pdf> [hereinafter May 2016 Eligibility Guidance] (providing examiners with examples that are “are intended as a teaching tool to assist examiners and the public in understanding how the Office would apply the eligibility guidance in certain fact-specific situations”).

⁴⁹ *Mayo*, 556 U.S. at 72.

The second step as applied to many patent applications is not merely a question of law but also an exceedingly complex analysis that baffles patent attorneys, legal scholars, the USPTO itself, and seemingly the Supreme Court Justices themselves.⁵⁰ In the second step, the examiner must determine if the claims of the application include “significantly more” than the judicial exception.⁵¹

When analyzing the second step under *Mayo*, an examiner tries to identify an inventive concept by considering the claim elements both individually and as an ordered combination. Individual claim features that are of conventional, routine, or well-understood activity will not make a claim patentable, but a series of claim elements is not conventional just because each element appears separately in the prior art. “If the ordered combination of elements constitutes conventional activity, the claim is not patentable, but [an examiner] should remember that a series of conventional elements may together form an unconventional, patentable combination.”⁵²

Thus, the examiner must interpret case law from the Supreme Court and the federal courts when determining whether the individual claim elements and the ordered combination of elements are conventional, routine, or well-understood in the industry. Unfortunately, the USPTO understands that this legal analysis is not appropriate for the examiners and provides the examiners with distilled rules and examples for comparison. This is not a proper, thorough legal analysis, and inventors are prevented from receiving a fair, informed decision on the patent eligibility of their application.

E. Patent Examiners Vs. Trademark Examiners

The USPTO provides evidence that they understand the distinction between a quasi-judicial fact-finding procedure and a legal analysis, as shown by the USPTO rules for prosecuting and examining trademark applications. A practitioner who prosecutes trademarks for clients must be an attorney and have “an interest (but not substantial experience) in trademark law.”⁵³ Thus, only licensed attorneys, not patent agents or other non-attorneys, are allowed to practice in the trademark field by the rules of the USPTO.

⁵⁰ *Cal. Inst. Tech. v. Hughes Commc’ns Inc.*, 59 F. Supp. 3d 974, 980 (C.D. Cal. 2014) (“The Supreme Court decisions on section 101 often confuse more than they clarify. The cases appear to contradict each other on important issues, such as the role of prior art in section 101 analysis.”); Ryan Davis, *3 Lessons From Fed. Circ.’s Latest Post-Alice Patent Ruling*, LAW360 (Nov. 3, 2016, 7:48 PM EDT), http://www.law360.com/ip/articles/858667/3-lessons-from-fed-circ-s-latest-post-alice-patent-ruling?nl_pk=f97af752-6af7-469e-a1bf-bf978e3a0625&utm_source=newsletter&utm_medium=email&utm_campaign=ip.

⁵¹ *Mayo*, 556 U.S. at 73.

⁵² *Cal. Inst. Tech.*, 59 F. Supp. 3d at 980 (discussing *Alice*, 134 S. Ct. at 2358).

⁵³ The Trademark Attorney, INT’L TRADEMARK ASS’N, <http://www.inta.org/CareerArticles/Pages/TheTrademarkAttorney.aspx> (last visited Jan. 20, 2017).

More significantly, the USPTO only employs attorneys to examine trademark registration applications.⁵⁴ The reason for this rule is that, while some measure of fact-finding exists in trademark matters, the examination of trademarks is primarily a legal analysis and not a fact-finding process. For example, a trademark examiner must perform a legal analysis to determine if a trademark in an application is fanciful or arbitrary, suggestive, descriptive, or generic.⁵⁵ The trademark examiner must rely on his interpretation of case law, and, depending on the results of the analysis, determine whether the trademark is eligible for registration. In other examples, the examiner must assess whether the trademark is “geographically descriptive of the origin of the goods/services; disparaging or offensive; [or] is used in a purely ornamental manner.”⁵⁶

The need for practitioners and examiners with legal training to perform trademark examination is recognized and enforced by the USPTO but not when a similarly complex legal analysis under Section 101 is being decided by electrical engineers and chemists for a patent application. Despite the first examination being performed by an attorney, the appeal process for trademark applications is similar to the appeal process for patent applications. The trademark registration applicant has the same avenues as a patent applicant to obtain a decision from a proper judge by appealing to the Trademark Trial and Appeal Board (“TTAB”) and further to the U.S. District Courts after a decision is made by an examiner.⁵⁷ However, despite the costs and recruiting burden of hiring attorneys to fill all trademark examiner positions, the USPTO provides trademark applicants with an attorney for the first examination, signifying the importance of the legal training required for the initial legal analysis even though later appeals are possible.

Conversely, with the vast majority of patent examiners having no legal training, the USPTO’s expectation of them to grasp the nuances of the analyses required to interpret the decisions of the Supreme Court and consistently apply them to new patent applications at the initial examination is not reasonable. As with trademark examiners, the appeals process available to the patent applicant should not obviate the need for legal training to perform a legal analysis.

F. Efforts by the USPTO to Provide Structure to the Process

Due to the complexity of this legal analysis, the USPTO provides training and guidance for the examiners to follow, in part, to compensate for the potential inability of the examiners to properly interpret court decisions. This guidance is often in the form of rules and examples.⁵⁸ The examples allow the examiners to compare the claims of a pending application to other claims that have either been

⁵⁴ 37 C.F.R. § 11.14 (2008) (stating “Individuals who are not attorneys are not recognized to practice before the Office in trademark and other non-patent matters.”).

⁵⁵ UNITED STATES PATENT OFFICE, PROTECTING YOUR TRADEMARK (2016), <https://www.uspto.gov/sites/default/files/trademarks/basics/BasicFacts.pdf>.

⁵⁶ *Id.*

⁵⁷ UNITED STATES PATENT OFFICE, TRADEMARK TRIAL AND APPEAL BOARD, <https://www.uspto.gov/trademarks-application-process/trademark-trial-and-appeal-board-ttab> (last modified Aug. 21, 2017).

