



School of Law

THE UPSIDE DOWN INEQUITABLE CONDUCT DEFENSE

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**George Mason University Law and Economics
Research Paper Series**

11-53

The Upside Down Inequitable Conduct Defense

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The Federal Circuit has famously called the doctrine of inequitable conduct an “absolute plague” that terrorizes patent owners. The penalty for inequitable conduct—rendering the patent unenforceable—is considered a draconian “atomic bomb.” Acting on this view, the court has repeatedly narrowed the doctrine to prevent over-deterrence.

In reality, the problem with inequitable conduct doctrine is not that the unenforceability penalty is overly harsh, but that it is upside down. When patentees conceal from the Patent Office highly damaging information that would have led to denial of the patent if known, a “penalty” of later rendering the same patent unenforceable—once the concealment is exposed—is no penalty at all, because the patent will be invalidated anyway. In this way, the practical penalty varies inversely with the culpability of the patentee: Concealing highly damaging information leads to no punishment, while concealing harmless information leads to the strong punishment of losing an otherwise-valid patent.

As the Article will explore, understanding the upside down nature of inequitable conduct leads to several implications. It explains why the conventional wisdom has come to its current state; why the conventional wisdom is nonetheless wrong; and what should be done to reform the doctrine.

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INTRODUCTION

“Inequitable conduct” is a patent law doctrine designed to ensure that patent applicants are honest in their dealings with the U.S. Patent and Trademark Office (PTO).¹ The doctrine achieves this by rendering a dishonestly-obtained patent unenforceable.² This unenforceability remedy is regarded as a draconian remedy that maximizes deterrence, and courts refer to it as the “atomic bomb” of patent law.³ To take a monetary analogy, the unenforceability remedy

¹ See ROBERT P. MERGES & JOHN F. DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 1111 (5th ed. 2011) (inequitable conduct “harnesses the private interests of litigants to protect the integrity of the patent system”).

² *Id.*

³ *Therasense, Inc. v. Becton, Dickinson and Co.*, 649 F.3d 1276, 1289 (Fed. Cir. 2011) (en banc) [hereinafter “*Therasense*”].

is regarded as akin to a fixed, mandatory, \$1 million fine. This view of the unenforceability remedy drives courts to create a very high standard of proof and to limit the applicability of the inequitable conduct doctrine to a narrow set of cases, to ensure that the million-dollar fine is applied only to million-dollar crimes.⁴

The point of this Article is that courts have incorrectly conceptualized the effect of the unenforceability remedy. In truth, the unenforceability remedy is not analogous to a flat \$1 million fine that is severe in all cases. Rather, the severity of the unenforceability remedy is variable. If the patent is *valid* under the true state of facts, then rendering the patent unenforceable is a very severe punishment. If the patent is *invalid* under the true state of facts, then holding the patent unenforceable is no punishment at all.⁵

The fact that the severity of the unenforceability penalty varies with the validity of the patent has been largely overlooked in the existing literature and case law,⁶ and it produces three important implications. The first is that patentees have upside-down incentives to engage in dishonest conduct. As I shall demonstrate in Part I, the unenforceability remedy creates *no* deterrence precisely for the biggest lies, while it creates very strong deterrence against the smallest errors. An example will illustrate this dynamic: the most culpable type of patentee misconduct is perhaps shredding unfavorable test results proving that the patentee's claimed invention does not work. But in order to prove an inequitable conduct charge, someone must first find the shredded documents and reassemble their contents, and once this is done the patent will be invalidated because the invention does not work; and *not* because of the shredding of documents. There is thus no punishment levied for the document shredding, and a patentee who

⁴ See, e.g., *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (“The need to strictly enforce the burden of proof and elevated standard of proof in the inequitable conduct context is paramount because the penalty for inequitable conduct is so severe.”); *Aventis Pharma S.A. v. Amphastar Pharmas., Inc.*, 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting) (arguing that inequitable conduct should be limited to “only the most extreme cases of fraud and deception”).

⁵ To be clear, I am referring here only to the magnitude of the punishment, without regard to culpability. Thus, a \$1 million fine is severe even when it is applied to a \$1 million dollar crime. I will consider culpability next.

⁶ As discussed in Part III, shades of this point are sometimes made in judicial opinions, especially the dissent in *Therasense*, 649 F.3d at 1305–06 (Bryson, J., dissenting). But the judges making this point clearly do not appreciate its full implications, because their proposed solution—to expand liability—actually makes the problem *even worse*. See *infra* Part III.

receives unfavorable test results thus has every incentive to shred them. To generalize from the example, the problem with inequitable conduct doctrine is that the more damaging the information being concealed, the more likely the patent will be found invalid once the truth is exposed; but the unenforceability penalty can only be applied *after* the concealment is discovered and the truth exposed, so it is most likely to be superfluous precisely in the cases of the biggest lies. Culpability therefore varies inversely with punishment.

Although the insight is simple, this portrait of inequitable conduct as upside down differs from the common understanding of the literature. Existing scholarship argues either that inequitable conduct produces over-deterrence and should be narrowed,⁷ or alternatively (and much more rarely) argues that it produces under-deterrence and should be expanded.⁸ My argument is that inequitable conduct produces *both* over- and under-deterrence at the same time, and a solution should therefore be tailored for both effects.

The second implication is that the variability of the penalty produces upside-down incentives for accused infringers in litigation. As I shall demonstrate in Part II, the *more* serious the misconduct by the patentee, the *less* likely that an accused infringer will choose to litigate an inequitable conduct claim to expose that misconduct. This produces an important selection effect. Over time, courts will see many claims of inequitable conduct made over trivial mistakes, but they will almost never see any claim involving serious misconduct.⁹ This “availability bias” means that judges will start to believe that truly serious patentee misconduct almost never occurs.¹⁰ The result is that the same judges will narrow inequitable conduct doctrine, which is precisely what has

⁷ See, e.g., Christopher A. Cotropia, *Modernizing Patent Law’s Inequitable Conduct Doctrine*, 24 Berkeley Tech. L.J. 723, 762–70 (2009) (arguing that inequitable conduct results in over-compliance); John F. Lynch, *An Argument for Eliminating the Defense of Patent Unenforceability Based on Inequitable Conduct*, 16 AIPLA Q.J. 7 (1988) (arguing for abolition).

⁸ David McGowan, *Inequitable Conduct*, 43 Loy. L.A. L. Rev. 945, 975–77 (2010) (arguing for loosening the intent and pleading requirements).

⁹ See, e.g., *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) (stating that accusations of inequitable conduct are “an absolute plague” because accused infringers succeed in only “a small percentage of the cases”); Katherine Nolan-Stevaux, Note, *Inequitable Conduct Claims in the 21st Century: Combating the Plague*, 20 Berkeley Tech. L.J. 147, 161–62 (2005) (arguing that the low win rate is “indicative of the rare circumstances in which patentees blatantly engaged in inequitable conduct”).

¹⁰ Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 5 Cognitive Psychol. 207 (1973).

happened in real life.¹¹ My point is that this belief in patentee honesty, which has driven much doctrinal change, is based on an illusion.

The third implication is that reform should focus more on adjusting the remedy for inequitable conduct, and less on the standard for attaching liability. One effect of the conceptualization of the unenforceability remedy as unchanging and severe—akin to a flat \$1 million fine—is that the debate focuses on the standard for liability. Those who believe that inequitable conduct produces over-deterrence focus on raising the burden of proof and narrowing liability.¹² The tiny minority who believe that inequitable conduct produces under-deterrence focus on lowering the burden of proof and expanding liability.¹³ My argument in Part **Error! Reference source not found.** is that neither type of reform is likely to work because they both fail to consider the upside-down nature of the unenforceability remedy. As discussed above and elaborated in Part I, the problem with inequitable conduct is that the penalty is too low in highly culpable cases but is too high in trivial cases. Narrowing liability (the dominant position) does ensure that the trivial cases are not penalized, but it does nothing to fix the under-deterrence problem for high-culpability cases, and so too much dishonesty will occur in the PTO. Expanding liability (the conventional minority position) without fixing the penalty structure is even worse: it means that trivial cases will now be over-penalized, but it does nothing to fix the under-deterrence problem in high-culpability cases, since the penalty there will *still* be too low.

Part IV outlines my proposed solution, which is to abolish the unenforceability remedy and replace it with a more direct penalty like a monetary fine, which can be tailored to the degree of culpability. This Part then addresses some potential objections. A conclusion follows.

¹¹ See Lee Petherbridge, Jason Rantanen & Ali Mojibi, *The Federal Circuit and Inequitable Conduct: An Empirical Assessment*, 84 S. Cal. L. Rev. __ (forthcoming 2011) (“Inequitable conduct jurisprudence evinces a strong preference for patentee success.”); see also *Therasense*, 649 F.3d at 1290 (“tighten[ing] the standards for finding both intent and materiality”).

