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Cotropia, Christopher

Publication Date

2008-06-12

Modernizing Patent Law's Inequitable Conduct Doctrine

Christopher A. Cotropia

Abstract

Since its inception, the inequitable conduct doctrine, which requires the inventor to disclose to the Patent Office all information relevant to the patentability of the invention at issue, has received tremendous attention from the judiciary, the Patent Office, the bar, and scholars. Many scholars have also written on the Patent Office's failure to properly exam patent applications and the resulting negative impact on society from the Office's issuance of "bad patents." Surprisingly, however, no one has fully linked these two discussions and, in turn, performed a fundamental, theoretical analysis of the inequitable conduct doctrine in light of the utilitarian theory that underlies American patent law. This Article fills this gap by developing such a conceptual framework with which to evaluate the inequitable conduct doctrine and identify its capacity to reform the patent system. The Article then applies this framework to suggest reforms that enhance the doctrine's ability to improve patent quality, while restraining the inherent tendency to overcomply by overloading the Patent Office with information.

This new conceptual framework is important in two ways. First, it has immediate use in both evaluating proposed changes to the doctrine, such as those in the pending Patent Reform Act, and suggesting others. Second, the framework is a building block to be used in future scholarship on the inequitable conduct doctrine and, more generally, the ever-present movement to reform the patent system.

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Modernizing Patent Law's Inequitable Conduct Doctrine

Christopher A. Cotropia *

Introduction

The inequitable conduct doctrine governs a patent applicant's duties before the United States Patent and Trademark Office ("USPTO"). The doctrine requires the inventor to disclose information to the USPTO that is relevant to the patentability—the utility, novelty, nonobviousness, and adequate disclosure—of the invention at issue.¹ The doctrine is pervasive, imposing a duty to disclose and be truthful in every correspondence with the USPTO.

The penalty for failing to discharge this duty is dramatic. A finding of inequitable conduct renders the entire patent unenforceable for the rest of the patent term, even when the undisclosed information was material only to a particular patent claim.² In some cases, the doctrine extends its reach to related patents, rendering them unenforceable as well.³ And the resulting unenforceability persists even if the invention actually meets the patent requirements. This all makes the doctrine unique in patent law, in that it is an individual's failure to disclose—rather than an inherent trait of the claimed invention—that results in the denial of protection for the invention and other related patents.

Given the all-encompassing nature of the inequitable conduct doctrine and its death-penalty-like remedy, it is not surprising that the doctrine has garnered much attention and criticism since its inception. The Federal Circuit

* Associate Professor of Law, Intellectual Property Institute, University of Richmond School of Law. J.D., University of Texas School of Law. B.S., Northwestern University. I would like to thank Dawn-Marie Bey, Jim Gibson, Mary Heen, Corinna Lain, Shari Motro, Michael Risch, Sean Seymore, and the participants at the 2007 Works in Progress Intellectual Property Colloquium at the American University Washington College of Law for their comments on an earlier draft of this Article.

¹ See 37 C.F.R. § 1.56 (describing the type of information a patent applicant is under a duty to disclose); *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 (Fed. Cir. 1995) (setting forth the three basic elements of inequitable conduct—materiality, non-disclosure, and intent).

² See *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 877 (Fed. Cir. 1988) (en banc in pertinent part) ("When a court has finally determined that inequitable conduct occurred in relation to one or more claims during prosecution of the patent application, the entire patent is rendered unenforceable.")

³ If there is a pattern of inequitable conduct, unenforceability can transfer from one patent to another. See *Consol. Aluminum Corp. v. Foseco Int'l Ltd.*, 910 F.2d 804, 812 (Fed. Cir. 1990).

has gone out of its way on more than one occasion to criticize aspects of the doctrine.⁴ Patent practitioners constantly monitor and critique the development of the doctrine, partly because it focuses on "the person rather than the patent."⁵ This attention by both judiciary and bar has caused two major patent system studies to discuss possible modifications to the inequitable conduct doctrine.⁶ One study went so far as to suggest the elimination of the doctrine altogether.⁷ Congress has also begun to pay attention, with essentially every draft of the currently pending patent reform legislation containing some amendment to the doctrine.⁸ Even the USPTO has suggested rule changes that affect the doctrine.⁹

Every facet of the patent system—Congress, the Federal Circuit, the USPTO, and patent practitioners—is concerned about the state of the inequitable conduct doctrine. There is, however, no consensus as to what is wrong with the doctrine and how it should be changed. As a result, the disjointed discussion has created schizophrenia at the legislative level—with proposed changes being driven by which critique Congress focuses on in a given session.

Running in parallel with the conversation about the inequitable conduct doctrine is a broader discussion of patent quality. One of the major focuses of the patent reform movement is to ensure that the USPTO issues only those patents that claim truly patentable inventions.¹⁰ The number of patent applications is rising exponentially, the time a patent examiner can spend

⁴ Judges on the court have characterized the doctrine as "overplayed," *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984), and labeled its habitual assertion in litigation as "an absolute plague," *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988).

⁵ Donald S. Chisum, *Best Mode Concealment and Inequitable Conduct in Patent Procurement: A Nutshell, a Review of Recent Federal Circuit Cases and a Plea for Modest Reform*, 13 Santa Clara Computer & High Tech. L.J. 277, 279 (1997).

⁶ See Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* chap. 5, 12-13 (2003); National Research Council, *A Patent System for the 21st Century* 121-23 (2004).

⁷ See NRC Report, *supra* note 6, at 123.

⁸ See, e.g., Patent Reform Act of 2007, H.R. 1908, 110th Cong. § 123 (2007); Patent Reform Act of 2006, S. 3818, 109th Cong. § 5 (2006); The Patent Reform Act of 2005, H.R. 2795, 109th Cong. § 136 (2005).

⁹ See Changes to Information Disclosure Statement Requirements and Other Related Matters, 71 F.R. 38808 (July 10, 2006) (proposing to change the IDS requirements to include, in addition to other requirements, the inclusion of relevancy statements).

¹⁰ See Stuart Benjamin & Arti Rai, *Who is Afraid of the APA? What the Patent System Can Learn From Administrative Law*, 95 Geo. L. J. 269, 270, 276-78 (2007) ("In the last few years, widespread dissatisfaction with the patent system--and particularly with the perceived poor quality of issued patents--has spurred a broad range of groups to call for reform.").

examining them is decreasing, and the quality of patent applications and the information available for examination is dropping.¹¹ All of these factors are causing more patents to issue that, in actuality, should not. The resulting "bad" patents—patents that fail to meet the patentability requirements—are harmful, creating detrimental societal costs via hold-ups and the *in terrorem* effects the invalid patents create.¹²

These two topics—the inequitable conduct doctrine and patent reform in general—are being addressed with increasing frequency by academics. Academics have written articles on the patent examination process, ways to reform it, and the negative impact of issuing bad patents.¹³ Likewise, many scholars have written articles specifically on the inequitable conduct doctrine.¹⁴ However, this scholarship has failed to fully link these areas, and in turn, engage in two basic, interrelated exercises that would greatly assist the discourse on the inequitable conduct doctrine and, in turn, patent reform in general.

First, no one has attempted a comprehensive, theoretical analysis of how the inequitable conduct doctrine as a whole affects patent applicants, patent examination, and potential inventors.¹⁵ Performing a fundamental analysis of the doctrine would provide a framework by which proposed changes to the doctrine, both current and future, could be tested. It would also flesh out how the doctrine plays a significant role in patent system overall. Second, and related, almost all of the scholarship on the inequitable conduct doctrine has kept the discussion tied to the doctrine's equitable roots, focusing

¹¹ See Doug Lichtman & Mark Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 Stan. L. Rev. 45, 46-47 (2007) (identifying these problems as the cause of the USPTO's "mistakes" while reviewing patent applications).

¹² See Christopher R. Leslie, *The Anticompetitive Effects of Unenforced Invalid Patents*, 91 Minn. L. Rev. 101, 113-14 (2006) (arguing that "some invalid patents can deter market entry and decrease consumer welfare even without active enforcement").

¹³ See, e.g., John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. Ill. L. Rev. 305 (2001).

¹⁴ See, e.g., Robert J. Goldman, *Evolution of the Inequitable Conduct Defense in Patent Litigation*, 7 Harv. J.L. & Tech. 37 (1993).

¹⁵ A majority of the articles are sound, but focus on specific parts of the doctrine, particular proposed statutory changes, and individual Federal Circuit cases. See, e.g., James Cronin, Comment, *Inequitable Conduct and the Standard of Materiality: Why the Federal Circuit Should use the Reasonable Patent Examiner Standard*, 50 St. Louis U. L.J. 1327 (2006) (discussing the materiality requirement of the inequitable conduct doctrine); David Hirick, *Where the Bodies Are: Current Exemplars of Inequitable Conduct and How to Avoid Them*, 12 Tex. Intell. Prop. L.J. 287 (2004) (discussing, in detail, the various fact patterns that have supported or not supported a finding of inequitable conduct).

on the doctrine as an ethical tool.¹⁶ These discussions are of little help when the specific criticisms of the doctrine are not morally focused. Furthermore, any proposed change to the doctrine needs to be considered in the context of broader reforms rooted in the utilitarian theory that underlies American intellectual property law. There is a real need to modernize the thinking on the inequitable conduct doctrine and frame its effect in the same utilitarian terms that form the foundation for the patent system. This Article attempts to fill these scholarly holes and, in turn, answer the question as to how the doctrine should be changed and used to improve the patent system.

This Article's findings, put simply, are that the inequitable conduct doctrine has the ability to improve patent quality as long as the inherent tendency to overcomply with the doctrine by overloading the USPTO with information is kept in check. The Article reaches this conclusion by proceeding in five parts. Part I describes the current thinking on the inequitable conduct doctrine, with particular focus on the major critiques of the doctrine and proposed legislative and administrative responses. Part II of the Article begins the construction of a fundamental, conceptual framework for the doctrine by explaining how it impacts both patent quality and patent examination. If properly calibrated, the doctrine can improve both the quality of the patent application (by increasing the patent attorney's knowledge and care) and the quality of the examination (by acting as an information producer and verifier).

The doctrine's potential impact is not all positive. The tremendous incentive for applicants to overcomply can actually decrease patent quality. Part III completes the conceptual framework by detailing how the doctrine, through the extreme legal and extra-legal costs it currently imposes, incentivizes inventors and, in particular, patent attorneys to overcomply by submitting all information, regardless of relevance, to the USPTO. Part IV explains how this overcompliance has a negative effect on patent examination and the patent system by both causing information overload that hampers the USPTO's ability to effectively exam and creating high compliance costs that price inventors out of the system. Finally, in Part V, the Article uses this

¹⁶ One commentator even affirmatively dismissed the linkage between the doctrine and patent quality, concluding that reforms should focus on "punish[ing] the applicant." Cronin, *supra* note 15, at 1354. Articles have mentioned the doctrine's possible impact on patent quality. See, e.g., Kevin Mack, Notes, *Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 Berkeley Tech. L.J. 147, 166-69 (2006). These articles mention this linkage only in passing, failing to fully develop the discussion conceptually. For example, no article has discussed the huge potential for over compensation under the doctrine, a significant aspect of the doctrine's impact on patent quality developed in this Article. See *infra* Parts III, IV.

framework to suggest changes that maintain the positive patent quality effects of the doctrine while minimizing overcompliance.

I. Current Thinking on the Inequitable Conduct Doctrine

Before a conceptual framework regarding the inequitable conduct doctrine can be developed, a basic understanding of the process of obtaining a patent, the current contours of the inequitable conduct doctrine, and the debate surrounding it need to be detailed. This Part does this very thing, beginning with a description of "patent prosecution."¹⁷ Then the three requirements of the inequitable conduct doctrine—materiality, disclosure, and intent—and available remedies are detailed. This Part concludes by describing the popular critiques of the doctrine, the proposed legislative responses, and the major disconnects in this discourse. For those familiar with the patenting process and the inequitable conduct doctrine, they can skip directly to Part I.C.

A. Basics of Patent Prosecution

In order to patent an invention in the United States, an inventor must apply for one with the USPTO. The patent application includes a textual and graphical description of the invention called the specification. The specification includes general statements regarding the technical background of the invention, the problem it is trying to solve, and some specific examples—embodiments—of the invention.¹⁸ The patent application also includes a set of claims. Each claim is a single sentence that defines the exact invention the inventor wishes to protect.¹⁹ The application can either be filed by the inventor herself or by a patent attorney or agent, who is a member of the USPTO bar, who is representing the inventor.²⁰

¹⁷ "Patent prosecution" is a term used to identify the process of applying for and obtaining a patent from the USPTO.

¹⁸ See 35 U.S.C. § 112, para. 1 (reciting the written description, enablement, and best mode requirements for the specification); 37 C.F.R. §§ 1.71, 1.77(b) (indicating the various types of information the specification should include); Christopher A. Cotropia, *Patent Claim Interpretation and Information Costs*, 9 Lewis & Clark L. Rev. 57, 68-69 (2005) (discussing the various kinds of information patent law requires the inventor put in the patent's specification).

¹⁹ See 35 U.S.C. § 112, para. 2; *Aro Mfg. Co., Inc. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961). ("[T]he claims made in the patent are the sole measure of the grant"); Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 Wm. & Mary L. Rev. 49, 61-62 (2005).

²⁰ 37 C.F.R. § 1.31. For the purposes of this Article, patent attorneys and patent agents, those who are members of the USPTO bar but not lawyers, are referred to collectively as "patent attorneys." Most patent applicants are represented by patent attorneys or patent agents—few go "pro se". See Martin B. Schwimmer, *Domain Names and Everything Else: Trademark*

Once filed, the application is given to a patent examiner who is assigned to the invention's technological area. The examiner reviews each claim to determine whether it meets the requirements for patentability—whether the claim defines an invention that is useful, novel, and nonobviousness and whether the specification adequately describes and enables the claimed invention.²¹ To make this determination, the examiner must first gain an understanding of the exact scope of the claims. From there, the examiner searches for information—referred to as "prior art"—that might render the claims invalid.²² This information can come in many forms, such as scientific articles, general publications, other United States patents or patents issued by other countries, or general public knowledge or use.²³

The applicant can submit potential prior art to the USPTO. Such art may be cited in the background section of the patent application to give context to the claimed invention.²⁴ The information may be submitted via an information disclosure statement ("IDS").²⁵ Depending on the timing of the submission, the applicant may have to request another round of examination to give the examiner time to consider the submitted information.²⁶

The examiner compares the prior art to the application's claims to determine whether the claims are novel and nonobvious.²⁷ The examiner also

Issues in Cyberspace, 528 PLI/Pat 263, 268 (1998) ("Finally, the 'constituency' of the PTO, namely patent and trademark applicants, are represented, for the most part, by attorneys who, as members of bar committees, communicate with the PTO.").

²¹ 35 U.S.C. §§ 101-103, 112 (setting forth the requirements for patentability); 37 C.F.R. § 1.104(c).

²² Information relevant to examination falls into two basic categories, both defining the universe of "prior art." The first set of prior art is that information produced by those other than the inventor prior to the date of the invention. *See, e.g.*, 35 U.S.C. § 102(a). The second is art produced by anyone—including the inventor—more than one year before the patent application's filing. *See, e.g.*, 35 U.S.C. § 102(b).

²³ *See, e.g.*, 35 U.S.C. § 102(a),(b) (detailing these different types of prior art).

²⁴ 37 C.F.R. § 1.77(e).

²⁵ 37 C.F.R. §§ 1.97, 1.98 (detailing the filing procedure of an IDS and its content).

²⁶ *See* 37 C.F.R. § 1.98(b)-(d) (listing the timing requirements for filing a proper IDS); 35 U.S.C. § 132(b) (establishing a method for continuing examination—a request for continued examination ("RCE")).

²⁷ The examiner looks to see if the claims have already been disclosed in the prior art—that is, whether they are not novel or statutorily barred. *See* 35 U.S.C. § 102; *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994) ("A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference."). The examiner also looks to see if pieces of the prior art would have been combined together to duplicate an application's claim—that is, whether the claim is obvious. *See* 35 U.S.C. § 103; *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. ---, 127 S.Ct. 1727, 1734 (2007)

looks to see if the specification adequately described and enabled the claimed invention.²⁸ Based on the results of this initial examination, the examiner issues an "office action" to the applicant describing the examiner's findings and identifying which claims she believes to not be patentable and the reasons for this conclusion.