⁵⁸ *See, e.g.*, July 2015 Eligibility Guidance, *supra* note 2.

found to be patent eligible subject matter under Section 101 or not. However, the applications that come before the examiner are, by definition, new and different than the applications that have come previously. Applying the rules from old applications to each new and different claim is a step too far for a rational system to expect clear and reasonable application by the examiners.

In the example of our inventor Jane, the examiner compares the application's claims depicting the use of a smartphone to configure and operate a mousetrap to the examples provided by the USPTO to help clarify whether the invention is an abstract idea. The examiner compares the invention to examples provided by the USPTO that describe a smartphone application for displaying stock updates, a smartphone application for purchasing airline tickets, and other examples that may have some relevance. However, as this is the first application that the examiner has examined that is related to directing the operations of a mousetrap with a smartphone, an example that is substantially on point is unlikely. The examiner is thus tasked with extrapolating the concepts in these examples and in court rulings to perform a complete thorough, nuanced, and precise legal analysis.

G. The Section 101 Panels

Because the task before the examiners is so difficult, if not unreasonable, the USPTO has unofficially appointed a Section 101 “guru” or expert panel for making patentable subject matter determinations for some of the more contentious art units. The USPTO has previously employed these “secret” review panels for situations such as the “Sensitive Application Warning System (now discontinued) . . . and Quality Assurance Specialists.”⁵⁹ The examiner may take questionable patent claims to the panel and receive a quick analysis of the subject matter and a recommendation that the application passes or fails the Section 101 hurdle. While the USPTO may provide the panels to bring some level of expertise and uniformity to the process, “no record of these proceedings . . . is provided” to the applicant.⁶⁰

An administrative body “must provide some record of each substantive decision made regarding an application.”⁶¹ In this case, a USPTO panel is making a substantive judgment that is often merely recorded by the examiner in the Office Action. Since the goal of the panels is to bring clarity and uniformity to the Section 101 analysis, the substantive analysis is not being performed by the examiner who merely relays the decision to the applicant. The examiner often does not have the authority to overrule the panel. Even if the examiner is an active participant in the analysis discussions with the panel, the applicant “facing possible deprivation of a recognized interest has a right to defend herself and present her side of the

⁵⁹ Kitces, *supra* note 5 (noting that the USPTO sometimes reviews examiners' decisions or other aspects of an application by nondisclosed panels or individuals).

⁶⁰ *Id.*

⁶¹ *Id.*

dispute to the body or hearing officer that will be making the decision,”⁶² who may be the unnamed panel or guru.

The USPTO and the examiner may argue, conversely, that the final decision rests with each examiner and the panel merely exists for guidance. For example, the panels may be a resource that the examiners utilize to obtain an outside opinion that the examiners may use as one factor in the analysis. However, if the panels were merely instituted to provide some guidance and advice to the examiners, the process should be more transparent. The USPTO publishes training materials and other guidelines for the examiners so that applicants and practitioners can follow the progression of their applications, understand the reasoning of the examiners, and better predict future patent outcomes.⁶³ An applicant is left to wonder why the Section 101 panels are not similarly publicly discussed. The record of the analysis and the decision “should show who reviewed the application, what was reviewed, what decision was reached, and the rationale for the decision.”⁶⁴ The USPTO does not even verify to the applicant that the application was reviewed by the panel, which would only require minimal transparency.⁶⁵

The actions of a quasi-judicial body such as the USPTO “involve the application of established standards to individual facts to determine specific rights or to take specific actions under existing law.”⁶⁶ In an administrative hearing when a person is being deprived of his or her property (in this case, the intellectual property of the potential patent), “the person must first be given notice and the opportunity to be heard.”⁶⁷ With the USPTO’s typical process transparency, the silence maintained with regard to the Section 101 panels is glaring.

H. The True Costs of Administrative Solutions

Our inventor, Jane, despite her questions about the suitability of the examiner of her application and the potential role of the Section 101 panel, does not have any options for intermediate appeal outside of the system provided by the USPTO. For example, she does not have any avenue to get her invention before a judge or other suitable court of law without proceeding through the USPTO

⁶² Adam Lindgren, *Common Issues in Quasi-Judicial Hearings*, LEAGUE CAL. CITIES ANN. CONF. (Sept. 2013), <http://www.cacities.org/Resources-Documents/Member-Engagement/Professional-Departments/City-Attorneys/Library/2013/2013-Annual-Conference-City-Attorneys-Track/9-2013-Annunial-Adam-U-Lindgren-Common-Issues-in-Qu> (citing *People v. Swink*, 150 Cal. App. 3d 1076, 1080 (1984)) (the “fundamental requisite of due process of law is the opportunity to be heard”).

⁶³ *See, e.g.*, THE UNITED STATES PATENT OFFICE, EXAMINATION GUIDANCE AND TRAINING MATERIALS, <https://www.uspto.gov/patent/laws-and-regulations/examination-policy/examination-guidance-and-training-materials> (last modified Aug. 22, 2017).

⁶⁴ Kitces, *supra* note 5.

⁶⁵ *Id.* (“At the very least, the record should reflect that the application was reviewed pursuant to a certain program (e.g., the 101 Panel).”).

⁶⁶ Lindgren, *supra* note 62 at 3.