¹² See, e.g., *Therasense*, 649 F.3d at 1290 (“This court now tightens the standards for finding both intent and materiality in order to redirect a doctrine that has been overused.”); Cotropia, *supra* note 7, at 775–82; Lisa A. Dolak, *Inequitable Conduct: A Flawed Doctrine Worth Saving*, 11 Wake Forest J. Bus. & Intellectual Prop. L. 1, 26–29 (2010) (arguing for more rigorous materiality and intent requirements).

¹³ See McGowen, *supra* note 8, at 975–77.

I. UPSIDE DOWN DETERRENCE FOR PATENTEES

The purpose of this Part is to demonstrate that the unenforceability remedy produces upside down incentives for patentees. As Sections B to D will show, the more culpable the misconduct by the patentee, the less deterrence the unenforceability remedy will provide. The key factor driving this result is the fact that, by the time an inequitable conduct charge is proved and the truth exposed, the patent will be independently found invalid, rendering the unenforceability penalty superfluous. Because the interaction between invalidity and unenforceability is key to the argument, Section A first offers a brief discussion of the difference between these two concepts.

A. *Invalidity Versus Unenforceability*

1. Invalidity.

Consider an inventor, Andy, who claims to have invented a Widget and files a patent application with the PTO. The job of the PTO is to issue patents that are valid and prevent invalid patents from issuing.¹⁴ A patent is *valid* if the invention is new, useful, and non-obvious.¹⁵ That is, the invention must work (useful), not be previously known (new), and also be sufficiently advanced over what was previously known to merit a patent (non-obvious). Conversely, a patent is *invalid* if it fails any of these criteria.

As an initial matter, it is important to understand that invalidity does not turn on the patentee's knowledge. For example, Andy may very well believe himself to be the first inventor of the Widget when filing the patent. However, it may emerge that an obscure book in a library in Bangladesh happens to depict the same Widget. In this situation, the patent is invalid, even if Andy did not know of the book and had no ability to find it beforehand.¹⁶ The rationale for invalidity is simply that the Widget is not in fact new, and thus does not deserve a patent.

Practically speaking, however, a finding of invalidity requires *evidence*. Unless and until someone finds the book in Bangladesh, we cannot know that the Widget was not new. Thus, in processing a patent application, the PTO's basic job (performed by an "examiner") is to locate so-called "prior art"—evidence showing that the invention was previously known or is obvious, mainly by searching for prior

¹⁴ 35 U.S.C. § 131 (2006).

¹⁵ 35 U.S.C. §§ 101–103 (2006) (titled "conditions of patentability").

¹⁶ *In re Hall*, 781 F.2d 897, 899-900 (Fed. Cir. 1986) (a single catalogued thesis in a German university library sufficient to invalidate patent)

books and journal articles showing the same Widget.¹⁷ Similarly, the PTO examiner will be interested in information documenting whether the Widget is operative and useful.¹⁸ The resulting procedure is that, unless the PTO finds information (*i.e.* evidence) indicating that a patent is invalid, it will presume that the patent is valid.¹⁹

It follows that the PTO will often erroneously issue a patent on the belief that it is valid, when in fact the patent is invalid. This does not necessarily require patentee dishonesty in suppressing information or hiding evidence. The world of prior art is very vast, and much of it is extremely obscure—a book in Bangladesh is inherently very hard to find. Invalid patents are frequently erroneously issued simply because the PTO lacks perfect information.²⁰

In order to correct such PTO errors, a defense of invalidity is available in litigation.²¹ That is, if Andy receives a patent (because the PTO did not find the book) and sues a defendant for patent infringement, the accused infringer will be able to argue that the invention is not really new, useful, or non-obvious, and that the PTO erred in issuing the patent. Again, it is important to note that the accused infringer does not need to prove that the patentee committed any dishonesty to prevail on the invalidity defense: all the accused infringer needs to do is find invalidating prior art such as the obscure book in Bangladesh, and accused infringers will often succeed where the PTO examiner failed because they have stronger incentives and more resources.²² If the book is now found and presented to a court, the

¹⁷ U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 704.01 (8th ed. rev. 2010) [hereinafter MPEP] (“After reading the specification and claims, the examiner searches the prior art.”).

¹⁸ MPEP § 2107 (governing examination for utility).

¹⁹ *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability”).

²⁰ See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998) (forty-six percent of litigated patents are ultimately declared invalid by courts).

²¹ 35 U.S.C. § 282 (2006) (providing defense of invalidity). Another mechanism to invalidate a patent after issuance is to seek reexamination in the PTO, which can revoke an issued patent if new information becomes available. See 35 U.S.C. §§ 301–305 (2006) (providing for reexamination).

²² Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 Stan. L. Rev. 45, 47 (2007).

patent will be declared invalid. A patent that is held invalid is treated as a legal nullity and has no further effect.²³

For clarity purposes, it is important to distinguish invalidity as an intrinsic property of the patent, versus invalidity as an administrative or judicial holding based on available information. In this Article, when I refer to an *invalid* patent, I mean a patent covering an old, useless, or obvious invention, including a situation where no one knows the patent is really invalid. When I refer to a patent that has been *found* invalid or *invalidated*, I mean a patent where the defect in the invention has been discovered and been presented to a tribunal such as the PTO or a court, so that the patent is declared to be a legal nullity with no effect.

2. Unenforceability for inequitable conduct.

As emphasized in the last section, an invalid patent may be issued without any dishonesty on the patentee's part. An obscure book located in a Bangladesh library is hard to find, and unless it is found the PTO will issue the patent. There is no need for Andy to actively hide the book or to know of its existence. At the same time, what happens if—as is often the case—Andy discovers the old book depicting the Widget while his patent application is pending?

From a social point of view, the desirable outcome is if Andy now discloses the book to the PTO examiner—if the PTO receives the book, this will prevent an invalid patent from issuing, which is a social good.²⁴ However, it is easy to see that Andy has a strong private incentive to do the exact opposite: not only will he not want to tell the PTO examiner about the book, he will want to further hide the book by throwing it into the ocean. The policy purpose underlying inequitable conduct doctrine is to counteract this incentive for dishonesty and to encourage honest disclosure.²⁵

Procedurally speaking, inequitable conduct exists as a defense to patent infringement. When Andy sues someone for patent infringement, the accused infringer can argue that Andy committed dishonest (or “inequitable”) conduct before the PTO and the patent should be held unenforceable. If the court finds that the patentee made

²³ See *Blonder Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313 (1971) (holding that a judgment of invalidity can be asserted by all future accused infringers against the patent).

²⁴ See *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969) (describing the public interest in removing invalid patents).

²⁵ *Aptix Corp. v. Quickturn Design Sys., Inc.*, 269 F.3d 1369, 1376 (Fed. Cir. 2001).

a material misrepresentation or omission with intent to deceive, it will hold the patentee guilty of inequitable conduct.²⁶ Once liability for inequitable conduct is found, there is only one remedy: unenforceability of the patent.²⁷ Unenforceability means that the patent will be given no further effect.²⁸

In practical effect, an unenforceability judgment is basically identical to an invalidity judgment.²⁹ The semantic distinction is useful—and will be maintained throughout this Article—because the two defenses seek to address different problems and have different triggers. The crux of invalidity is simply that the invention does not merit a patent. The crux of unenforceability from inequitable conduct is that the patentee has been dishonest, and the penalty seeks to punish and deter such dishonesty.

The unenforceability penalty is usually considered to be extremely severe and to produce a great deal of deterrence. The Federal Circuit calls it the “atomic bomb” of patent law.³⁰ Scholars have called it a “death penalty” for patentees.³¹ As the next Section will show, however, this view is incorrect in at least some cases. In a case like *Andy*, the unenforceability penalty is not severe. Rather, it produces no punishment or deterrence at all.

B. *The Problem of Under-Deterrence.*

This Section seeks to establish two points. First, contrary to the conventional wisdom, the unenforceability penalty is not severe in one critical class of cases: cases where the patent is invalid. Rather, in such cases the punishment is so weak as to be non-existent. Second, the culpability of the patentee is highest when a misstatement results in an invalid patent being erroneously issued by the PTO. The sum of these two points is a perverse result: in the cases with the highest culpability, the punishment and deterrence is weakest.

²⁶ See *Therasense*, 649 F.3d at 1287–88 (stating the two requirements of materiality and intent, and noting that “the standards for intent to deceive and materiality have fluctuated over time”).

²⁷ *J.P. Stevens & Co. v. Lex Tex, Ltd.*, 747 F.2d 1553, 1561 (Fed. Cir. 1984).

