Notes

Aligning the Incentives to Disclosure of Relevant Information to the USPTO: How the Jury Instruction Standards in *Microsoft Corp. v. i4i* Could Aid the Examination Process^{*}

I. Introduction

The United States Patent and Trademark Office (USPTO, PTO, or the Office) needs an effective system whereby applicants are encouraged to disclose relevant prior art references. The current problem stems, in part, from the fact that prior art disclosures—made by the applicant in an information disclosure statement (IDS) to the USPTO—are not structured in a way that helps patent examiners quickly assess the validity of the patent or the materiality of the disclosure. This problem is compounded by the fact that patent applicants lack private incentives to adequately disclose that information to the patent examiner in either an objectively or subjectively effective manner.

Generally, the doctrine of inequitable conduct sits as a backstop to catch the most egregious instances of patent applicant misconduct, but the doctrine fails to achieve its intended effects when the misconduct is hard to detect. The problem to be solved by this Note stems from the fact that the manner in which the inequitable conduct doctrine has been applied leads attorneys and applicants to either under- or over-disclose information to the As a result, the USPTO has been forced to accept both USPTO. overdisclosure and underdisclosure, and any misconduct in between is hard to detect. Therefore, to correct for this potential moral hazard, I propose a rule change in the Manual of Patent Examining Procedure (MPEP) that harnesses the patent applicant's private incentives related to disclosure. Those incentives are provided by dicta in the recent Supreme Court decision *Microsoft Corp. v. i4i Ltd. Partnership.*¹ Justice Sotomayor in the majority opinion stated that if the USPTO had no opportunity to review a prior art reference during prosecution, then a defendant opposing the patent

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^{1. 131} S. Ct. 2238 (2011).

in litigation will be afforded a jury instruction telling the jury of this fact.² Furthermore, the Court reasoned that the jury also should receive an instruction suggesting the presumption of validity afforded to an issued patent is harder to sustain if the USPTO had not considered the new evidence presented by the defendant.³ This instruction should worry patentholders because litigated patents are already held invalid in nearly half of the disputes,⁴ so an added jury instruction diminishing the presumption of validity should increase the invalidity rate. Therefore, my proposed system attempts to tie this jury instruction to the practice of disclosure at the USPTO and deny a defendant opposing the patent the jury instruction for certain references, chosen and marked by the patent-holder during the prosecution of the patent application.

Under the proposed disclosure scheme, the patent applicant has the option to mark up to three (or more generally, some number "X") references that the examiner will guarantee to scrutinize during the examination process. The proposed scheme can be initiated with a simple rule change in the MPEP. In return, if the patent ends up in litigation, then the patent-holder can cite to the MPEP rule and show the judge and jury that the USPTO did, in fact, consider and scrutinize the particular, marked reference. Any evidence offered by the party opposing the patent that relates to that reference thus would not receive the benefit of the jury instruction. This disclosure scheme would reduce uncertainty in litigation, make settlement easier, and increase the patent-holder's chance of obtaining summary judgment on the invalidity issue. This rule change should incentivize patent applicants to disclose and mark the most relevant references during prosecution.

The Note proceeds in six parts. Part II discusses the issues left open in the *i4i* decision and looks at the effects of *i4i* in subsequent cases from the lower courts. Part III analyzes the problem of disclosure at the USPTO and the general lack of "good" information. Part IV examines the incentives of the applicant, the patent attorney, and the assignee of the patent in the context of disclosures. Part IV also looks at the incentives for patent examiners at the USPTO and suggests that the proposed rule change would benefit examiners and the USPTO as a whole. Part V contains an in-depth discussion of the proposed rule change, including the specific wording to be added to the MPEP, as well as the advantages and disadvantages of the proposed system. Part VI concludes.

^{2.} Id. at 2251.

^{3.} *See id.* (suggesting that when the USPTO did not have all "material facts" before it, a party challenging a patent's validity may be able to more easily meet its burden).

^{4.} See infra note 214 and accompanying text.

II. The State of the Law and Issues Presented by *Microsoft Corp. v. i4i Ltd. Partnership*

A. An Overview of Microsoft Corp. v. i4i Ltd. Partnership

In 2011 the United States Supreme Court handed down its decision in *Microsoft Corp. v. i4i Ltd. Partnership.* The main issue decided in *i4i* was whether the presumption of validity,⁵ and the corresponding need to overcome the presumption by "clear and convincing" evidence, should be replaced by a "preponderance of the evidence" standard in cases where new prior art⁶ came to light that the USPTO had no chance to evaluate before issuing the patent.⁷ The Court held that an invalidity defense⁸ must be proven by clear and convincing evidence, affirming the lower court ruling and upholding the status quo.⁹

However, the Court indicated in dicta that when newly submitted evidence of patentability was not considered by the USPTO during prosecution, an "invalidity defense by clear and convincing evidence may be easier to sustain."¹⁰ The Court reasoned that new evidence not presented to the USPTO may "carry more weight' in an infringement action than evidence previously considered."¹¹ This standard is supported by "the basic proposition that a government agency such as the [PTO] was presumed to do its job."¹²

Against this background, Justice Sotomayor stated in dicta at the end of the majority opinion that a jury instruction may be the appropriate vehicle to deal with the problem of new evidence:

When warranted, the jury may be instructed to consider that it has heard evidence that the PTO had no opportunity to evaluate before granting the patent. When it is disputed whether the evidence presented to the jury differs from that evaluated by the PTO, the jury may be instructed to consider that question. In either case, the jury

^{5.} All patents granted by the USPTO are presumed valid before litigation. 35 U.S.C. § 282 (2006 & Supp. V 2012). However, in litigation, a party can challenge the validity of a patent. *See id.* (providing that invalidity is a defense in a patent suit).

^{6.} Prior art is defined as information that is patented, described in a printed publication, in public use, for sale, or otherwise available to the public before the application for the invention was filed with the USPTO. *Id.* 102(a) (Supp. V 2012).

^{7. 131} S. Ct. at 2244.

^{8.} An "invalidity defense" is a defense to patent infringement whereby the alleged infringer of the patent tries to invalidate the patent instead of, or in addition to, claiming that the product does not infringe the patent. *See* 35 U.S.C. § 282 (categorizing separately defenses based on noninfringement and invalidity).

^{9.} *i*4*i*, 131 S. Ct. at 2251–53.

^{10.} Id. at 2251.

^{11.} Id. (quoting Am. Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1360 (Fed. Cir. 1984)).

^{12.} Id. at 2243 (alteration in original) (quoting Am. Hoist & Derrick Co., 725 F.2d at 1359).

may be instructed to evaluate whether the evidence before it is materially new, and if so, to consider that fact when determining whether an invalidity defense has been proved by clear and convincing evidence.¹³

Thus, the Court gave the defendants,¹⁴ in establishing an invalidity defense, the option to request jury instructions that would reflect the fact that the USPTO had no opportunity to evaluate certain evidence during the prosecution stage of the application.¹⁵ However, defendants with substantial resources to defend against infringement claims¹⁶ can always find—and even generate—new evidence about any given reference.¹⁷ Thus, even patent-holders who voluntarily disclosed everything known about a particular reference to the USPTO may still be faced with a jury instruction diminishing their presumption of validity.

B. The New Evidentiary Standards and the Procedural Consequences that Result

Justice Sotomayor's particular wording sets new standards that need to be unpacked. First, the Court used the words "materially new."¹⁸ In other contexts, the word "material" has a specific legal meaning.¹⁹ Therefore, lower courts should begin crafting standards that define "materially new," and this Note seeks to harness the potential of these new standards. In addition, by relegating the issue of "whether the evidence before it is materially new" to the jury, the Court signaled that the issue is a fact question.²⁰ The Court pointed out that the answer to this question helps

^{13.} Id. at 2251.

^{14.} In a patent litigation case, the patent-holder typically sues an alleged infringer. *E.g.*, *id.* at 2243 (explaining that patent-holder i4i sued Microsoft claiming infringement). Thus, the "defendant" is the alleged infringer, and the "plaintiff" is the patent-holder.

^{15.} Id. at 2251.

^{16.} A study by Stanford University estimated that over \$20 billion was spent on patent litigation and purchases in the smartphone industry alone, showing that companies will go to great lengths to defend against patent infringement suits. Charles Duhigg & Steve Lohr, *The Patent, Used as a Sword*, N.Y. TIMES, Oct. 7, 2012, http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html?pagewanted=all&_r=1&.

^{17.} See infra note 35 and accompanying text.

^{18.} *i*4*i*, 131 S. Ct. at 2251.

^{19.} *See* Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1291 (Fed. Cir. 2011) (Rader, C.J.) (describing whether a nondisclosure was "material" and setting a but-for standard of materiality).

^{20.} *i4i*, 131 S. Ct. at 2251; *see also* Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd., No. 09-290, 2011 WL 4527353, at *3 & n.4 (W.D. Pa. Sept. 28, 2011) (applying the *i4i* standard).

determine the weight of the evidence.²¹ The weight of the evidence is also

something to be considered solely by the trier of fact.²² Thus, the new standards have important procedural consequences, which are already being felt in the lower courts. For example, in *Carnegie Mellon University v. Marvell Technology Group, Ltd.*,²³ the patent-holder was denied summary judgment on the issue of invalidity because "it seem[ed] to [the] Court that it should not, at the summary judgment stage, consider the possible additional weight carried by a piece of prior art not considered by the PTO [but submitted by the defendant during litigation]."²⁴ Furthermore, the court stated that "without more explicit guidance than that this evidence 'may' be more probative, this Court will follow the well-established rule that courts should not engage in the weighing of evidence at the summary judgment stage."²⁵

As a counterexample, in *Sciele Pharma, Inc. v. Lupin Ltd.*,²⁶ the trial court granted summary judgment to the patent-holder because the defendant, in setting forth its arguments on obviousness, "relied on prior art that had been considered by the PTO during the patent's prosecution."²⁷ Citing to the standards set forth in *i4i*, the court concluded that the defendants "failed to raise a substantial question that its obviousness argument is likely to show at trial, by clear and convincing evidence, that Plaintiff's patent is invalid."²⁸ Thus, the court indicated that the fact question of whether prior art is materially new can be determined by looking at the prosecution history and, when appropriate, can lead to a favorable summary judgment ruling for the patent-holder.

However, to complicate the matter, a patent applicant could disclose to the USPTO everything he knew about a particular product, but the defendant could generate new evidence about that product, submit it during litigation, and have it considered as "new evidence."²⁹ For example, in *Pixion, Inc. v. Citrix Systems, Inc.*³⁰ the specific product at issue was CU-SeeMe software.³¹ During prosecution the patent-holder disclosed publications relating to the software that were included in the file history

^{21.} *i4i*, 131 S. Ct. at 2251.

^{22.} See, e.g., Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986) ("Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge").

^{23.} No. 09-290, 2011 WL 4527353 (W.D. Pa. Sept. 28, 2011).

^{24.} Id. at *3 & n.4.

^{25.} Id. at *3 n.4.

^{26.} No. 09-0037 (RBK/JS), 2012 WL 113004 (D. Del. Jan. 12, 2012).

^{27.} Id. at *1–2.

^{28.} Id.

^{29.} E.g., Pixion, Inc. v. Citrix Sys., Inc., 887 F. Supp. 2d 881, 893–94 (N.D. Cal. 2012).

^{30. 887} F. Supp. 2d 881 (N.D. Cal. 2012).

^{31.} Id. at 893.

and presumably examined by the patent examiner.³² However, during litigation, the defendant submitted (and possibly even generated) seven other pieces of "new evidence" concerning the exact same software.³³ Citing *i*4*i*, the Northern District of California held that these pieces of "new evidence" should be considered under the new *i*4*i* standard, which presumably would give rise to the jury instruction.³⁴ Thus, an applicant under the current system who had nothing to hide at the time of disclosure and disclosed everything he could find about the CU-SeeMe software, still found himself embroiled in litigation over essentially the same prior art. Thus, *Pixion* proves that defendants will mine the wealth of data available about a given product to find anything it can use against the patent-holder to survive summary judgment, albeit the information may be slightly different, come from the mouth of a different source (such as a defendant-hired expert), or merely be located on a different piece of paper.³⁵

These cases reveal that the dicta from i4i can increase the difficulty for a patent-holder to obtain summary judgment for a few reasons. First, the question of whether defendant-submitted evidence is materially new is a question for the trier of fact.³⁶ Second, if there is no genuine issue of

^{32.} *Id.* ("[The defendant] now moves to invalidate the patents despite the prior art disclosure to the USPTO.").