⁶⁷ Procedural Due Process, LEGAL INFO. INST., https://www.law.cornell.edu/wex/procedural_due_process (on file with author).

process. Jane must exhaust her administrative options before she can get a judge to establish whether her invention includes patent eligible subject matter. Because of the years that a patent application takes to work its way through the USPTO, Jane's business is in limbo while awaiting a resolution. Meanwhile, if her competitor, Monster Exterminating, sells a product that infringes on Jane's would-be patent claims, Jane is unable to file a suit to protect her invention until after the patent is issued because "protection afforded by a patent does not start until the actual grant of the patent."⁶⁸ Under the American Inventor's Protection Act, Jane will be able to recover "reasonable royalties" from Monster for the period after patent publication, assuming a series of conditions are met, not the least of which is that the patent is issued.⁶⁹

When a patent is examined at the USPTO, the examiner provides the decision to the applicant in the form of a Non-Final Office Action. The Office Action might include substantive rejections, such as the invention was obvious over prior art documents, or that the invention was not properly enabled. After a response is filed by the applicant, a Final Office Action may be provided. At this stage, an inventor who is frustrated with the process may file an appeal to the Patent Trial and Appeal Board ("PTAB"). An appeal costs an inventor a significant amount of money in PTAB fees and the cost for an attorney to navigate the process and present the oral arguments. The attorney fees for a PTAB appeal are often in excess of \$15,000. The additional attorney's fees and the \$2,000 for filing the appeal to get the application before a judge with legal training is often a burden too great for many small entities to bear.⁷⁰ Despite these costs, what is often much more important to the applicant is that the appeal process often adds another two to three years to the wait time for a patent to issue. The typical amount of time from the filing of an application through an appeal board decision is over seven years.⁷¹

After receiving her Non-Final Office Action based on the examiner's rejection under Section 101, our inventor, Jane, decides that her invention is too important to the future of her company and her employees to abandon, and she decides that she wants a judge to decide the Section 101 issue. Her appeal to the PTAB allows the Section 101 decision finally to be made by those with legal

⁶⁸ Vincent LoTempio, "Patent Pending" Provisional Rights, VINCENT LOTEMPPIO (Aug. 30, 2010), <https://www.lotemplolaw.com/2010/08/patents/patent-pending-provisional-rights/>.

⁶⁹ 35 U.S.C. § 154(d) (2015) ("A patent shall include the right to obtain a reasonable royalty from any person who, during the period beginning on the date of publication of the application . . . and ending on the date the patent is issued—(A)(i) makes, uses, offers for sale, or sells in the United States the invention as claimed in the published patent application or imports such an invention into the United States . . . and (B) had actual notice of the published patent application.").

⁷⁰ See UNITED STATES PATENT OFFICE, USPTO FEE SCHEDULE, https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule#PTAB_Fees (last revised July 1, 2017).

⁷¹ UNITED STATES PATENT OFFICE, PENDENCY OF PATENT APPLICATIONS, <https://developer.uspto.gov/visualization/pendency-patent-applications-2-visuals> (last visited Mar. 11, 2017).

education, training, and experience. The PTAB decision will be made by a panel of three administrative patent judges.⁷² The judges are required to be attorneys with “many years of experience in the practice of patent law” and “degree(s)/work experience in science or engineering.”⁷³ An applicant during an appeal before the PTAB presents his arguments before the board and later receives a decision. However, each of the administrative judges on the PTAB “operates at the direction of the USPTO director (who is also a member of the PTAB). Thus, unlike many courts, the PTAB is not self-directed.”⁷⁴ While the PTAB judges are at least qualified to decide a matter of law, such as a Section 101 appeal, they are still operating “at the direction of the USPTO director,”⁷⁵ and not as an independently appointed panel.

While the Supreme Court has held that “due process of law is afforded litigants if they have an opportunity to be heard at any time before final judgment is entered,”⁷⁶ the costs and time required for an appeal to the PTAB reduces the effectiveness of the remedy. Many applicants decide to abandon the appeal because the time required for an appeal will be longer than the technology of the patent will be state-of-the-art, and the costs involved are more than many companies can bear. For many inventors, especially solo inventors and small businesses, the remedy of appeal to the PTAB is woefully ineffective.

The effect of a seven-year delay to obtain a decision from a person with legal training for the subject matter eligibility of an invention is significant and disheartening even for more capable applicants, such as large biotechnology firms. The confusion created by the *Alice* decision has caused corporations in the software and biotech sectors to rethink their investments in new technologies, and this is costing society the innovation that the industry would otherwise be providing.⁷⁷ Knowing that they are in for a seven-year fight to receive a proper

⁷² UNITED STATES PATENT OFFICE, ABOUT PTAB, <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/resources/about-ptab> (last visited Mar. 11, 2018).

⁷³ UNITED STATE PATENT OFFICE, ABOUT THE USPTO, https://www.uspto.gov/ip/boards/bpai/ptab_brochure_v2_4_10_14.pdf (brochure on file with author) (listing basic qualifications to apply for a PTAB judgeship).

⁷⁴ Crouch, *supra* note 4.

⁷⁵ *Id.*

⁷⁶ *Wilson v. Standefer*, 184 U.S. 399, 415 (1902).

⁷⁷ Erin Coe, *Ruled Out*, LAW360 (Sept. 6, 2016), http://www.skgf.com/uploads/1426/doc/Ruled_out.pdf (“‘Pockets of the biotechnology sector, such as industrial biotech, drug discovery, personalized medicine and diagnostic companies, have been hit particularly hard by patent-eligibility decisions that are being applied more broadly than expected,’ said Hans Sauer, deputy general counsel for intellectual property at Biotechnology Innovation Organization. And many have nothing to do with human genes or genetic testing. ‘For some colleagues in advanced diagnostic and personalized medicine companies, depending on their technology, they don’t see a good way forward,’ he said. ‘They can’t think of a promising way to get the kind of patent protection that other companies are able to get for different types of technology.’”); see generally Dan Lonkevich, *Federal Circuit Judge’s ‘Strange’ Prescription for Fixing Mayo, Alice Rulings in Opinion on Denial of En banc Sequenom Review Said to Underscore Confusion and Danger of Those Rulings*, THEPATENTINVESTOR (Dec. 4, 2015),

audience is a significant disincentive to entering the patenting process and all of society loses potentially life changing innovations.⁷⁸

While large corporations are justifiably concerned about the prospects of their patent portfolio, the effect of the uncertainty of the process on small companies and solo inventors is perhaps proportionally higher. The Section 101 confusion “hurts small players more than big ones.”⁷⁹ “Small companies just file fewer patent applications, so if you get caught in a big 101 fight, the impact on the portfolio is more dramatic.”⁸⁰ For solo inventors or small business owners, such as Jane, the inability to assert a patent against a competitor because of this delay is often the difference between the viability of the business and total failure.