The applicant responds to the office action by rebutting the examiner's analysis, amending the patent's claims to overcome the examiner's objections, and/or cancelling patent claims altogether.²⁹ The examiner then reviews the applicant's response and either agrees and allows the claims or does not and maintains the rejections. The examination ends when either some of the patent claims are allowed or the patent is abandoned altogether. Once a patent is issued, it may be used to exclude others from practicing the claimed invention.³⁰ And the patent's claims enjoy a strong presumption of meeting the patentability standards—requiring a challenger to prove by clear and convincing evidence that the claims are invalid.³¹

This whole process is secret—with the application and the correspondence only being publicly disclosed when and if the patent issues or sooner if the applicant so elects.³² The process is *ex parte*—with the examiner representing the public's interest—and is meant to be non-adversarial.³³ There are opportunities for the public to comment on or submit art regarding a pending application, but these options are rarely used.³⁴ The patent examiner

("Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'").

²⁸ 35 U.S.C. § 112, para. 1; *In re Fisher*, 421 F.3d 1365, 1378 (Fed. Cir. 2005).

²⁹ 35 U.S.C. § 132(a) (noting that examination continues when "the applicant persists in his claim for a patent, with or without amendment").

³⁰ 35 U.S.C. § 271.

³¹ *See* 35 U.S.C. § 282; *Am. Seating Co. v. USSC Group, Inc.*, 514 F.3d 1262, 1267 (Fed. Cir. 2008) (noting that the presumption of validity can be overcome with only "clear and convincing evidence"). This strong presumption makes examination incredibly important. *See* Lichtman & Lemley, *supra* note __, at 47 (concluding that the presumption makes "issuance mistakes hard to reverse").

³² The application, and all related correspondence, is published eighteen months after filing, unless the applicant requests no such publication. 35 U.S.C. § 122(b).

³³ *See Hercules Inc. v. Exxon Corp.*, 434 F. Supp. 136, 152 (D. Del. 1977) ("The prosecution of an application before the Patent Office is not an adversary, but an *ex parte* proceeding."). The USPTO even views patent applicants as "customers." *See* Adam B. Jaffe & Josh Lerner, *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation and Progress, and What To Do About It* 11 (2004).

³⁴ *See* 37 C.F.R. § 1.291 (describing the protest procedure and the fact that prior art can be filed along with a protest); Andrew Kopelman, Note, *Addressing Questionable Business*

and reviewing authorities within the USPTO, and outside courts if rejections get appealed, are the only gatekeepers to the initial and very important determination that an invention is worthy of twenty years of exclusivity.³⁵

B. *Requirements of the Inequitable Conduct Doctrine*

The current inequitable conduct doctrine is a judicially created doctrine that impacts the entire patent prosecution process. The doctrine focuses on the patent application and related correspondence between the applicant and the USPTO during patent prosecution. The inequitable conduct doctrine is comprised of three basic elements.

Materiality: The doctrine focuses on the disclosure of material information. Information is material if it is relevant to the patentability of claimed invention being examined.³⁶ The standard for materiality, while fully fleshed out judicially, is articulated in a USPTO regulation—37 C.F.R. § 1.56 ("Rule 56").³⁷ The most recent version of Rule 56 deems information material if "(1) It establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or (2) It refutes, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability."³⁸ The materiality standard does not create a "but for" test, in

Method Patents Prior to Issuance: A Two-Part Proposal, 27 *Cardozo L. Rev.* 2391, 2414 (2006) (indicating that most do not use the protest mechanism because it is difficult to discover a pending application).

³⁵ See 28 U.S.C. § 1295(a)(4) (giving the Federal Circuit appellate jurisdiction over appeals from the Board of Appeals and Patent Interferences "BPAI"); 35 U.S.C. § 134 (identifying the appeal from a final rejection to the BPAI). An applicant can, instead of appealing to the Federal Circuit, appeal a BPAI ruling to the United States District Court for the District of Columbia, whose decision is then appealed to the Federal Circuit. See 35 U.S.C. § 145.

³⁶ See *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1362 (Fed. Cir. 2003) ("For many years this court held that materiality for purposes of an inequitable conduct determination required a showing that 'a reasonable examiner would have considered such prior art important in deciding whether to allow the parent application.'"). "Information did not need to be prior art in order to be material, but 'instead embrace[d] any information that a reasonable examiner would substantially likely consider important in deciding whether to allow an application to issue as a patent.'" *Dayco Prods.*, 329 F.3d at 1362.

³⁷ 37 C.F.R. § 1.56(b); *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1129 (Fed. Cir. 2006) ("In evaluating materiality, this court has consistently referred to the standard set forth in PTO Rule 56."). Rule 56 does not supplant the materiality standard articulated by the courts, it merely informs the standard. See *Digital Control Inc. v. Charles Mach. Works*, 437 F.3d 1309, 1315-16 (Fed. Cir. 2006).

³⁸ See 37 C.F.R. § 1.56(b). This new standard, compared to the earlier "reasonable examiner" standard, "was not intended to constitute a significant substantive break in the previous

that the information needs be disclosed only if it would actually render a pending patent claim invalid.³⁹ Instead, materiality is broader—including information that would merely establish a prima facie case of invalidity that may be rebuttable.⁴⁰

Disclosure: The doctrine requires the disclosure of material information.⁴¹ A failure to disclose can occur in two instances—either by omission or misrepresentation.⁴² Omission is where the patentee omits material information in her filings with the USPTO. An applicant failing to submit information she has in her possession that qualifies as prior art and is material to one or more of the application's claims is the typical non-disclosure by omission situation.⁴³ Misrepresentation, in contrast, occurs when the patentee does disclose information to the USPTO, but misrepresents a material aspect of the disclosed information.⁴⁴

The inequitable conduct doctrine does not require the disclosure of information that is material but also cumulative in light of information already provided to the USPTO.⁴⁵ Cumulative information is information already

standard." *Hoffmann La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354, 1366 n. 2 (Fed. Cir. 2003).

³⁹ *See* *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1362-63 (Fed. Cir. 1984) (dismissing an objective "but for" test that would have required a prerequisite finding of invalidity to establish materiality).

⁴⁰ *See* *Monsanto Co. v. Bayer Bioscience N.V.*, 514 F.3d 1229, 1237 (Fed. Cir. 2008).

⁴¹ 37 C.F.R. § 1.56(a) ("Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section.").

⁴² "[I]nequitable conduct includes affirmative misrepresentation of a material fact, failure to disclose material information, or submission of false material information, coupled with an intent to deceive." *Pharmacia Corp. v. Par Pharm., Inc.*, 417 F.3d 1369, 1373 (Fed. Cir. 2005).

⁴³ The failure to submit an earlier chemistry report and previous test data indicating that a prior canola oil formulation exhibited similar properties to the claimed canola oil formula is a material non-disclosure, for example. *Cargill, Inc. v. Canbra Foods, Ltd.*, 476 F.3d 1359, 1365-66 (Fed. Cir. 2007).

⁴⁴ The facts of *Frazier v. Roessel Cine Photo Tech, Inc.* provide a good example of a material misrepresentation. 417 F.3d 1230 (Fed. Cir. 2005). The patent at issue in *Frazier* claimed a "Z lens" that provided for an increased depth of field—allowing both a close-up object and a distance background to both appear in focus at the same time. *Id.* at 1234-36. During prosecution, the applicant submitted a video tape to help demonstrate the superiority of the invention over the prior art. *Id.* This submission was deemed a material misrepresentation because some of the most striking examples of depth of field in the video were from the unlabeled use of a "L-shaped lens," not the claimed Z lens. *Id.*

⁴⁵ 37 C.F.R. § 1.56(b) ("[I]nformation is material to patentability when it is not cumulative to information already of record or being made of record in the application."); *Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp.*, 488 F.3d 982, 1000 (Fed. Cir. 2007) ("Information cumulative of other information already before the Patent Office is not material.").

before the USPTO, albeit from a different source. Thus, not providing the USPTO with cumulative information is not, in fact, a failure to disclose.⁴⁶

The duty to disclose imposed by the doctrine applies to more than just the inventor. Rule 56 extends the duty to all "[i]ndividuals associated with the filing or prosecution of [the] patent application."⁴⁷ This includes the attorney or agent who prepares or prosecutes the patent application.⁴⁸ The duty also applies to those who are "substantively involved" and associated with the inventor or her employer.⁴⁹

The duty to disclose does not currently extend to include a duty to search. The inequitable conduct doctrine requires the applicant to disclose material information within her possession or the possession of those other individuals associated with prosecution. The duty does not, however, include a duty to actively search for additional prior art and, in turn, disclose it to the USPTO.⁵⁰

Intent: For non-disclosure of material information to rise to the level of inequitable conduct, the non-disclosure must be intentional.⁵¹ An omission or misrepresentation of material information is considered intentional if the

⁴⁶ See *Adenta GmbH v. OrthoArm, Inc.*, 501 F.3d 1364, 1374 (Fed. Cir. 2007) (agreeing with a district court's finding of no inequitable conduct based, in part, on the applicant's belief the undisclosed information was cumulative).

⁴⁷ See 37 C.F.R. § 1.56(c).

⁴⁸ *Id.* § 1.56(c)(2).

⁴⁹ *Id.* § 1.56(c)(3) ("Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application."). For example, a senior scientist who is not a listed inventor, but worked with the inventor on the invention's underlying chemistry, is under a duty to disclose. See *Sython IP, Inc. v. Pfizer Inc.*, 472 F. Supp. 2d 760, 775 (E.D. Va. 2007) (identifying at least six individuals under a duty to disclose).

⁵⁰ "As a general rule, there is no duty to conduct a prior art search, and thus there is no duty to disclose art of which an applicant could have been aware." *FMC Corp. v. Hennessy Indus., Inc.*, 836 F.2d 521, 526 n. 6 (Fed. Cir. 1987). There have been recent cases that, arguably, establish a duty to inquire in limited circumstances as to possible prior art. See *Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1383 (Fed. Cir. 2001) ("Where an applicant knows of information the materiality of which may so readily be determined, he or she cannot intentionally avoid learning of its materiality, even through gross negligence . . ."). The court in *Brasseler* continued, however, noting that "[t]he mere possibility that material information may exist will not suffice to give rise to a duty to inquire . . ." *Id.* at 1382.

⁵¹ See *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1381 (Fed. Cir. 2006) ("[T]he trial court must also determine whether the evidence shows a threshold level of intent to mislead the PTO.").

applicant actually intended to deceive or mislead the USPTO.⁵² Gross negligence is not enough.⁵³ Circumstantial evidence can be used to prove the relevant party's intent.⁵⁴

Remedy: The inequitable conduct doctrine is available as a defense to patent infringement.⁵⁵ An alleged infringer must prove, by clear and convincing evidence, that during patent prosecution the applicant intentionally failed to disclose information material to the invention's patentability.⁵⁶ If inequitable conduct is established, all of the patent's claims are rendered unenforceable, causing the patentee to lose the entire patent.⁵⁷ And, depending on the circumstances, inequitable conduct with respect to a particular patent can infect and render unenforceable other, related patents.⁵⁸ The doctrine has a much larger effect than a finding of invalidity, which simply renders the particular claim that was found to not meet the patent requirements invalid.⁵⁹

C. *Recent Critiques of the Doctrine*

Since its inception, the doctrine has garnered a tremendous amount of attention and criticism from the bar and the judiciary. The United States Court of Appeals for the Federal Circuit, the appellate court with exclusive jurisdiction over patent appeals,⁶⁰ has often noted the importance and seriousness of the doctrine. Some Federal Circuit judges have gone out of their way to criticize the current use of the doctrine—viewing the doctrine as

⁵² See *Ferring B.V. v. Barr Labs., Inc.*, 437 F.3d 1181, 1190 (Fed. Cir. 2006) ("Even if an omission is found to be material, the omission must also be found to have been made with the intent to deceive.").

⁵³ See *Kingsdown*, 863 F.2d at 872, 876 ("We adopt the view that a finding that particular conduct amounts to "gross negligence" does not of itself justify an inference of intent to deceive; the involved conduct, viewed in light of all the evidence, including evidence indicative of good faith, must indicate sufficient culpability to require a finding of intent to deceive.").

⁵⁴ See *Hoffman-La Roche*, 906 F.2d at 688.

⁵⁵ 35 U.S.C. § 282(1) (indicating that an alleged infringer can plead "unenforceability").

⁵⁶ See *GFI, Inc. v. Franklin Corp.*, 265 F.3d 1268, 1273-74 (Fed. Cir. 2001). The district court's ultimate determination of inequitable conduct is reviewed for an abuse of discretion, with the underlying factual determinations of materiality and intent reviewed for clear error. *Id.*

⁵⁷ See *Kingsdown*, 863 F.2d at 877.

⁵⁸ See *Consol. Aluminum*, 910 F.2d at 812.

⁵⁹ 35 U.S.C. § 282; *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) (indicating that validity is determined on a claim-by-claim basis).

⁶⁰ See 28 U.S.C. § 1295(a)(1).

"overplayed"⁶¹ and labeling its habitual assertion in litigation as "an absolute plague."⁶²

The doctrine gets as much attention, if not more, from patent practitioners. Almost every patent continuing legal education ("CLE") program includes a discussion of the doctrine.⁶³ The Practising Law Institution ("PLI") issues multiple articles a year on recent developments in inequitable conduct law.⁶⁴ Even blog posts detailing recent inequitable conduct cases inevitably receive numerous comments from patent attorneys, postulating (and complaining) as to the breadth of the decision's impact.⁶⁵ Such attention by practitioners is not surprising given that the doctrine focuses on "the person rather than the patent" by reviewing the patent attorney's actions to determine compliance.⁶⁶

This extensive attention from the courts and the bar has pushed the inequitable doctrine into the general discussion about patent reform. Since early 2000, many commentators have focused on perceived shortcomings of the United States patent system. Highly publicized reports issued by the Federal Trade Commission ("FTC") in 2003 and the National Research Council ("NRC") in 2004 discussed target areas for reform.⁶⁷ Included in these discussions is the inequitable conduct doctrine. The inequitable conduct doctrine has even garnered Congress's attention. Over the past three years, almost every draft of the currently pending patent reform legislation contains some amendment to the doctrine.⁶⁸ The USPTO has even proposed a new

⁶¹ See *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984).

⁶² See *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988).

⁶³ See, e.g., UTCLE 12th Annual Advanced Patent Law Institute, http://www.utcle.org/conference_overview.php?conferenceid=763; AIPLA 2008 Spring Meeting, http://www.aipla.org/Content/ContentGroups/Meetings_and_Events1/Spring_Meetings/20086/Program-Friday.pdf.

⁶⁴ See, e.g., Roxana H. Yang, *Duty of Disclosure & Inequitable Conduct—Who, What, When, & How?*, 909 PLI/Pat 557 (2007); Jeanne C. Curtis, et. al., *Litigation Issues Relevant to Patent Prosecution—The Defense of Inequitable Conduct*, 906 PLI/Pat 227 (2007).

⁶⁵ See, e.g., Dennis Crouch, *What a Mess: Inequitable Conduct Based on Failure to Submit*, Patently-O, http://www.patentlyo.com/patent/2007/05/what_a_mess_ine.html (containing over a 110 comments to a post describing the holding in *McKesson Information Solutions v. Bridge Medical* (Fed. Cir. 2007)).

⁶⁶ Chisum, *supra* note 5, at 279.

⁶⁷ FTC Report, *supra* note 6; NRC Report, *supra* note 6.

⁶⁸ See, e.g., HR 1908 (2007); S 3818 (2006); HR 2975 (2005)

regulation concerning the applicant's duties regarding information submissions.⁶⁹

From all of this two main critiques have emerged. One, supported by the NRC report, is that doctrine is asserted too frequently and creates exorbitant litigation costs.⁷⁰ The second critique, discussed in the FTC report, focuses on the doctrine's failure to impose additional duties on the applicant, such as a duty to search or at least provide relevancy statements with regards to what is submitted.⁷¹ Each noted problem has generated its own legislative solution, with the latter also prompting a proposed regulation by the USPTO. These two criticisms and the targeted legislative and USPTO responses are discussed in detail below.