^{33.} See *id.* at 893–94. The "new evidence," among other things, consisted of two video segments filmed by TV stations about the software. *Id.* Thus, even though the software itself had been disclosed to the USPTO, including brochures and ReadMe files, a TV station managed to create new evidence that was not available at the time of prosecution. *Id.*

^{34.} See *id.* at 894 ("The Court, therefore, will consider the new evidence of invalidity on its merits, in light of the governing clear and convincing standard [in *i4i*]." (citing Microsoft Corp. v. i4i Ltd. P'ship, 131 S. Ct. 2238, 2251 (2011))). Although the specific issue in the case was whether summary judgment was appropriate, the same analysis applied: summary judgment was not appropriate because the "new evidence" was subject to consideration by the trier of fact (the jury), which would presumably receive the new jury instruction because, as stated, the evidence was materially new.

^{35.} See id. This is in fact one of the private incentives that drives defendants in litigation. In other words, a defendant with substantial funds can always find a "new" piece of paper that says essentially the same thing as prior art that was disclosed. This contention triggers one of the fundamental concerns in patent law: a tangible, three-dimensional product must be reduced to common parlance constrained by the inherit definitions applied to words in the English language. See Kristen Osenga, Linguistics and Patent Claim Construction, 38 RUTGERS L.J. 61, 83 (2006) ("Neither legal language nor technical verbiage provides consistent, easily defined terms, and both legal and technical languages are often a field apart from the English language."); see also S. Jay Plager, Challenges for Intellectual Property Law in the Twenty-First Century: Indeterminacy and Other Problems, 2001 U. ILL. L. REV. 69, 71 (identifying the challenges of reading claims as a judge on the Federal Circuit and describing the practice as an "art of sorts"). Thus, one can conclude that an infinite number of ways to reduce a tangible thing into descriptive text may exist, so technically "new evidence" can always be generated.

^{36.} See Pixion, 887 F. Supp. 2d at 893 (concluding that "[n]ew evidence supporting an invalidity contention may 'carry more weight' in an infringement action than evidence previously considered by the PTO" and that the defendant's "burden to persuade the *jury* of its invalidity defense by clear and convincing evidence may be easier to sustain" (emphasis added) (quoting *i4i*, 131 S. Ct. at 2251)).

material fact and the court determines that the evidence is materially new at the summary judgment stage, then the question of the weight applied to that materially new evidence is also to be determined by the trier of fact.³⁷ Thus, if there is a genuine issue of material fact regarding the first question at the summary judgment stage, then there is no way to determine the second question, resulting in a denial of summary judgment.³⁸ Third, if the trial court passes judgment on the first factual question and the Federal Circuit disagrees,³⁹ the error cannot be deemed harmless because that first factual determination affects the second factual question and results in either a jury instruction that should not be given, or a jury instruction that should have been given and was not.⁴⁰ Finally, even if the court correctly determined the first fact question, it still could be overturned if it erroneously "weighed the evidence" and decided the second fact question.⁴¹ With the addition of both of these fact questions, and the particular if-then structure set forth, a "genuine dispute [of] . . . material fact"⁴² will be easier for the defendant to show at the summary judgment stage of litigation.⁴³

The consequences of not being able to get past summary judgment are also well established. Failing to obtain summary judgment increases court costs, reduces the objective likelihood of settlement, and increases the overall costs of asserting a patent right.⁴⁴ On the other hand, obtaining summary judgment increases the objective chance of settlement and reduces

^{37.} See *i4i*, 131 S. Ct. at 2253 (observing that a jury may, in considering an invalidity defense, give materially new evidence more weight than that given to evidence considered by the PTO); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986) ("Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge").

^{38.} See, e.g., Metro. Life Ins. Co. v. Bancorp Servs. L.L.C., 527 F.3d 1330, 1339 (Fed. Cir. 2008) (observing that the resolution of factual disputes is not appropriate at the summary judgment stage).

^{39.} All patent cases are appealed to the Federal Circuit. 28 U.S.C. § 1295(a)(1), (4) (2006).

^{40.} See Menegassi v. Shinseki, 638 F.3d 1379, 1383 (Fed. Cir. 2011) ("A harmless error analysis . . . [of a] judgment cannot be conducted when the analysis would require fact-finding and/or application of law to fact." (internal quotation marks omitted)); Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd., No. 09-290, 2011 WL 4527353, at *3 (W.D. Pa. Sept. 28, 2011) (citing *Anderson*, 477 U.S. at 248, and reasoning that it would be inappropriate to consider, at the summary judgment stage, "the possible additional weight carried" by materially new evidence).

^{41.} See, e.g., Carnegie Mellon, 2011 WL 4527353, at *3 n.4 ("Therefore, although a given reference may carry more weight, this Court declines to resolve any disputed facts based on this additional weight." (internal quotation marks omitted)).

^{42.} FED. R. CIV. P. 56(a).

^{43.} For example, in *Carnegie Mellon*, the court cited "dueling expert declarations" as the reason that the fact question could not be resolved. 2011 WL 4527353, at *3 n.4.

^{44.} See Celotex Corp. v. Catrett, 477 U.S. 317, 327 (1986) ("Summary judgment procedure is properly regarded not as a disfavored procedural shortcut, but rather as an integral part of the Federal Rules as a whole, which are designed 'to secure the just, speedy and inexpensive determination of every action." (quoting FED. R. CIV. P. 1)).

transaction costs associated with a trial.⁴⁵ Therefore, patent-holders should be incentivized to disclose references to the USPTO, but they may be dissuaded from doing so if even the references they do disclose are still subject to a high level of scrutiny from the courts—like in *Pixion*.⁴⁶

The rule change proposed by this Note attempts to harness the procedural mechanisms left open in *i*4*i* and help predetermine the factual question of whether new evidence should be subject to the jury instruction. *Pixion* shows that a court is not obliged to refuse the defendant a jury instruction (or its logical counterpart, grant a plaintiff's motion for summary judgment) merely because the plaintiff disclosed the reference.⁴⁷ But furthermore, when coupled with the arguments about how information is disclosed to the USPTO and the current private incentives driving disclosure,⁴⁸ one can see how a court should look to the substance of the prior art disclosed and the level of scrutiny it actually received at the USPTO. These factors should determine if the "new evidence" is in fact new, and a marking system will help show that level of scrutiny. By changing a rule in the MPEP, the patent-holder can cite, for a court or jury, the fact that the specific references marked (and thus, the specific product at issue) already received this heightened level of scrutiny from an examiner.⁴⁹ By showing the court that the patent was granted despite the reference, any "new evidence" proffered by the defendant will have less force in court. Thus, summary judgment should be easier to obtain for a patent-holder, especially with respect to evidence concerning a specific, disclosed, marked reference.

^{45.} See id.; Jean O. Lanjouw & Mark Schankerman, Protecting Intellectual Property Rights: Are Small Firms Handicapped?, 47 J.L. & ECON. 45, 54–55 (2004) (explaining that the likelihood of settlement in patent suits is based on the parties' understandings of the viability of the claims).

^{46.} See Pixion, Inc. v. Citrix Sys., Inc., 887 F. Supp. 2d 881, 893, 906 (N.D. Cal. 2012) (granting summary judgment on invalidity to Citrix despite the fact that the prior art in question was disclosed by Pixion and considered by the USPTO).

^{47.} See supra note 34 and accompanying text.

^{48.} See infra note 88 and accompanying text and subpart IV(A).

^{49.} See John M. Golden, Patentable Subject Matter and Institutional Choice, 89 TEXAS L. REV. 1041, 1047–48 (2011) ("But given the common reliance of examiners and patent applicants on MPEP guidance, as well as that guidance's reasonably frequent citation in court opinions, the significance of USPTO guidance activity as a source of influence and practical meaning should not be understated." (footnote omitted)); see also, e.g., Eli Lilly & Co. v. Teva Pharm. USA, Inc., 619 F.3d 1329, 1343 (Fed. Cir. 2010) ("As the district court acknowledged, the [MPEP] explains that the initiation of a clinical trial has a significant impact on the PTO's utility inquiry"); In re '318 Patent Infringement Litig., 583 F.3d 1317, 1326 (Fed. Cir. 2009) ("[T]he [MPEP] has recognized that 'arguments or reasoning' may be used to establish an invention's therapeutic utility.").

III. The "Information Issue" at the United States Patent and Trademark Office

A. Two Problems Defined: A Lack of Personnel and a Lack of Good Information

The USPTO is a unique governmental agency. The prior art information necessary to effectively evaluate a patent application is often unknown when the application gets to the USPTO.⁵⁰ In addition, the USPTO receives over 500,000 new patent applications a year, which add to the over 700,000 backlogged patent applications that are still pending review.⁵¹ Thus, the Office is plagued with two problems: a lack of personnel and a lack of good information.

1. Lack of Personnel at the USPTO.-The USPTO is overburdened, but the proposed system seeks to align incentives despite this problem. Currently, examiners can only dedicate an average of between sixteen and seventeen hours to any given patent application, and those hours are spread out over the pendency of the application.⁵² In addition, the number of patent applications filed each year continues to increase,⁵³ which will only decrease the amount of time an examiner can spend on a given application. Furthermore, as Professors Lichtman and Lemley have pointed out, spending more time on each application is not a practical solution, in part because the costs to the Office, and therefore applicants, would be tremendous.⁵⁴ These costs, as Lichtman and Lemley believe, are not justified because most patents will "never be read, never be litigated, and never be licensed, and so money spent here really is money wasted."55 Using this insight, the proposed system seeks to attain higher quality patents,⁵⁶ as well as increased patent processing,⁵⁷ without increasing the workload at the Office. Instead, the proposed system seeks to alleviate

^{50.} See Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 53–56 (2007) (highlighting multiple factors that make patent review an "information-poor process").

^{51.} Commerce, Justice, Science, and Related Agencies Appropriations for 2012: Hearing Before the Subcomm. on Commerce, Justice, Sci. & Related Agencies of the H. Comm. on Appropriations, 112th Cong. 187–88, 198 (2011) (statement of David Kappos, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office) [hereinafter Statement of Kappos].

^{52.} Lichtman & Lemley, supra note 50, at 53.

^{53.} Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. REV. 1495, 1498 (2001).

^{54.} *See* Lichtman & Lemley, *supra* note 50, at 54 ("Patent evaluation is scientific review at an extraordinary scale, and it will necessarily be flawed unless and until applicants, the government, or both are willing to pay a hefty price.").

^{55.} Id.

^{56.} See infra notes 182-83 and accompanying text.

^{57.} See infra section V(A)(4).

some of the current woes by solving the second major problem: the lack of good information.

2. The Lack of Good Information at the USPTO.-The lack-of-goodinformation problem is stunning, complex, and cuts in multiple directions. All patent applications are assigned to a patent examiner based on the patent's technological field and the patent examiner's technological background.⁵⁸ The examiner tasked with reviewing the application is educated in the general technological field to which the application relates; however, an examiner is rarely an expert in the specific details of any given patent application.⁵⁹ When combined with the fact that, by definition, patents are novel and nonobvious, the information needed to evaluate an application is not necessarily known to the patent examiner.⁶⁰ However, under the "duty-to-disclose" doctrine, patent examiners seek to harness the information known to all parties involved in submitting the patent application.⁶¹ The Code of Federal Regulations states: "The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability."62

Under this regulation, two problems arise. First, an applicant has no duty to actively search for information;⁶³ this task is left up to the examiner.⁶⁴ This problem stems from the fact that the disclosure standard is subjective; it only requires applicants to disclose what is then "known" to the applicant at the time of filling.⁶⁵ Second, the public interest is best served if the patent examiner does not waste time and money evaluating *all* the information available.⁶⁶ Instead, the public interest is best served only if

^{58.} Lichtman & Lemley, *supra* note 50, at 53; *see also* U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 903.08 (8th ed., Rev. 9, Aug. 2012) [hereinafter MPEP] ("The primary examiners have full authority to accept any application submitted to them that they believe is properly classifiable in a class in their art unit.").