For a small entity, the costs to file and prosecute a patent application, particularly when using a patent attorney for filing, have always been at a point where a cost-benefit analysis might or might not recommend filing. In addition to the time lost, the abysmal rates at which applications are patented in certain art units at the USPTO because of dubious Section 101 rejections would surely tip the balance of the decision away from filing. If an invention falls in one of these art units, a Section 101 rejection is almost certain. For example, in several art units within the USPTO’s 3600 Technology Center, which includes business method patent applications, the rejection rate is over 85%.⁸¹ Even worse, “[o]f examiners operating in the top 10 art units, seven have 100% *Alice* rejection rates, indicating that every rejection he or she has issued since June 19, 2014 has cited *Alice*.”⁸² When a solo inventor has his life’s work placed in one of these technology centers, the confusion and frustration will often drive him to abandon the application rather than needlessly spend more time and money fighting the seemingly inevitable Section 101 rejections.

The solution for many applicants often is to drop the matter and walk away from the potentially profitable patent application. With a typical patent

<https://thepatentinvestor.com/2015/12/federal-circuit-judges-strange-prescription-for-fixing-mayo-alice-rulings-said-to-underscore-danger-of-those-rulings/> (“Fuller said the Supreme Court’s decisions on patentable subject matter mean that companies including many of his own clients who develop products such as prostate cancer screening tests are no longer willing to spend the millions of dollar to develop such products.”).

⁷⁸ Robert Sachs, *Will the USPTO’s ‘Patents 4 Patients’ Program Even Make it off the ‘Cancer Moonshot’ Launch Pad?*, BILSKIBLOG (June 30, 2016), <http://www.bilskiblog.com/blog/2016/06/two-years-after-alice-a-survey-of-the-impact-of-a-minor-case-part-2.html> (stating “If a company, perceiving the odds against both getting through the USPTO and surviving in court, decides to forego developing a pioneering technology—say, tackling the hardest problems of artificial intelligence or biotechnology, or both—then the loss to society simply cannot be measured.”).

⁷⁹ Ryan Davis, *Wave of USPTO Alice Rejections Has Cos. Tweaking Strategies*, LAW360 (Nov. 2, 2015, 1:36 PM EST), <http://www.law360.com/articles/720762/wave-of-uspto-alice-rejections-has-cos-tweaking-strategies> (quoting Christopher Hall, a patent agent at Womble Carlyle Sandridge & Rice LLP).

⁸⁰ *Id.*

⁸¹ James Cosgrove, *The Most Likely Art Units for Alice Rejections*, IPWATCHDOG (Dec. 14, 2015), <http://www.ipwatchdog.com/2015/12/14/the-most-likely-art-units-for-alice-rejections/id=63829/>.

⁸² *Id.*

application for a consumer electronics product, the costs for an attorney to file the application are approximately \$14,000.⁸³ While this cost is significant, it might be manageable with proper planning by a small business. However, prosecution costs due to an erroneous Section 101 rejection will add another \$5,000 to \$7,000.⁸⁴ Further, an appeal to the PTAB will likely add another \$15,000 to the cost. The cost/benefit analysis results are completely different for an applicant when the costs potentially increase from \$14,000 to \$29,000 in cases where the Section 101 analysis is improperly performed. Discouraging people from taking advantage of the rights and benefits of the system is a disservice to the American people.

“[T]he quickest way to get less innovation is to destroy the patent system.”⁸⁵ However, this is the lesson being taught to society by the USPTO as long as citizens’ rights to have their question of law decided by a qualified judge in a timely and accessible manner in an open forum is being ignored. If the examiner wrongly applies the analysis, Jane’s plans for her company will be put on hold when the company should rightly be expanding, quashing any infringement of their invention by competitors, and enjoying the fruits of Jane’s eight years of inspired work.

III. Due Process Analysis of the Rights of a Patent Applicant

The lack of legal training by the examiner for performing a Section 101 analysis, the inadequacy of the applicant’s opportunity to dispute the rejection with an unofficial panel, and the lack of a panel review record are each a potential due process violation. To determine if the procedural due process rights of a user have been violated, three factors are considered.⁸⁶

A. Private Interests

The first factor is the nature of the “private interest that will be affected by the official action”⁸⁷ and “the potential desperation resulting from adverse administrative action.”⁸⁸ In an example of a property interest involving the suspension of driver’s licenses, the Court has ruled that “[o]nce licenses are issued . . . continued possession may become essential in the pursuit of a livelihood. Suspension of issued licenses thus involves state action that adjudicates important interests of the licensees. In such cases the licenses are not

⁸³ Gene Quinn, *The Cost of Obtaining a Patent in the US*, IPWATCHDOG (Apr. 4, 2015), <http://www.ipwatchdog.com/2015/04/04/the-cost-of-obtaining-a-patent-in-the-us/id=56485/>.

⁸⁴ *Id.*

⁸⁵ Gene Quinn, *Maximizing Innovation Requires a Strong Patent System*, IPWATCHDOG (Mar. 31, 2015), <http://www.ipwatchdog.com/2015/03/31/maximizing-innovation-requires-a-strong-patent-system/id=56285/>.

⁸⁶ See *Mathews v. Eldridge*, 424 U.S. 319 (1976) (the three factors established in *Mathews* are: (1) the interests of the individual in retaining their property; (2) the risk of mistakenly depriving an individual of his interest; and (3) the Government’s interest).

⁸⁷ Lindgren, *supra* note 62.