1. Creation of Unnecessary Litigation Costs and the Legislative Response

By recent estimates, the inequitable conduct defense is asserted in around fourth of all patent cases filed.⁷² This rate has been viewed as inappropriately high by more than one member of the judiciary.⁷³ The NRC report and other commentators concur.⁷⁴

This rate of pleading inequitable conduct is seen as problematic because litigation of inequitable conduct claims is particularly costly. Most of the high cost comes from the subjective element of the doctrine—intent.⁷⁵ The circumstantial nature of most intent evidence makes summary judgment

⁶⁹ See 71 F.R. 38808 (July 10, 2006) (proposing to change the IDS requirements to include, in addition to other requirements, the inclusion of relevancy statements).

⁷⁰ See NRC Report, *supra* note 6, at 123.

⁷¹ See FTC Report, *supra* note 6, chap. 5, pp. 12-13.

⁷² See Mack, *supra* note 16, at 155-56 ("Accused infringers, however, continue to plead the defense with regularity. Table 1 illustrates this regularity; from 2000 to 2004, an inequitable conduct adjudication appeared in 16% to 35% of all reported patent opinions."); Katherine Nolan-Stevaux, Note, *Inequitable Conduct Claims in the 21st Century: Combating the Plague*, 20 Berkeley Tech. L.J. 147, 160-62 (2005) ("[I]t appears that parties frequently allege inequitable conduct where courts find no evidence of it.").

⁷³ *Kimberly-Clark*, 745 F.2d at 1454; *Burlington Indus.*, 849 F.2d at 1422.

⁷⁴ See NRC Report, *supra* note 6, at 122-23 ("Another major complaint is that the defense is asserted too freely."); Nolan-Stevaux, *supra* note 72, at 148 ("The practice of asserting a defense of inequitable conduct, regardless of the merits of the defense in a given case, has reached the breaking point.")

⁷⁵ See Doug Harvey, Comment, *Reinventing the U.S. Patent System: A Discussion of Patent Reform Through An Analysis of the Proposed Patent Reform Act of 2005*, 38 Tex. Tech. L. Rev. 1133, 1151-52 (2006) ("Due to its subjective nature, the inequitable conduct defense is time consuming and expensive, and the abuse of the defense adds to the delays and increases the costs of litigation.")

particularly difficult. And necessarily accompanying the inequitable conduct inquiry is the deposition of the prosecuting attorney who handled the application.⁷⁶ Such depositions are uniquely costly because they are littered with complex attorney-client privilege issues that generate legal questions of their own that demand both attorney and judicial resources to resolve.⁷⁷

Introducing inequitable conduct into the litigation also diverts attention from the heart of the dispute—the infringement and validity of the patent at issue. While inequitable conduct does concern the patent, the absolute validity of the patent is irrelevant to the doctrine. Inequitable conduct inquiries turn into satellite litigations where the effort expended has little spillover benefits for other parts of the litigation. The fear is that the time and energy spent on the defense detracts from the core issues and hampers their complete and correct resolution.⁷⁸ For these reasons, there is a push for reforms to lower the rate of pleading inequitable conduct and reduce the cost of litigating it.

The 2005 proposed changes to the inequitable conduct doctrine, contained in Section 5 of H.R. 2795, attempted to address the litigation cost concern.⁷⁹ The legislation made the inequitable conduct doctrine the exclusive province of the USPTO.⁸⁰ The doctrine would no longer be a defense to a claim of infringement. Instead, if inequitable conduct is alleged in litigation, the matter would be referred to the USPTO after the litigation ended.⁸¹ The legislation also required a predicate finding that the non-disclosed information rendered one or more asserted patent claim invalid.⁸²

The 2006 version of the patent reform legislation, S 3818, proposed modifications to the doctrine that were not as dramatic as those in H.R. 2975.

⁷⁶ See Robert C. Faber, *Prosecution Ethics*, 923 PLI/Pat 473, 503-04 (2008) (noting that "[t]he time and cost of discovery will be increased by the need to investigate possible inequitable conduct and the associated discovery and, ultimately at trial, the cost of presenting the separate inequitable conduct defense.").

⁷⁷ See Lynn C. Tyler, *Kingsdown Fifteen Years Later: What Does It Take to Prove Inequitable Conduct?*, 13 Fed. Circuit B. J. 267, 269-70 (2003) (noting that, in extreme cases, inequitable conduct can cause the attorney-client privilege and work product immunity to be lost).

⁷⁸ See Goldman, *supra* note 14, at 89.

⁷⁹ H.R. 2975

⁸⁰ H.R. 2975, § 136(a), (c) ("No court or Federal department or agency other than the [USPTO], and no other Federal or State governmental entity, may investigate or make a determination or an adjudication with respect to an alleged violation of the duty of candor and good faith . . .").

⁸¹ *Id.* § 136(c)(4).

⁸² That is, HR 2975 increases the standard of materiality to include only that information that actually results in a patent claim being held unpatentable. *Id.* §136(d). There also needed to be evidence that the examiner relied on the nondisclosure. *Id.* § 136(d)(3)(B).

S. 3818 did require a predicate finding of invalid.⁸³ But, S. 3818 kept the doctrine in district court, not proposing the use of the USPTO to adjudicate such disputes.

The changes in H.R. 2975 and S. 3818, were, presumably, proposed to keep litigation costs down. Referral of the matter to the USPTO was one of the NRC report's proposals to "discourag[e] resort to the inequitable conduct defense and therefore reduc[e] its costs."⁸⁴ By making a finding of invalidity a prerequisite, costs are also reduced by limiting the instances under which the doctrine is litigated. This also necessarily heightens the materiality standard, making the doctrine tougher to plead. An alleged infringer must claim the undisclosed information renders one or more patent claims invalid, not that the information is simply relevant to the patentability issue.

2. Lack of an Expanded Duty and the Legislative and USPTO Response

Another criticism is the narrowness of the current duty to disclose. The critique is that the duty is improperly limited to providing only the information already in the applicant's possession. The applicant should do more. Suggestions range from requiring the applicant to search for additional material information and submit it to the USPTO to requiring the applicant to include "relevancy statements" indicating how the information she does submit is relevant to the patentability of the application.⁸⁵

Critics believe that the current doctrine's narrow duty to disclose allows the applicant to simply put their head in the sand.⁸⁶ In order to minimize the scope of their duty to disclose, the applicant affirmatively avoids coming across new information.⁸⁷ And to avoid misrepresenting information to the

⁸³ S. 3818, at § 5.

⁸⁴ NRC Report, *supra* note 6, at 123.

⁸⁵ 71 FR at 38821 (setting forth the proposed modification to 37 C.F.R. § 1.98 to include "Additional disclosure requirements" under § 1.98(a)(3)); FTC Report, *supra* note 6, at chap. 4, pp. 12-13 (recommending the inclusion of statements of relevance regarding submitted prior art).

⁸⁶ Thomas, *supra* note 13, at 315 (noting that, because of potential liability under the inequitable conduct doctrine, "many applicants are discouraged from conducting prior art searches in the first place").

⁸⁷ *Id.* ("Concerned that the failure to disclose a known reference will lead to the unenforceability of the patent, some applicants prefer to await the examiner's search results rather than consult the prior art themselves."); Scott D. Anderson, Comment, *Inequitable Conduct: Persistent Problems and Recommended Solutions*, 82 Marq. L. Rev. 845, 852-53 (1999) (same).

USPTO, the applicant says very little about what they do submit.⁸⁸ The USPTO is then robbed of the additional knowledge a search would turn up and the insight statements about the information would provide.

There are two specific reasons offered for requiring a search. First, if the applicant searches prior to filing her application, she may find out that her invention is not patentable.⁸⁹ Or, she may discover that while patentable, the scope of protection she will get is narrow because the technological field is crowded.⁹⁰ If the invention sits in a field of art where there has already been a tremendous amount of technology patented, she will not be able to capture much in a new patent application. As a result of the information discovered in pre-filing search, the applicant may forgo patenting altogether and remove the burden of examining an invalid or worthless application. Or, the patent application may contain claims that are realistic in light of the prior art, making examination by the USPTO easier.⁹¹

Second, the more information presented to the USPTO, the better the patent examination.⁹² With more information regarding the prior art, the USPTO has a better chance of making the correct call on the patent's validity. This line of argumentation is exhaustively explored below in Part II.C.⁹³ But, for now, it can simply be said that a duty to search is an information-producing mechanism that would result in a more thorough and accurate examination.

A duty to provide relevancy statements provides benefits similar to the last reason for a duty to search. Relevancy statements help the USPTO understand the submitted information in the context of patent application.⁹⁴ The USPTO does not need to spend as much time digesting the submitted

⁸⁸ See FTC Report, *supra* note 6, at chap. 4, p. 12 (noting the fear that "slight errors in description could fuel claims of mischaracterization and inequitable conduct").

⁸⁹ See Hal Gibson, Note, *In the Wake of Enzo: The Impact of the Federal Circuit's Decision on the U.S. Life Science Industry*, 41 San Diego L. Rev. 903, 932 n. 176 ("Many patent applicants (or more accurately, their attorneys) do conduct their own prior art search before filing their patent so as to better craft their own patent claims.").

⁹⁰ *Id.*

⁹¹ See 72 FR 46716, 46720-21 (Aug. 21, 2007) ("A number of patent applications contain a large number of claims, which makes efficient and effective examination of such applications problematic.").

⁹² See Thomas Schneck, *The Duty to Search*, 87 J. Pat. & Trademark Off. Soc'y 689, 694 (2005) (noting that, due to resource constraints, examiners miss relevant prior art, which leads to the issuance of invalid patents).

⁹³ See Part II.C., *infra*.

⁹⁴ See 71 F.R. at 38810 (indicating that relevancy statements "are intended to provide meaningful information to the examiner"); FTC Report, chap. 4, p. 12 (noting testimony that relevancy statements leads to "better managed" and "quality enhanced" examination).

information. Nor does the USPTO have to expend as much energy placing the submitted information in the context of the patentability of the claimed invention. Such statements facilitate a better examination.

Recent legislative and USPTO proposals address this concern of an overly narrow duty to disclose. In the 2007 Patent Reform Bill, which has been approved by the House and currently pending before the Senate, Congress gives the USPTO the ability to establish an applicant's duty to search and disclose the results of that search when filing a patent application.⁹⁵ The 2007 bill no longer contains the litigation cost reducing procedures in previous reform bills.⁹⁶ Instead, the focus is on expanding the duty governed by inequitable conduct.

The USPTO has proposed changes to the IDS requirements to require applicants to provide additional information, in certain circumstances, about the submitted information.⁹⁷ An applicant may be required to pinpoint representative portions of the submitted information, correlate these identified portions with the patent claims, and explain how the submitted information is different than other information already submitted. The new rules would also require, depending on the number of submissions and the timing of the IDS's filing, the applicant justify why the application is patentable in light of the submitted information.

D. Disconnects in the Current Discourse

Almost every facet of the patent system—Congress, the Federal Circuit, the USPTO, and patent practitioners—is concerned about the state of the inequitable conduct doctrine. And there are specific criticisms lodged against the doctrine. The judiciary and NRC Report both believe the doctrine is over-asserted and that this results in burdensome litigation costs. The FTC believes that the duty to disclose should be expanded.

Notably, these criticisms push in different direction—with litigation costs suggesting weakening the doctrine while increasing the duty to disclose means it should be strengthened. These counter-positions create schizophrenia at the legislative level—with proposed changes being driven by which critique Congress focuses on in a given session. Adding to the mix, the USPTO is also

⁹⁵ H.R. 1908., § 123.

⁹⁶ Some of the proposed amendments arguably address litigation costs. *See, e.g.*, § 12(b), (c) (modifying the inequitable conduct doctrine by heightening the standard for intent and providing for less harsh remedies).

⁹⁷ 71 F.R. 38808.

acting, proposing regulations that would address the FTC's concern, but likely exacerbate the litigation cost problem identified by the NRC by creating another ground upon which inequitable conduct could be found.

This is the first disconnect in the current discourse—the two major critiques of the doctrine push in opposite directions. And the conflict is difficult to resolve. A reduction of litigation costs necessarily means rejecting a duty to search. Giving the doctrine a broader reach makes it easier and more likely to be asserted as a defense to a claim of patent infringement.⁹⁸ This magnifies the harm the litigation cost critique is trying to minimize. From the other direction, the removal of the doctrine to the USPTO in order to reduce litigation costs would minimize any impact of a new duty to search. Moving the doctrine to a less favorable forum makes its assertion and enforcement less likely, weakening the substantive boost a new duty is meant to create.

The character of these two criticisms exemplifies another disconnect. Both of these concerns are utilitarian focused, looking at how the doctrine impacts the patent system's goal of creating an optimal incentive to invent.⁹⁹ The traditional rationale for the inequitable conduct doctrine, in contrast, is the maintenance of ethical standards during prosecution.

The doctrine's equitable roots give the doctrine its moral bent. Since the mid-1800's, the judiciary has driven the development of the inequitable conduct doctrine.¹⁰⁰ The development has focused on the doctrine as a creature of equity. The Supreme Court identified the inequitable doctrine with the "equitable maxim that 'he who comes into equity must come with clean hands.'"¹⁰¹ If a patent was born from fraud or deceit, then its holder cannot ask a court to enforce the patent.¹⁰² The doctrine is seen as "a vehicle for affirmatively enforcing the requirements of conscience and good faith."¹⁰³

In contrast, the alleged problems with the doctrine focus on the doctrine's impact on the optimal procurement and enforcement of patent rights.

⁹⁸ See Cronin, *supra* note 15, at 1344 ("However, as the definition becomes more expansive there becomes more of an incentive for alleged infringers to charge inequitable conduct during litigation proceedings.").

⁹⁹ See, e.g., NRC Report, *supra* note 6, at 7 (concluding that one of the reforms needed, to create effective and efficient enforcement of patent rights, is the modification of subjective litigation elements such as the inequitable conduct doctrine).

¹⁰⁰ See Mack, *supra* note 16, at 152; *Precision Instrument Mfg. Co. v. Auto. Maintenance Mach. Co.*, 324 U.S. 814-15 (1945).

¹⁰¹ *Precision Instrument*, 324 U.S. at 814.

¹⁰² *Id.*

¹⁰³ *Id.*

The litigation costs argument is part of a larger movement to reduce the costs and uncertainty associated with patent litigation.¹⁰⁴ A reduction in such costs minimizes the likelihood a patent holder can improperly hold-up a competitor that is practicing outside the area of valid patent protection.¹⁰⁵ The argument to broaden disclosure duties is focused on ensuring that only truly patentable inventions receive patent protection.¹⁰⁶ If patents are issued for inventions that are actually unpatentable, these "bad" patents will improperly deter competitors and follow-on innovators.¹⁰⁷ These problems are focused the utilitarian goal of maintaining an optimal incentive to invent—providing protection where it is needed but not giving overprotection that does more harm to innovation than good.

A similar disconnect surfaces when comparing the current view of the inequitable conduct doctrine to the patent reform movement as a whole. One of the focuses of the movement is the optimal balance of patent protection and open competition. That is, providing patent protection where it is needed to prompt invention and innovation. But reigning in patent protection where such protection, on net, is detrimental to society. The inequitable conduct doctrine, in contrast, focuses on the deontological ethics of the patent applicant's actions. The reform movement is results oriented, while the doctrine is focused on the means. This view of the doctrine finds no home in today's patent discourse that is all about consequences.

II. Framing the Inequitable Conduct Doctrine as a Patent Quality Mechanism

Scholars have written on the inequitable conduct doctrine.¹⁰⁸ But the scholarship has not engaged in two basic, interrelated, exercises that would

¹⁰⁴ See NRC Report, *supra* note 6, at 7, 123.

¹⁰⁵ See Joshua D. Sarnoff, *Abolishing the Doctrine of Equivalents and Claiming the Future After Festo*, 19 Berkeley Tech. L.J. 1157, 1200-01 (2004) ("Even when patents do not convey market power, patentees may exploit uncertainty regarding the scope of patents to deter competition by posing the threat of high-cost infringement litigation.")

¹⁰⁶ See *supra* notes 85-94 and accompanying text.