²⁸ See *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556, 1563 n.7 (Fed. Cir. 1989) (inequitable conduct cannot be cured by later action).

²⁹ There is one difference, which is that unenforceability renders an entire patent unenforceable while invalidity may affect only individual claims. *J.P. Stevens*, 747 F.2d at 1561. I address the effect of this difference in Part I.E.

³⁰ *Therasense*, 649 F.3d at 1289.

³¹ Cotropia, *supra* note 7, at 725; Nicole M. Murphy, Comment, *Inequitable Conduct Reform: Is the Death Penalty for Patents Still Appropriate?*, 93 Minn. L. Rev. 2274 (2009)..

Let us start with a definition of “culpability.” In fraud law, two factors are generally considered relevant to determine the culpability of a misrepresentation: materiality and intent.³² This is comports quite well with common understandings of moral culpability: A misstatement that is material—*i.e.* that induces a bad consequence—is more culpable than a misstatement that has no effect. Similarly, intentional misstatements are usually regarded as more culpable than accidental mistakes. Standard inequitable conduct doctrine thus also defines patentee culpability by these two factors.³³

In the context of inequitable conduct doctrine, dealing as it does with misstatements to the PTO, both of these factors correlate strongly to whether a patent is invalid under the true state of facts. As already mentioned, the basic job of the PTO is to ensure that old, useless, and obvious inventions do not get patents.³⁴ A bad consequence is therefore by definition the erroneous issuance of such an invalid patent; and a patentee statement that induces this result is thus the most material type of misrepresentation.³⁵ On the intent prong, a patentee has the strongest motivation to make an intentional misrepresentation precisely when it will ensure that the PTO issues an invalid patent: if the information is inconsequential, then an applicant will have no motivation to lie about it, and thus immaterial misstatements are also unlikely to be intentionally made.³⁶

Therefore, for the purpose of this Article, I will define a “highly culpable” misstatement as one that results in the erroneous issuance of an invalid patent, that is, a patent that would be declared invalid if the truth were known. In such cases the patentee has a strong motive to intentionally lie, making intent more likely, and the lie has greater consequence. A “less culpable” misstatement is one that has no effect,

³² See, e.g., *Merck & Co., Inc. v. Reynolds*, 130 S. Ct. 1784, 1796 (2010) (defining securities fraud as making “a material misstatement with an intent to deceive”).

³³ *Therasense*, 649 F.3d at 1287–88 (noting that “the standards for intent to deceive and materiality have fluctuated over time”).

³⁴ See 35 U.S.C. § 131 (2006) (requiring examination of applications).

³⁵ See *Therasense*, 649 at 1291 (holding that, as a general matter, materiality means that at least one claim of the patent would be invalid if the truth were known to the PTO).

³⁶ There is one situation where materiality and intent diverge, and where my definition will not precisely match our normal intuitions of culpability. Namely, an applicant may *mistakenly believe* that some piece of information proves his invention to be invalid and therefore intentionally hide it, even though the information is in fact harmless. I discuss this situation, which I call the “attempt” problem, in Part IV.B.2.

i.e. the same patent would have issued anyway and is valid even if the truth were known. Here, there is no motive for to lie and thus it is unlikely to be intentionally made, and the misstatement is immaterial by definition, because it had no effect on the PTO's decision on whether to issue the patent. And in using the terms "misrepresentation" or "misstatement," I will include *omissions* of information. This is because every patentee makes the affirmative oath to the PTO that he believes himself to be the first and true inventor of a patentable invention.³⁷ A concealment of information showing the invention to be unpatentable is tantamount to making this affirmative oath of true inventorship into a misstatement.

Now let us consider the effect of the unenforceability penalty. Return to the hypothetical patentee, Andy, who hides a prior art book that would prove his claimed invention is in fact not new. This is highly culpable misconduct under my definition, since it results in the erroneous issuance of an invalid patent—if the PTO examiner had been aware of the book, the patent would not be issued. As a policy matter, we would seek to impose a very severe penalty for this type of misconduct. Does the unenforceability remedy achieve this goal?

The answer is "no." It is important to understand that, in order for a claim of inequitable conduct to be properly alleged and proven, the accused infringer *must have found the book*. If the accused infringer does not find the book and discover its contents, then he will never know that Andy had hidden anything relevant to the patent—it is nobody's business if Andy hides his personal reading habits—and so the accused infringer would have no foundation to litigate an inequitable conduct defense. But once the book is found, the patent will be declared invalid for lack of novelty, and the unenforceability penalty becomes superfluous. Whether the book is found or not, there is no punishment levied specifically for the dishonest behavior, and therefore no incentive for honesty.

Another way of seeing this point is to consider Andy's incentives at the time of deciding whether to disclose the book to the PTO. Andy's calculus will go like this: If I disclose the book, the PTO will certainly deny my patent. Conversely, if I hide the book, then I will gain a patent *unless* and *until* I am caught, and even if I am caught the worst outcome is to lose the patent.³⁸ Andy is therefore strictly better off to

³⁷ 35 U.S.C. § 115 (2006) (patentee oath).

³⁸ A similar point is often made in the death penalty literature. If a mandatory death penalty is imposed for robbery, then a robber would have no marginal incentive not to also murder his victim. Ernest van den Haag,

hide the book and gain the chance of evasion, as well as monopoly profits in the interim.

Generalizing from this example, the more culpable the patentee's dishonesty (*i.e.* the more likely that the patent is really invalid), the less *ex ante* deterrence the unenforceability penalty will provide against that misconduct. This is because, before an accused infringer can prove a claim of inequitable conduct and apply the unenforceability remedy, he must first discover the concealed information. Once the concealed information is exposed, however, a patent that is obtained by highly culpable fraud—*i.e.* by suppressing damning information—is likely to be invalidated on its own merits. This renders the unenforceability penalty superfluous, in precisely the worst types of cases. Too little punishment for serious dishonesty, in turn, means that serious dishonesty is more likely to occur in the PTO.

The severity of this under-deterrence problem is made more stark by comparing patents to any other government-issued entitlement, even entitlements created to incentivize important social contributions. Imagine a non-veteran is discovered to have fraudulently claimed veterans benefits. It would be regarded as an *obvious first step* to terminate the further flow of benefits to that person,³⁹ not as a drastic “atomic bomb” remedy to do so. It is also an obvious second step to require the fraudster to pay back all the previously received benefits in the past;⁴⁰ but in patent law the analogous remedy—disgorgement of prior monopoly profits—is regarded as unimaginable by the courts, given that termination of future monopoly profits is already regarded as an atomic bomb.⁴¹ Finally, in the veterans context it would be an obvious third step to levy a *real* punishment on the fraudster, such as fines or prison, over-and-above the termination of the flow of future benefits and the repayment of past benefits;⁴² but fines and prison are likewise considered unimaginably draconian measures in the context of patentees. The fact that common sense remedies in any other context are considered unimaginably draconian measures in patent

Punishment as a Device for Controlling the Crime Rate, 33 Rutgers L. Rev. 706, 712 (1981).

³⁹ 38 U.S.C. § 6103 (2006) (forfeiture of benefits for fraud).

⁴⁰ 38 U.S.C. § 6108 (2006) (authorizing restitution of fraudulently claimed benefits to the Department of Veterans Affairs).

⁴¹ See Allison Pruitt, Note, *Keeping Patent Applicants Honest: A Proposal to Apply Disgorgement Remedies to Findings of Inequitable Conduct During Patent Prosecution*, 13 J. Intell. Prop. L. 465, 487–88 (2006) (proposing such a remedy, but acknowledging there is no present authority supporting it).

⁴² 38 U.S.C. § 6102 (2006) (crime to fraudulently obtain veterans benefits).

law indicates that, far from being unduly harsh, the law of inequitable conduct is in fact unduly favorable to patentees.

C. The Problem of Over-Deterrence.

In contrast to Andy, let us consider a different patentee, Betty, who invents a pill that cures AIDS. This is plainly a new, useful, and non-obvious invention deserving a patent. However, in filling out the patent application, Betty makes a minor error: she misstates her citizenship as “China,” when she is in fact a citizen of Chile. What happens if Betty’s error is deemed to be inequitable conduct and her patent is thereby rendered unenforceable?⁴³

At the outset, it is immediately apparent that, in this context, the unenforceability penalty has a very large effect. In the absence of the error, Betty would still have a valid and valuable patent on the cure for AIDS. Rendering this patent unenforceable therefore deprives Betty of a large amount of value, akin to levying a million dollar fine.

Not only is the punishment effect very large, the culpability of the “misconduct” that triggers this large effect is very small. All Betty has done is make an obvious typographical error. After all, Betty has no apparent motive to misstate her citizenship—a citizen of Chile gets the same patent rights as a citizen of China, on the same terms, and for the same duration;⁴⁴ and the misstatement therefore also causes no noticeable prejudice whatsoever to the public or to the PTO. In short, in the context of harmless errors, the unenforceability penalty exacts the strongest punishment, precisely for the least culpable offenses.