^{59.} Lichtman & Lemley, supra note 50, at 53-54.

^{60.} Id. at 54-56.

^{61.} See 37 C.F.R. § 1.56(a) (2012).

^{62.} Id.

^{63.} *See* Lemley, *supra* note 53, at 1500 ("[Patent applicants] are under no obligation to search for prior art, and most do not." (emphasis omitted)).

^{64.} MPEP, supra note 58, § 609.05(b).

^{65. 37} C.F.R. § 1.56(a).

^{66.} See Lemley, supra note 53, at 1511 ("[M]oney spent improving the PTO examination procedures will largely be wasted on examining the ninety-five percent of patents that will either never be used, or will be used in circumstances that don't crucially rely on the determination of validity."); see also MPEP, supra note 58, § 904.03 ("Multiplying references, any one of which is as good as, but no better than, the others, adds to the burden and cost of prosecution and should therefore be avoided.").

the examiner effectively utilizes his time and resources reviewing and scrutinizing *relevant* information.⁶⁷

The practical result of this duty-to-disclose regime is that applicants can selectively tailor their disclosures. For example, patent applications of technologies often are submitted with "voluminous complex documentation" generated by the applicant which requires examiners to turn to large, computerized databases that give the background of the invention and the state of the prior art.⁶⁸ Some complex applications may require this type of disclosure.⁶⁹ However, for patent examiners tasked with evaluating these applications, they could spend significant amounts of their allotted time merely figuring out the background of the invention before ever assessing the merits of the invention itself.⁷⁰

On the other hand, the duty of disclosure may also result in patent applications that contain minimal disclosures. The lack of a duty to actively search for information means that the patent applicant can merely submit "all information known"⁷¹ to the applicant, leaving the entire universe of unknown, materially relevant information undisclosed and up to the patent examiner to find.⁷² As a result, patent examiners could spend significant amounts of their allotted time searching through undisclosed prior art before even addressing the merits of the application.⁷³

Therefore, depending on the nature of the application, patent examiners often may be saddled with either too much disclosure information—leading to a decision to either wade through the disclosures or spend time redoing the applicant's work—or not enough disclosure information—leading essentially to the same amount of work. This Note seeks to alleviate some of these problems by harnessing private incentives

71. 37 C.F.R. § 1.56(a).

72. Lemley, supra note 53, at 1499–1500; see MPEP, supra note 58, § 609.05(b).

^{67.} See 37 C.F.R. § 1.56(a) (discussing the importance of submitting "material" information).

^{68.} Lichtman & Lemley, *supra* note 50, at 53; *see also* Jeffery M. Kuhn, *Information Overload at the U.S. Patent and Trademark Office: Reframing the Duty of Disclosure in Patent Law as a Search and Filter Problem*, 13 YALE J.L. & TECH. 90, 95 (2010) (mentioning the "glut of information" the USPTO receives from patent applicants).

^{69.} See Christopher A. Cotropia et al., *Do Applicant Patent Citations Matter*? 19, 20 & n.17 (Stanford Law & Econ. Olin Working Paper No. 401, 2012), *available at* http://ssrn.com/ abstract=1656568 (showing that the top decile of patents studied all contained over 204 prior art citations).

^{70.} See Changes to Information Disclosure Statement Requirements and Other Related Matters, 71 Fed. Reg. 38,808, 38,809 (July 10, 2006) (to be codified at 37 C.F.R. pt. 1) [hereinafter Changes to IDS Requirements] ("[W]hen large IDSs are submitted without any identification of relevant portions of documents, some of the examiner's limited time is diverted to consider the cited documents, and efforts to perform a quality examination may be adversely affected.").

^{73.} See Warren K. Mabey, Jr., *Deconstructing the Patent Application Backlog... A Story of Prolonged Pendency, PCT Pandemonium & Patent Pending Pirates*, 92 J. PAT. & TRADEMARK OFF. SOC'Y 208, 232 (2010) ("Considerable time is ... spent searching the prior art and formulating an office action that addresses each and every ground for rejection.").

to encourage applicants to mark the most relevant references, making the lack of good information less of a problem during prosecution of a patent application.

B. The Inequitable Conduct Doctrine Defined

The duty of disclosure discussed above is practically enforced in court through the judicially created doctrine of inequitable conduct. Judge Rader's opinion in *Therasense, Inc. v. Becton, Dickinson & Co.*⁷⁴ exemplifies the dual-ended problem of disclosure practices at the USPTO.⁷⁵ Courts originally expanded the doctrine to encourage disclosure, and then the courts had to limit the applicability of the doctrine because of the problem of overdisclosure.⁷⁶ A brief history of the inequitable conduct doctrine will help prove the point.

Starting in 1933, the Supreme Court held that patents obtained with "unclean hands" were unenforceable.⁷⁷ In early cases, the doctrine was often applied to cases involving the applicant's "manufacture and suppression of evidence.⁷⁷⁸ The unclean hands doctrine eventually morphed into the present-day inequitable conduct doctrine.⁷⁹ The standard for inequitable conduct has "fluctuated over time" but "came to embrace a broader scope of misconduct, including not only egregious affirmative acts of misconduct intended to deceive both the PTO and the courts but also the mere nondisclosure of information to the PTO."80 As a justification for embracing the broader standards, the court believed they would "foster full disclosure to the PTO.³¹ However, the renewed focus on encouraging disclosure had "unforeseen and unintended consequences."⁸² First, the remedy provided by the inequitable conduct standard was the "atomic bomb"⁸³ of patent law—rendering the patent, and possibly even the entire family of patents, unenforceable.⁸⁴ Second, the doctrine changed a patent attorney's disclosure behavior.⁸⁵ Judge Rader colorfully describes the doctrine as having cast "the shadow of a hangman's noose" over an

^{74. 649} F.3d 1276 (Fed. Cir. 2011).

^{75.} See id. at 1289–90; supra subpart III(A).

^{76.} Therasense, 649 F.3d at 1289-90.

^{77.} Keystone Driller Co. v. Gen. Excavator Co., 290 U.S. 240, 244-47 (1933).

^{78.} *Therasense*, 649 F.3d at 1285–87 (discussing the early cases of *Keystone*, 290 U.S. 240, Hazel-Atlas Glass Co. v. Hartford-Empire Co., 322 U.S. 238 (1944), and Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co., 324 U.S. 806 (1945)).

^{79.} Id. at 1287.

^{80.} Id.

^{81.} Id. at 1288.

^{82.} Id.

^{83.} Id. (quoting Aventis Pharma S.A. v. Amphastar Pharm., Inc., 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).

^{84.} Id. at 1288-89.

^{85.} Id. at 1289.

attorney, which resulted in "patent prosecutors regularly bury[ing] PTO examiners with a deluge of prior art references, most of which ha[d] marginal value."⁸⁶ In an attempt to alleviate the impact of these consequences, the Federal Circuit reined in the use of the inequitable conduct doctrine by heightening the standards and making inequitable conduct harder to prove.⁸⁷

Because the court was unable to find a balance, the result is a system whereby both over- and under-disclosing is frowned upon but nevertheless generally accepted.⁸⁸ Therefore, instead of using a punishment system which operates only at the extreme ends of the disclosure spectrum, my proposal seeks an alternative method to incentivize good-information disclosures and works at all levels of the disclosure spectrum.

C. Examiners Fail to Use Patent Applicant Citations

A recent study about whether patent examiners even use applicant citations reveals yet another stunning issue about the good-information problem at the USPTO: Patent examiners currently do not use patent applicant citations.⁸⁹ Even though the study failed to reach a definitive conclusion as to why this happens,⁹⁰ one can easily see how the ineffective duty-to-disclose doctrine and the inequitable conduct doctrine could lead to such a result.

According to the study, of the references that the patent applicant discloses, only 2% of those references are used to make a substantive patentability rejection, and only 11% of prior art that is disclosed, either by the examiner or the applicant, is actually used by patent examiners in making rejections.⁹¹ This first statistic reveals that 89% of all prior art that is cited and 98% of all applicant-disclosed prior art is not used to make any substantive patentability determinations. Thus, even for disclosed prior art, different arguments or new evidence about the prior art should be easy for the defendant to find.⁹²

^{86.} Id.

^{87.} See *id.* at 1290 ("This court now tightens the standards for finding both intent and materiality in order to redirect a doctrine that has been overused to the detriment of the public.").

^{88.} See What Does a Patent Examiner Do with 900+ References, PATENTLY-O (Jan. 28, 2010, 9:49 AM) [hereinafter 900+ References], http://www.patentlyo.com/patent/2010/01/what-does-a-patent-examiner-do-with-900-references.html (discussing the approval of a patent application issued with over 900 submitted disclosures and a total of 13,689 pages of non-patent or foreign prior art).

^{89.} Cotropia et al., *supra* note 69, at 2–3.

^{90.} Id. at 31.

^{91.} Id. at 13.

^{92.} See Pixion, Inc. v. Citrix Sys., Inc., 887 F. Supp. 2d 881, 893–94 (N.D. Cal. 2012) (discussing how new evidence affects the materially new standard); *supra* note 35 and accompanying text (discussing the ease with which "new evidence" can be found or generated).

In addition, "of the references examiners use to reject claims, only 12.7% come from the applicants, while 87.2% come from examiners."⁹³ Thus, a patent examiner usually relies on his own disclosures rather than those of the patent applicant.⁹⁴ Furthermore, if one assumes that patent applicants currently disclose at least marginally relevant information, then the examiner may not look at the applicant's disclosures at all.⁹⁵ In other words, the 12.7% may represent the coincidental overlap between what the examiner finds and what the applicant disclosed.⁹⁶ Thus, one can at least speculate that patent examiners do not independently consider any applicant-submitted prior art unless the examiner happens to find the same prior art himself.

D. The USPTO Attempt to Remedy the Situation

Before discussing my proposed solution, an analysis of a proposed but failed rule change at the USPTO will help highlight what elements the proposed system should and should not contain. In 2006, the USPTO proposed rule changes for information disclosure statements.⁹⁷ The proposed changes included limiting the number of disclosures to twenty documents.⁹⁸ In addition, "explanations" were required for all disclosure documents over twenty-five pages.⁹⁹ These modest changes caused concern at the patent bar.¹⁰⁰ Attorneys justifiably feared that their explanations

98. Id. at 38,810.

99. Id.

^{93.} Cotropia et al., supra note 69, at 13.

^{94.} *Id.* Buried in the MPEP is a rule that directs examiners to look at *all* applicant-submitted prior art references. MPEP, *supra* note 58, § 904.03. However, given the limited amount of time an examiner has to evaluate an application, and the fact that there is no limit on the number of disclosures that the applicant can submit, nobody credibly contends that the examiners can possibly follow this rule in all instances. *See 900+ References, supra* note 88 ("Of course, the applicant did not indicate which (or which parts) of the 900+ references are most relevant and everyone is clear that the examiner is *not* going to read all of the references.").

^{95.} See Cotropia et al., *supra* note 69, at 14 ("We have no way to tell what fraction of the 12.7% was in fact also found independently by examiners during a search."); MPEP, *supra* note 58, § 1302.12 ("The examiner does not list references which were previously cited by the applicant.").

^{96.} Cotropia et al., *supra* note 69, at 13–14. The fact that the percentage is unusually low suggests this coincidence. A patent examiner would waste copious amounts of time reading through applicant-submitted prior art for a mere 12.7% chance that she would uncover information that could ultimately be used in a rejection. To put this in perspective, of the top decile of patents in terms of number of disclosures, the examiner would read through 204 prior art references and maybe find 25 of them helpful. *See id.* at 19, 20 & n.17. In addition, if applicants and attorneys are already overdisclosing prior art, then a 12.7% chance that one of those disclosures is also independently found by an examiner appears reasonable.

^{97.} Changes to IDS Requirements, *supra* note 70, at 38,808.