⁸⁸ Jerry L. Mashaw, *The Supreme Court’s Due Process Calculus for Administrative Adjudication in Mathews v. Eldridge: Three Factors in Search of a Theory of Value*, 44 U. CHI. L. REV. 28, 39 (1976).

to be taken away without that procedural due process required by the Fourteenth Amendment.”⁸⁹ While a driver’s license is a physical object, the interest to the owner is in the rights it affords. In another example, if an employee had a contract to work for a State, “procedural due process concerns must be met for early termination, as there is a property interest in the entitlements stemming from the contract.”⁹⁰ While the driver’s license itself is tangible, one’s continued employment is a fully intangible interest.

Similarly, the intellectual property that is the subject of a patent application should be a compelling property interest. The invention for which the patent is being sought may be the culmination of a lifetime’s work and the basis for the inventor’s source of income. As with the driver’s license, the physical patent represents the rights to protect his invention and profit from its protections. Further, the rights to profit from the invention are similar to rights to employment because in many cases, such as Jane’s, receiving the patent is the difference between her company being viable or not.

In the case of our inventor, Jane, the outcome of an erroneous, negative Section 101 decision might not be as dire as administrative decisions from some other government entities, like those from the Social Security Office, but a deprivation of her intellectual property rights are certainly of utmost importance to Jane and her company. In Jane’s case, the property interest consists of the rights and privileges enjoyed by possessing a patent directed to her invention. Jane’s plans for her company rely, in good part, on her right to enjoy the benefits and protections the patent provides. Responding to the rejections and filing appeals will not only prevent Jane from enjoying the fruits of her invention, but will cost a significant amount of money to even the largest of companies. More importantly, the process will take years before Jane can fully defend her patent rights—years in which her competitors are likely working on their own versions of Jane’s invention or merely using Jane’s invention outright.

With these possessory rights being decided by an inadequate authority or an unknown entity, the “private interest that will be affected by the official action,”⁹¹ is of a significance that the first factor of the due process analysis falls in favor of the patent applicant.

B. Risk of Erroneous Deprivation

The second factor to assess a violation of an applicant’s procedural due process rights concerns “the risk of an erroneous deprivation of such [private] interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards.”⁹² In this case, the USPTO is likely creating

⁸⁹ *Bell v. Burson*, 402 U.S. 535, 539 (1971).

⁹⁰ Procedural Due Process, NAT’L PARALEGAL C. (2017), http://nationalparalegal.edu/conLawCrimProc_Public/DueProcess/ProceduralDueProcess.asp.

⁹¹ *Mathews*, 424 U.S. at 334.

⁹² *Id.*

a greater risk of an erroneous Section 101 ruling by not providing an examination by an examiner trained in the law.

The risk of an erroneous ruling in a legal analysis by an examiner without legal training is evident. The USPTO provides patent examiners with more easily digestible rules distilling the Court rulings and utilizes Section 101 panels to provide some consistency—but the USPTO hires only attorneys to perform a similar analysis for a trademark application. As discussed herein, the vast majority of examiners are not in a position to make this nuanced analysis. The USPTO seemingly believes that the Section 101 panels provide a way of mitigating the risk created by the examiners' lack of training. However, an inventor may argue that he may be more likely to achieve a positive outcome by direct argument and discussion with the examiner instead of the panel. The inventor may believe that she will be more likely to make the examiner better understand her invention and its utility during interviews and through direct arguments rather than trusting a Section 101 panel to which she is not able to present direct arguments. Neither option is free from a risk of an erroneous decision; however, a decision by the panel based on the current rules is less likely than an erroneous decision by a single examiner.

C. Government Interests

The third factor to assess in a procedural due process rights analysis is the “Government[] interest[s], including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.”⁹³ If the USPTO were to abandon the Section 101 panels because of the due process implications, the decisions would be made solely by the examiners and therefore may be even more likely to be more erratic and error-prone. This would potentially increase the burden on the USPTO in the form of appeals and challenges. The USPTO could alternatively provide a qualified examiner accessible to the applicant for each Section 101 decision to provide an examination that meets due process requirements. Employing legally-trained attorneys for each of the 10,000 examiner positions is not realistic. Even providing a legally trained attorney to be available for interview and questioning by each applicant regarding the Section 101 analysis might be burdensome for the USPTO.

Procedural due process compels an administrative body to give an opportunity for a proper hearing to a person or organization whose property interest will be jeopardized by an administrative order.⁹⁴ Despite certain due process rights of the applicant being improperly denied, providing examiners with thorough legal training to render them capable of performing the required legal analysis of Section 101 is probably not feasible. The Section 101 panels might serve as the most efficient manner of providing a qualified Section 101 analysis without

⁹³ *Id.*

⁹⁴ *See* *Chicago Milwaukee & St. Paul Ry. Co. v. Minnesota*, 134 U.S. 418, 457 (1890); *see also* *Ballard v. Hunter*, 204 U.S. 241, 255, (1907) (stating that the “fundamental requirement [of due process] is an opportunity for a hearing and defense, but no fixed procedure is demanded”).

creating an untenable burden on the USPTO. However, at a minimum, an increased degree of transparency to the applicant would not create a great burden for the USPTO. A simple acknowledgement of the panel and an opportunity for the inventor to confront the decision makers would decrease the procedural due process implications. In our example, Jane should at least be allowed to argue her case before the panel as the “fundamental requisite of due process of law is the opportunity to be heard.”⁹⁵

IV. Proposed Solutions to Provide Fair Subject Matter Eligibility Analyses

The interpretation of Section 101 in the manner being performed by the USPTO means that meritorious patent applications are being rejected, abandoned, or not even filed due to rules that are ill-defined, capricious, poorly applied, and result in potential violations of an inventor’s due process rights. The remedy for the situation is to remove any determination of this matter of law from the purview of patent examiners. As long as examiners without legal training are responsible for the analysis, and Section 101 panels are not available for questioning, applicants will not receive a proper analysis that is proportionate to the importance of the matter.