The problem is not merely a matter of intrinsic unfairness, though that too is a concern. A more tangible problem is that such heavy punishment of trivial errors creates over-deterrence and inefficiently high levels of precaution taking.⁴⁵ What will a patent applicant do in

⁴³ One immediate intuition might be that the error is so plainly trivial that no court would ever find Betty guilty of inequitable conduct. In Part III, I will discuss the effect of varying the standard for imposing liability in more detail. At present, however, the purpose of this Section is to explore the effect of the unenforceability penalty *if* it is applied to a case like Betty, precisely to show why such application is a bad idea. And it is at least plausible that Betty might be found guilty of inequitable conduct, since the patent statute specifically requires patent applicants to state their citizenship, 35 U.S.C. § 115 (2006), and so errors on this issue can be seen as quite serious.

⁴⁴ Paris Convention for the Protection of Industrial Property, art. 2, May 4, 1970, 21 U.S.T. 1583, 828 U.N.T.S. 305.

⁴⁵ *Cf.* Melvin A. Eisenberg, *Mistake in Contract Law*, 91 Cal. L. Rev. 1573, 1579 (2003) (“a legal regime that provided an incentive for triple- and

the future, upon seeing Betty's example? The logical result would be to double and triple-check the statement of citizenship, and all the other statements made in patent application, for minor typos. This is a highly inefficient use of social resources: while typo-free patent applications might be a good thing in the abstract, having patent applicants spend millions of dollars in attorneys fees to ensure typo-free patent applications would not be.

The over-deterrence problem has been exhaustively described in the literature.⁴⁶ The result of imposing severe punishment for minor mistakes is that patent applicants take excessive precautions against making such mistakes, such as by flooding the PTO with every tangentially relevant book and article, and by double and triple-checking against typos and minor misstatements.⁴⁷ This is wasteful and increases the social cost of the patent system.

D. *A Model of the Over- and Under-Deterrence Effects*

The above sections provide two extreme examples to demonstrate the upside down effect: Andy hides information that would clearly invalidate his patent and receives zero punishment; while Betty misstates information that has no bearing on the validity of her patent and receives the most severe punishment.

Of course, patentee culpability is not truly a dichotomous on-off switch but runs in degrees. Patent invalidity is probabilistic, in that a patentee cannot be certain whether a prior art reference will invalidate his patent.⁴⁸ Some types of information are more likely to be invalidating than others. For example, a book depicting the exact same invention is more clearly invalidating than an article that depicts a somewhat similar but non-identical invention. By the same token, it is more culpable to hide the book than the article, since the book is clearly essential to the PTO's decision-making, whereas the importance of the article is more debatable. The sum is that the

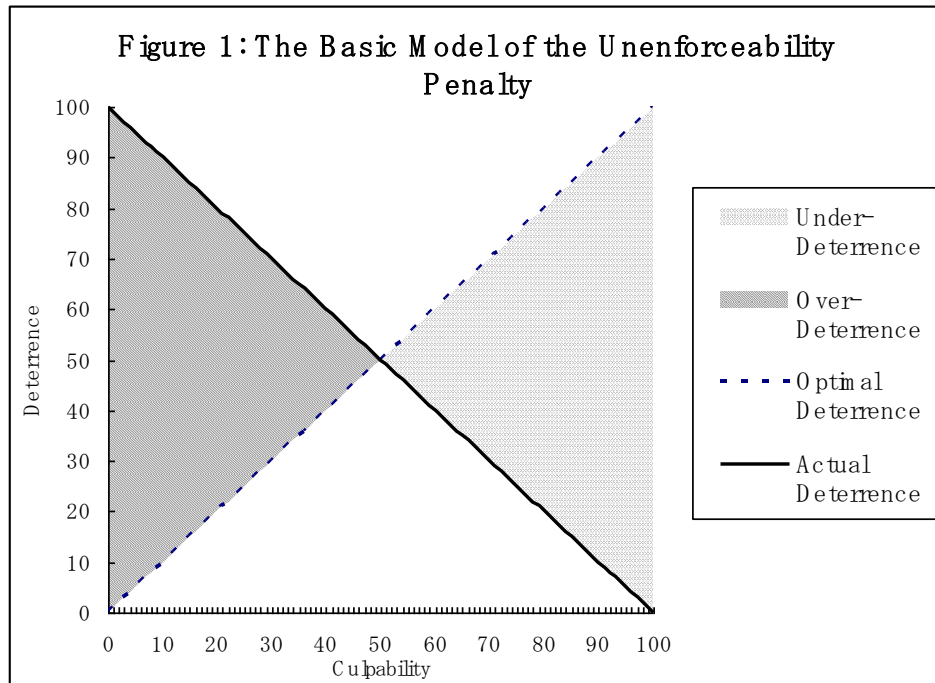
quadruple-checking might inefficiently require an unduly high level of precaution").

⁴⁶ See, e.g., *Therasense*, 649 F.3d at 1289 ("patent prosecutors regularly bury PTO examiners with a deluge of prior art references, most of which have marginal value"); 154 Cong. Rec. S9992 (daily ed. Sep. 27, 2008) (statement of Sen. Kyl) (arguing that inequitable conduct doctrine leads patent applicants to "flood the Office with prior-art references but offer no explanation"); Cotropia, *supra* note 7 at 770–73 (arguing that inequitable conduct results in over-compliance).

⁴⁷ *Id.*

⁴⁸ Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. Econ. Persp. 75 (2005).

upside-down effect runs continuously throughout the differing degrees of culpability. The more likely that a reference is to invalidate the patent, the more culpable the patentee is in hiding it. At the same time, the more likely that a patent is invalid under the true state of facts, the less punishment and ex ante deterrence the unenforceability penalty provides. This result is depicted in Figure 1.



In Figure 1, the dotted line represents the optimal correlation of culpability and punishment that we would like to see: as culpability increases, the punishment should also increase to deter increasingly culpable misconduct. However, the actual effect produced by the unenforceability penalty, represented by the solid line, runs in precisely the other direction: as culpability increases, the punishment and deterrence effect decreases, since increasing culpability means the patent is more likely to be invalid and the unenforceability penalty is therefore increasingly superfluous.

This results in two undesirable effects. On the left side of the diagram, representing the low culpability cases where the patent is likely valid, we have over-deterrence where minor misstatements not affecting the validity of the patent are strongly punished. Indeed, the more clear that the error is harmless (i.e. the further left we go), and the less consequent motivation that any patentee would have to intentionally make such a misstatement, the stronger the over-deterrence effect becomes.

On the right side of the diagram we have the exact opposite effect. The right side of the diagram represents the higher culpability cases where the patent is likely invalid under the true state of facts. Here, we have under-deterrence where patentees hiding highly damaging information are only lightly punished. And the more clear that a concealed piece of information would invalidate the patent (i.e. the further right we go), and the more consequent motivation that a patentee would have to intentionally conceal such damaging information, the less real punishment and deterrence is imposed, since the unenforceability penalty is more likely to be superfluous.

To be sure, the unenforceability penalty does achieve reasonably good results close to the center of the diagram. This represents a situation where it is *highly uncertain* ahead of time whether a given piece of information will invalidate the patent, and a risk-averse patentee may choose to submit such information rather than run the risk of having the patent rendered unenforceable if he caught in the concealment. But this narrow set of good outcomes is achieved at a heavy price: It both offends our moral sensibilities, and creates highly perverse results, when the most culpable fraudsters receive no punishment and the most innocent errors are subjected to the most heavy punishment, and only the intermediate cases are appropriately resolved. To consider an analogy, a criminal sentencing regime where murderers are let go, and jaywalkers are executed, would not be redeemed by giving robbers an appropriate prison sentence.

E. The Effect of Entire-Patent Unenforceability

One potential objection to the model above is that I have failed to consider the fact that inequitable conduct renders an entire patent unenforceable, while invalidity might only affect individual claims. To state this objection more clearly, an initial point to understand is that a patent can have multiple claims to somewhat different inventions; for example, a patentee may invent both a pencil and an eraser at the same time, and thus have two claims: (1) to the pencil, and (2) to the eraser.⁴⁹ The patentee might subsequently discover prior art showing that pencils already existed in the public domain, and intentionally hide this prior art to obtain the patent. Once the truth is exposed, only the pencil claim will be found invalid, but the inequitable conduct penalty will render the entire patent—including the otherwise-valid eraser claim—unenforceable.⁵⁰ In this way, the unenforceability

⁴⁹ See 35 U.S.C. § 112 (2006) (stating that a patent may have “one or more claims”).