^{100.} *See* Kuhn, *supra* note 68 ("In response to this information overload, the USPTO first attempted to curb the number of prior art references submitted by patent applicants. When that strategy met with heavy resistance, the USPTO abandoned it and has not yet proposed an alternate course of action." (footnote omitted)).

would be used against them in later litigation¹⁰¹ and applicants feared the explanations would increase the costs associated with filing a patent, disadvantaging poorer inventors.¹⁰² The rule-change proposal ultimately failed,¹⁰³ and thus we are left with the problems acknowledged in *Therasense*, with the further understanding that increasing the costs of filing and further tying disclosure requirements to the inequitable conduct doctrine is not an ideal solution.

IV. The Potential to Align Interests and Incentives

The principal justification for the proposed system can be stated simply: The incentives for adequate disclosure are not aligned, and the inability to detect changes in behavior across the entire disclosure spectrum requires a more subtle disclosure scheme to help align those incentives. Therefore, in order to achieve better disclosures, an analysis of incentives is pertinent.

A. The Incentives for Patent Examiners, Applicants, Attorneys, and Assignees

As mentioned, patent examiners at the USPTO are already overburdened.¹⁰⁴ So the goal of an effective disclosure is not to push even more cumulative, or mildly relevant, information in front of the patent examiner.¹⁰⁵ Instead, the goal should be to put more highly relevant information in front of the patent examiner.¹⁰⁶ However, under the current structure of the USPTO, the applicability of the inequitable conduct doctrine, and the current structure of invalidity litigation, the incentives to attain this goal are not present.

1. The Incentives to Disclose: The Patent Examiner.—Patent examiners are human, and they are subject to the same private, economic incentives as everyone else. The patent examiner payment structure provides those incentives. Promotions and bonuses at the Office are determined by the number of "counts" accumulated by the patent

^{101.} *See id.* at 103 ("Applicants do not individually describe the content of each of these documents due to . . . a concern that any remarks will be used to allege inequitable conduct or will be treated as an admission regarding the content of these documents." (footnote omitted)).

^{102.} See id. at 102 & n.72 (expressing concern over the fact that attorneys would have "to carefully review each reference . . . to meet these heightened disclosure obligations").

^{103.} Id. at 95.

^{104.} Lichtman & Lemley, *supra* note 50, at 45 (discussing the "herculean task" of examining all the patent applications and the commensurate problem of a lack of resources to do so).

^{105.} See Kuhn, supra note 68, at 101 (discussing the information overload problem and the need for a system that allows patent examiners to focus on only the most relevant submitted information).

^{106.} Id.

examiner.¹⁰⁷ When a patent examiner issues a first office action, he obtains credit for a count.¹⁰⁸ However, searching for prior art is not rewarded by the count system.¹⁰⁹ Even more importantly, the number of counts per hour determines whether examiners receive satisfactory performance reviews¹¹⁰—which can lead to promotions in the employees' federal pay grade.¹¹¹ So, for example, a GS-7—grade seven—patent examiner is expected to achieve two counts in 45.1 hours, but a GS-12 patent examiner is expected to achieve two counts in only 31.6 hours.¹¹² Thus, if a patent examiner can increase his number of counts per hour, then he has a better chance of attaining a promotion.

The proposed system has the potential to reduce the time it takes for an examiner to obtain these counts. If the patent examiner can cut the time of searching because the applicant has reliably disclosed highly relevant references, then the patent examiner privately benefits, and one would expect the patent examiner to use the applicant's disclosure information.

However, even if a patent examiner does not reduce the amount of time to the first office action, marking relevant disclosures could still result in faster disposition of the patent application. Disposing of the application—either by allowance or abandonment—also qualifies as a count.¹¹³ Therefore, even if the patent examiner does not reduce his time to the first count, disclosing relevant information may reduce his overall time to obtain the second count. Thus, the pay scheme provides the patent examiner with an incentive to look at the applicant's relevant disclosure if and only if the patent examiner believes the disclosure will help lead to the disposition of the application.

2. The Incentives to Disclose: The Applicant.—Given that there exist two polar problems with information disclosures—namely, either too much information or too little information¹¹⁴—an applicant's behavior may be subject to a moral hazard. In the context of patents, the moral hazard is

^{107.} Mark A. Lemley & Bhaven Sampat, *Examiner Characteristics and Patent Office Outcomes*, 94 REV. ECON. & STAT. 817, 818 (2012).

^{108.} Id.

^{109.} Id.

^{110.} Id.

^{111.} The patent office uses an enhanced federal government pay scale. Thus, a grade 7 (GS-7) patent examiner is paid approximately \$52,000–\$67,000 a year, while a grade 12 (GS-12) patent examiner is paid approximately \$80,000–\$104,000 a year. *See Patent Examiner Salary Rates: Special Salary Rate Table*, U.S. PATENT & TRADEMARK OFF., http://careers.uspto.gov/Pages/Misc/SalaryRates.aspx.

^{112.} U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-527T, U.S. PATENT AND TRADEMARK OFFICE: HIRING EFFORTS ARE NOT SUFFICIENT TO REDUCE THE PATENT APPLICATION BACKLOG 4 (2008).

^{113.} Lemley & Sampat, supra note 107.

^{114.} See supra notes 68–73 and accompanying text.

defined as the problem of patentees changing their behavior based off asymmetrically known information.¹¹⁵ For example, if an applicant is blissfully unaware that his invention could be nonnovel or obvious, then he has very little incentive to actively search for those disclosures that may undermine the invention's novelty and lead to an ultimate rejection of the patent application or a narrowing of the claims.¹¹⁶ Thus, even if a voluminous disclosure would aid the patent examiner, the applicant may change his behavior and actively avoid disclosures that otherwise would be relevant.¹¹⁷ On the other hand, if an applicant knows that his invention may be novel or nonobvious in light of the references known to him, he may change his behavior and include a voluminous disclosure in order to bury the most relevant evidence that would lead to a rejection of the application.¹¹⁸ The applicant may engage in this behavior even if a voluminous disclosure is not commensurate with the complexity of his patent application. Thus, the moral hazard arises because the inventor knows more about his invention at the outset than the USPTO examiners can possibly know.

In the two situations just stated, the highest perceived probability of obtaining a patent peaks at both the low end of the number-of-disclosures spectrum and at the high end of the number-of-disclosures spectrum. If one were to model the "optimal" applicant disclosure behavior and assume that the optimal number of disclosures lies somewhere between the two probability peaks—in other words, applicants that disclose too little information should optimally disclose more, and applicants that disclose too much information should optimally disclose less—then the moral hazard is masked because both underdisclosure and overdisclosure are generally accepted practices.¹¹⁹ Thus, especially at the margins—i.e., applications

^{115.} *Cf.* Tun-Jen Chiang, *The Reciprocity of Search*, 66 VAND. L. REV. 1, 31 (2013) (arguing that a moral hazard occurs when patentees have too low an incentive to search for patents that their technologies infringe upon).

^{116.} See Cotropia et al., *supra* note 69, at 7 ("Applicants may weigh these incentives to disclose against the perceived risk of disclosure: that the PTO will refuse to grant a patent at all, or will narrow it in ways that render it less useful."); Lemley, *supra* note 53, at 1499–500 ("While patent applicants must submit to the PTO relevant prior art of which they are aware, they are under no obligation to *search* for prior art, and most do not." (footnote omitted)).

^{117.} See Lemley, supra note 53, at 1499–500 (explaining that patent applicants have no obligation to search for prior art and that the PTO issues "many patents that would have been rejected had the examiner possessed perfect knowledge").

^{118.} See Lichtman & Lemley, *supra* note 50, at 62 (discussing how alternative disclosure systems may reduce the "likelihood that an applicant can simply bury a damaging reference in a large pile of disclosures"); *cf.* Kuhn, *supra* note 68, at 99 ("Despite [the examiners'] best efforts, it is not clear that patent examiners are effective at locating the most relevant references within the lengthy applicant submissions of prior art references.").

^{119.} *Therasense* attempted to limit the practice of overdisclosure by changing the standards of inequitable conduct. *See* Therasense, Inc. v. Becton, Dickson & Co., 649 F.3d 1276, 1294–95 (Fed. Cir. 2011) (declining to adopt the current version of the PTO's Rule 56 and its "low" materiality standard to determine inequitable conduct because they result in overdisclosure and

that contain neither an unusually high nor unusually low number of disclosures—whether an applicant changed his disclosure behavior by including or excluding a specific reference is practically undetectable.

3. The Incentives to Disclose: The Patent Attorney.—The marginal usefulness of the doctrine of inequitable conduct does not align the incentives for the patent attorney¹²⁰ to fix, or even identify, a moral hazard with respect to the applicant's disclosure behavior.¹²¹ Many of the attorney's reasons not to disclose relevant information mirror those just discussed for the applicant, but an attorney also has other incentives relating to disclosure, so an analysis of those incentives is helpful.

While the search behavior of patent attorneys varies,¹²² some common elements of prosecution can help identify the incentives to disclose relevant information. For example, a prosecuting attorney's incentives potentially lie only in the prosecution stage of a patent application.¹²³ While an attorney undeniably realizes that the patent could end up in litigation, the probability of that happening in practice is very small.¹²⁴ This insight leads to two identifiable problems: first, just as the applicant is not swayed to actively search for information that would lead to an ultimate rejection of

121. See supra note 115 and accompanying text. The goal of this Note is not to suggest that the inequitable conduct doctrine is inadequate or underutilized. Instead, the goal is to show that the incentives between the players are not aligned and that the inequitable conduct doctrine (and to push it further, no catchall legal doctrine) can account for the broad latitude given under the current duty-to-disclose doctrine. The subjective nature of the standard, combined with the draconian remedy granted under a successful showing of inequitable conduct, suggests that courts will, especially at the margins, rule in favor of the attorney.

122. *See* Cotropia et al., *supra* note 69, at 7 ("Prior work suggests that that balance [between incentives to disclose and the risk of disclosure] differs by industry; at a minimum, applicants [and attorneys] are much more likely to search in some industries than in others.").

123. The growing need for patent prosecution attorneys seems to support this contention. See Maryclaire Dale, Have a Science Degree? Become a Patent Lawyer, N.Y. TIMES, May 21, 2007, http://www.nytimes.com/2007/05/21/business/worldbusiness/21iht-patent.1.5803609.html?_r=2& ("Demand for [patent attorneys] is being driven by an explosion in recent years in patent applications"); cf. MPEP, supra note 58, § 401 ¶ 4.10 (discussing the situation that arises when patent applications are complicated and including in a response to a pro se inventor who does not have an attorney: "Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution"). In addition, a charge of inequitable conduct can disqualify the prosecuting attorney from the litigation team. Therasense, 649 F.3d at 1288.

124. *See* Lemley, *supra* note 53, at 1501 ("[I]t is reasonable to estimate that at most only about two percent of all patents are ever litigated, and less than two-tenths of one percent of all issued patents actually go to court.").

instead adopting a but-for standard of materiality). However, for the patent applicants who are less concerned with inequitable conduct and more interested in burying references, the *Therasense* opinion will have no effect until all overdisclosures are somehow identified. Because *Therasense* lowered the standard only for nondisclosures, it remains to be seen how the inequitable conduct doctrine will apply to the practice of overdisclosing.

^{120.} For these purposes I am not going to distinguish the job of a patent attorney from a patent agent. Thus, the term "attorney" as used in this section could also include a patent agent.

the patent or a narrowing of claims, the attorney also has no incentive to actively search for information that is material to patentability;¹²⁵ and second, even if a voluminous disclosure is unnecessary, the attorney has no incentive to carefully analyze references given to him by the applicant, and instead may dump all that information on the USPTO regardless of the information's marginal relevance to the patentability of the application.¹²⁶ For the same reasons discussed in the previous section—namely the USPTO's forced acceptance of both a low number of disclosures and a high number of disclosures—whether the attorney changed his behavior with regard to the specific patent is also practically unknowable.

As a counterpoint to this position, many attorneys view patent prosecution as a negotiation between the patent examiner and the attorney,¹²⁷ which gives rise to other incentives to disclose relevant information to the examiner. Because prosecution can be seen as a negotiation, rapport between a patent attorney and a patent examiner is essential.¹²⁸ Thus, a patent attorney should be incentivized to help the patent examiner in order to build up that rapport.¹²⁹ If a mutual feeling of honesty can be achieved, then the patent examiner should be more willing to issue a patent.¹³⁰ Thus, at least theoretically, a patent attorney would weigh the costs of an effective disclosure against the potential benefits.¹³¹ However, because examiners do not look at applicant-submitted prior art,¹³² the possibility of using disclosures to build rapport is currently nothing but a missed opportunity.