¹⁰⁷ See Leslie, *supra* note 12, at 113-14 (arguing that "some invalid patents can deter market entry and decrease consumer welfare even without active enforcement"); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495, 1516 ("Certainly the issuance of bad patents has the potential to deter competition that should be lawful in some marginal cases.").

¹⁰⁸ See, e.g., Cedric A. D'Hue, *Disclosing an Improper Verb Tense: Are Scientists Knaves and Patent Attorneys Jackals Regarding the Effects of Inequitable Conduct?*, 14 U. Balt. Intell. Prop. L.J. 121 (2006); Robert A. Migliorini, *Lessons for Avoiding Inequitable Conduct and Prosecution Laches in Patent Prosecution and Litigation*, 46 IDEA 221 (2006); Goldman, *supra* note 16.

greatly assist the discourse. Initially, no one has attempted a comprehensive, theoretical analysis of how the doctrine as a whole affects patent applicants, patent examination, and potential inventors. That is, they have not linked the doctrine to the general push to improve patent quality and reform the patent system. A majority of the scholarship, instead, is piecemeal—focusing on specific parts of the doctrine,¹⁰⁹ particular proposed statutory changes, and individual Federal Circuit cases.¹¹⁰ Performing a fundamental analysis of the doctrine would provide a framework by which current and future reforms could be tested.

Second, and related, almost all of the scholarship has kept the discussion tied to the doctrine's equitable roots, focusing on the doctrine as an ethical tool.¹¹¹ As just noted, these discussions are of little help when proposed changes need to be considered in the context of broader, utilitarian-justified reforms.¹¹² There is a real need to modernize the thinking regarding the doctrine and frame its effect in the same terms as other targets of patent reform.¹¹³

This Part begins to fill these holes by revisiting the underlying rationale for the doctrine. Instead of focusing on ethics, this Part articulates the various ways in which the doctrine impacts the quality of the application and its examination.¹¹⁴ That is, how the doctrine impacts the results. The doctrine is

¹⁰⁹ See, e.g., Cronin, *supra* note 15.

¹¹⁰ See, e.g., David Hirick, *Where the Bodies Are: Current Exemplars of Inequitable Conduct and How to Avoid Them*, 12 Tex. Intell. Prop. L.J. 287 (2004) (discussing, in detail, the various fact patterns that have supported or not supported a finding of inequitable conduct).

¹¹¹ As previously discussed, *see supra* note 11, a recent article has discussed the inequitable conduct doctrine's impact on patent quality but fails to fully develop the concept, *see Mack, supra* note 16, at 166-69.

¹¹² One of the main thrusts of the patent reform movement is to ensure the proper balance between the incentive to invent and the ability to follow-on innovate is maintained. *See* FTC Report, *supra* note 6, at exec. summ., pp. 4-5. Part of this reform is to ensure that the only patents to issue from the USPTO are those that truly meet the patentability standards. *Id.* at 5-6.

¹¹³ See, e.g., *KSR*, 127 S.Ct. at 1746 (indicating that the nonobviousness requirement should not be set too low so as to allow patents to issue that "might stifle, rather than promote, the progress of useful arts"); FTC Report, *supra* note 6, at chap. 4, p. 15 (noting competition concerns that should be considered when reforming the nonobviousness requirement).

¹¹⁴ Again, this is not to say that the inequitable conduct doctrine's impact on patent quality has never been mentioned. *See, e.g.*, 37 C.F.R. § 1.56(a) ("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."); *Norton v. Curtiss*, 433 F.2d 779, 794 (CCPA 1970) ("The highest standards of honesty and candor on the part of applicants in presenting such facts to the office are thus necessary elements in a working patent system. We would go so far as to say they are

well suited to effect quality of the process of issuing a patent given that the doctrine applies to all aspects of prosecution related to patentability. The beauty of placing inequitable conduct in the context of patent quality is that this interjects the doctrine into the current discourse of patent reform. As demonstrated below, the doctrine can be an effective tool in improving patent quality, the system of patent examination, and the incentives generated by the system.

In order to frame the doctrine as a patent quality tool, this Part first defines patent quality and links the quality concerns to the need for information. This Part also discusses the lack of an inherent incentive, in fact a disincentive, for applicants and others to provide the USPTO with relevant information during examination. This Part then explains how the inequitable conduct doctrine provides such an incentive. The doctrine improves the quality of the application by increasing the patent attorney knowledge and understanding of the invention and the related technological area. The doctrine also helps ensure the application and related correspondence are drafted with care. The doctrine also operates as an information producer and verifier, giving the USPTO more resources and time to properly exam the application.

A. *Patent Quality and Information*

Put simply, optimal patent quality is the issuance of patents that meet the patent requirements and the rejection of those that do not. And the assurance of a good patent quality is all about information—both access to it and time for the examiners to use it.

1. Patent Quality Problem Defined

The concept of patent quality focuses on the patentability of those patent claims that are allowed by the USPTO. The patent system assumes that only those patent applications that describe and claim a patentable advance be granted the power to exclude. Those patents that meet the validity

essential."); Mack, *supra* note 16, at 166-69; Thomas, *supra* note 13, at 313-14 (labeling the inequitable conduct doctrine as an "information-gathering technique[]"); Rene D. Tegtmeyer, *The Patent and Trademark Office View of Inequitable Conduct or Attempted Fraud in the Patent and Trademark Office*, 16 AIPLA Q.J. 88, 88 (1988) (former Assistant Commissioner of the USPTO noting that "[t]he purpose of the duty of disclosure requirement, as the Patent and Trademark Office (PTO) views it, is to improve the quality of examination and the validity of patents by assuring that material information is called to the examiner's attention and considered in the patent examining process").

Again, none of these articles has provided a detailed theory as to exactly how the doctrine can impact patent quality.

requirements—claim useful, novel, and nonobvious inventions that are fully disclosed—are considered to be of good quality.¹¹⁵ Poor quality, or "bad," patents are those patents that claim subject matter that does not meet the patentability requirements but the USPTO still issues.¹¹⁶

Most agree that the patent system should maintain high patent quality.¹¹⁷ Granting patents on patentable advances provides incentives for the creation of beneficial technical advances and facilitates their commercialization.¹¹⁸ Society benefits when quality patents issue.

In contrast, the issuance of patents of poor quality has deleterious effects. A bad patent, for example, may give its holder exclusive control over a minor technological advance, creating roadblocks to innovation typically allowed under patent law.¹¹⁹ Since even poor quality patents enjoy a presumption of validity, the patentee is able to viably threaten to stop other from practicing what they rightfully can do or seek licensing fees for activities

¹¹⁵ See, e.g., Lemley & Lichtman, *supra* note 11, at 46-49.

¹¹⁶ See Jay P. Kesan & Andres A. Gallo, *Why "Bad" Patents Survive in the Market and How Should We Change? -- The Private and Social Costs of Patents*, 55 Emory L.J. 61, 63 (2006) ("The common criticism from all sides is that the Patent Office grants patent claims that are broader than what is merited by the invention and the prior art, resulting in so-called "bad" or improvidently granted patents."); Lee Petherbridge, *Positive Examination*, 46 IDEA 173, 175 (2006) ("Questionable, or low quality, patents are those patents that should never have issued from the Patent Office because they fail to meet the statutory requirements for patentability.").

¹¹⁷ There is debate, however, as to how much resources should be allocated to ensuring that valid patents are granted by the USPTO. Compare Lemley, *supra* note 107, at 1497 (arguing that few resources should be expended in improving examination "[b]ecause so few patents are ever asserted against a competitor, it is much cheaper for society to make detailed validity determinations in those few cases than to invest additional resources examining patents that will never be heard from again"); Shuba Ghosh & Jay Kesan, *What Do Patents Purchase? In Search of Optimal Ignorance in the Patent Office*, 40 Hous. L. Rev. 1219, 1225-26 (2004) (arguing that changes in the examination process can be a cost-beneficial way of improving patent quality).

¹¹⁸ Mark A. Lemley, *Ex Ante versus Ex Post Justifications for Intellectual Property*, 71 U. Chi. L. Rev. 129, 129-30 (2004) (describing patent law's ability to create an ex ante, incentive to invent); Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & Econ. 265, 276-78 (1977) (describing an ex post theory of patents where protection assist the development of the patented invention).

¹¹⁹ See Robert Merges & John Duffy, *Patent Law and Policy: Cases and Materials* 647 (3d ed. 2002); Christopher A. Cotropia, *Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence*, 2006 B.Y.U. L. Rev. 1517, 1525 ("Exclusive control over these minor developments would act as roadblocks, creating disincentives to future inventors. Many patents on small technical advances make it extremely difficult and 'expensive to search and to license' these patents in order to produce further innovations.").

that are actually allowable.¹²⁰ The bad patent creates *in terrorem* effects, deterring socially acceptable and beneficial behavior.¹²¹ Those who want to use the patented technology must expend significant resources to determine and, if forced, legally establish, that the patent is invalid.

Many factors are identified as contributing to the poor quality of U.S. patents. Some point to the standards for determining patentability, concluding that they are too low and, even if properly applied, result in the issuance of socially detrimental patents.¹²² Most, however, view the patent quality problem as an information and resource problem. That is, the USPTO does not have access to adequate information to correctly determine whether a claimed invention is novel and nonobvious.¹²³ This is particularly the problem in new technological areas, such as software and business methods, where the best information on what has previously been done is not in prior patents, but trade publications, public presentations, product brochures, and computer code.¹²⁴

And even if the USPTO does have access to such information, they do not have the time to find and apply it to the patent claims.¹²⁵ The number of patent applications is rising exponentially each year while, at the same time,

¹²⁰ See Lemley & Lichtman, *supra* note 11, at 47-48 (noting that the presumption of validity makes "defendants face an uphill battle persuading the courts to overrule that errant determination").

¹²¹ See John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administrative Reform*, 17 Berkeley Tech L.J. 727, 731 (2002) (detailing these detrimental effects).

¹²² The debate surrounding the nonobviousness requirement provides a good example of this type of discussion. See, e.g., John Duffy, *Inventing Invention: A Case Study of Legal Innovation*, 86 Tex. L. Rev. 1 (2007) (discussing the various standards for determining nonobviousness and how they implicate differing policy views on patent law).

¹²³ See Lemley & Lichtman, *supra* note 11, at 46 ("Information is a second significant impediment to PTO review.").

¹²⁴ See Thomas, *supra* note 13, at 318-19 ("For software, business methods, and other postindustrial inventions, the repository of issued patents insufficiently samples the prior art. Examiners who primarily rely upon the patent literature to generate prior art in these fields are quite likely to allow patents to issue based upon information already within the public domain. Even those diligent examiners who consult the nonpatent literature might be limited to a sparse prior art collection.").

¹²⁵ See Lemley & Lichtman, *supra* note 11, at 46 (identifying the resource problem faced by the USPTO to effectively review the growing number of applications); Thomas, *supra* note 13, at 314 ("[T]he average time allocated for an examiner to address one application is understood to be between sixteen and seventeen hours. Given the complexities involved in parsing an application, conducting a prior art search and drafting an Office Action, this period is surprisingly short.").

the USPTO faces a significant examiner attrition rate.¹²⁶ Examiners are given very little time to perform a complete examination—gain an understanding of the invention, determine the meaning of the patent claims, search the prior art, apply the prior art to the claims, and write rejections and respond to the applicant's arguments potentially multiple times.¹²⁷

Finally, there is a view that poor quality patents hinder the examiner's ability to understand the claimed subject matter.¹²⁸ The harder the application is to comprehend, the more difficult it is for the examiner to properly and efficiently exam the application.¹²⁹ As the saying goes—garbage in, garbage out.

2. Disincentives for Those Outside the USPTO to Solve the Quality Problem

One question the patent quality problem presents is why is it not self-correcting. Surely patent applicants have an interest in high patent quality. If the USPTO is doing a good job examining patents, a patent holder can readily rely on the USPTO's determination and not expend resources in making its own assessment after issuance. In turn, a patent holder can charge more for a clearly valid patent. And valid patents are less likely to get embroiled in costly litigation and, thus, more efficient to enforce. Put simply, the value of a quality patent is higher than a bad one. Why wouldn't patentees want that?

There are strategic reasons for patent applicants to ignore patent quality. As mentioned, even bad patents provide value to the holder because of the costs they create for others.¹³⁰ Any attempt to assist in improving patent quality may destroy a bad patent's value altogether by preventing it from ever issuing.¹³¹ An issued, poor quality patent is more valuable than no patent at all.

¹²⁶ See Beth Simone Noveck, "Peer to Patent": *Collective Intelligence, Open Review, and Patent Reform*, 20 Harv. J. L. & Tech. 123, 132 (2006) ("[T]he USPTO still cannot hire quickly enough to keep pace with both the demands of the job and the attrition rate.").

¹²⁷ Thomas, *supra* note 13, at 314 (noting that examiners are allotted between sixteen to seventeen hours per application).

¹²⁸ Petherbridge, *supra* note 116, at 181-83, 192 ("[T]he better the Patent Office collects and uses information about the boundaries of the property right, the higher the quality of examination.")

¹²⁹ *Id.*

¹³⁰ See Leslie, *supra* note 12, at 113-28 (detailing the many ways invalid patents "injure competition").

¹³¹ See R. Polk Wagner, *Reconsidering Estoppel: Patent Administration and the Failure of Festo*, 151 U. Pa. L. Rev. 159, 215 (2002) (arguing that the patentee is incentivized to not

Even for good patents, it may be in applicants' best interest to keep patent quality information to themselves. Applicants are in the best position to determine the true validity of the patent because of the information asymmetry between the inventor and the rest of the public.¹³² The inventor and related individuals are most likely to know the most about the invention and potential prior art in the invention's technical field.¹³³ Thus, the patentee can make its own determination as to the quality of the patent. While costly, this is a determination that is more difficult, if not impossible, for those without easy access to information the patentee holds.¹³⁴ This information asymmetry gives the patentee the ability to engage in strategic behavior by withholding information and preventing a potential licensee or defendant from knowing the true value of the patent.

Irrespective of information asymmetry and strategic behavior, the cost of improving the quality of examination alone may deter applicants from engaging in self help. Assisting in the examination process by either doing a pre-filing search for prior art and/or submitting prior art to the USPTO is a costly endeavor.¹³⁵ Some applicants may simply see the risk of receiving a bad patent as cost-beneficial in light of the resources needed to ensure the patent is a good one.

Finally, other applicants may just be ignorant of the patent quality situation at the USPTO. If one takes the patent system at its word—that it is an examination system—there is no reason to assist. An examination for patentability is what an applicant pays for and some may assume that is what they will get.

There is also no incentive for third parties to assist in the examination process. Mechanisms do exist for third parties to participate in an ongoing

provide prior art to the USPTO to "increase[e] the possibility that the PTO will 'miss something' and allow the unwarranted scope.").

¹³² *Id.* at 214 ("Given the asymmetry of information, the incentives for a patentee to fail to produce relevant information are substantial.")

¹³³ See Cotropia, *supra* note 18, at 84 ("The information in the specification is produced by the inventor, the lowest cost source for invention-specific information."); Wagner, *supra* note 126, at 213 ("Among the 'parties' to the patent transaction, the patentee is either the best informed or the one who can most easily and cheaply become the best informed about the context of her innovation.").

¹³⁴ Wagner, *supra* note 113, at 215 (indicating that an applicant will not produce "the sort of information that might allow the PTO and the public to more usefully evaluate the scope of the patent.").

¹³⁵ Lemley, *supra* note 107, at 1510 (ball parking the cost of a prior art search somewhere between \$5000 and \$7000).

examination or force the reexamination of an issued patent.¹³⁶ There is, however, a collective action problem because challenges to validity "exhibit the characteristics of public goods."¹³⁷ A successful challenger cannot prevent others from free-riding on the resulting patent invalidation, which allows these free-riders to also practice the previously exclusive invention.¹³⁸ A potential challenger is better off keeping the invalidity information to herself and only using it when she is accused directly of infringement.¹³⁹

Because of these reasons, the patent system cannot rely on applicants or third parties to sue sponte assist the patent examination process. Information-forcing rules must be considered.¹⁴⁰ That is, certain patent doctrines should force the patent applicant to not act strategically. The inequitable conduct doctrine is such an information-forcer, incentivizing applicants to produce valuable information and, in turn, improve patent quality.