⁵⁰ *J.P. Stevens & Co. v. Lex Tex, Ltd.*, 747 F.2d 1553, 1561 (Fed. Cir. 1984).

penalty will create some additional deterrence in cases where the patent is only *partially* invalid under the true state of facts.

The response to the objection is that my model accounts for this phenomenon, once we clarify the definition of culpability to account for the possibility of a patent being partially invalid. Straightforwardly, it is more culpable for a patentee to hide information that would wholly invalidate his patent instead of merely partially invalidating it: in our example, it would be more culpable for the patentee to hide prior art showing *both* a pencil and an eraser, than merely to hide prior art showing only a pencil. Thus, when a patentee hides information that has a 100% chance of invalidating 50% of the patent, this is just like a situation where a patentee hides information that has a 50% probability of invalidating the entire patent—he sits in the middle portion of the diagram, where he is somewhat culpable and somewhat punished. As can be seen from the diagram, the more culpable the patentee is—*i.e.* the closer the information hidden comes to a 100% probability of invalidating all the claims in the patent—the less the punishment imposed. Therefore, the fundamental point of upside-down patentee incentives stands.

F. *The Difference from the Conventional Wisdom*

The sum of the above analysis is that inequitable conduct produces both under-deterrence and over-deterrence. This contrasts sharply from the conventional wisdom, which usually views the problem solely as one of over-deterrence.⁵¹ Thus, the unenforceability penalty is referred to as an “atomic bomb” or a “death penalty,”⁵² while the inequitable conduct defense has been called an “absolute plague.”⁵³ Common proposals for reform are aimed solely at reducing the punishment and deterrence effect of inequitable conduct, such as by raising the standards of intent and materiality,⁵⁴ to raise the burden of

⁵¹ See, e.g., Cotropia, *supra* note 7, at 762–70 (arguing inequitable conduct causes over-disclosure); Thomas F. Cotter, *An Economic Analysis of Patent Law’s Inequitable Conduct Doctrine*, 53 Ariz. L. Rev. 735, 778 (2011) (arguing “uncertainties in the operation of existing doctrine may induce risk-averse agents to overdisclose”).

⁵² See *supra* text accompanying notes 30–31.

⁵³ *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988).

⁵⁴ See, e.g., Christian M. Mammen, *Controlling the “Plague”: Reforming the Doctrine of Inequitable Conduct*, 24 Berkeley Tech. L. J. 1329, 1390–94 (2010) (proposing to raise standards of intent and materiality); David O. Taylor, *Patent Fraud*, 83 Temp. L. Rev. 49, 73–80 (2010) (arguing for higher intent and materiality standards).

proof,⁵⁵ to reduce the penalty by rendering unenforceable only certain claims of a patent (rather than the patent in its entirety),⁵⁶ and to implement a one-sided cost-shifting regime where losing accused infringers would have to pay attorneys fees to victorious patentees.⁵⁷

A skeptical reader might be concerned that I have overstated the degree of consensus in the conventional wisdom. After all, the recent case of *Therasense*, which quite severely narrowed inequitable conduct doctrine, nonetheless also produced a dissent by Judge Bryson that was joined by three other judges. At first blush, this would suggest that there is a contrary view that is being voiced, albeit by a minority of judges. Even a cursory view of the dissenting opinion, however, would dash any hopes on this front. Here is how the dissent begins:

There is broad consensus that the law of inequitable conduct is in an unsatisfactory state and needs adjustment. . . . In litigation, counterclaims of inequitable conduct have been raised in too many cases and have proved difficult to resolve. In the PTO, . . . inequitable conduct has led some patent prosecutors to err on the side of “overdisclosure” in order to avoid the risk of rendering all claims of an otherwise valid patent unenforceable⁵⁸

The dissent then states its core disagreement with the majority:

[T]he majority's new test . . . does not merely reform the doctrine of inequitable conduct, but comes close to *abolishing it altogether*. I respectfully dissent from that aspect of the court's decision.⁵⁹

As can be seen, Judge Bryson's dissent is not exactly giving voice to the under-deterrence problems of inequitable conduct doctrine. Rather, it brings to mind the old joke that a conservative judge believes there is no meritorious habeas petition in a thousand, while a liberal judge believes there is one. The difference between the majority and the dissent in *Therasense* is only that the majority believes that

⁵⁵ *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1327–28 (Fed. Cir. 2009) (requiring heightened pleading, including pleading intent with particularity).

⁵⁶ See *Cotropia*, *supra* note 7, at 774–75; *Dolak*, *supra* note 12, at 30–31.

⁵⁷ See, e.g., *Dolak*, *supra* note 12, at 31; Kevin Mack, Note, *Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 *Berkeley Tech. L.J.* 1, 25–26 (2006).

⁵⁸ *Therasense*, 649 F.3d at 1302 (Bryson, J., dissenting).

⁵⁹ *Id.* at 1304 (emphasis added).

inequitable conduct claims are always frivolous and draconian and wants to abolish the defense de facto, while the dissent believes that inequitable conduct allegations are merely *almost* always frivolous and would not go as far as abolition. The consensus among *all* the judges is that inequitable conduct allegations are “raised in too many cases” and the threat of unenforceability leads to “overdisclosure” to the PTO. That even the *dissenters* start off by joining this “broad consensus” forcefully demonstrates the lopsided nature of the conventional wisdom.

II. UPSIDE DOWN INCENTIVES FOR ACCUSED INFRINGERS

As shown in Part I, the unenforceability penalty produces both over- and under-deterrence. It produces over-deterrence in cases of low culpability, and under-deterrence in cases of high culpability. Despite this effect, the common perception of the penalty invariably focuses on its potential over-deterrence effect. Even the dissenters concede this point at a fundamental level, and only quibble at the edges. If my analysis is right, then why does no one worry—or least no one worries very *much*—about the under-deterrence problem?

One potential answer, suggested in Part I, is that the conventional wisdom has simply failed to consider the *marginal* effect, as opposed to the overall result, of unenforceability. That is, “holding a patent unenforceable” sounds at first blush to be very severe—until one considers that the patent is invalid anyway, a point that is easy to miss. And much of the reason for the conventional wisdom can probably be attributed to this phenomenon.⁶⁰

This Part provides a second, complimentary, answer. Judges and commentators rarely consider the possibility of under-deterrence, which arises in the relatively more culpable cases of patentee dishonesty (the right side of the diagram), because they believe that such highly culpable patentee dishonesty almost never occurs in the PTO.⁶¹ My argument in this Part is that this belief in intrinsic patentee honesty arises because of a litigation selection effect, and is therefore based on an illusion. As Section A will demonstrate, the *more* culpable the patentee’s misconduct, the *less* likely an accused infringer

⁶⁰ See Donald J. Boudreaux, Roger E. Meiners & Todd J. Zywicki, *Talk is Cheap: The Existence Value Fallacy*, 29 *Envtl. L.* 765, 786–87 (1999) (describing how legal analysis often fails to consider marginal effects).

⁶¹ See FED. TRADE COMM’N, *TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW POLICY* Chapter 5, at 11 & n.72 (2003) (“Hearing testimony generally indicated that, so far as it goes, the duty of candor induces substantial compliance,” even though “noncompliance penalties are rare.”). See also *infra* text accompanying note 93.

will bring such misconduct to light by mounting an inequitable conduct defense. The effect of this illusion on perceptions about patentee honesty, and corresponding judicial (and legislative) beliefs about the need for an inequitable conduct doctrine to deter such dishonesty, are explored in Sections B and C.

A. *The Selection of Defenses in Litigation*

Consider two accused infringers facing two different lawsuits by two different patentees. In Lawsuit A, the accused infringer discovers that the patentee had misstated information to the PTO, and the information is sufficient to invalidate the patent. For example, the accused infringer discovers an old book depicting the invention and thereby showing that the patentee's invention is not new. In Lawsuit B, the accused infringer discovers that the patentee had misstated something that does not really affect the validity of the patent, such as making a typo in the patentee's address. What should each accused infringer do?

In Lawsuit A, the accused infringer will immediately file a summary judgment motion for the invalidity of the patent. Importantly, the basis of the summary judgment motion will *not* be that the patentee lied to the PTO and is guilty of inequitable conduct. Rather, it is far easier to simply submit the (now discovered) critical document showing that the invention is not new and the patent is invalid for lack of novelty. At this point the case will end, since the patent is now invalidated and void.⁶² No evidence of patentee dishonesty will ever be presented to a court.