^{125.} See supra section IV(A)(2). But see Kuhn, supra note 68, at 104–07 (discussing the burdensome requirements of the inequitable conduct doctrine).

^{126.} See Kuhn, supra note 68, at 102–03 (discussing the problem of too many applicant disclosures).

^{127.} Mark A. Lemley & Bhaven Sampat, *Examining Patent Examination*, 2010 STAN. TECH. L. REV. 2, \P 6 ("Prosecution is an *ex parte* negotiation between the [attorney] and the examiner.").

^{128.} See Janice Nadler, Rapport in Legal Negotiation: How Small Talk Can Facilitate E-mail Dealmaking, 9 HARV. NEGOT. L. REV. 223, 225 (2004) ("[B]ecause negotiation often involves interpersonal conflict, rapport between negotiators acts as a social tranquilizer, preventing negotiators from becoming agitated.").

^{129.} See id. at 228 ("In negotiation, rapport is a powerful determinant of whether people develop the trust necessary to engage in the kind of information exchange needed to reach integrative agreements."). This contention is true for the close cases, especially when examiner incentives to dispose of a patent application are also taken into account. See supra section IV(A)(1).

^{130.} See Nadler, supra note 128, at 228 (commenting that trust is needed to reach an agreement).

^{131.} The benefits being a smoother negotiation, and the costs being the possibility of narrowed or cancelled claims.

^{132.} See supra subpart III(C).

4. The Incentives to Disclose: The Eventual Assignee.—The eventual assignee¹³³ of the patent also has misaligned interests in disclosing relevant information. A discussion of the differences between an objectively good information disclosure and an objectively bad information disclosure will help prove this point. If one assumes that an objectively good information disclosure consists of a disclosure that gets the most relevant prior art cited on the front of the patent, then one can also assume that good information disclosures lead to higher quality patents.¹³⁴ Likewise, an objectively bad information disclosure leads to weaker patents.¹³⁵ So one may question why there is any incentive to make a bad information disclosure, resulting in a weaker patent. The answer becomes clear only by realizing that the subjective value of a patent, to the company, does not lie solely in the patent's right to exclude.¹³⁶

The first perverse incentive to prevent good information from reaching the USPTO is to build up a patent portfolio.¹³⁷ Firms that rely on large portfolios have an incentive to build up the number of patents in that portfolio without regard to any particular patent's quality.¹³⁸ As a result, these firms are less likely to end up in litigation¹³⁹ by adhering to the maxim speak softly and carry a large patent portfolio.¹⁴⁰ Because these weak

136. *See* Crown Die & Tool Co. v. Nye Tool & Mach. Works, 261 U.S. 24, 34 (1923) ("All that the [g]overnment grants and protects is the power to exclude others from making, using, or vending during the [pendency of the patent].").

137. *See* Sampat, *supra* note 134, at 401 (Noting that applicants who "accumulate patent portfolios" for reasons other than "appropriating returns from research and development" are less likely to search for prior art).

139. *See* Lanjouw & Schankerman, *supra* note 45, at 47 (asserting that having a large patent portfolio reduces the chances of suing on a patent in the portfolio and that small firms avoid litigation by building a patent portfolio).

^{133.} An invention must be patented under the inventor's name. 37 C.F.R. § 1.41(a) (2012). However, once the patent issues, all substantial rights in the patent may be given—assigned—to another. *See* Morrow v. Microsoft Corp., 499 F.3d 1332, 1340 (Fed. Cir. 2007) ("[I]f a patentee transfers all substantial rights to the patent, this amounts to an assignment." (internal quotation marks and footnote omitted)). The person who holds all the transferred rights is called the assignee. *Id.*

^{134.} *See* Bhaven N. Sampat, *When Do Applicants Search for Prior Art?*, 53 J.L. & ECON. 399, 400 (2010) ("Some have argued that because missing prior art would result in patents that are difficult to enforce or are of questionable validity, applicants have strong incentives to conduct searches for prior art before filing patent applications.").

^{135.} See id.

^{138.} See Amir Efrati & Spencer E. Ante, Google's \$12.5 Billion Gamble, WALL ST. J., Aug. 16, 2011, http://online.wsj.com/article/SB10001424053111903392904576509953821437960 .html ("The Motorola deal also gives the search giant a trove of more than 17,000 patents to defend itself against a rash of lawsuits against its Android software"); see also Lanjouw & Schankerman, supra note 45, at 47 ("First, we find that having a larger portfolio of patents reduces the probability of filing a suit on any individual patent in the portfolio."). But Lanjouw and Schankerman also conclude that "there is no evidence that the average quality of patents falls in larger portfolios." *Id.* at 58.

^{140.} *Cf.* Letter from Theodore Roosevelt, Governor of N.Y., to Henry L. Sprague (Jan. 26, 1900), *available at* http://www.loc.gov/exhibits/treasures/trm139.html.

patents are protected by the firm's portfolio and not by the number of disclosures on the face of the patent in my model, the actual number of disclosures for these types of patents would fall somewhere between the peak at the low end of disclosures and the optimal disclosure point.¹⁴¹

The reverse is true for entities seeking to obtain strong "core" patents. These entities do not carry large portfolios and instead tend to build their business around single, strong patents.¹⁴² In addition, they tend to end up in litigation more frequently than firms with large patent portfolios.¹⁴³ As a result, entities seeking core patents should be incentivized to receive stronger patents that can survive litigation.¹⁴⁴ Thus, these entities are incentivized to disclose more rather than less, pushing the number of disclosures for these applications towards the high-end peak.¹⁴⁵

In addition to this misalignment of incentives resulting from the firm's business structure as described, a second reason to prevent good information disclosures exists when the patent attorney does, in fact, know of materially relevant prior art that could lead to an ultimate rejection of the application or a narrowing of the claims. These incentives mirror the private incentives of the patent attorney and applicant.¹⁴⁶ As a result, assignees have the same incentive to bury the most relevant disclosure in a mountain of semi-relevant disclosures and dump that mountain on the patent examiner.¹⁴⁷ This problem results from a lack of a duty to actively point out the most relevant prior art to the patent examiner.¹⁴⁸

B. The Incentives Provided by Jury Instructions

In essence, my proposal seeks to predetermine the factual question of whether defendant-submitted evidence is materially new by setting a brightline standard. If the patent-holder marked the reference for particular scrutiny, if the examiner then scrutinized the document, or if the examiner

^{141.} See supra section IV(A)(2).

^{142.} *Cf.* Mabey, *supra* note 73, at 244 ("Small firms, however, rely more heavily on [the] exclusionary right [of patents]. They are likely to realize less value from uncertain patent protection." (footnote omitted)).

^{143.} *See* Lanjouw & Schankerman, *supra* note 45, at 47 (noting that firms with large portfolios tend to file suit on the patents they own less often than firms with smaller portfolios).

^{144.} See Sampat, supra note 134, at 413 (discussing the value of a core patent and noting, "[h]ere, firms have stronger incentives to ensure that their patents are defensible against validity challenges based on missed prior art").

^{145.} *See id.* (suggesting that missed prior art leads to problems of defensibility against validity challenges, which further suggests that a large number of disclosures would prevent any prior art from being missed).

^{146.} See supra sections IV(A)(2)–(3).

^{147.} *See* Lichtman & Lemley, *supra* note 50, at 62 (discussing how an alternative system may prevent applicants from burying references).

^{148.} *See id.* (explaining that their proposed alternative system would impose a duty to conduct a thorough search for prior art and explain each reference).

otherwise scrutinized and argued specific points about unmarked references, then the patent-holder should receive a strong presumption of validity and no negative jury instruction that might suggest the contrary with respect to evidence concerning those particular references. However, if the patent-holder did not disclose a reference, or did disclose the reference but there is no indication that the reference was used by the examiner, then the defendant will dispute the factual question of whether prior art or evidence is materially new, and then, if warranted, the court should direct the jury to consider how the prior art may affect the weight of the evidence with respect to the presumption of validity. Therefore, the final issue that needs consideration is whether jury instructions provide adequate incentives to change an assignee's, applicant's, or attorney's behavior.

Recent literature has exposed that citizens on actual juries are motivated to "get it right" when it comes to the law provided by jury instructions.¹⁴⁹ However, despite high overall success rates in achieving this goal, jurors were still confused about many issues.¹⁵⁰ Thus, predetermining some of the more confusing issues will decrease uncertainty in litigation, which provides a positive incentive for the patentee.¹⁵¹ Specifically, jury instructions provide a unique incentive due to the structure and timing of jury instructions, the timing of the arguments made for and against jury instructions, and the practical result of an instruction given to the jury.

First, juries are the "black box" of litigation.¹⁵² Information from the trial is absorbed by the jury, the deliberations remain secret, and the jury comes back with a result.¹⁵³ The jurors do not have to explain their

^{149.} Shari Seidman Diamond et al., *The "Kettleful of Law" in Real Jury Deliberations: Successes, Failures, and Next Steps*, 106 NW. U. L. REV. 1537, 1605–06 (2012) (noting that the deliberations of the juries studied "generally showed sensible decisionmaking by citizens motivated to 'get it right.").

^{150.} See id. at 1560-64 (discussing jurors' confusion on the standard of proof).

^{151.} See Brief for Respondents at 34, Microsoft Corp. v. i4i Ltd. P'ship, 131 S. Ct. 2238 (2011) (No. 10-290) (postulating that that uncertainty "discourages both innovation itself and the financial backing needed to bring the benefits of inventions to the public"); *id.* at 54 ("[B]illions of dollars have been invested in innovation on the assurance that absent clear and convincing evidence, any patents those investments yielded would not be invalidated by a lay jury, denying any return on those investments.").

^{152.} *See* United States v. Benally, 546 F.3d 1230, 1233 (10th Cir. 2008) ("Jury decision-making is designed to be a black box: the inputs (evidence and argument) are carefully regulated by law and the output (the verdict) is publicly announced, but the inner workings and deliberation of the jury are deliberately insulated from subsequent review.").

^{153.} *See, e.g.*, FED. R. EVID. 606(b) (barring jurors from testifying about any statement made during deliberations or explaining the effect of anything on their mental processes); TEX. R. EVID. 606(b) (same).

reasoning or justification for reaching a certain result,¹⁵⁴ and their decisions on factual issues are protected by a high standard of deference on review.¹⁵⁵

Second, the timing of the arguments for and against jury instructions, and the timing of the jury instructions themselves, increase uncertainty to the patent-holder and the defendant at a late stage in the litigation. Arguments for and against specific jury instructions generally are heard at the close of evidence.¹⁵⁶ By the close of evidence, the experts from both sides have testified and accumulated large fees;¹⁵⁷ the attorneys have spent weeks in the courtroom;¹⁵⁸ the witnesses and other participants have taken time off work to testify or be present at the trial;¹⁵⁹ both parties have incurred expenses for travel and lodging;¹⁶⁰ the social costs of court time and jury time are close to their maximum level;¹⁶¹ and finally, the (now less likely) automatic injunction¹⁶² preventing the defendant from selling any of the potentially infringing product has been in place for months if not years, meaning any sunk investment costs are not being recovered.¹⁶³ As a result,

156. See FED. R. CIV. P. 51(a)(1) ("At the close of the evidence or at any earlier reasonable time that the court orders, a party may file and furnish to every other party written requests for the jury instructions it wants the court to give.").

157. See, e.g., Mathis v. Spears, 857 F.2d 749, 758 (Fed. Cir. 1988) (addressing expert witness fees, which in this patent case were \$45,000, or over \$88,000 in 2013 dollars); Eli Lilly & Co. v. Zenith Goldline Pharm., Inc., 264 F. Supp. 2d 753, 778 (S.D. Ind. 2003) ("Lilly seeks reimbursement of \$381,266.25 for its expert witness fees [in this patent case].").

158. *See, e.g.*, DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1297 (Fed. Cir. 2006) (six-week jury trial in a patent case); Lucent Techs., Inc. v. Newbridge Networks Corp., 168 F. Supp. 2d 181, 188 (D. Del. 2001) (three-week jury trial in a patent case).