B. *Doctrine's Ability to Improve the Quality of Information before USPTO*

The inequitable conduct doctrine is a disclosure doctrine, which, by its inherent nature, creates a flow of information from the applicant to the USPTO. The doctrine does even more by focusing on the production of information relevant to patentability and, in turn, *de facto* verifying it. Both of these aspects of the doctrine improve patent quality and are discussed below.

1. Produces Relevant Information to the USPTO

At its core, the doctrine is an information producer. The inequitable conduct doctrine requires patent applicants provide the USPTO with information relevant to the patentability of the claimed invention.¹⁴¹ The doctrine acts as a conduit through which information from the patent attorney, the inventor, and related parties flows to the examiner. And this information,

¹³⁶ See Thomas, *supra* note 13, at 326-28 (detailing these various avenues of third party challenges, including the proposed post-grant opposition system).

¹³⁷ *Id.* at 333.

¹³⁸ *Id.* at 333-34.

¹³⁹ *Id.* at 334.

¹⁴⁰ See Scott R. Boalick, *Patent Quality and the Dedication Rule*, 11 J. Intell. Prop. L. 215, 221 (2004) (arguing that the dedication doctrine "improve[s] overall patent quality by creating incentives for good patent drafting at the earliest stages of the patent acquisition process, and long before litigation arises"); Wagner, *supra* note 113, at 216-17 (discussing penalties for underproduction of information and viewing the prosecution history estoppel doctrine as one of these penalties).

¹⁴¹ See Part I.A., *supra*.

coming in the form of patents, periodicals, data, physical specimens, affidavits, and the like, is directly related to patent examiner's primary responsibility—determining the application's patentability.

This information is particularly special because the doctrine draws it from those who know the most about the invention and its area of technology—the inventor and those directly involved in the patent's prosecution.¹⁴² These are all individuals—the bench scientists, technicians, technology group leaders, in-house patent attorneys, etc.—who were either intimately involved in the invention's creation or in the drafting of the patent application.

Getting information from these individuals gives the examiner access to information that is not contained in the databases readily available to her. Patent examiners have the ability to search world-wide patent databases and some technical article databases. But they do not have ready access to all technical literature, such as specialized industry publication or dissertation, or the technologies themselves, such as computer code listings or actual devices.¹⁴³ The USPTO especially does not have access to such information in the technology areas new to patenting.¹⁴⁴ Patent examiners also must rely on applicants to inform them of potential offers to sale, conference presentations, test data, and product brochures regarding the invention.¹⁴⁵

¹⁴² See *supra* note 133.

¹⁴³ Empirically, examiners are at a "disadvantage in searching for non-patent prior art and foreign patents." Bhaven N. Sampat, *Determinants of Patent Quality: An Empirical Analysis* 3 (Sept. 2005) (unpublished manuscript), available at http://siepr.stanford.edu/programs/SST_Seminars/patentquality_new.pdf_1.pdf. Notably, the information examiners have access to is growing everyday. See Manual of Patent Examining Procedure § 901.06(a) (Sept. 2007 Ed.) (describing the resources available to patent examiners); The Scientific and Technical Information Center ("STIC"), available at <http://www1.uspto.gov/web/offices/pac/dapp/sir/stic/brochure.html> (same); Cockburn, et. al., *Are All Patent Examiners Equal? The Impact of Characteristics on Patent Statistics and Litigation Outcomes*, NBER Working Paper w8980, at 6 (2002), available at <http://www.nber.org/papers/w8980> (describing the STIC). A vast amount of inventor specific material, or hard to find material in a given field, is just not accessible.

¹⁴⁴ Peter S. Menell, *A Method For Reforming the Patent System*, 13 Mich. Telecomm. & Tech. L. Rev. 487, 504 (2007) ("Similarly, since this is a new patent field, examiners have relatively little training in this area, there is little or no patent prior art, and time and database constraints severely limit the ability of examiners to search non-patent prior art."); Cockburn, *supra* note 138, at 6 ("In very young technologies, or in areas where the USPTO has just begun to grant patents, there may be very limited prior art.").

¹⁴⁵ This is all information that is unlikely to be found in any database available at the USPTO. See, e.g., *supra* note 124.

The doctrine not only produces valuable information, it does so by placing information production responsibilities on a low cost provider. Production of information does cost the applicant.¹⁴⁶ But the doctrine cabins this cost by requiring the applicant to consider only the information already in her possession.¹⁴⁷ More importantly, the cost to the applicant is lower than the cost of the examiner finding the same information. The examiner, while having some specialized knowledge, starts behind the applicant in understanding the invention and discovering information that is already in the applicant's possession.¹⁴⁸ And even if the examiner can gain access to similar information as in the applicant's possession, the examiner starts from scratch in evaluating the information's relevance to patentability. For at least some information, the applicant has already filtered out the irrelevant material and to force the examiner to repeat the process would be wasteful.

The breadth of relevant information under the doctrine—information that simply creates a *prima facie* case of invalidity but does not necessarily render the claim invalid—has a second-order information production effect. The exact information produced by an applicant may not be used by the examiner. But that information can provide blaze marks, marking a path to a different technological area that contains relevant information.¹⁴⁹ The information may also contain or prompt a line of technical thought that could solidify a rejection.¹⁵⁰

By producing this valuable information, the inequitable conduct doctrine addresses some of the causes of the current patent quality problem. The doctrine provides examiner with more information that is invention-specific from sources examiners likely do not have access. The better the information, the better the examination.¹⁵¹ Furthermore, the burden of this

¹⁴⁶ See Part III.C., *infra* (detailing the costs of submitting information to the USPTO).

¹⁴⁷ See Part I.A., *supra*. Part V.C. of this Article discusses why adding such a duty is, on-net, disadvantageous.

¹⁴⁸ See *supra* note 133.

¹⁴⁹ See, e.g., *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374,1379-80 (Fed. Cir. 2007) (looking to folding bed art to invalidate an application directed toward a folding treadmill).

¹⁵⁰ For example, examiners reject a claim as obvious if they find a reason to combine the prior art. See *KSR*, 127 S.Ct. at 1740-41.

¹⁵¹ See Michael Astorino, *Obviously Troublesome: How High Should the Standard be for Obtaining a Patent*, 89 J. Pat. & Trademark Off. Soc'y 239, 250 (2007) ("The better the search the better the prior art rejections."); Nolan-Stevaux, *supra* note 72, at 159-60 ("[I]nequitable conduct [claims in patent law] also function[] as a penalty default to discourage applicants from playing strategic games."); Dennis Crouch, *Evidence Based Prosecution: Non-Patent Art Leads to Rejections*, Patently-O Blog (Oct. 29, 2006), available at http://www.patentlyo.com/patent/2006/10/evidence_based__3.html (finding that most rejections are based on non-patent art).

information's production is not born by the examiner, preserving some the scarce amount of time the examiner has to complete the examination.

2. Verifies Information Provided to the USPTO

The doctrine also works as an information verifier. A fundamental requirement of the inequitable conduct doctrine is that patent applicants must be truthful in their correspondence with the USPTO.¹⁵² They cannot misrepresent information. Nor can they omit anything relevant to the truthfulness of disclosed information. Because of this duty of truthfulness and full disclosure, an examiner does not have to question the veracity of a statement or response by an applicant. They are self-authenticating.

The doctrine's information verification function comes at a low cost. The individuals who make statements—the applicant, patent attorney, and related parties—are the ones who have to stand by their reliability. And since these are the applicant's statements, the applicant is in the best position to attest to their accuracy. In contrast, the patent examiner is in a very poor position to determine veracity. Almost all correspondence is done in writing, removing the option for examiners to look for visual or audible tells as to a particular statement's truthfulness.¹⁵³ With their heavy workload, examiners do not have the time to independently verify all of an applicant's statements and claims.¹⁵⁴ Nor do examiners have the resources or the training.¹⁵⁵ Verification costs are further minimized by requiring the applicant to attest only for information in her possession.¹⁵⁶ There is currently no duty to search for relevant art or other information and thus, the applicant is not asked to expend the time and resources to attest to all the information or knowledge in a given area.

The doctrine also works as an external verifier of information. The threat of unenforceability not only assures the examiner that statements made by the applicant are true, it also assures others external to the USPTO that the

¹⁵² See *Li Second Family Ltd. P'ship v. Toshiba Corp.*, 231 F.3d 1373, 1378 (Fed. Cir. 2000) ("[A]ffirmative misrepresentations of material facts, failure to disclose material information, or submission of false material information, coupled with an intent to deceive, constitutes inequitable conduct.").

¹⁵³ Examiners do, on occasion, correspond with applicants by phone and in interviews. See 37 C.F.R. § 1.133 (establishing rules regarding examiner interviews).

¹⁵⁴ They can make a request for additional information. 37 U.S.C. § 1.105. But, these are rarely used, most probably because even making one uses up scarce examination time.

¹⁵⁵ See, e.g., USPTO Patent Training Academy (Mar. 6, 2006), available at <http://usptocareers.gov/pdf/PatentTrainingAcademy1.pdf> (listing the areas in which examiners are trained).

¹⁵⁶ See Part I.A., *supra*.

information is correct.¹⁵⁷ Members of the public who may be looking at the patent as either an educational tool or an indicator of the patentholder's technological direction can rely on the inequitable conduct doctrine to settle any question as to the application's truthfulness. The applicant, as was the case when compared to the examiner, is in a much lower cost position to verify this information than each member of the public.

One potential problem with relying on the doctrine to establish veracity is that the truth of given submission is only as good as the subjective belief of the submitter.¹⁵⁸ The intent requirement of the inequitable conduct doctrine requires that the applicant only subjectively believe that what is submitted is true.¹⁵⁹ It could turn out that the applicant was, objectively, wrong in her conclusion—the information may actually be incorrect. So, the doctrine's ability to verify information is only as good as the applicant's subjective knowledge. If the information is really false, a reliant examiner could be lead astray by the erroneous comment. However, while this is certainly possible, the applicant is in the best position to have a correct understanding of how her invention works, when she came up with the invention, the result of any tests done on the invention, and so on. Other statements, such as those in affidavits, are not meant to prove anything more than the affirmant's subject belief. The applicant's subjective believe is, in most instances, the best the system can produce and the inequitable conduct doctrine ensures that is what is communicated.

This verification function improves patent quality. The quality of the information before the examiner is increased because it is much more likely to be true under the doctrine. And the examiner does not have to waste any of the finite examination time on making truth determinations.

C. Doctrine's Ability to Improve the Quality of the Patent Application

The doctrine also improves the quality the patent application and other correspondence with the USPTO. It does this by increasing the patent attorney's knowledge of the invention and related technology and causing the

¹⁵⁷ See Clarisa Long, *Patent Signals*, 69 U. Chi. L. Rev. 625, 658 (2002) ("At the very least, investors can be assured that firms will not make objectively false statements in the body of the patent; if they do, they will bear both actual and reputational costs.")

¹⁵⁸ See Part I.B.3., *supra*.

¹⁵⁹ See *Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1226 (Fed. Cir. 2006) ("Intent to deceive the Patent and Trademark Office (PTO), for purposes of an inequitable conduct claim, is a subjective inquiry")

attorney to exercise more care when drafting the application and correspondence. By improving the quality of these documents—both their technical fidelity and accuracy—the doctrine can improve the quality of examination and the issued patent itself.

1. Increases the Patent Attorney's Knowledge of the Invention and Related Technology

The patent attorney, in the process of complying with the inequitable conduct doctrine, gains a great deal of knowledge about the invention and its technological field. Initially, compliance generates a base of knowledge in the relevant technology. To assess materiality, the patent attorney must read all of the information within her possession to determine its relevance to patentability.¹⁶⁰ The doctrine's focus on patentability information forces the attorney to concentrate on information related to the invention. For example, a patent attorney who is filing an application claiming a specific type of genetically modified corn that is toxic to insects, but not humans, will read and analyze the information within her possession discussing the genetic modification of food and safe pesticide products in order to determine what needs to be disclosed.¹⁶¹ Through the process, she learns the chemistry and biology behind genetic modification and pesticides. She also learns the composition of previous pesticides, how they were designed, and their particular uses.¹⁶² And she digests this information not only to gain an understanding of the technological area, but to comply with a legal doctrine. This added importance means that not only will patent attorneys read the information, they will do so with care and attention to detail.

In complying with the doctrine, the patent attorney also learns more about the invention itself. The patent attorney does have to speak to the inventor in order to draft the application and get an understanding of what she can claim as the invention.¹⁶³ The inequitable conduct doctrine, however,

¹⁶⁰ The inequitable conduct doctrine inquires as to whether a piece of information meets a threshold level of materiality. *See Dayco Prods.*, 329 F.3d at 1362-63.

¹⁶¹ *See Monsanto Co. v. Bayer Bioscience N.V.*, 514 F.3d 1229, 1237-39 (Fed. Cir. 2008).

¹⁶² *Id.* at 1239.

¹⁶³ An application is not complete until the inventor signs an oath declaring, amongst other things, that "[s]tates that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56." 37 C.F.R. § 1.63(b)(3). The USPTO recently stated that it will reject oaths that do not expressly acknowledge a duty to disclose information material to patentability. *See Duty of Disclosure Language Set Forth in Oaths or Declarations Filed in Nonprovisional Patent Applications*, Jan. 2, 2008, available at http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/duty_of_disclosure.pdf.

forces her to dig deeper and analyze all information regarding the invention. She must evaluate all publications, correspondence, and prior uses regarding the invention to see if there is any material information—such as a public use or an offer for sale—she must disclose.¹⁶⁴ The patent attorney must also ensure that all of the statements in the application regarding the invention's operation, prior testing, and the invention's construction are correct.¹⁶⁵

The doctrine is also structured to funnel information from the inventor and related parties to the patent attorney. The duty to disclose is imposed not only on the patent attorney communicating with the USPTO. The inventor and "[e]very other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor" must also disclose material information.¹⁶⁶ Material information in their hands necessarily makes its way to the patent attorney before it is disclosed to the USPTO.¹⁶⁷ The patent attorney is the hub for all communications to and from the USPTO.¹⁶⁸ The doctrine's broad scope causes those most knowledgeable of the invention and relevant technology to share their knowledge with the patent attorney in order to meet their duty to disclose.¹⁶⁹ As a result, the drafter of the application—the patent attorney—is exposed to even more relevant information.

All of this additional knowledge translates into a patent application that is easier to examine. Many patent law doctrines ask the USPTO and courts to view the patent through the lens of one skilled in the relevant technological art.¹⁷⁰ A knowledgeable patent attorney can write to this intended audience

¹⁶⁴ This information would be relevant to patentability in light of the on-sale bar. *See* 35 U.S.C. § 102(b); *Brasseler*, 267 F.3d at 1366-67 (discussing the materiality of on-sale information).

¹⁶⁵ This information would be relevant to the disclosure requirements. *See* 35 U.S.C. §§ 112, para. 1.

¹⁶⁶ 37 C.F.R. § 1.56(c).

¹⁶⁷ This is typically done by an over-inclusive request by the patent attorney asking the relevant parties if they know of any information related to the invention's subject matter.

¹⁶⁸ *See* 37 C.F.R. §§ 1.33, 1.34 (noting that patent attorneys act as a representative of the inventor filing for an application).

¹⁶⁹ *See supra* note 133.

¹⁷⁰ Patent claims—which define the scope of exclusivity—are interpreted as the terms are understood by one skilled in the art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc) ("We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.") The "enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation." *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).

because she has gained an understanding of a given science or area of engineering and knows the relevant terminology.¹⁷¹ This means the examiner, who specializes in the invention's technological field,¹⁷² spends less time trying to understand the application and what is claimed and more time determining patentability.

The patent attorney's better understanding of what has been previously done in a technical field also facilitates the drafting of patent claims that avoid subject matter that is not novel or obvious. This streamlines examination because unpatentable subject matter is weeded out prior to filing. The examiner does not waste time rejecting clearly invalid claims.

The patent application also becomes more socially beneficial. A patent is not only meant to incentivize the creation of the invention, it is also meant to educate others and facilitate improvements and design-arounds of the claimed invention.¹⁷³ The doctrine causes the patent drafter to better understand the invention and be able to "talk the talk" technically. And the more technically-accurate and accessible the patent, the better it can fulfill these goals. The patent becomes like any other scientific reference material, explaining the subject matter in a way that is comprehensible to its intended audience.¹⁷⁴

Gaining a better understanding of the invention also allows the patent attorney to draft claims that give the inventor and her company the necessary "shelf space" so they can effectively commercialize the invention.¹⁷⁵ Patent

¹⁷¹ See Patricia Wright, *Writing Technical Information*, 14 Rev. of Research in Educ. 327, 339-40 (1987) (discussing the knowledge needed to be an effective technical writer).