There is little incentive for an accused infringer to undertake the additional task of proving that the patent applicant intentionally misled the PTO, which is required to show inequitable conduct but not to establish invalidity. First, collecting evidence showing that the patentee had *knowledge* of the omitted information is difficult enough. Second, even after it is established that the patentee knew about the book and did not submit it to the PTO, the patentee will certainly still claim that it was an inadvertent mistake rather than intentional fraud—that he simply forgot to submit the book, or that he believed the book was not relevant. Proving the patentee's true intent in the face of such self-serving litigation denials is almost impossible, because the Federal Circuit has erected a very high standard of proof.⁶³ Finally,

⁶² See *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 243 F.3d 1316, 1320 (Fed. Cir. 2001) (dismissing inequitable conduct issue as moot in light of invalidity).

⁶³ Specifically, as described in Part II.C.1., the Federal Circuit holds that a patentee's knowing suppression of invalidating prior art is not evidence of

and most importantly, there is very little benefit to the accused infringer in undertaking these costly burdens. Even if the accused infringer succeeds, the only thing he gains is a judgment of unenforceability, which is superfluous in light of the judgment of invalidity. Because proving patentee intent is all work for no gain, a rational accused infringer in Lawsuit A will focus on invalidity and ignore inequitable conduct.

This is a slight simplification, in the sense that there is one small benefit for an accused infringer to prove inequitable conduct, over and above the remedy for proving the invalidity of the entire patent.⁶⁴ A finding of inequitable conduct opens the possibility of—but does not mandate—an award of attorneys fees.⁶⁵ But this is a minor issue in comparison to the much higher stakes of winning the overall case, and has always been treated as small potatoes even by the conventional wisdom.⁶⁶ The sum is that invalidity is far easier to prove than inequitable conduct, for almost the same result, and so in a world of limited litigation resources,⁶⁷ an accused infringer who has a strong invalidity defense will devote most of his resources to invalidity and treat inequitable conduct as, at most, an afterthought.⁶⁸

The picture flips 180 degrees when we consider Lawsuit B, where the accused infringer does not have a reasonable invalidity argument, since the patent applicant's address does not affect whether the invention is new, useful, or non-obvious. Now, the accused infringer

intent to deceive the PTO. *Optium Corp. v. Emcore Corp.*, 603 F.3d 1313, 1321 (Fed. Cir. 2010).

⁶⁴ Another benefit of unenforceability comes into play when the patent is only partially invalid, where there is some incentive for an accused infringer to litigate inequitable conduct in order to render the entire patent unenforceable. *See supra* Part I.E. But in those cases the patentee's culpability is also lessened, since the patent is only partly undeserved, and this again demonstrates the upside down effect that accused infringers have more incentive to litigate precisely when the patentee's culpability is lower.

⁶⁵ *Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1380 (Fed. Cir. 2001). On the possibility of attorney fees as providing incentives to litigate, *see infra* Part IV.C.4.

⁶⁶ *See Norton v. Curtiss*, 433 F.2d 779, 795 (C.C.P.A. 1970) (noting that whether the entire patent would be held unenforceable, when the asserted claims were already invalidated, "would really be of secondary importance").

⁶⁷ This is especially the case when invalidity and inequitable conduct are competing for the same scarce litigation resources. *See, e.g.*, Fed. R. App. P. 32(a)(7) (imposing word limit on briefs). Arguing inequitable conduct then detracts from the all-important invalidity argument.

⁶⁸ *See infra* Part IV.C.4 for more discussion of the inadequacy of attorneys fees as a solution to the upside-down effects.

has every incentive to emphasize the patentee's misstatement to the patent office and play up the inequitable conduct defense,⁶⁹ spending a great deal of his brief on this issue. This is, to be sure, a very weak argument for the accused infringer. But it is *stronger than all of his alternatives*. The adage that "beggars are not choosers" applies.

This selection effect explains a phenomenon that courts have long observed: namely, that accused infringers devote enormous amounts of resources to litigating obviously weak inequitable conduct cases.⁷⁰ Judges are often mystified by this phenomenon, and emerge with the conclusion that accused infringers have extremely overzealous lawyers.⁷¹ The same judges then engage in this reasoning: If accused infringers will so zealously litigate even a weak inequitable conduct case involving trivial mistakes, then they would surely even more zealously litigate a strong inequitable conduct case involving real patentee misconduct; and the fact that I almost never see any such strong inequitable conduct cases therefore tells me that such serious misconduct does not actually happen.⁷² Courts therefore emerge with a strong belief in intrinsic patentee honesty.⁷³

The basic point of this Part is that courts are correct in observing that accused infringers will zealously litigate many weak inequitable conduct cases. But they are wrong to believe that just because someone will zealously litigate a weak inequitable conduct case, the same person would zealously litigate a strong inequitable conduct case; and therefore are also wrong to draw the inference that the lack of strong

⁶⁹ For example, the accused infringer will probably argue that the misstatement is "intentional" since the patentee must have known his own address; and is "material" because getting the right address on a patent is oh-so-important for the public interest. These are extremely weak arguments. But that is the point of the selection effect.

⁷⁰ See, e.g., *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) ("Reputable lawyers seem to feel compelled to make the charge against other reputable lawyers on the slenderest grounds . . ."); *Allied Colloids Inc. v. Am. Cyanamid Co.*, 64 F.3d 1570, 1578 (Fed. Cir. 1995) (observing that "every patentee's imperfections were promoted to 'inequitable conduct' by accused infringers").

⁷¹ *Burlington Indus.*, 849 F.2d at 1422 (speculating that accused infringers' lawyers "make the charge against other reputable lawyers . . . to represent their client's interests adequately, perhaps").

⁷² *Id.* ("They get anywhere with the accusation in but a small percentage of the cases . . ."); see also Nolan-Stevaux, *supra* note 9, at 161–62 (explicitly arguing that low win rate for accused infringers is "indicative of the rare circumstances in which patentees blatantly engaged in inequitable conduct").

⁷³ *Burlington Indus.*, 849 F.2d at 1422 (calling allegations of inequitable conduct "an absolute plague").

cases in litigation is because such strong cases do not exist. Rather, the counter-intuitive result of my analysis is that accused infringers will zealously litigate weak inequitable conduct cases but will treat strong ones as afterthoughts.

One criticism of my analysis will likely be that it must be wrong in positing that strong inequitable conduct cases are neglected, because virtually every accused infringer alleges inequitable conduct in their pleadings.⁷⁴ It is true enough that inequitable conduct is almost always alleged, but this actually reinforces my point. The costs for accused infringers arise when the accused infringer seeks to *prove* inequitable conduct, but do not arise in simply *alleging* it. It is costly to pay lawyers and detectives to dig up reliable evidence of patentee dishonesty; and it consumes briefing space and limited trial presentation time to contest the issue. But it is almost costless to include a *pro forma* allegation, since there are no word limits for pleadings, and the attorneys fees required are minimal.⁷⁵

The result is that virtually every accused infringer—including those with strong cases—will allege inequitable conduct in their pleadings.⁷⁶ At the same time, the defense is rarely seriously pursued: inequitable conduct defenses are litigated in only sixteen to thirty-five percent of those cases that make it to appeal.⁷⁷ Thus, as the litigation process proceeds—and as the cost of actually collecting evidence and presenting the argument to judges increases—a large majority of inequitable conduct allegations are left to wither, while other defenses are pursued instead. This reinforces the illusion of patentee honesty

⁷⁴ *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988) (“The habit of charging inequitable conduct in almost every major patent case has become an absolute plague.” (internal quotations and alterations omitted)).

⁷⁵ The only cost is potential sanctions for making frivolous allegations. Fed. R. Civ. P. 11. This cost has not been significant because Rule 11 has not traditionally been seriously enforced. *See* S. Rep. No. 104-98, at 13-14 (1995), *reprinted in* 1995 U.S.C.C.A.N. 679, 692-93 (noting that Rule 11 motions are expensive to file and courts are hesitant to impose sanctions even when violations are proved). The Federal Circuit has recently begun to take pleading requirements for inequitable conduct more seriously. *See infra* note 98 and accompanying text. Whether this new standard has or will reduce the number of allegations—and whether the effect will fall on the frivolous or meritorious allegations—has not been well-studied.

⁷⁶ *Therasense*, 649 F.3d at 1289.

⁷⁷ Mack, *supra* note 57, at 155–56; *see also* Benjamin Brown, Comment, *Inequitable Conduct: A Standard in Motion*, 19 *Fordham Intell. Prop. Media & Ent. L.J.* 593, 607-08 (2009) (reporting that inequitable conduct is addressed in twenty percent of reported cases).

because, in the conventional wisdom, the fact that an allegation of inequitable conduct is made but then abandoned is taken to indicate its frivolousness.⁷⁸ My analysis, however, suggests that accused infringers will abandon (or at least only half-heartedly pursue) many strong inequitable conduct cases involving serious misconduct, because in those cases the invalidity defense is more promising and there is little further to gain by pursuing the inequitable conduct defense.