159. Cf. Daniel A. Crane, Exit Payments in Settlement of Patent Infringement Lawsuits: Antitrust Rules and Economic Implications, 54 FLA. L. REV. 747, 757 (2002) ("For every hour that a lawyer spends preparing for, taking, or defending a deposition, the client often spends an hour in fact-gathering or being deposed.").

160. See, e.g., Zenith Goldline, 264 F. Supp. 2d at 781 (granting \$20,000 in travel expenses in an attorney fee award).

161. See Richard A. Posner, The Summary Jury Trial and Other Methods of Alternative Dispute Resolution: Some Cautionary Observations, 53 U. CHI. L. REV. 366, 372 (1986) ("[T]he parties bear only a fraction of the costs they impose on the judicial system and other litigants....").

162. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 390–91 (2006) (applying the traditional "four-factor test" instead of the more lenient test applied by the district court).

163. The average time from filing to trial is 2.5 years. CHRIS BARRY ET AL., PRICE WATERHOUSE COOPERS, LLP, 2012 PATENT LITIGATION STUDY 21 (2012), *available at* http://www.pwc.com/en_US/us/forensic-services/publications/assets/2012-patent-litigation-study.pdf; *cf.* Mars, Inc. v. Coin Acceptors, Inc., 527 F.3d 1359, 1363 (Fed. Cir. 2008) (infringement action

^{154.} *See, e.g., Benally*, 546 F.3d at 1233 (discussing how jury deliberations are insulated from review); Chen v. Mukasey, 510 F.3d 797, 801 (8th Cir. 2007) ("[A]ny administrative agency must describe its reasoning with such clarity as to be understandable, whereas a jury generally does not explain its reasoning." (internal quotation marks and citation omitted)).

^{155.} See FED. R. CIV. P. 52(a)(6) ("Findings of fact, whether based on oral or other evidence, must not be set aside unless clearly erroneous"); Anderson v. City of Bessemer City, N.C., 470 U.S. 564, 573 (1985) ("[For] a finding of fact, the standard governing appellate review of a district court's finding of discrimination is that set forth in Federal Rule of Civil Procedure $52(a) \dots$ ").

the total investment in the patent has reached its maximum at this stage of the trial.¹⁶⁴ Therefore, lingering uncertainty at this stage is not ideal for either party.

Third, juries tend to "get it right," but there is evidence of confusion dealing with the standard of proof.¹⁶⁵ In one study of actual Arizona jury deliberations, the researchers found that when jurors discussed the standard of proof, nearly 20% of the references to the standard of proof were incorrect.¹⁶⁶ And those jurors were only distinguishing between "beyond a reasonable doubt" and "preponderance of the evidence," even though "beyond a reasonable doubt" was not even a standard used in any of the cases.¹⁶⁷ Thus, one incentive to the patentee should be a reduction in error rates that may occur if jurors have to otherwise determine whether prior art is materially new under one standard.¹⁶⁸ In addition, because juries tend to get it right, a damaging jury instruction would likely increase invalidation rates as well.

In another recent study about the direct impact of the *i*4*i* case, one team used mock jurors to determine if the instruction would have any effect. The researchers found that mock jurors "who received the clear and convincing standard with an *i*4*i*-type [limiting] instruction . . . unexpectedly found the patent invalid at rates statistically indistinguishable from those who received the lower preponderance of the evidence standard."¹⁶⁹ In other words, although the clear and convincing standard is a higher standard than the preponderance of the evidence standard, once the jury instruction in *i*4*i* was given, the higher standard slipped, in the juror's mind, to that of the lower standard. Thus, the goal of eliminating a potentially confusing and damaging jury instruction helps incentivize the patentee to disclose relevant information to the USPTO.

pending for 15 years). For a discussion of other costs associated with a trial, see John M. Golden, "*Patent Trolls*" and *Patent Remedies*, 85 TEXAS L. REV. 2111, 2126 n.56 (2007) (discussing other litigation costs such as the risk of a preliminary injunction).

^{164.} Cf. Posner, supra note 161, at 370 ("[W]e can assume that a trial costs more than settlement.").

^{165.} Diamond et al., supra note 149, at 1562.

^{166.} Id.

^{167.} *Id.* All the cases studied were civil cases where the traditional preponderance of the evidence standard of proof applied. *Id.* at 1547, 1562–63. Basically, the researchers attributed this error to the fact that "beyond a reasonable doubt" is a phrase often used by laypersons. *Id.* at 1563.

^{168.} For example, if preponderance of the evidence were used to determine if a prior art reference was materially new, but clear and convincing evidence were the standard to determine invalidity. *See* Microsoft Corp. v. i4i Ltd. P'ship, 131 S. Ct. 2238, 2251 (2011) (applying a clear and convincing standard to invalidity but not specifying a standard for "materially new").

^{169.} David L. Schwartz & Christopher B. Seaman, *Standards of Proof in Civil Litigation: An Experiment from Patent Law*, 26 HARV. J.L. & TECH. 429, 432 (2013).

Finally, eliminating uncertainty as to jury instructions can lead to more settlements before trial.¹⁷⁰ By knowing, before the trial begins, whether the jury instruction will be given, the defendant should be able to better gauge the likelihood of a successful invalidity defense.¹⁷¹ The patent-holder should be able to do the same on his end. By obtaining more complete information—at least in comparison to the system currently in place—the patent-holder and the defendant would be more likely to reach a settlement. Pretrial settlements eliminate the transaction costs associated with a trial¹⁷² and leave more money in both the defendant's and patent-holder's pockets.¹⁷³ Thus, the prospect of jury confusion also provides an incentive

V. A Modest Proposal for Reform: An Optional "Marking" System

to mark disclosures that may be problematic at trial.

The goal of the courts and the USPTO should be to align the patent applicant's incentives to disclose the most relevant prior art with the patentee's incentives of obtaining a patent and using it in litigation. In order to achieve this result, the USPTO needs a tool to harness the information available to the applicants, who otherwise may not actively search for, or nevertheless bury, the most relevant piece of prior art.¹⁷⁴ This Note proposes that the ambiguity left open in *i4i* may be the tool to harness that information. By tying the disclosures made in the application during prosecution to a potentially damaging jury instruction in litigation, the proposed system begins to realign the skewed incentives of the players involved. Thus, I will lay out the proposed system's details, argue that the proposed disclosure regime would provide advantages over the current system, and then address probable contentions.

A. The Framework of the Proposed System and Key Advantages

Because the system still relies on the subjective belief of the patentee, and because the proposed system does not change any substantive law, the system must somehow incentivize the patentee in order to correct for the

^{170.} See Posner, supra note 161, at 373 ("[U]ncertainty . . . is a big factor in the decision to try rather than settle a case").

^{171.} See id.

^{172.} See Golden, supra note 163, at 2125 ("[T]here can be a substantial risk that some combination of uncertainty as to court-awarded damages, the threat of a permanent injunction, and the expected cost of patent litigation will cause a potential infringer to settle a patent dispute").

^{173.} *See id.* at 2125–35 (discussing how a patent-holder and potential infringer can reach varying settlement amounts because the litigation costs are not realized in the settlement stages, and therefore there is more room for bargaining during settlement negotiations).

^{174.} The USPTO has admitted that it needs this tool. *See, e.g.*, Changes to IDS Requirements, *supra* note 70 ("One goal of the changes . . . is to enable an examiner to identify the most relevant prior art in an efficient and expeditious manner, even when an IDS containing a large number of documents is submitted.").

moral hazard.¹⁷⁵ In other words, the system must incentivize the patentee to give the USPTO more information than the patentee otherwise would give under the status quo. I argue that a specific addition to the rules of the MPEP can achieve this effect.

By adding specific language to the MPEP, applicants would have the opportunity to cite the new rule and give the jury and judge a specific provision upon which to base their decisions.¹⁷⁶ I propose that the following language could achieve this result:

The applicant has the option to mark up to X number of disclosures that the applicant believes, for any reason, the patent examiner should review with particular scrutiny.

This particular language provides advantages for a few reasons. First, it makes the marking system optional; second, the "for any reason" language means the new rule change will not interact with the inequitable conduct doctrine; third, it sets an upper limit (X) on the number of references that an applicant can mark; fourth, the proposed rule change also can provide *ex ante* incentives to disclose relevant prior art, not just the *ex post* incentives derived from the disclosures' effect on litigation; and finally, I will argue that the magnitude of these effects creates an optimal balance of objectives.

1. The Effects of Making the Marking System Optional.—First, the rule change gives patent applicants and attorneys the option of invoking the rule. If the rule is not mandatory, then patent applicants could continue to disclose their information just as they do now. By making the rule optional, the USPTO would be relying on the increased incentives provided by the rule to achieve compliance. This reliance departs from the manner in which the system operates today, where harsh legal consequences result from a violation of the disclosure rules.¹⁷⁷ However, as discussed, both the courts and the USPTO have become discontent with the effects of the current inequitable conduct doctrine.¹⁷⁸ Therefore, the solution lies in harnessing the private incentives, as discussed, to correct for the potential moral hazard.

^{175.} See New Castle Cnty. v. Hartford Accident & Indem. Co., 970 F.2d 1267, 1271 (3d Cir. 1992) (discussing how a lack of incentives gives rise to a moral hazard).

^{176.} At least one scholar found that juries are more likely to properly utilize jury instructions when the jury understands why the instruction is being given. David Alan Sklansky, *Evidentiary Instructions and the Jury as Other*, 65 STAN. L. REV. 407, 452 (2013) ("On the whole, the mock jury studies do suggest that evidentiary instructions are more apt to be followed if the judge explains the reason for the underlying rule").

^{177.} See supra subpart III(B).

^{178.} See supra subpart III(B).

2. The Effects of the "For Any Reason" Language.—Second, the rule is broad. It allows applicants to mark a disclosure "for any reason." Therefore, the rule should not have any ties to the inequitable conduct doctrine. That doctrine only operates at the extreme ends,¹⁷⁹ and the new rule would not change the instances where the doctrine applies. For example, if a patent applicant marked what he subjectively thought was the most relevant disclosure, but it turned out that another reference he disclosed was, in fact, more relevant, the "for any reason" language prevents the defendant from claiming that the attorney or applicant tried to deceive the Office. This language thus alleviates the fears associated with the last attempt to change the disclosure rules.¹⁸⁰ Instead, the applicant would not receive the heightened benefits of examiner scrutiny for the most relevant reference, leaving that reference open for use in litigation by a defendant. Thus, by not tying the doctrine to a legal standard, the rule change does not seek to punish attorneys or applicants, and instead only adds incentives.

3. The Effects of the Upper Limit on Marked Disclosures.—Third, the rule change sets an upper limit (X) on the number of disclosures the examiner will agree to give extra scrutiny. I propose setting the upper limit at three disclosures, but this number should be decided by the Office based on the fact that the examiner will, in fact, scrutinize a marked reference.¹⁸¹ By affording extra protection to only three disclosures, the USPTO limits the amount of examiner time that is potentially wasted and forces the attorney and applicant to make up-front decisions about which references might end up being litigated.

This second benefit—requiring attorneys and applicants to make upfront decisions—may end up resulting in higher quality patents.¹⁸² At least one former commissioner believes that the best patents are dependent upon

^{179.} See supra notes 77-88 and accompanying text.

^{180.} See supra subpart III(D).

^{181.} The MPEP already states that examiners must consider *all* properly submitted applicant references. *See* MPEP, *supra* note 58, § 609.05(b). However, because examiners do not use applicant-submitted prior art citations in making rejections, the real problem is that new facts or "new evidence" may arise, which the defendant can argue entitles it to a jury instruction. Therefore, the beauty of the proposal lies in the fact that examiners *will in fact* scrutinize up to three references, making "new evidence" intuitively less likely to be found for those references.

^{182.} See Gerald J. Mossinghoff, Former Comm'r, U.S. Patent & Trademark Office, Speech at the U.S. Patent and Trademark Office Public Hearing on Issues Related to the Identification of Prior Art During the Examination of a Patent Application 35 (July 14, 1999), available at http://www.uspto.gov/web/offices/com/hearings/priorart/0714pato.doc ("[T]he best patent applications are written with the prior art clearly in mind starting from the beginning, not just as you amend your claims but right from the very beginning. If you know the best prior art and you're a good attorney, you'll write a very sustainable patent.").

knowing the prior art.¹⁸³ Therefore, the added incentive to search for the most relevant prior art may in fact increase the overall quality of the patent.