¹⁷² See *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984) (indicating that "examiners . . . are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art").

¹⁷³ See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 152 (1989) ("[A]fter the expiration of a federal patent, the subject matter of the patent passes to the free use of the public as a matter of federal law."); *U.S. v. Dubliner Condenser Corp.*, 289 U.S. 178, 186 (1933) ("An inventor deprives the public of nothing which it enjoyed before his discovery, but gives something of value to the community by adding to the sum of human knowledge."); *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236 (Fed. Cir. 1985) ("One of the benefits of a patent system is its so-called 'negative incentive' to 'design around' a competitor's products, even when they are patented, thus bringing a steady flow of innovations to the marketplace.").

¹⁷⁴ See Dorothy Winsor, *Engineering Writing/Writing Engineering*, 41 College Composition & Comm. 58, 58 (1990) ("We talk, therefore, of language, and particularly written language, as a tool for constructing ideas, of a given field of knowledge being created by the interaction of its practitioners' texts, and of knowledge itself, including scientific knowledge, as rhetorically shaped.").

¹⁷⁵ See Kitch, *supra* note 116, at 276-77; see also Robert P. Merges & Richard Nelson, *On the Complex Economics of Patent Scope*, 90 Columbia L. Rev. 839, 871 (1990).

protection incentivizes invention because it gives the inventor an ability to recoup her research and development costs.¹⁷⁶ Patents do this by giving the patent holder the ability to exclude competitors and control price.¹⁷⁷ The less understanding the patent attorney has of the invention, the less likely she will draft claims that facilitate this purpose of patents and, in turn, are valuable to her client. Patenting is as much a business decision as it is a legal one. By giving the patent attorney more information about the invention and its use prior to filing, the doctrine allows the patent application to better link up with the invention's intended commercial use.

2. Increases the Care Taken in Drafting the Application and Related Correspondence

The doctrine also prompts the patent attorney to exercise more care in drafting the patent application and following correspondence with the USPTO. The inequitable conduct doctrine penalizes applicants for misleading the USPTO with false statements in patent applications or other correspondence.¹⁷⁸ The choice of a single word can make all the difference between full disclosure and misrepresentation.¹⁷⁹ As a result, patent attorneys are likely to exercise more care when drafting their communications with the USPTO. A specific focus is placed on making sure everything discussed relevant to patentability is true and that there is nothing that could be construed as a misrepresentation. This leads to a more accurate and readable public record, multiplying the benefits of a high quality patent application discussed above.

The current intent standard does dampen the level of care required by the doctrine. There must be a specific intent to make a false statement or mislead the patent examiner, gross negligence is not enough.¹⁸⁰ However,

¹⁷⁶ Actually, it is the expectation of patent protection that provides the incentive. See Christopher A. Cotropia, *"After-Arising" Technologies and Tailoring Patent Scope*, 61 N.Y.U. Ann. Surv. Am. L. 151, 169-71 (2005).

¹⁷⁷ See Gideon Parchomovsky & Peter Siegelman, *Towards an Integrated Theory of Intellectual Property*, 88 Va. L. Rev. 1455, 1466-67 (2002) (stating that "absent legal protection, competitors would copy such works without incurring the initial costs of producing them... [and, therefore,] [u]nauthorized reproduction would drive down the market price to the cost of copying, original authors and inventors would not be able to recover their expenditures on authorship and R&D, and, as a result, too few inventions and expressive works would be created")

¹⁷⁸ See *Cargill*, 476 F.3d at 1363 (stating that "an affirmative misrepresentation of material fact" or "submit[al] false material information" can be inequitable conduct).

¹⁷⁹ See *Purdue*, 438 F.3d at 1129-30 (finding material the use of the word "discovery" to characterize the invention while it was merely an "insight"—no test had actually been performed).

¹⁸⁰ See *Kingsdown*, 863 F.2d at 872, 876.

misrepresentations are still considered material under inequitable conduct. Their appearance in an application or response to an office action will likely prompt at least an allegation of inequitable conduct. This potential exposure at least changes the behavior of some patent attorneys, making them more careful in what they write.¹⁸¹

III. Current Inequitable Conduct Doctrine Results in Overcompliance

In order to have the patent quality effects described above, the inequitable conduct doctrine needs to get patent applicants to comply with its requirements. The doctrine does this like most other legal doctrines, by imposing certain legal and extra-legal costs on those who do not comply. In their current form, however, these costs are extremely high and instead of just sparking compliance, they prompt overcompliance.

Failure to comply with the doctrine renders the whole patent and, potentially, related patents, unenforceable. A finding of inequitable conduct also opens the door to antitrust liability and liability for attorney fees. The doctrine imposes specific costs on the patent attorney too, ranging from disciplinary action from the USPTO and the applicable state bar to malpractice liability to irreparable damage to the attorney's reputation. All of these costs are high in absolute terms and become even greater when compared to the low costs of overcompliance—simply submitting all information in one's possession to the USPTO, regardless of its materiality. This dramatic cost differential combined with uncertainty inherent in the inequitable conduct doctrine leads to overcompliance. This line of analysis is explored in detail below.

A. *Breadth of Remedies Makes Non-Compliance Extremely Costly*

By initiating a patent lawsuit, the patent holder is opening herself up to range of liabilities. The patentee may, if unsuccessful, be saddled with the other side's attorney fees under the fee shifting statute.¹⁸² More significantly, the patentee may lose any of the asserted patent claims if they are found to be invalid. A final judgment of invalidity prevents the patentee from successfully

¹⁸¹ See, e.g., Stephen K. Sullivan, *Drafting a Biotechnology Patent Specification*, 884 PLI/Pat 135, (2006) (instructing that, in light of *Hoffman-La Roche, Inc. v. Promega Corp.*, 323 F. 3d 1354 (Fed. Cir. 2003) which found inequitable conduct "where prophetic examples were presented in the past tense, as if they had actually been performed," an attorney should "[b]e careful with word *tense*").

¹⁸² See 35 U.S.C. § 285 (awarding the "prevailing party" attorney fees in "exceptional cases").

asserting the now invalid claim against anyone else.¹⁸³ Thus, by asserting particular patent claims in a given lawsuit, the patentee is putting those claims at risk.¹⁸⁴ Patentees have to weigh the potential benefits of enforcing their patent—monetary damages and an injunction¹⁸⁵—with the risk of losing patent claims and paying attorney fees.

The inequitable conduct doctrine changes this calculus dramatically by introducing another set of exposures—legal costs—that go well beyond the validity of the asserted patent claims. A finding of inequitable conduct renders the entire patent unenforceable.¹⁸⁶ Even if the undisclosed information is material to the patentability of only one claim, the other claims can no longer be enforced.¹⁸⁷ The doctrine's impact can get even larger via the doctrine of infectious unenforceability.¹⁸⁸ Inequitable conduct "may render unenforceable all claims which eventually issue from the same or a related application."¹⁸⁹

Adding to these costs is the fact that, as compared to invalidity, the doctrine places the patent holder in far less control over the downside of enforcing a patent claim. Invalidity affects only those asserted patent claims.¹⁹⁰ If a patentee does not want to risk the value in a particular claim, she simply does not assert it. Inequitable conduct, in contrast, causes the assertion of a single patent claim to expose the whole patent, and potentially all related patents, to a finding of unenforceability. Sure, she still has control on a broader level as to what patent families are exposed. But her control is not nearly as fine as compared to her ability to cabin the impact of invalidity.

¹⁸³ See *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 330-31, 350 (1971) (holding that once the claims of a patent are held invalid, the patent holder is collaterally estopped from enforcing the claim against another party)

¹⁸⁴ See *Cardinal Chem. Co. v. Morton International, Inc.*, 508 U.S. 83, 102-03 (1993) (instructing courts to rule on invalidity regardless of the outcome on infringement).

¹⁸⁵ See 35 U.S.C. §§ 283, 284.

¹⁸⁶ See *Kingsdown* ("When a court has finally determined that inequitable conduct occurred in relation to one or more claims during prosecution of the patent application, the entire patent is rendered unenforceable.").

¹⁸⁷ *Id.*

¹⁸⁸ See *Consolidated Alum.*, 910 F.2d at 812 (finding that the inequitable conduct during prosecution of one patent "permeated the prosecution of the other" patents-in-suit). Under certain circumstances, inequitable conduct will not spread. See, e.g., *Baxter Int'l, Inc. v. McGaw, Inc.*, 149 F.3d 1321, 1331-32 (Fed. Cir. 1998) ("[W]here the claims are subsequently separated from those tainted by inequitable conduct through a divisional application, and where the issued claims have no relation to the omitted prior art, the patent issued from the divisional application will not also be unenforceable due to inequitable conduct committed in the parent application.").

¹⁸⁹ *Fox Indus., Inc. v. Structural Pres. Sys., Inc.*, 922 F.2d 801, 803, 804 (Fed. Cir. 1990).

¹⁹⁰ See *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1372 (2006) (noting that you determine invalidity on a "claim-by-claim basis").

The costs resulting from a finding of inequitable conduct also include liability for attorney fees and exposure to antitrust liability. The patent statutes give courts the ability to award a successful party—either patentholder or alleged infringer—its attorney fees if the case is "exceptional."¹⁹¹ A finding of inequitable conduct typically makes the case exceptional¹⁹² and results in a fee award, which can reach well into the seven figure range.¹⁹³ The assertion of a patent obtained by inequitable conduct may also be subject to antitrust liability.¹⁹⁴ "If a patentee asserts a patent claim and the defendant can demonstrate the required fraud on the PTO, as well as show that 'the other elements necessary to a § 2 case are present,' the defendant-counterclaimant is entitled to treble damages under the antitrust laws."¹⁹⁵

B. Doctrine's Specific Impact on Patent Attorneys Makes Non-Compliance Even More Costly

A finding of inequitable conduct does not result in personal liability for the patent attorney. Nor does such a finding necessarily include a factual holding that the patent attorney was at fault. Inequitable conduct can occur where the attorney disclosed all she knew, but one of the other parties under the duty intentionally failed to come forward with material information.¹⁹⁶

However, the patent attorney is invariably at the center of any inequitable conduct inquiry. The patent attorney acts as the hub for the information flow from inventor and related parties to the USPTO. She assists in drafting the patent application and following correspondence with the examiner. She typically signs all correspondence with the USPTO.¹⁹⁷ Her name also appears on the front of the issued patent.¹⁹⁸ Finally, the patent attorney is the one who best understands the legal obligations set forth by the inequitable conduct doctrine and usually communicates these obligations to the other relevant parties. So any non-disclosure, even if not her fault, has the patent attorney's fingerprints on it. As a result, the patent attorney is usually the first person noticed for deposition on the inequitable conduct issue and

¹⁹¹ 35 U.S.C. § 285.

¹⁹² See *Brasseler*, 267 F.3d at 1380 ("The prevailing party may prove the existence of an exceptional case by showing: inequitable conduct before the PTO . . .").

¹⁹³ See AIPLA Report of the Economic Survey 2007, at 1-93.

¹⁹⁴ See *Dippin Dots, Inc. v. Mosey*, 476 F.3d 1337, 1346-47 (Fed. Cir. 2007).

¹⁹⁵ *Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177 (1965).

¹⁹⁶ See 37 C.F.R. § 1.56(a),(c) (detailing the various individuals beyond the attorney who are under a duty to disclose).

¹⁹⁷ See 37 C.F.R. § 1.34.

¹⁹⁸ See 37 C.F.R. § 1.51(c)(v).

almost always mentioned by name in any inequitable conduct decision.¹⁹⁹ The doctrine truly puts "the person on trial, not the patent," and that person is the patent attorney.²⁰⁰

The doctrine can result in personal, legal costs for the patent attorney involved. A failure to comply with doctrine can form the basis for a disciplinary action before the USPTO.²⁰¹ The patent attorney can also lose their license to practice before the USPTO.²⁰² The matter may be referred to their state bar, where the patent attorney may be disciplined or even lose their general license to practice law.²⁰³ A judgment of inequitable conduct can also form the basis of a malpractice claim.²⁰⁴

The personal costs can also be extra-legal. Allegations of inequitable conduct implicate a patent attorney's professionalism and reputation in the legal community at large and before the USPTO, where she is a repeat player.²⁰⁵ This reputation and personal liability exposure are so important to patent attorneys that some have even moved to personally intervene in inequitable conduct cases. Recently, in *Nisus Corp. v. Perma-Chink Systems, Inc.*, a patent attorney who prosecuted the patent at issue filed a motion to intervene in the patent infringement litigation and asked the district court to reconsider the conclusion of inequitable conduct.²⁰⁶ He specifically challenged the court's "characteriz[ation] his behavior in the court of the prosecution as constituting inequitable conduct."²⁰⁷

¹⁹⁹ See, e.g., *McKesson Information Solutions, Inc. v. Bridge Med., Inc.*, 487 F.3d 897, 903 (Fed. Cir. 2007) (referring to the prosecuting attorney by first and last name).

²⁰⁰ Chisum, *supra* note 5, at 279.

²⁰¹ See Edwin S. Flores & Sanford E. Warren, *Inequitable Conduct, Fraud, and Your License to Practice Before the United States Patent and Trademark Office*, 8 Tex. Intell. Prop. L.J. 299, 314-15 (1999).

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ See David Hricik, *How Things Snowball: The Ethical Responsibilities and Liability Risks Arising from Representing a Single Client in Multiple Patent-Related Representations*, 18 Geo. J. Legal Ethics 421, 459 (2005).

²⁰⁵ See Migliorini, *supra* note 104, at 260 ("No client is worth the risk to one's personal integrity, reputation, and license to practice before the Bar" by committing inequitable conduct.).

²⁰⁶ 497 F.3d 1316 (Fed. Cir. 2007).

²⁰⁷ *Nisus*, 497 F.3d at 1318

C. *High Cost of Non-Compliance Results in Overcompliance*

Typically, law shapes behavior by having the costs of non-compliance outweigh any benefits.²⁰⁸ Law relies on both legal and extra-legal costs to incentivize individuals to comply.²⁰⁹ As a result, rational, risk-neutral individuals do exactly what the legal rule requires to avoid engaging in behavior that is, on-net, detrimental to that individual. Applying this to the inequitable conduct doctrine, the doctrine uses certain legal and extra-legal costs to prompt patent applicants to disclose material information to the USPTO. Rational, risk-neutral patent applicants therefore respond by disclosing material information.²¹⁰

The problem is there is uncertainty in enforcement of most legal rules. Legal rules almost always have some inherent ambiguity—either because the rules themselves are fuzzy or the likelihood of enforcement is not absolute. Individuals may not know *ex ante* exactly what they must do to comply with a given doctrine. Inequitable conduct is no different. It, like most patent doctrines, has some ambiguities.²¹¹ Determinations of whether a piece of information is material—creates a *prima facie* case of patentability—are difficult.²¹² Materiality is a multi-step inquiry, involving the determination of each patent claim's meaning, analysis of the content of the information in question, and a judgment as to whether the information is relevant to issues of novelty, nonobviousness, or the disclosure requirements.²¹³ There is also ambiguity as to whether the necessary subjective intent is present, particularly given that intent is proven in court through circumstantial evidence.²¹⁴ An

²⁰⁸ See, e.g., Roger D. Blair & Thomas F. Cotter, *An Economic Analysis of Damages Rules in Intellectual Property Law*, 39 Wm. & Mary L. Rev. 1585, 1617-19 ("In order to deter infringement, we must have a set of rules that renders an infringement unprofitable.").

²⁰⁹ Legal costs are those costs, such as damage awards or injunctions, that are imposed directly by the law—the remedial regime. Extra-legal costs are those costs, such as reputation or guilt, that do not derive directly from a statute or legal rule.

²¹⁰ If an applicant is risk-adverse, they will overcomply even if what is required for exact compliance is clear. If an applicant is risk-seeking, the opposite is true—undercompliance.