B. *The Effect on Judicial Perceptions*

What happens over the long-run when judges see only weak cases being litigated under inequitable conduct, and never strong cases? As a great deal of literature has shown—and as common sense would indicate—they start believing that serious patentee misconduct never really occurs,⁷⁹ merely because they do not see such misconduct in the cases before them. This is known as “availability bias,” where people overestimate the statistical frequency of events that they have vivid knowledge of, and underestimate those that they do not.⁸⁰ And once judges start believing that true patentee misconduct rarely occurs, they then change doctrine to cut back the inequitable conduct defense.

The selection effect and its effect on perceptions is not limited to patent law but occurs more generally. A good example is exclusionary rule litigation. As Nancy Leong has discussed,⁸¹ the Fourth Amendment’s protection against unreasonable searches and seizures is primarily enforced by the exclusionary rule, which excludes inculpatory evidence in cases where there has been a Fourth Amendment violation by the police.⁸² This litigation posture means that the only people who are likely to invoke the exclusionary rule are clearly guilty criminals who are trying to exclude the very evidence that demonstrates their guilt. And the very fact that a particular search yielded inculpatory evidence makes it seem (in hindsight) relatively less abusive than if the same police conduct had been

⁷⁸ See *Burlington Indus.*, 849 F.2d at 1422 (noting that accused infringers “get anywhere with the accusation in but a small percentage of the cases . . .” and therefore labeling the allegations as an “absolute plague”).

⁷⁹ See, e.g., Cass R. Sunstein, *What's Available? Social Influences and Behavioral Economics*, 97 Nw. U. L. Rev. 1295, 1297 (2003); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in *JUDGMENT AND DECISION MAKING: AN INTERDISCIPLINARY READER* 38, 46-49 (Hal R. Arkes & Kenneth R. Hammond eds., 1986); Tversky & Kahneman, *supra* note 10.

⁸⁰ *Id.*

⁸¹ Nancy Leong, *Making Rights*, 91 B.U. L. Rev. __ (forthcoming 2012).

⁸² *Mapp v Ohio*, 367 U.S. 643, 655 (1961).

directed against an innocent person and yielded no evidence.⁸³ Therefore, courts will only ever see guilty criminals challenging “good” police searches, and never see the innocent victims of abusive police searches.⁸⁴ The result of this selection effect and the availability bias is that courts think that abusive police searches against innocent victims rarely occur,⁸⁵ and that the only effect of the exclusionary rule is to allow guilty criminals “to go free because the constable has blundered.”⁸⁶ Not surprisingly, modern Fourth Amendment jurisprudence has seen a one-way narrowing of the exclusionary rule.⁸⁷

The key point is that the perception of police honesty arises even if it has no factual basis. Even if police officers routinely searched innocent victims in a highly abusive fashion, those victims would never appear in court under the exclusionary rule.

The same perception problem afflicts inequitable conduct doctrine. Because cases of patentees obtaining undeserved patents through fraud will rarely be litigated under the inequitable conduct doctrine, courts start believing that such patentee misconduct never occurs. To paraphrase Justice Cardozo, the perception becomes that the only effect of the inequitable conduct doctrine is to allow an infringer “to go free because the [prosecution counsel] has blundered.”⁸⁸ And the result is that courts change inequitable conduct doctrine to make the defense harder to prove. This perception arises even if serious patentee misconduct is in fact rampant.

The doctrinal reaction has a further effect: What does making inequitable conduct claims *even harder* to prove mean for accused

⁸³ Leong, *supra* note 81.

⁸⁴ In the Fourth Amendment context the innocent victims do have the alternative of suing under 42 U.S.C. § 1983. Leong finds that, on issues where there are more § 1983 actions involving innocent victims, courts are much more sympathetic to Fourth Amendment claims. And they carry this sympathy over to the exclusionary rule cases, so that those cases start to win more often, too. *Id.*

⁸⁵ *See, e.g.*, *Herring v. United States*, 555 U.S. 135, 147–48 (2009) (finding “no evidence that errors in Dale County’s system are routine or widespread”).

⁸⁶ *Id.* at 148 (quoting *People v. Defore*, 150 N.E. 585, 587 (N.Y. 1926)).

⁸⁷ *See, e.g.*, *Hudson v. Michigan*, 547 U.S. 586 (2006) (limiting exclusionary rule); *Herring*, 129 S. Ct. at 147–48 (2009) (limiting exclusionary rule); *Davis v. United States*, 131 S. Ct. 2419 (2011) (limiting exclusionary rule); *see also* Mark E. Cammack, *The Rise and Fall of the Constitutional Exclusionary Rule in the United States*, 58 Am. J. Comp. L. 631, 658 (2010) (“[E]nthusiasm for the exclusionary rule on the Supreme Court is at an all-time low, and the narrowing of the exclusionary rule . . . is certain to continue.”)

⁸⁸ *People v. Defore*, 150 N.E. 585, 587 (N.Y. 1926) (Cardozo, J.).

infringer incentives? The answer is to make accused infringers with reasonable invalidity defenses devote *even fewer* resources to the inequitable conduct argument, since the burden is now higher and the expected reward is even less. For accused infringers with no other options, the adage that beggars are not choosers still applies, so they will still make the inequitable conduct argument. Thus, a vicious cycle begins where courts now see even more pathetically weak cases by desperate accused infringers, and even fewer meritorious cases; and judges think that real patentee misconduct occurs even less frequently than before, making them narrow doctrine even further. The cycle then continuously repeats.

I should make clear that, in arguing that there is no evidence to justify the belief that patentees are almost never dishonest, I have no empirical evidence demonstrating the opposite. That is, I cannot demonstrate that patentee dishonesty is in fact rampant in the PTO, besides the fact that there is an obvious incentive for patentees to use fraud to obtain undeserved patents, and there is almost no punishment levied for such fraud once we consider the marginal effect of the unenforceability penalty. My point is that a great deal of doctrinal narrowing has been enacted (and even more proposed) based on the unsubstantiated belief in patentee honesty, which is in turn based on faulty inferences from litigation win rates.⁸⁹ The only clear point that litigation evidence—tainted by the selection effect—supplies is that the rate of serious patentee dishonesty is not zero. Despite the extremely high burden of proof and the lack of incentives to litigate the issue in high culpability cases, claims of inequitable conduct do occasionally succeed, and in the vast majority of those successful cases the patent is also invalidated.⁹⁰ This means that there are at least some cases where patentees have obtained undeserved patents through fraud, and where they have received no punishment even after being caught.

C. Matching Theory to Empirics: The Universal Unpopularity of Inequitable Conduct

Because of the perception created by the litigation selection effect, the inequitable conduct doctrine is almost universally unpopular. This is reflected by the fact that all three branches of government have taken action to narrow its applicability. This Section will examine each branch separately.

⁸⁹ See *infra* Part II.C.1 (judicial changes) & II.C.3 (legislative changes).

⁹⁰ Melissa Feeny Wasserman, *Limiting the Inequitable Conduct Defense*, 13 Va. J. L. & Tech. 1, 23 (2008). Paradoxically, Wasserman views this as a reason to *narrow* the inequitable conduct doctrine. *Id.*

1. The Federal Circuit: Narrowing doctrine.

As mentioned already, the Federal Circuit has not hesitated to use strong language to condemn the inequitable conduct doctrine, because its judges believe that patentees are in fact almost never dishonest to the PTO, and that the doctrine is serving little purpose beyond harming innocent patent owners and providing windfalls to evil infringers. Thus, the Federal Circuit calls allegations of inequitable conduct “an absolute plague,”⁹¹ and considers the unenforceability remedy an “atomic bomb” that should rarely, if ever, be deployed.⁹² And, reflecting their belief that serious patentee misconduct basically never happens, the same judges regularly state that allegations of patentee dishonesty are “overplayed” and generally frivolous.⁹³

Not surprisingly, the Federal Circuit carries these sentiments into its doctrine, so that inequitable conduct has the highest burden of proof in all of civil litigation and is practically impossible to establish. As the authors of a recent empirical study summarize their findings, the Federal Circuit’s “inequitable conduct jurisprudence evinces a strong preference for patentee success.”⁹⁴ A comparison to other types of fraud illustrates how this incredibly onerous burden of proof works.

First, the usual burden of proof in civil litigation, and applicable to other types of fraud on government agencies, is the preponderance of evidence standard.⁹⁵ In contrast, the Federal Circuit requires inequitable conduct to be proven by clear and convincing evidence.⁹⁶

Second, although traditional fraud must be pleaded with specificity under Federal Rule of Civil Procedure 9(b), the intent element may be pleaded without specificity.⁹⁷ This is already considered a highly onerous pleading requirement. The Federal Circuit, however, takes

⁹¹ *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988).

⁹² *Therasense*, 649 F.3d at 1288.