4. The Effect of Marked References on the Negotiation Theory of *Patent Prosecution and Other* Ex Ante *Incentives.*—The fourth advantage of the proposed marking system stems from the negotiation aspect of patent prosecution and also provides additional *ex ante* incentives to applicants. If successful, the proposed system should help foster cooperation between a patent examiner and a patent applicant or attorney.

Currently, examiners do not use applicant-submitted references.¹⁸⁴ Whether this stems from distrust, myopia, or some other reason,¹⁸⁵ patent examiners likely find it easier to conduct their own search instead of wading through applicant references. Therefore, patent attorneys should view the marked references as having the potential to help start a positive negotiation. For example, if a patent attorney marks the most relevant piece of prior art and the examiner finds it useful, then the attorney has built rapport with the examiner-who may be more receptive to the attorney's arguments as a result.¹⁸⁶ As another example, a patent applicant or attorney would be unwise to include as a marked reference a document written in a foreign language, even if that document is, subjectively, the most relevant prior art reference the applicant has in its possession. However, the applicant could mark an English translation of the document. The patent examiner should appreciate this gesture, because the patent examiner has the added burden of actually scrutinizing the reference, and the examiner likely would not have found the foreign reference.¹⁸⁷ From a negotiation standpoint, this too can help build rapport.¹⁸⁸ In fact, if we extend this argument to its logical conclusion, the marking system will actually create another moral hazard. If the patent applicants realize that they can ease the burden on the patent examiner by disclosing relevant, easily understood marked references, then patent applicants should begin to tailor their marked references to achieve this goal. Therefore, if a patent applicant believes (or his attorney realizes) that the patent will never be litigated, licensed, or otherwise disputed, then the patent applicant can focus on the ex ante bargaining incentives provided by the proposed disclosure scheme and still benefit from the rule change.

^{183.} Id.

^{184.} Cotropia et al., *supra* note 69, at 2–3.

^{185.} See id. (suggesting that myopia causes examiners not to use references submitted by applicants).

^{186.} See supra notes 127–30 and accompanying text.

^{187.} *See* Cotropia et al., *supra* note 69, at 9 ("Examiners account for 34% of citations to U.S. patents, versus 6 [%] for non-patent art and for foreign patents.").

^{188.} See supra note 129 and accompanying text.

In addition to this *ex ante* bargaining incentive, the proposed rule change also has the potential to offer other *ex ante* incentives. For example, if the patent applicant or attorney previously has built rapport with the patent examiner, the patent examiner may trust that the applicant's disclosures are relevant. This rapport could mean quicker disposition of the application, as the examiner does not need to waste time redoing the applicant's work. As mentioned earlier, the patent examiner has an incentive to dispose of an application quickly,¹⁸⁹ and so does the applicant.¹⁹⁰ Shorter prosecution times carry potential advantages: the eventual assignee and applicant can begin their reliance on the issued patent earlier; the examiner obtains more counts per hour; and the USPTO can process more applications in any given year, chipping away at the backlog of applications. Thus, a second *ex ante* incentive for all parties involved stems from the possibility of a shorter examination time.

In addition, another ex ante business incentive exists to provide marked relevant disclosures in exchange for a heightened level of scrutiny. The incentive may negate a potential uncertainty arising from a litigation defense raised in practice today: a patent-holder sues an allegedly infringing competitor, and the competitor defends on the ground that the patentholder's patent is invalid and countersues the patent-holder alleging infringement of the competitor's patent.¹⁹¹ Commentators often discuss this situation in the context of patent portfolios.¹⁹² However, if the patentholder can point to a rule showing that the examiner particularly scrutinized the competitor's patent, then the effect of a potential countersuit may diminish.¹⁹³ For two firms with large patent portfolios, this situation could present a potential drawback of the proposed system because commentators believe that the threat of countersuits leads to more settlement.¹⁹⁴ However. for firms that do not have large patent portfolios, the proposed system provides a distinct advantage by essentially shielding the firm from the threat of an expensive countersuit by one of its competitors.

^{189.} See supra section IV(A)(1).

^{190.} Because the patent term begins when the patent is issued but is measured from the date of filing, 35 U.S.C. 154(a)(2) (2006), patent applicants have an incentive to minimize the amount of time a patent spends in prosecution.

^{191.} For example, this tactic was used in ActiveVideo Networks, Inc. v. Verizon Communications, Inc., 694 F.3d 1312, 1317 (Fed. Cir. 2012); Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC, 683 F.3d 1356, 1359 (Fed. Cir. 2012); Crown Packaging Technology, Inc. v. Rexam Beverage Can Co., 559 F.3d 1308, 1310 (Fed. Cir. 2009); and Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1354 (Fed. Cir. 1999).

^{192.} *See* Lanjouw & Schankerman, *supra* note 45, at 48–49 (discussing how large firms and repeat players with patent portfolios end up in less litigation).

^{193.} Cf. supra note 176 and accompanying text.

^{194.} Lanjouw & Schankerman, supra note 45, at 48.

5. The Magnitude of the Effects of the Proposed System.—The incentives to comply with the proposed system are not perverse, and not so significant as to materially change an applicant's decisions, but not so insignificant that they fail to correct for the moral hazard previously discussed.¹⁹⁵ For example, a patentee may still "bury" a materially relevant reference¹⁹⁶ hoping that the patent examiner will not view the reference. This situation will arise under the proposed system just as it does under the current system.¹⁹⁷ However, while the patent may end up being granted (erroneously), when it is challenged in court, the defendant more easily may find new facts or "new evidence" that the examiner did not consider.¹⁹⁸ But even if this occurs, the maximum benefit the defendant can derive from the system is a positive jury instruction, and likewise, the maximum benefit the patent-holder can derive is a lack of a negative jury instruction and a citation to a procedural rule in the MPEP.

6. The Costs of the Proposed System.—The proposed system is nearly costless to implement for the USPTO and does not increase the costs for a patent applicant. The previous attempt to change the rules relating to IDS requirements failed, in part, because patent attorneys would have to spend significant amounts of time reading and "explaining" references.¹⁹⁹ This disadvantaged small firms that could not afford the extra costs associated with filing.²⁰⁰ However, under my proposed system, the attorney can elect not to spend extra time with the references and receive the same benefits he receives under the current system. Thus, the system maintains horizontal equity between all applicants because the costs to the applicant are the same.

In addition, the proposed system helps alleviate the problem discussed by Lichtman and Lemley, where correcting for every instance of abuse at the USPTO is too costly and unjustified.²⁰¹ One advantage of the marking system stems from the fact that any abuse can be more easily identified by

^{195.} See Sklansky, supra note 176, at 419 (discussing evidentiary rules' ability to change a party's out-of-court behavior).

^{196.} Say by listing them in alphabetical order and not marking any of them.

^{197.} See supra note 118 and accompanying text.

^{198.} See, e.g., Pixion, Inc. v. Citrix Sys., Inc., 887 F. Supp. 2d 881, 894–95 (N.D. Cal. 2012) (denying a patent-holder's summary judgment motion on the issue of invalidity because of new evidence).

^{199.} See Changes to IDS Requirements, *supra* note 70, at 38,808–10 (outlining the proposed changes, which were not adopted).

^{200.} *Cf.* Lichtman & Lemley, *supra* note 50, at 62–66 (discussing a system whereby patent applicants pay a fee for a "gold-plated" patent and observing how it would disadvantage small entities).

^{201.} Id. at 48-49.

third parties seeking to license or otherwise litigate the patent.²⁰² Whether a patentee chooses to mark the most relevant references or instead chooses to bury the references, this behavior will be exposed in court or by third parties if the patent is licensed, and the resulting jury instruction will negate any benefits by making the burden of persuasion "easier to sustain."²⁰³ Therefore, even if the system results in the same number of bad patents, the system gives defendants a solid, but procedurally small,²⁰⁴ foothold on

B. Challenges to the Proposed Marking System

which to rest an invalidity defense.

Despite all of the advantages, the proposed disclosure system may encounter some challenges. First, I will address how the system could be misused, and then I will proceed to a discussion of the USPTO's rulemaking authority. The main response to the challenges stems from the fact that the USPTO currently operates a second-best disclosure system. Because the benefits of implementing the proposed system outweigh the costs, the system presents the opportunity to increase the overall effectiveness of examination.

1. Procedural Challenges to the System: Varying X or the Definition of X.—By setting an upper limit on the number of disclosures, the rule change seeks to limit the number of disclosures scrutinized by the patent examiner. However, the rule does not set any page limit. Thus, a patent applicant may find it advantageous to have a large reference fully scrutinized by the patent examiner so that the reference carries less weight in court. Furthermore, because the Office guarantees that a marked reference, in fact, will be scrutinized, this type of disclosure may be a complete waste of the examiner's time.

However, I argue that there are two solutions to this problem. The first solution lies in the negotiation aspect of patent prosecution. As previously discussed, examiners and attorneys negotiate a patent application, so the applicant's interest is not furthered by swamping the examiner with references he is required to scrutinize before the negotiation even begins.²⁰⁵

^{202.} For example, the *New York Times* reports: "In the smartphone industry alone, according to a Stanford University analysis, as much as \$20 billion was spent on patent litigation and patent purchases in the last two years—an amount equal to eight Mars rover missions." Duhigg & Lohr, *supra* note 16. In contrast, the entire USPTO budget—which pays the salaries of over 12,000 fulltime employees—is estimated at just over \$3 billion for fiscal year 2014. U.S. PATENT & TRADEMARK OFFICE, FISCAL YEAR 2014 PRESIDENT'S BUDGET 8 (2013), *available at* http://www.uspto.gov/about/stratplan/budget/fy14pbr.pdf.

^{203.} Microsoft Corp. v. i4i Ltd. P'ship, 131 S. Ct. 2238, 2251 (2011).

^{204.} *See* Brief of *Amicus Curiae* International Business Machines Corp. in Support of Neither Party at 6, *i4i*, 131 S. Ct. 2238 (No. 10-290) (describing jury instructions as a more "nuanced" approach to deal with the problem).

^{205.} See supra notes 127-32 and accompanying text.

The second solution can be provided through a limiting rule. As discussed previously, the proposed rule is very broad.²⁰⁶ Thus, the USPTO could easily limit the actual amount of pages or words an examiner is required to scrutinize for a given application.²⁰⁷ Furthermore, *X* could also vary, determined by the number of claims. Application fees increase with the number of claims over a certain limit.²⁰⁸ Thus, the USPTO could limit the disclosures by a specific rule or increase or reduce the number of marked references based on the number of claims in the application, and the amount of work the examiner performs (or viewed alternatively, the amount of time potentially wasted) would be commensurate with the application fee paid by the applicant or limited by a specific rule.

2. Challenges to the System: Open Potential for a Moral Hazard.—As discussed at various points in this Note, the entire reason to institute the marking system is to quell the likely moral hazard related to disclosure at the Office. However, the marking system does not change any governing law, and thus both existing, as well as new, moral hazards will exist.²⁰⁹ I argue, however, that any new, negative moral hazard arising from the marking system will have minimal effects.

The first potential problem lies in the fact that the proposed marking system may tempt the patent applicant to trick the patent examiner. However, the number of ways the applicant can trick the examiner is limited. First, the patent applicant could mark completely irrelevant disclosures, hoping the examiner will not discover the most damaging references. Although this is a possibility, I can immediately dismiss this contention. The patent examiner will notice that the disclosures are not relevant, and the patent applicant will lose all credibility with the patent examiner, leading to a hostile negotiation of the application.²¹⁰ The applicant or attorney would be much better off not marking any references under the optional system and merely submitting his IDS in the current form.

Therefore, the real moral hazard lies in the fact that the applicant may mark a second-best reference and bury the best (most relevant) reference with the rest of his disclosures. The marked references would distract the examiner, meaning he might be more likely to miss the reference that would

^{206.} See supra section V(A)(2).