²¹¹ The focus is on the ambiguity of the rule, not its enforcement. The patent holder controls its enforcement, opening themselves up to such a defense when asserting her patent.

²¹² See Alpha Gandhi, *The Fate of the Rule 56 Materiality Standard in the Inequitable-Conduct Inquiry*, 33 AIPLA Q. L.J. 125, 127-28 (2005) (describing the uncertainty in the materiality standard).

²¹³ Even the first step of this process has been empirically proven to be incredibly uncertain. Christian Chu, *Empirical Analysis of Federal Circuit's Claim Construction Trends*, 16 Berkeley Tech. L.J. 1075, 1097-1099 (2001) (finding a 50% reversal rate for claim interpretations).

²¹⁴ See D. Ward Hobson Jr., *Reforming the Patent System: A Closer Look at Proposed Legislation*, 3 Okla. J. L. & Tech. 29 (2006).

applicant cannot predict with absolute certainty how a court will come out on these requirements given their fact-dependency.

Uncertainty creates a grey area around exactly what needs to be done to comply. And thus, an individual is faced with an array of choices as to how to comply. They must make a choice as to whether they err on the side of undercomplying or overcomplying—either of which, depending on the distribution of uncertainty around the legal rule, has a certain probability of avoiding liability.²¹⁵ Undercompliance is typically chosen where there are, on net, substantial benefits to undercompliance that outweigh the risk and impact of being found liable.²¹⁶ In contrast, an individual chooses to overcomply where the costs of overcompliance are small compared to the costs of being found liable.²¹⁷

As previously discussed, the inequitable conduct doctrine makes a finding of non-compliance extremely costly.²¹⁸ The doctrine extracts both legal and extra-legal costs on both the patent holder and the patent attorney. In comparison, the costs associated with overcompliance are minimal. The most common method of overcomplying under the current legal regime is to submit everything of even remote relevance in one's possession to the USPTO.²¹⁹ Even if the information is not material to the claimed invention, disclosure absolves any potential violation of the doctrine.²²⁰ The common mantra is "when in doubt, disclose."²²¹ Even Federal Circuit caselaw gives this advice.²²²

²¹⁵ John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 Va. L. Rev. 965, 971-74 (1984) (demonstrating the different distribution of uncertainty and describing the possible causes of over and undercompliance).

²¹⁶ *Id.* at 981.

²¹⁷ *Id.* at 981-82.

²¹⁸ See Part III., *supra*.

²¹⁹ See Thomas, *supra* note 13, at 315 ("Where the applicant is already well informed of the prior art, the specter of inequitable conduct too often causes applicants to submit virtually every reference of which they are aware.").

²²⁰ And there is currently no penalty for the disclosure of non-material or cumulative references. See *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1184 (Fed. Cir. 1995) (burying a material reference in a voluminous submission of information is not actionable unless there is specific intent to hide the reference).

²²¹ See Thomas C. Fiala, *Preparing and Prosecuting a Patent That Holds Up in Litigation*, 875 PLI/Pat 515, 547 (2006) ("If it is unclear whether information is prior art, whether it is 'material', or whether it is cumulative to information already submitted to the USPTO, the information should be disclosed so that the examiner can make the determination.").

²²² See *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1257 (Fed. Cir. 1997) (noting that doubts concerning whether the information is material should be resolved in favor of disclosure).

This is not to say that submitting information is costless. Every quanta of information submitted has its costs. The patent applicant must submit an IDS with the information, which must include a listing of each reference being submitted and identify for each reference, where relevant, the "publisher, author (if any), title, relevant pages of the publication, date, and place of publication."²²³ The applicant is also required to submit a legible copy of any reference that is not another U.S. patent or published U.S. patent application.²²⁴ If the applicant needs to disclose a piece of art that is in a foreign language, the applicant must also submit a "concise explanation of the relevance" of the foreign language reference.²²⁵ Depending on the timing of the information's discovery, the applicant may have to pay the fees associated with continuing prosecution to allow the examiner to consider the newly submitted information.²²⁶

These costs, however, are minuscule compared to losing the enforceability of a valid patent, or possibly a whole family of valid patents. And when viewed from the patent attorney's perspective, overcompliance looks even more inviting. The patent attorney, while getting some satisfaction from successfully obtaining a patent, obtains no personal gain from the issuance of the patent. In contrast, she has significant concerns that getting caught up in an inequitable conduct claim will damage her livelihood. Added to this is the fact that overcompliance means more legal fees. The attorney gets to charge her client for the time required to submit the additional information and continue prosecution if necessary. So, even if overcompliance becomes marginally expensive, patent attorneys may still push clients to overcomply because of their self interest in such a course of action.

IV. Overcompliance Caused by the Inequitable Conduct Doctrine Reduces Patent Quality

Overcompliance puts any improvement in patent quality created by the inequitable conduct doctrine at risk. It does this by overloading the examiner with information that, in most instances, is immaterial. The examiner, with an extremely small amount of time to exam highly technical subject matter, does not process all of the submitted information or ignores it all together, erasing any quality gains. In fact, the doctrine may end up doing more harm than

²²³ 37 C.F.R. § 1.98.

²²⁴ 37 C.F.R. § 1.98(2).

²²⁵ 37 C.F.R. § 1.98(3)(i).

²²⁶ The costs for filing a continuation in these instances, called a Request for Continued Examination ("RCE"), includes a filing fee and accompanying attorney billable hours to put the filing together. *See* 35 U.S.C. § 132; 37 C.F.R. §§ 1.98, 1.114.

good. Overcompliance can so stress the examiner as to impair her ability to make a sound decision based on the information she does process. There is an additional harm caused by the cost of overcompliance—pricing inventors out of the patent system, causing its own set of societal harms. These harms from overcompliance are discussed below.

A. *Causes Detrimental Information Overload*

The inequitable conduct doctrine is focused on getting quality information before the USPTO. The doctrine requires only material information be submitted. The patent applicant is not required to submit "information which is not material to the patentability of any existing claim."²²⁷ And the doctrine places no weight on the quantity of information placed before the patent examiner. In fact, the doctrine invites the applicant to thin her submissions by not requiring the submittal of cumulative information.²²⁸

However, as established above, the doctrine incentivizes the patent applicant to err on the side of quantity. Applicants make the safe play and overcomply. They disclose all of the information within their possession that is remotely relevant to the claimed subject matter. The doctrine, therefore, causes examiners to receive additional quantities of information that are increasingly immaterial to the task at hand—determining patentability.

The patent examiner, with this additional information generated by overcompliance, can experience information overload. Information overload occurs when a decision-maker cannot naturally process the information in their possession in an allotted time.²²⁹ Such overload typically occurs when an individual has a large amount of information and little time to process it. The chances of overload are particularly high when the information is highly technical or complex.²³⁰ These factors describe an examiners situation exactly. Examiners are overworked, with an increasing number of patent applications to exam in an ever decreasing amount of time.²³¹ And the information they must process—the application and prior art—is technical by definition. Adding information submitted by the applicant to the mix, particularly large amounts

²²⁷ 37 C.F.R. § 1.56.

²²⁸ See Part I.A., *supra*.

²²⁹ Naresh K. Malhotra, *Reflections on the Information Overload Paradigm in Consumer Decision Making*, 10 J. of Consumer Research 436, 437 (1984).

²³⁰ See S.C. Schneider, *Information Overload: Causes and Consequences*, 7 Human Sys. Mgmt. 143, 144 (1987).

²³¹ See Part II.A.1., *supra*.

of information from those who overcomply, plays a significant part in overloading the examiner.

Information overload can negate any benefit in patent quality gained by the inequitable conduct doctrine. When overloaded, an individual has difficulty indentifying information relevant to the decision-making task at hand.²³² An individual may overlook the most critical information.²³³ The overloaded examiner must choose where to allocate her finite examining time. She may have to choose which of the submitted references she will read.²³⁴ In the overload situation, the submitted information becomes increasingly immaterial, meaning the examiner will waste at least some of her time reading non-material information.²³⁵ The bigger the haystack, the more lost the needles become.

Information overload can even cause the examiner to become so overwhelmed, that she does not even attempt to sift through the applicant's submissions.²³⁶ She ignores them completely. The benefits of the additional, relevant information the doctrine creates are lost in the sea of information.

The harm from information overload can go beyond wiping out the doctrine's quality gains. In an attempt to process all of the information, the examiner simplifies her processing strategy.²³⁷ This results in poorer decisions because fidelity is lost across the board—none of the information is properly processed.²³⁸ She loses her ability to identify the relationship between details and her overall perspective on the decision at hand.²³⁹ She becomes stressed,

²³² See Paul A. Herbig & Hugh Kramer, *The Effect of Information Overload on the Innovation Choice Process*, 11 J. of Consumer Marketing 45, 45 (1994).

²³³ *Id.*

²³⁴ See Thomas, *supra* note 13, at 315 ("Coupled with the severe time constraints facing the examining corps, this overload of information often allows no more than a cursory review of all but a few references that initially appear the most promising.")

²³⁵ The concept that examiners have a definite saturation point is further supported by recent empirical research that found the likelihood of receiving a rejection plateaus at twenty references. See Crouch, *supra* note 151 (finding the percentage likelihood hovering around 40% once twenty references is reached).

²³⁶ *Id.*

²³⁷ See Naresh K. Malhotra, *Information Load and Consumer Decision Making*, 8 J. of Consumer Research 419, 427 (1982) (noting that information overload causes individuals to "adopt simplifying information-processing strategies").

²³⁸ See Kevin L. Keller & Richard Staelin, *Effects of Quality and Quantity of Information on Decision Effectiveness*, 14 J. of Consumer Research 200, 212 (1987) (concluding that overload "degrade[s] choice accuracy").

²³⁹ See Schneider, *supra* note 230, at 145.

confused, and generally cognitively strained, impairing her ability to think analytically.²⁴⁰ More becomes less.

Empirical studies indicate that this analysis holds true even if the additional information is as material as that already submitted.²⁴¹ That is, the increase in quantity still overwhelms the decision-maker even if the additional information is of high quality. The materiality of the additional information is irrelevant to the information overload scenario. Simply because it is too much information, the examiner's ability to come to a proper decision is degraded.

B. Results in Socially Wasteful Costs

As previously stated, the costs of overcompliance are small when compared to the costs of being found non-compliant. To the patentee and the attorney, spending a few thousand dollars, even tens of thousands of dollars, and delaying the issuance of the patent is miniscule compared to losing a full family of patents, paying attorney fees, exposure to antitrust liability, possible bar discipline, and so on. However, this is the private, internal cost-benefit analysis.

The answer to the question of costs is very different when looked at in terms of the big picture. That is, is this spending beneficial to the public? The answer is no, given that overcompliance artificially increases the price of patent procurement. And these extra dollars spent going beyond what is required under the inequitable conduct doctrine add nothing to the quality of the patent examination. In fact, as discussed above, the submission of additional information, particularly immaterial information, actually hampers the examination process by creating information overload. Overcompliance is socially wasteful spending.

These additional costs can also create another harm—pricing out potential patentees. The costs of compliance are not significant. They may constitute, at most, one percent of the total cost of obtaining a patent.²⁴² However, price tolerances for patenting can be extremely sensitive, especially for individual inventors or small companies.²⁴³ Each increase in the cost of patenting can deter these would-be inventors from inventing altogether, or,

²⁴⁰ See Malhotra, *supra* note 237, at 437.

²⁴¹ See Keller & Staelin, *supra* note 238, at 212.

²⁴² See AIPLA Report of the Economic Survey 2007, at 1-78 (finding the average cost of obtaining a patent between \$6,600-\$15,000).

²⁴³ Patent law has recognized this fact, establishing a separate fee schedule for "small entit[ies]." See, e.g., 37 C.F.R. § 1.16(a) (setting forth lesser filing fees for small entities).

prompt them to choose trade secret protection in lieu of patenting.²⁴⁴ Both of these options are disadvantageous, possibly robbing society of the next great invention or hiding the details of that invention from the general public.

One option is for these individuals, for which compliance is too costly, is to simply undercomply.²⁴⁵ But given that the patent attorney has significant individual interests at stake, the attorney is unlikely to play along. In fact, the advice to patent attorneys is to "avoid being pressured by clients to compromise [their] ethical duties."²⁴⁶ Furthermore, the cost of compliance with the doctrine is likely not transparent to the cost-sensitive applicant. The cost is simply included in initial quote for the cost of getting a patent. The small inventor has no practical choice to forgo compliance.

V. Using This Framework to Reform the Inequitable Conduct Doctrine

The benefits of constructing a modern framework for the inequitable conduct doctrine are two fold. First, the framework helps identify the ways in which the doctrine can be beneficial and detrimental. From there, reforms can be targeted, attempting to maximize the positive aspects of the doctrine while minimize the negative ones. Second, the framework provides a workable model upon which current concerns and suggested reforms can be vetted. And given that the framework established is utilitarian based, it is much easier to address recent criticisms, which all have a utilitarian bent.

This Part of the Article uses the analysis already performed to do both of these things. Reforms are initially suggested to remedy the overcompliance currently provoked by the doctrine. The extent of the remedies for violating the doctrine need to be reigned in, a specific intent standard separate from materiality must be maintained, and the submission of immaterial and cumulative information discouraged. The positive aspects of the doctrine should, however, not be lost, and so the materiality standard must remain broad.

Next, the Article's framework is applied to the two most common criticisms regarding the doctrine. The duties under the doctrine should not be expanded to include a duty to search or provide relevancy statements. Such duties are likely to overload the examiner, price inventors out of the patent

²⁴⁴ See, e.g., Wagner, *supra* note 131, at 236-37 (recognizing that increasing the costs of prosecution "decreas[ing] the incentives produced by the patent system").

²⁴⁵ See Calfee & Craswell, *supra* note 215, at 981-82.

²⁴⁶ Migliorini, *supra* note 109, at 260.

system, shift the burdens of examination away from a low cost provider, and destroy the benefits of independent review. Finally, if the reforms proposed in this Part are adopted, a reduction in litigation costs will follow. There, thus, does not need to be any specific reforms to address this perceived problem.

A. *Reduce the Likelihood of Overcompliance*

Overcompliance caused by the doctrine can be reduced by removing one or more of its causes. That is, the cost of non-compliance can be reduced, the ambiguity surrounding the doctrine can be minimized, or the costs of overcomplying can be increased. Below, all three of these options are suggested.

1. *Minimize the Remedy*

One way of reducing the amount of over compensation is to minimize the costs associated with non-compliance. It is the high cost of not complying that, in part, drives applicants to overcomply.²⁴⁷ The question is to what extent should the costs of non-compliance be reduced. How far should the available legal remedies and associated legal and extra-legal costs be reigned in?

A good place to start is to tie the legal remedy with the harm non-disclosure does to patent quality. Failure to disclose material information hampers the examination of those patent claims to which the material is relevant.²⁴⁸ The remedy should be adjusted accordingly. No longer should a finding of inequitable conduct result in the whole patent, and possibly related patents, being rendered unenforceable. The remedy should mimic a finding of invalidity—only those claims to which the undisclosed information is material should be rendered unenforceable. The patent holder can then control her exposure by subjecting only asserted claims to a finding of unenforceability.

The legal remedies could be reduced further, taking the form of a monetary remedy, for example. A finding of inequitable conduct could result in a fine or the damage award for infringement lessened. The problem with swinging this far in the other direction is that, by taking the patent out of harms way, the applicant may undercomply. The fine or potential reduction in damages could simply be folded in with the cost of enforcing the patent. And to make monetary damages effective, the amount would have to adjust in light of the potential upside—monetary and injunctive remedies—to the patent holder of successful enforcement. This introduces uncertainty into the remedy

²⁴⁷ See Part III, *supra*.

²⁴⁸ See Part II, *supra*.

regime, which makes it even more difficult to predict the extent to which applicants will comply.²⁴⁹ Adjusting the monetary remedy also is just an imperfect way of getting at the patent's value to the patent holder. If that is the goal, the simply solution is to have unenforceability of the asserted claims be the remedy.