A. Panel Availability

The simplest solution to somewhat mitigate the violation of the due process rights of inventors is to make the Section 101 panel available to the inventors for questioning and discussion. The examination process is supposed to be a collaboration between applicants and examiners to issue quality patents and should not be an adversarial contest.⁹⁶ Without access to the panels, an applicant can attempt neither a direct collaborative nor direct adversarial approach to reach a fair Section 101 outcome. However, if the panels were available either during the interview process or were included in the Office Action and Response process, then the applicant’s due process rights might be better protected.

While the participants on the panel are potentially more capable of the Section 101 analysis than examiners alone, the USPTO could further validate the process by placing attorneys on each panel. While hiring 10,000 attorneys to populate the entire examiner force is unrealistic, hiring sufficient attorneys to sit on the panels to perform Section 101 analyses might be more reasonable. Having an expert on the panel with legal training that is available to inventors for discussions and questioning would greatly reduce the risk of erroneous deprivation of the intellectual property rights of inventors while not being overly burdensome on the resources of the USPTO.

⁹⁵ *People v. Swink*, 150 Cal. App. 3d 1076, 1080 (1984).

⁹⁶ David Stein, *The New Practitioner/Examiner Relationship: Collaboration For Valid Patents*, USPTO TALK (Feb. 8, 2015), <http://www.usptotalk.com/the-new-practitioner-examiner-relationship/> (“[W]e are not adversaries, but collaborators with the objective of issuing the right patent for each invention.”).

If this system were instituted, our inventor Jane would have a traditional examiner perform the fact-finding functions for which the examiner is well trained, but when the examiner determines that the subject matter of Jane's invention is likely barred by Section 101, the examiner turns the analysis over to a panel. However, unlike the current process, the panel would be clearly identified to Jane, made available for interview, and prepare any suitable rejection of the subject matter. Jane would have a higher level of confidence in the rejection and would be better able to properly prepare a Response to the rejection.

For example, if Jane has a reasonable belief that the rejection was properly considered by a person with sufficient resources and training, then Jane may decide that she is not going to spend thousands of dollars and years of her life fighting to overcome that rejection. Jane may determine that her time and money would be better spent in marketing or further product development. When Jane has doubts about the decision maker and the rejection, she may not be able to walk away so easily. Conversely, if an examiner erroneously determines that the invention passes a Section 101 analysis, Jane may later find herself caught up in costly litigation with competitors, where she is likely to lose.

B. Removal of Section 101

Another potential solution to the current confusion is to remove Section 101 from the statutes and rely on applications of Sections 112, 102, and 103 to achieve the same ends. This approach would be a means to "somehow stop the Courts and the USPTO from importing their own often hazy, subjective view of 'abstractness' (often really just unbound, personal views of novelty, obviousness or distinctiveness) into the purposefully low Section 101 patentability threshold."⁹⁷ This argument was put forward unsuccessfully in *Mayo* by U.S. Solicitor General Donald B. Verrilli Jr. and others while pointing out that the USPTO should weed out unworthy patents under Sections 102 and 103.⁹⁸

This approach would allow "determinations about patentability [to] be based on more concrete issues like novelty and non-obviousness, rather than the tougher-to-define patent-eligibility standards under current law."⁹⁹ As described in the *Alice* decision, one of the outcomes that current Section 101 standards seek to prevent is circumventing of rejections based on abstract ideas by drafting claims that simply apply the abstract idea, such as applying the idea on a computer. However, complex Section 101 rulings are not required to prevent this drafting technique because "an invention which is not so manifestly abstract as to override the statutory language of Section 101 may nonetheless lack sufficient concrete disclosure to warrant a patent."¹⁰⁰ For example, the court suggests that Section

⁹⁷ Wayne Sobon, *Exploring the Legal Contours of Patent Subject Matter Eligibility*, BILSKIBLOG (Dec. 30, 2016), <http://www.bilskiblog.com/blog/2016/12/15/index.html>.

⁹⁸ *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–81 (2012).

⁹⁹ Ryan Davis, *A Look At How Congress Could Revamp Patent-Eligibility*, LAW360 (Feb. 1, 2017, 8:18 PM EST), <https://www.law360.com/ip/articles/886790/a-look-at-how-congress-could-revamp-patent-eligibility?>

¹⁰⁰ *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010).

112 is sufficient to “weed out claims that may present a vague or indefinite disclosure of the invention.”¹⁰¹

The “Patent Act of 1952 contains two provisions that, if properly interpreted and applied, fully negate the potential effectiveness of such drafting techniques: Section 112(a) and Section 112(f).”¹⁰² The written description requirement of Section 112(a) states “The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the . . . to make and use the same. . . .”¹⁰³ Thus, “inventions that are claimed in terms of an application that is defined broadly enough to preempt a concept cannot be validly patented. Such a claimed invention would not have a sufficient description.”¹⁰⁴ Section 112(f) provides all the tools an examiner would require to interpret the claims and “determine if a claim element is merely a functional reference or if it defines a set of structures, materials or acts.”¹⁰⁵ Thus, an examiner can apply the tests of Section 112 to ensure “that valid patent claims cannot preempt access to any concept underlying the claimed invention.”¹⁰⁶ An examiner is able to reject this application without resorting to the Section 101 analysis.

Section 102 of the Patent Act further serves as a backstop to prevent abstract ideas from being patented on the basis of clever claim drafting. “Any allegation that a law or product or phenomenon might infringe a patent claim would necessarily establish that the claim was anticipated under Section 102.”¹⁰⁷ That is, for example, if an inventor attempted to patent a natural phenomenon, any evidence that the natural phenomenon already existed would anticipate the claims and invalidate the patent under Section 102. The examiner could reject “any effort to draft a patent claim that would extend protection under a patent to preempt access to any natural product or law or natural phenomenon [because the claims] would inherently fail the novelty condition for patentability under Section 102.”¹⁰⁸

This concept can be further applied to the abstract idea applications that are at the heart of the recent judicial decisions. For example, current USPTO practice is to reject applications under Section 101 when the claims are drawn to an “abstract idea,” such as a “fundamental economic practice.”¹⁰⁹ However, if a claimed invention did not contain features that made the invention “significantly more” than a fundamental economic practice, the novelty requirement of Section

¹⁰¹ *Id.*

¹⁰² Brief for Amici Curiae Eli Lilly & Company, et al. in Support of Petitioner, *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, 136 S. Ct. 2511 (2016) (No. 15-1182), 2016 WL 1298192, at *12.