^{207.} For example, the limiting rule could say, "The examiner can only guarantee scrutiny of the first 20 pages of a disclosed reference."

^{208. 37} C.F.R. 1.16(h) (2012) (outlining the fee schedule for applications filed with over three independent claims).

^{209.} See supra section V(A)(4) (discussing the moral hazard that may arise if applicants tailor their disclosures to help out the patent examiner).

^{210.} See supra notes 127–32 and accompanying text. Furthermore, the attorney will lose credibility in future negotiations.

render the application unpatentable (or narrow the claims). In order to dismiss this more realistic contention, I argue that this type of scheme actually hurts the applicant and that the effects of such a scheme may be irrelevant.

First, marking the second-best reference and pretending that it is the most relevant reference may be irrelevant. The patent examiner still must conduct his own prior art search,²¹¹ so the examiner will likely find a reference to reject the application with regardless of what the applicant discloses.²¹² Second, marking a second-best reference is not in the applicant's best interest. If the patent ends up in licensing talks or litigation, the defendant (or licensee) has a private incentive to doublecheck the disclosure references and make its own determination of whether the patent is valid.²¹³ Therefore, the defendant will likely find, in the IDS, the best reference. If the defendant believes that the best reference can be used to invalidate the patent, then the fact that, currently, nearly 50% of litigated patents are held invalid,²¹⁴ coupled with the added benefit of a potentially damaging jury instruction, may make the patent worth litigating. Thus, by marking the second-best reference, the applicant has increased the chance the patent ends up in court. Finally, when the patent gets in front of a jury, if the examiner did not base any arguments on the reference, the jury may easily find that the new arguments raised by the defendant invalidate the patent by clear and convincing evidence.²¹⁵ Thus, the patent applicant has increased the objective chance of having the patent litigated and the objective chance of having the patent invalidated.

As a result, the patent applicant should not be incentivized to mark second-best (or completely irrelevant) references and otherwise hide the best reference in his IDS. This practice would reduce rapport with the patent examiner, give defendants the benefit of a jury instruction with respect to the most damaging reference, increase the likelihood of litigation, and reduce the likelihood of obtaining a license or a settlement on the patent in question. Using this insight, the applicant would be better off not marking any references and submitting his IDS in the current format.

^{211.} MPEP, supra note 58, § 904.

^{212.} *See* Cotropia et al., *supra* note 69, at 13 (claiming that 87.2% of prior art references used to reject claims are provided by examiners).

^{213.} *See* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 134–36 (2007) (affirming a licensee's right to bring a declaratory judgment action against a patent-holder seeking to have the patent held invalid).

^{214.} John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998).

^{215.} *See id.* at 228–29 (suggesting that factfinders are more likely to find a patent invalid when the prior art was not considered by a patent examiner); *cf.* Sklansky, *supra* note 176, at 439 (suggesting a correlation between a jury following instructions and the judge explaining the reasoning for giving the instructions).

3. USPTO Has the Authority to Implement the Rule Change, but No Authority to Govern its Effects.—The next contention that will likely be raised is the fact that the USPTO does not have substantive rule-making authority, and therefore the USPTO cannot impose any new standards on the courts.²¹⁶ However, I argue that the rule change itself is procedural, and the courts give the USPTO enough deference to justify implementing the rule.

Congress granted the USPTO the power to implement procedural rules "govern[ing] the conduct of proceedings in the Office."²¹⁷ A substantive rule is one that "causes a change in existing law or policy that affects individual rights and obligations"²¹⁸ However, the line between substantive rules and procedural rules is often not clear.²¹⁹ But a rule governing how and when an applicant may submit any type of information to the USPTO has always been considered procedural.²²⁰ Thus, the fact that the USPTO will choose to give additional scrutiny to a particular prior art reference will be considered procedural.

The new rule itself will be considered procedural; however, the effects of the rule can be implemented only by the courts.²²¹ In other words, the USPTO can only implement the marking system, but it cannot dictate how the marking system should affect jury instructions.²²² Therefore, the judiciary will have to allow the consequences of the new system to achieve

222. See id.

^{216.} *See* Merck & Co. v. Kessler, 80 F.3d 1543, 1550 (Fed. Cir. 1996) ("Congress has not vested the Commissioner with any general substantive rulemaking power").

^{217. 35} U.S.C. § 2(b)(2)(A) (2006); Cooper Techs. Co. v. Dudas, 536 F.3d 1330, 1336 (Fed. Cir. 2008).

^{218.} Mikkilineni v. Stoll, 410 F. App'x 311, 312 (Fed. Cir. 2010) (citing Animal Legal Defense Fund v. Quigg, 932 F.2d 920, 927 (Fed. Cir. 1991)).

^{219.} Golden, supra note 49, at 1047.

^{220.} The USPTO limits similar, procedural actions of patentees and patent applications at the Office. For example, a special filing fee is required for applications over 100 pages, applications containing more than three independent claims, and applications not submitted electronically (after the America Invents Act took effect). MPEP, supra note 58, § 607. As further examples of the USPTO governing an applicant's action, failure to file a reply within a six-month period results in the abandonment of the application, 37 C.F.R. §§ 1.134, 1.135(a) (2012); failure to furnish the USPTO with a copy of an international application within 30 months results in abandonment, id. § 1.495(a)–(b); and failure to pay an issue fee within three months from the date of the notice of allowance results in abandonment, id. § 1.316. All of these rules show that the USPTO can regulate the timing and form of applicant activities during patent examination. While marking references is not a timing activity, it is a question of form because it governs whether applicants submit an application with no marked references or with marked references, but nothing else. See Golden, supra note 49, at 1044 ("[T]he USPTO ... lacks binding interpretive authority on matters of substantive patent law but ... possesses binding rulemaking authority with respect to procedural aspects of USPTO activities, such as patent examination, issue, and reexamination.").

^{221.} See Golden, supra note 49, at 1044.

its intended results.²²³ Given the fact that the lower courts have yet to fully articulate the standards set forth in i4i, the USPTO rule change could easily be worked into those standards.

4. How to Deal with Cumulative Prior Art.-One issue left unsolved by *i4i*, and only partially solved by the proposed marking system, involves the treatment of cumulative prior art. Because defendants in litigation often have substantial funds to conduct prior art searches,²²⁴ defendants will find (or generate) evidence that was not marked by the applicant, but nevertheless is cumulative (i.e., nearly identical in substance) to a marked reference. My proposed system suggests that new, cumulative evidence derived from marked prior art will not receive the benefit of the jury instruction. The only question left open is the standard to decide whether the new evidence of the product is materially different from marked references about the product (i.e., whether it is cumulative).²²⁵ Instead of creating a new legal test. I argue that a citation to the new MPEP rule, along with a showing to the jury, will help alleviate any lingering uncertainty about this issue. In a situation where the jury is being asked to determine whether a new invention is obvious or novel with respect to a given reference, that same jury should also be able to determine if a defendant's newly submitted reference is cumulative to a marked prior art reference. The two analyses are similar, and courts should be cautious about defining a more robust legal doctrine that may lead to more jury confusion than is necessary to decide the issue.

Furthermore, Justices Breyer, Alito, and Scalia likely identified—and solved—this issue in their concurring opinion in i4i.²²⁶ Justice Breyer stated that "using interrogatories and special verdicts [will] make clear which specific factual findings underlie the jury's conclusions."²²⁷ Thus, Justice Breyer proposed, and I agree, that bifurcating the verdict form may help reviewing courts clarify which factual findings the jury relied upon. For example, if the jury found that defendant-submitted evidence was

^{223.} See id. at 1047–48 (arguing that "the USPTO plays a nontrivial part in patent law's development and practical effect" and that "given the common reliance of examiners and patent applicants on MPEP guidance, as well as that guidance's reasonably frequent citation in court opinions, the significance of USPTO guidance activity as a source of influence and practical meaning should not be understated" (footnotes omitted)); see also, e.g., Eli Lilly & Co. v. Teva Pharms. USA, Inc., 619 F.3d 1329, 1343 (Fed. Cir. 2010) (considering MPEP's discussion of clinical trials in its obviousness analysis); In re '318 Patent Infringement Litig., 583 F.3d 1317, 1326 & n.10 (Fed. Cir. 2009) (considering MPEP's guidelines in its utility analysis).

^{224.} See supra note 202 (reporting from the New York Times on amounts spent in the smartphone industry on patent acquisition and litigation).

^{225.} *i4i* succinctly described this issue in its brief. Brief for Respondents, *supra* note 151, at 45–46.

^{226.} See Microsoft Corp. v. i4i Ltd. P'ship, 131 S. Ct. 2238, 2253 (2011) (Breyer, J., concurring).

^{227.} Id.

materially new and specified that on a verdict form, then the reviewing court would know that the jury proceeded to weigh that reference. If that first factual finding was incorrect, then this may help prove that the jury verdict was not supported by "substantial evidence."²²⁸ This line of thought has been echoed by commentators who study the effects of jury instructions.²²⁹ Thus, I advocate for a special verdict form which requires the jury "to make clear which specific factual findings" ²³⁰ the jury based its invalidity decisions upon.

Given that the Supreme Court did not address the specific legal standards to be applied when considering whether a jury instruction is appropriate, the lower courts, regardless of whether the proposed rule change is implemented, will still be tasked with setting forth these standards. Therefore, the proposed change merely adds an additional element of consideration and does not change any substantive law.

VI. Conclusion

The incentives for attorneys, applicants, and assignees to disclose information to the USPTO are not aligned. Until the USPTO can align those incentives, patent examiners will continue to face a lack of good information—either too much irrelevant information or not enough materially relevant information. Past attempts to harness this good information—initially known only to the applicant, attorney, or assignee have failed. This failure stemmed, in part, from the fact that the rules imposed too heavy of a burden on the attorneys or applicants and, in part, because the proposed changes offered no increased benefit to the patentee. Therefore, the best way to enact a system of effective disclosure is to incentivize the relevant parties.

The key to understanding the benefits to the proposed system is to realize that the system is not designed to solve all of the problems at the USPTO. Instead, the proposed system seeks to add a positive reason to disclose relevant prior art to the USPTO in an effective manner. Furthermore, the system is designed to have enough impact to slightly alter disclosure behavior, but not such an extreme impact that it serves as a major detriment to either party. The patent-holder receives the benefit of a rule he can cite for the judge and jury, and the defendant receives the benefit of a

^{228.} Spectralytics, Inc. v. Cordis Corp., 649 F.3d 1336, 1342 (Fed. Cir. 2011) ("We first presume that the jury resolved the underlying factual disputes in favor of the verdict winner and leave those presumed findings undisturbed if they are supported by substantial evidence. Then we examine the legal conclusion *de novo* to see whether it is correct in light of the presumed jury fact findings." (quoting Jurgens v. McKasy, 927 F.2d 1552, 1557 (Fed. Cir. 1991)).

^{229.} Diamond et al., *supra* note 149, at 1606 (suggesting that structural changes to jury instructions and jury verdict forms could resolve many of the perceived failures currently surrounding jury instructions).

^{230.} *i4i*, 131 S. Ct. at 2253 (Breyer, J., concurring).

positive jury charge instructing the jurors about the weight to apply to materially new evidence. To put this in perspective, if "the remedy for inequitable conduct is the 'atomic bomb' of patent law,"²³¹ then my proposed system is merely buckshot. Instead of connecting the proposed system to harsh legal consequences, I argue that the best approach is to subtly align the incentives for the parties involved and see what happens. In the worst-case scenario, the USPTO would return to the status quo, whereby the applicants are not incentivized to disclose relevant references and the examiners are not incentivized to use anything the applicant discloses.

In addition, the proposed system does not alter any substantive law and instead relies on the Supreme Court's dicta in i4i. In i4i, the Court validated the use of jury instructions as a means to deal with new evidence that was not considered by the patent examiner. The proposed system does not push the boundary of this remedy, as any new evidence that was not considered by the patent examiner is still considered by the jury under the same standards as it otherwise would be under the current law. Therefore, this Note has not advocated for any change in the law, and the only real hurdle is achieving cooperation from the judiciary.

-Michael C. Deane

^{231.} Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1288 (Fed. Cir. 2011) (quoting Aventis Pharma S.A. v. Amphastar Pharm., Inc., 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).