A final possible remedial change is to give district courts the discretion in determining the remedy.²⁵⁰ The court can vary the equitable relief accordingly, from finding the whole family of patents unenforceable to denying injunctive relief. There is a benefit to providing discretion—the district court can tune the remedy to the facts of a particular case. But *ex ante*, when the applicant is trying to determine how to comply, the applicant has no idea what those equities will be and, accordingly what remedy a judge will choose. This introduces uncertainties of its own, which increases the variation in the levels of compliance. Furthermore, if the extreme remedy is still in play—unenforceability of a group of patents—rational applicants are still likely to overcomply.

2. Maintain a Specific, Independent Standard for Intent

There is still a concern that the high costs that are unique to the patent attorney—potential disbarment, malpractice liability, and damage to reputation—will cause overcompliance to continue even if the remedies are reduced. The best way to reduce these attorney-specific costs is not through changing the costs of non-compliance, but reducing the uncertainty in the doctrine, particularly as it pertains to the attorney. As the target—how to comply with the doctrine—becomes clearer, it becomes easier for patent applicants, and their attorneys, to tune their response to actual compliance.²⁵¹

The intent requirement in the inequitable conduct doctrine is the best candidate to reduce ambiguity. The materiality requirement is too complex for any reforms to provide much certainty. Not only is there the standard for materiality—that is, what is material information? There is also uncertainty in the underlying concept of patentability, and all that entails, that would need to

²⁴⁹ See Calfee & Craswell, *supra* note 215, at 971-72.

²⁵⁰ This change is proposed in the pending 2007 Patent Reform Act. See H.R. 1918, § 12(c)(4).

²⁵¹ See Calfee & Craswell, *supra* note 215, at 971 (showing how the distribution of possible responses grows narrower as certainty reduces, minimizes the magnitude of possible overcompliance).

be cleared up.²⁵² Intent, in contrast, is a familiar doctrine, common across multiple legal fields. The clearer, *ex ante*, as to what constitutes intent under the inequitable conduct doctrine, the easier it will be for patent attorneys to feel comfortable that they will be found in compliance.

The intent doctrine gets most of its current ambiguity because of "bleed through" from the materiality finding. That is, a finding of high materiality—the information was very material to patentability—is used as conclusive circumstantial evidence that the applicant intentional meant to deceive the patent examiner.²⁵³ This type of analysis collapses the inequitable conduct inquiry into a determination of materiality and nothing more. It also makes it difficult for applicants, and their attorneys, to take comfort in the fact that they are free from liability if they actually believe something to not be material or they unintentionally overlook information within their possession. Even if these facts are true, and they did not intentional mean to deceive the USPTO, there is still a good possibility that inequitable conduct will be found because of bleed through.

This is an ambiguity that leads to overcompliance. Applicants second guess themselves, still submitting information even if they personally believe the information to not be material.

To resolve this ambiguity and make the lack of intent a true safe haven, a specific intent standard that is distinct from materiality needs to be adopted. The 2007 Patent Reform Act contains such a provision.²⁵⁴ With such a requirement, patent applicants, and particularly attorneys, can better form their conduct to meet the doctrine's requirements. If they do not intend to deceive the USPTO—they truly believe that undisclosed information is not material, for example—they can be pretty sure they will not be found liable.

This does not create absolute certainty. Circumstantial evidence is still available to establish intent. And it should be—access to such proof is needed. If the doctrine required direct evidence, it would be near impossible to

²⁵² For example, the standard for nonobviousness is very unclear after the Supreme Court's recent decision in *KSR*. See Tun-Jen Chiang, *A Cost-Benefit Approach to Patent Obviousness*, 82 St. John's L. Rev. 39, 53-54 (2008).

²⁵³ *Purdue Pharma*, 438 F.3d at 1133-35 ("[A] patentee facing a high level of materiality and clear proof that it knew or should have known of that materiality, can expect to find it difficult to establish 'subjective good faith' sufficient to prevent the drawing of an inference of intent to mislead.").

²⁵⁴ "[S]pecific facts beyond materiality of the information misrepresented or not disclosed must be proven that establish the intent of the person to mislead or deceive the examiner by the actions of that person." H.R. 1908, § 5(c)(3).

establish inequitable conduct, resulting in massive undercompliance.²⁵⁵ Furthermore, removing the ability to piggy back on materiality still reduces a significant amount of the ambiguity in the doctrine. The more certain a path towards compliance, the less one overcomplies. Establishing a truly independent intent standard goes a long way in providing that certainty.

3. Prohibit the Submission of Cumulative and Non-Material Art

Even with a reduction in costs and a clearer legal standard, there is still an incentive to overcomply. This incentive does not come from fear of the costs of non-compliance. Instead, it is driven by the fact that overcompliance can still be the cheapest way to comply. An applicant simply submits all of the information in the applicant's possession without reviewing for materiality. Reading and evaluating a reference is the most attorney intensive, and thus expensive, part of submitting information to the USPTO. And disclosure meets the doctrine's requirements. Even if costs of non-compliance come down, applicants may still overcomply because it is least costly method of compliance. Information overload, therefore, continues.

Currently, an applicant who overloads the USPTO with immaterial or cumulative information does not commit inequitable conduct.²⁵⁶ Even if the large volume of submissions effectively "buries" a particularly material reference, the applicant does not per se commit inequitable conduct.²⁵⁷ Some district courts have used such an activity as circumstantial evidence of intent.²⁵⁸ But none, yet, have gone any farther.

A potential solution is two fold. First, the intentional submission of immaterial or cumulative information should be actionable under the doctrine. This address the most egregious over loaders—those who are truly trying to bury the examiner with information they know is irrelevant. This does not, however, address those who are simply grossly negligent in their submission methodology—not reading references, or barely reading them, and then submitting them.

²⁵⁵ See *Hoffman-La Roche*, 906 F.2d at 687 ("[I]ntent usually can only be found as a matter of inference from circumstantial evidence.").

²⁵⁶ See *supra* notes 227-28.

²⁵⁷ See *Molins*, 48 F.3d at 1184 (noting that the court must assume the examiner consider the submitted information).

²⁵⁸ See, e.g., *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 964 (S.D. Fla. 1972).

The second part of the solution is to actively enforce existing USPTO disciplinary rules that require applicants to read information before they submit it to the office. Rule 10.18(b)(2) requires patent attorneys to make an "inquiry reasonable under the circumstances" as to why a paper is submitted.²⁵⁹ The rule requires the patent attorney to represent that "[t]he paper is not being presented for any improper purpose, such as to harass someone or to cause unnecessary delay or needless increase in the cost of prosecution before the [USPTO]."²⁶⁰ Failure to comply with this rule risks the validity of the patent and sanctions against the attorney.²⁶¹ If this rule was actively enforced, it would incentivize applicants to read information before they submit, with an eye toward not overloading the USPTO. Enforcement of this rule would temper the amount of low-cost, overcompliance.

B. Maintain an Independent and Broad Materiality Standard

This all being said, the inequitable conduct doctrine needs to maintain its positive patent quality characteristics. In order to do this, the standard for materiality must stay independent of the standard for invalidity. That is, proposals to require information to actually render a claim invalid to be considered material should be rejected.²⁶²

The requirement that information be submitted that establishes only a prima facie case of invalidity, but does not make a conclusive case, broadens the patent quality gains under the doctrine. This standard includes information that is extremely relevant to the patent examination, but still broad enough to create spillover benefits. The more information required to be submitted under the doctrine, the larger the knowledge base of the patent attorney and greater the benefits from this increased knowledge.²⁶³ This broad information base also increases the second-order information production benefits to examination. The examiner gets more information that may lead to additional relevant information or thinking that, in turn, produces a better examination.²⁶⁴ However, this information base is not so large and its relevancy not so tenuous as to significantly increase the likelihood of information overload.

In addition, if materiality was limited to information that makes the claims invalid, the inequitable conduct doctrine becomes redundant during

²⁵⁹ 37 C.F.R. § 10.18(b)(2).

²⁶⁰ *Id.* § 10.18(b)(2)(i).

²⁶¹ *Id.* § 10.18(c).

²⁶² *See, e.g.* H.R. 2975, § 136(c)(2).

²⁶³ *See* Part II.C.1., *supra*.

²⁶⁴ *See* Part II.B.1., *supra*.

litigation. A finding of inequitable conduct may have secondary, legal cost effects on the patent holder. But once the claim is found invalid, the damage to that claim is done—the claim is no longer valid and thus cannot be enforced.²⁶⁵ The value add provided by the doctrine is minimized greatly by equating the materiality standard with validity.

C. Avoid Expanding the Duties Governed by the Doctrine

Another question presented by the recent criticism of the doctrine is whether the duties should be expanded to include a duty to search and/or provide statements as to the relevancy of submitted information. The current version of the patent reform legislation contains a provision that gives the USPTO authority to require an applicant to do a search and inform the USPTO as to how the application is patentable in light of the search results.²⁶⁶ The pending IDS rules proposed by the USPTO require relevancy statements in certain circumstances—again asking the applicant to link the submitted information to the application's claims.²⁶⁷

Expanding the applicants duties to include either of these—searching or relevancy statements—would dramatically increase the cost of compliance. To perform a search in-house or request a search from an outside firm costs between \$2000 to \$3500.²⁶⁸ Relevancy statements, which require the applicant to identify the relevant portions of the submitted information and why the application is patentable over them, are even more costly, ranging from \$12,250 to \$20,000.²⁶⁹ And these costs become more significant when compared to the typical cost of patent prosecution. They completely dwarf the cost of preparing and filing a patent application, which typically ranges between \$6,600-\$15,000.²⁷⁰ The ambiguity regarding what is exactly required under these duties—how many databases to search, whether updating is needed, whether new searches are required if the claims are amended, etc.—magnify these costs.²⁷¹ When the tendency to overcomply because of the legal

²⁶⁵ See note 178.

²⁶⁶ See H.R. 1908, § 11.

²⁶⁷ See 71 F.R. 38808.

²⁶⁸ AIPLA Report of the Economic Survey 2007, at 1-82.

²⁶⁹ *Id.* at 1-83 (describing the costs for a validity opinion). Relevancy statements, like those proposed in § 11 or 71 F.R. are essentially requests for a validity opinion. That is, they ask the applicant to explain to the USPTO why the application is patentable over the discovered information.

²⁷⁰ *Id.* at 1-78.

²⁷¹ See *Tafas v. Dudas*, 511 F. Supp. 2d 652, 667-68 (E.D. Va. 2007) (noting the ambiguities inherent in such duties possibly rise to the level of being unconstitutionally vague).

and extra-legal costs exacted by the inequitable conduct doctrine are added, the costs of expanded the duties become even higher.

These high costs do have the potential of tempering the current environment pushing overcompliance. As the costs of overcompliance increase, these costs push the likelihood of overcompliance down.²⁷² This can have positive effects, reducing the amount of information overload. And the additional duties can magnify the patent quality effects of the inequitable conduct doctrine—exposing the patent attorney to more relevant information, making her think more about the patentability of the application, and increasing the amount of quality information before the examiner.

But, it is unlikely these gains will be realized. First, even normal compliance with these additional duties is likely to overload the examiner. These duties hoist a plethora of new information on the examiner, without giving her additional time to process it. And the new information does not only come in the form of new references, but analysis by the patent applicant if relevancy statements are also required. Even if the additional information is quality information, it can still cause information overload, hampering the examination process.²⁷³

It is also unlikely that the high costs of compliance may move the applicant to undercomply given that the patent attorney has a personal interest in complying that goes beyond a single client's interest in getting a patent at a low cost. Again, patent attorneys are advised to not "be[] pressured by clients to comprise [their] ethical duties."²⁷⁴ This means that applicants will be forced to pay the high fees to comply or forgo patenting altogether. By essentially doubling the cost of obtaining a patent, the expansion of duties has the real possibility of pricing out potential inventors, causing them to opt out of the system altogether, which either deters the creation of the invention altogether or pushes it underground.²⁷⁵

Finally, from a society's view, making the applicant essentially perform the examiner's job—searching and textually analyzing patentability based on the search—is inefficient. Having the applicant evaluate and produce information already in their possession makes sense—they are the lowest cost provider even if they are not as good at analyzing patentability.²⁷⁶ But having

²⁷² See Calfee & Craswell, *supra* note 215, at 981-82.

²⁷³ See note 241, *supra*.

²⁷⁴ See note 246, *supra*.

²⁷⁵ See note 244, *supra*.

²⁷⁶ See Part II.B.1., *supra*.

an applicant search, something that an applicant is not necessarily an expert in, is a poor use of resources given that the examiner is an expert in searching, particularly searching the invention's field of technology. This is the examiner's profession. If more searching is required, the examiner is the one who should do the search.

There is also the goal of maintaining the independence and second-review benefits of examination.²⁷⁷ If the examiner is handed a search report and a patentability analysis under these new duties, it is unlikely the examiner will do much more than verify the applicant's work. And, as new examiners enter a patent system where searching is done by the applicant, the examiners will not have the opportunity to gain the skill to search and independent review becomes even more of a fallacy.

D. Reduction in Litigation Costs Will Follow

A final concern regarding the doctrine that needs to be addressed is litigation costs. Critics assert that the doctrine is alleged too often and too costly to litigate.²⁷⁸ The reforms already mentioned, while not eliminating the litigation costs, greatly reduce them. Thus, no additional reform is needed to address this problem.

Most of the reforms aimed at reducing overcompliance also make the inequitable conduct defense less attractive to assert. The breadth of remedies is reduced, with only individual claims being exposed. Specific, independent evidence of intent is required to prove inequitable conduct. Both of these changes essentially weaken the doctrine, making it harder to prove and the rewards not as tantalizing. This decreases the rate of assertion.

Declining to expand the duties under the doctrine also keep litigation costs down. The more theories of liability under the doctrine, the more ways a patent applicant can fall out of compliance, the more opportunities for the defenses assertion, and the longer it can be kept alive during litigation. By keeping the duty focused on information within the applicant's possession, the doctrine does not open up new doors through which the defense can be alleged.

Some of the reforms could increase litigation costs. If materiality was tied to the question of validity, the doctrine would no longer be an independent

²⁷⁷ See, e.g., Craig Nard & John Duffy, *Rethinking Patent Law's Uniformity Principle*, 101 Nw. U. L. Rev. 1619, 1627-37 (2007) (describing the benefits and disadvantages of decentralized decision-making).

²⁷⁸ See Part I.C.2., *supra*.

litigation tool. It would just not be asserted, and if so, infrequently litigated because of the need to prove invalidity on the front end. So maintaining a broad materiality standard separate from the issue of validity does forgo an option for saving litigation costs. The addition of a theory of inequitable conduct based on intentional submission of immaterial or cumulative information will likely spark some additional allegations of inequitable conduct. As the liability theories expand, so does the doctrine's assertion.

On net, however, the reforms do more constricting than expanding of the doctrine. This means that litigation costs overall will decrease. In addition, there is a real question as to where this concern should sit within the broader utilitarian goal of patent law. Gains in patent quality, with better patents and examination, caused by the suggested reforms outweigh the negative impact from the cost of litigating the doctrine. The breadth of positive impact is so much greater—effecting ever patent and patent examination—than the small percentage of patents that are actually litigated.²⁷⁹

Conclusion

One of the big questions regarding the U.S. patent system is how responsibilities should be shared between the inventor and the USPTO when it comes to examining a patent application. The inventor wants to externalize costs by burdening the USPTO with a majority of the work and, the USPTO, being resource strapped, wants the inventor to internalize as much of the costs as possible. The inequitable conduct doctrine, which governs the inventor's duties during patent examination, sits at the center of this push-pull. The doctrine addresses when the applicant needs to assist in examination by providing information to the USPTO. The question has always been how much information needs to be provided.

This Article demonstrates that there is much more to this question by constructing a conceptual framework by which to measure the inequitable conduct doctrine's impact on the patent system. The doctrine can have a very positive impact on the system—by improving patent quality—but can also have tremendous negative impacts—by hindering examination and denying access to the incentive to invent. Knowing how the doctrine impacts the utilitarian goals of the patent system is crucial when determining how to tune the inequitable conduct doctrine. But understanding these dynamics tells even more about the patent application process and how examiners, applicants, and

²⁷⁹ See Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. Econ. Perspectives 75, 75 (2005) (noting that only 1.5 % of issued patents are ever asserted and only 0.1% go to trial).

potential inventors are impacted by shifts in the cost-sharing of patent examination. It is this fundamental understanding, and the specific reforms it suggests, that can help not only improve the inequitable conduct doctrine, but the patent system in general.