¹⁰³ *See* 35 U.S.C. § 112(a) (2012).

¹⁰⁴ Brief for Amici Curiae Eli Lilly & Company, et al. in Support of Petitioner, *Sequenom, Inc.*, 136 S. Ct. 2511 (2016) (No. 15-1182), 2016 WL 1298192, at *15.

¹⁰⁵ *Id.* at *17 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), cert. denied, 546 U.S. 1170 (2006)).

¹⁰⁶ *Id.* at *18.

¹⁰⁷ *Id.* at *22.

¹⁰⁸ *Id.*

¹⁰⁹ July 2015 Eligibility Guidance, *supra* note 2.

102 would easily be sufficient to reject the claims without the necessity of preparing a complex legal interpretation of just how fundamental the economic practice is. As mankind has practiced commerce since the dawn of history, surely an examiner would be able to find a similar example preceding a claimed commerce-related invention. If the examiner were unable to show the steps being practiced in any example in the totality of human economic practice, one would have to question exactly how the examiner defines what is so fundamental about this particular economic practice.

Under current USPTO practices, Jane's mousetrap invention that utilizes an application on a smartphone for access and configuration purposes would likely be mired in a Section 101 analysis that determines that the application of a mousetrap to a software application is ineligible under *Alice* for being an abstract idea ("catching mice") that is merely applied via the software. However, if the invention does not include a truly novel, non-abstract concept, this determination is unnecessary because a proper application of Section 102 would suffice to reject the claims. For example, if the invention is not "significantly more" than what is required under the Section 101 guidelines, then the examiner should also be able to show the elements of the claims in the prior art in the field under Section 102.

If the invention does include steps that would be "significantly more," then these steps could also be properly considered under Section 102. If an examiner is properly applying Sections 112 and 102, it becomes "impossible to identify any scenario under which a valid patent could provide protection for a law of nature, a natural phenomenon, or an abstract idea . . . that might dominate or otherwise preempt access to such a law, product, phenomenon, or idea."¹¹⁰ "[A]ny invention should be eligible for patent protection if it can be shown to provide a 'useful, concrete and tangible result,'"¹¹¹ and any invention that does not provide these would similarly not pass Sections 112 and 102.

C. Coarse Filter

A less dramatic solution would be to keep Section 101, but to remove the judicial exception confusion and create a simple, bright-line rule that uses Section 101 as a simple gatekeeper or "'coarse filter' for subject matter eligibility, as many jurists and practitioners believe it should be."¹¹² The lower courts and the USPTO originally treated Section 101 as a gatekeeper to keep out clearly ineligible subject matter, such as mathematical formulas, rather than as a robust filter. When treating Section 101 analysis as a coarse filter, the examiner and the USPTO would primarily use Sections 112, 102, and 103 in determining the patentability of claims. One manner of achieving this coarse filter would be, as described by former

¹¹⁰ Brief for Amici Curiae Eli Lilly & Company, et al. in Support of Petitioner, *Sequenom, Inc.*, 136 S. Ct. 2511 (2016) (No. 15-1182), 2016 WL 1298192, at *23.

¹¹¹ Ryan Davis, *IP, Pharma Groups Call For Patent Eligibility Law Overhaul*, LAW360 (Jan. 30, 2016, 8:51 PM EDT), <https://www.law360.com/articles/884771/ip-pharma-groups-call-for-patent-eligibility-law-overhaul> (quoting AIPLA).

¹¹² Jason Rantanen, *Section 101 – Pivotal Moment for Clarity on Patent Subject Matter Eligibility*, PATENTLYO (Apr. 21, 2016), <http://patentlyo.com/patent/2016/04/section-subject-eligibility.html>.

USPTO Director David Kappos, keeping Section 101 “for its statutory requirement but abolishing all judge-made law underneath it, including judicially created exceptions to what can be patentable.”¹¹³

This coarse filter would serve to catch the “rare cases in which ‘it is clear and convincing beyond peradventure’ that a patent claim is ‘over the line’ of abstractness.”¹¹⁴ For example, the Federal Circuit has “characterized section 101 as a ‘coarse eligibility filter’ rather than the final arbiter of patentability.”¹¹⁵ A filter that imposes a more complicated and thorough standard is often unnecessary because “a patent that presents a process sufficient to pass the coarse eligibility filter may nonetheless be invalid as indefinite”¹¹⁶ or anticipated under Section 102. Chief Judge Paul R. Michel of the Federal Circuit has argued in an amicus brief for *Alice* that eligibility “criteria should exclude only clearly ineligible inventions, allowing the other sections of the Patent Act . . . to perform their respective functions.”¹¹⁷ “The Supreme Court did not adopt such an approach, arguably foreclosing its use in future cases.”¹¹⁸

Using Section 101 as a course filter would “restore [Section 101] to the minimal, simple threshold for inventions of the useful arts”¹¹⁹ as intended by Congress. This simple threshold would provide a logical and well-defined standard that the examiner could use when considering Jane’s mousetrap invention. This determination by the examiner would be more fair and predictable to patent applicants because it would not require the examiner to conduct a complex legal analysis.

In our example, when using this coarse filter to examine Jane’s mousetrap, the examiner would simply ask if the invention “exists in nature independently of and prior to any human activity, or . . . exists solely in the human mind.”¹²⁰ The mousetrap has a physical structure and its operation via software operating

¹¹³ Erin Coe, *Ruled Out*, LAW360 (Sept. 6, 2016), http://www.skgf.com/uploads/1426/doc/Ruled_out.pdf.

¹¹⁴ David Swetnam-Burland & Stacy O. Stitham, *Patent Law 101: The Threshold Test as Threshing Machine*, 21 TEX. INTELL. PROP. L.J. 135, 139 (2013).

¹¹⁵ Pauline Farmer-Koppenol & Michael J. Shuster, *Classen v. Biogen Idec et al. – The Latest Installment in the Patent-Eligibility Arena*, FENWICK & WEST LLP, https://www.fenwick.com/FenwickDocuments/Classen_V_Biogen.pdf, (last visited July 8, 2017) (discussing *Classen Immunotherapies, Inc. v. Biogen Idec*, No. CIV. WDQ-04-2607, 2014 WL 2069653, at *1 (D. Md. May 14, 2014)).

¹¹⁶ *Research Corp. Tech.*, 627 F.3d at 869.

¹¹⁷ Brief of Amicus Curiae Paul R. Michel in Support of Neither Party, *Alice Corporation Pty. Ltd. v. CLS Bank international*, 134 S. Ct. 2347 (2014) (No. 13-298), 2014 WL 295767, at *11.

¹¹⁸ Kenneth G. Parker, David W. O’Brien, & Richard D. Rochford, *Supreme Court Hedges Risk for Defendant CLS Bank on Business Method Patentability; Net Effect on All Business Method Patents Remains Unclear*, HAYNESBOONE, <http://www.haynesboone.com/~media/files/attorney%20publications/2014/supremecourthedgesriskonbusinessmethodpatentability.ashx> (on file with author).

¹¹⁹ Sobon, *supra* note 97.

¹²⁰ Manny Schecter, *Congress Needs to Act So Alice Doesn’t Live Here (in the Patent System) Anymore*, IPWATCHDOG (Feb. 13, 2017), <http://www.ipwatchdog.com/2017/02/13/congress-needs-to-act-so-alice-doesnt-live-here-in-the-patent-system-anymore/id=78241/>.

through a physical computing device clearly does not exist in nature and does not operate within a human mind. Thus, Jane's invention would pass this coarse filter and then be properly judged against the other sections of the patent code. For example, the examiner could move on to determine if Jane's invention was disclosed in any prior art publications. "Compared to deciding whether something is an abstract idea, determining whether an invention is invalid as anticipated because it was mentioned in a textbook years ago, is 'a much clearer way to filter things out.'"¹²¹

Conclusion

Because the current application of Section 101 keeps good patent applications from being patented and stifles innovation, the USPTO or Congress must act to remove the determination of this question of law from the purview of patent examiners. To encourage innovation, the USPTO must make the process for obtaining a patent more accessible and appealing. The Section 101 hurdle is "weakening the patent system . . . when we need to be increasing them and encouraging people to spend the grueling hours in the laboratory or the machine shop it takes to come up with the next big thing."¹²² Even if the Section 101 process were to remain a difficult hurdle, the process should still be predictable and well-defined. The current system of employing examiners with insufficient legal training to consistently and predictably perform complex legal analyses makes the patent application and filing process frustrating and results in capricious outcomes for inventors.

Solutions may be as simple as using legally-trained examiners to perform the Section 101 analysis, or as complex as new legislative action by Congress. Any solution, however, must necessarily take the current unworkable test out of the hands of patent examiners and provide in its place bright-line rules for factual inquiries.

Already, technology companies are seeking greener pastures in Europe and Asia. In particular, China is becoming "friendlier to software patents in particular and patent owners more generally by reducing the complexity of prosecution procedures and making more information publicly available."¹²³ If technology companies are discouraged from seeking patent protections in the United States, "we could be left with the rather mind-numbing conclusion that communist governments (like China), will end up with more robust innovation protection regimes than capitalist countries like the United States."¹²⁴ China has passed the

¹²¹ Davis, *supra* note 99 (quoting Michael Wever of Barnes & Thornburg, LLP).

¹²² *Id.*

¹²³ Steve Brachmann, *Revised Chinese Patent Guidelines Mean Better Prospects for Software, Business Methods than U.S.*, IPWATCHDOG (Dec. 20, 2016), <http://www.ipwatchdog.com/2016/12/20/chinese-patent-software-business-method/id=75978/>.

¹²⁴ Steve Brachmann & Gene Quinn, *China Increasingly a Preferred Venue for Patent Litigation, Even for US Patent Owners*, IPWATCHDOG (Nov. 10, 2016), <http://www.ipwatchdog.com/2016/11/10/china-increasingly-preferred-venue-patent-litigation/id=74585/>.

United States in the number of patents granted, and the trend is increasing,¹²⁵ largely due to the fact that subject matter patentability is “less restricted than the current requirement set in Alice.”¹²⁶

While the USPTO practices are causing patent filers in many technology sectors to question the wisdom of the patent filing proceedings under the USPTO, China “has pivoted towards a position of promoting [Intellectual Property] rights and enforcement mechanisms.”¹²⁷ As China’s economy grows, making it more difficult to patent innovative ideas “is not the way to boldly win the future [because the] countries that innovate will be the countries that win.”¹²⁸

¹²⁵ *Id.*

¹²⁶ Jacob Schindler, *No ‘Pendulum’ Here: Software Patent Protection is Only Getting Stronger in China*, IAM (Oct. 31, 2016), <http://www.iam-media.com/blog/detail.aspx?g=68b9744c-ee2c-4f35-a3d7-2115faec7253>.

¹²⁷ Brachmann & Quinn, *supra* note 124.

¹²⁸ Daniel Cole, *Should Section 101 of the Patent Act be Removed*, IPWATCHDOG (June 23, 2016), <http://www.ipwatchdog.com/2016/06/23/section-101-patent-act-removed/id=70230/>.