⁹³ *Id.* at 1289 (quoting *Kimberly–Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984)); see *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1482 (Fed. Cir. 1998); *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988).

⁹⁴ Petherbridge, Rantanen & Mojibi, *supra* note 11.

⁹⁵ See, e.g., 31 U.S.C. § 3731(d) (2006) (False Claims Act); *SEC v. C.M. Joiner Leasing Corp.*, 320 U.S. 344, 355 (1943) (securities fraud); but see *United States v. Am. Bell Tel. Co.*, 167 U.S. 224, 240–41 (1897) (requiring clear and convincing evidence when government revokes patent for fraud).

⁹⁶ *Tol-O-Matic, Inc. v. Proma Produkt-Und Marketing Gesellschaft m.b.H.*, 945 F.2d 1546, 1554 (Fed. Cir. 1991).

⁹⁷ Fed. R. Civ. P. 9(b).

this much further, and requires intent to deceive to be pleaded with specificity to show that nefarious intent, rather than innocent mistake, is the single most plausible inference on the facts pleaded.⁹⁸ This heightened pleading standard is the most onerous in all of civil litigation. As a striking comparison, the “single most plausible inference” standard is the precise standard that the Supreme Court *rejected* for allegations of securities fraud,⁹⁹ even after the Private Securities Litigation Reform Act of 1995 had specifically enacted a requirement of heightened pleading for intent.¹⁰⁰ The PSLRA pleading standard is usually understood as the most onerous pleading requirement that Congress could imagine;¹⁰¹ yet the Federal Circuit’s pleading standard for inequitable conduct exceeds it.

Third, not only does the Federal Circuit require an extremely strong inference of intent to be shown, it disallows the most commonsensical method of providing such an inference. A consideration of how intent is usually proved in other fraud contexts is helpful to explaining this: Suppose that a taxpayer is accused of committing fraudulent tax evasion by intentionally failing to file tax returns. The IRS proves that the taxpayer always files tax returns in the years where he has a refund, and never files tax returns (nor pays taxes) in the years where he would owe a tax liability.

In theory, even on this evidence, it is still *possible* that the taxpayer could have innocently forgotten to file tax returns and that the convenient timing is a simple coincidence. In every situation where intent is at issue, there is always the classic problem of “Was he stupid

⁹⁸ *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008) (“the inference [of intent] . . . must also be the single most reasonable inference able to be drawn from the evidence”). Although there is some language in *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1329 n.5 (Fed. Cir. 2009) suggesting that the pleading standard is lower than the ultimate standard of proof, the more recent decision in *Pressure Products Medical Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308 (Fed. Cir. 2010) makes clear that inequitable conduct cannot be even *asserted* (*i.e.* pleaded) unless the *Star Scientific* standard is met. *Id.* at 1320 (“this court has . . . requir[ed] specific and demanding showings of evidence before a party may *assert* the defense of inequitable conduct” (emphasis added)).

⁹⁹ *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 324 (2007) (“The inference that the defendant acted with scienter need not be . . . the ‘most plausible of competing inferences.’” (citation omitted)).

¹⁰⁰ 15 U.S.C. § 78u-4(b)(2) (2006).

¹⁰¹ Kevin S. Shmelzer, Comment, *The Door Slammed Shut Needs to be Reopened: Examining the Pleading Requirements Under the Private Securities Litigation Reform Act*, 78 Temp. L. Rev. 405, 424 (2005) (“Congress . . . created a standard which was the highest of the highs . . .”).

or was he evil?” It is impossible to conclusively establish that the omission was not an innocent mistake, and our hypothetical taxpayer will surely file a self-serving affidavit during litigation, asserting that he innocently forgot to file and the timing was a simple coincidence. Nonetheless, any reasonable person will immediately draw the inference that the taxpayer intentionally failed to file, because he failed to file only when there was something for him to gain (*i.e.* avoiding the tax liability). This type of inference is both commonsensical and common in ordinary evidence law.

In the inequitable conduct context, however, the Federal Circuit holds that the obvious materiality of the information concealed cannot be used to draw an inference that the concealment was intentional.¹⁰² In other words, the fact that the patentee concealed extremely *damaging* information (*i.e.* material information that would clearly invalidate the patent), while providing information that is either helpful to his cause or at least harmless,¹⁰³ is considered irrelevant to determining intent.¹⁰⁴ By this logic, whether a taxpayer owes any taxes cannot be considered in determining whether he intentionally failed to file a tax return; and whether a witness has a stake in the outcome of a case cannot be considered in determining whether he deliberately lied (perjury) or merely made an unintentional misstatement. This is also notably inconsistent with the Federal Circuit’s treatment of intent in other areas of patent law. For example, charges of intentional infringement (which produces treble damages) are routinely proven using the presumption that an infringer who *clearly* infringes a patent presumably intended to infringe,¹⁰⁵ and so intentional infringement

¹⁰² *Optium Corp. v. Emcore Corp.*, 603 F.3d 1313, 1321 (Fed. Cir. 2010) (“Materiality is not evidence of intent, which must be established as a separate factual element of a discretionary ruling of inequitable conduct.” (quoting *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1356 (Fed. Cir. 2008))).

¹⁰³ It should be noted that the patentee *always* provides information helpful to his cause, since the patent application inherently asserts the invention to be new, useful, and non-obvious. 35 U.S.C. § 115 (2006) (inventor’s oath).

¹⁰⁴ *Therasense*, 649 F.3d at 1290 (“Proving that the applicant knew of a reference, should have known of its materiality, and decided not to submit it to the PTO does not prove specific intent to deceive.”). Prior cases that seemed to take a contrary position, such as *Bruno Indep. Living Aids, Inc. v. Acorn Mobility Servs., Ltd.*, 394 F.3d 1348 (Fed.Cir.2005) (“intent to deceive is generally inferred from . . . a knowing failure to disclose material information”) have been overruled by the en banc decision in *Therasense*.

¹⁰⁵ See *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc) (willful infringement requires the patentee to “demonstrate that th[e] objectively-defined risk . . . was either known or *so obvious that it should have*

would be found even if the infringer files a self-serving affidavit stating that he honestly believed himself to be non-infringing.¹⁰⁶ In short, the Federal Circuit’s absurd evidentiary limitation, unique to cases of inequitable conduct, removes the most important type of evidence normally used to draw inferences of intent—the fact that the person has a strong motive to lie because the lie will do him some good—and makes intent to deceive practically impossible to prove without an explicit patentee confession.¹⁰⁷

My point in this Section is not to criticize the Federal Circuit for its doctrinal twisting; that has been done elsewhere.¹⁰⁸ Rather, the point is that such doctrinal twisting is motivated by a belief among judges that “real” patentee misconduct basically never occurs. Given the lengths to which the Federal Circuit has gone to hollow out inequitable conduct—which it cannot openly abolish because of Supreme Court precedent¹⁰⁹—the judicial belief in patentee honesty is strong indeed.

2. The PTO: Declining enforcement.

Although the PTO is the supposed beneficiary of the inequitable conduct doctrine, the agency has shown little support for it. The PTO has not conducted investigations of inequitable conduct for over twenty years¹¹⁰ More strikingly, the Director of the PTO recently stated publicly that the inequitable conduct doctrine is “is not very popular,” and that he hoped that courts would “dramatically draw[] it back.”¹¹¹

been known to the accused infringer” (emphasis added)); *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006) (en banc) (specific intent to induce infringement can be proven by “showing that the alleged infringer’s actions induced infringing acts and that he knew or should have known his actions would induce actual infringements” (internal quotations omitted)).

¹⁰⁶ See, e.g., *Jurgens v. CBK, Ltd.*, 80 F.3d 1566, 1572 (Fed. Cir. 1996) (rejecting infringer’s argument that it honestly believed the advice of lawyers that it was not infringing the patent).

¹⁰⁷ Tellingly, the court in *Cancer Research Technology Ltd. v. Barr Laboratories, Inc.*, 625 F.3d 724 (Fed. Cir. 2010) provided only one concrete example of how intent to deceive can be proved, viz: “handwritten notes of prosecution counsel corroborating that counsel subjectively believed the undisclosed patent was material.” *Id.* at 734 (citing *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1256 (Fed. Cir. 1997)).

¹⁰⁸ McGowan, *supra* note 8, at 962–64.

¹⁰⁹ *Precision Instrument Mfg. Co. v. Auto. Maintenance Mach. Co.* 324 U.S. 806, 816 (1945).

¹¹⁰ 4 DONALD S. CHISUM, CHISUM ON PATENTS § 11.03[4][b][iv] n.66 (1996) (PTO stopped enforcement in 1988).

¹¹¹ *A Dialogue with David Kappos, Director of the U.S. Patent & Trademark Office*, April 4, 2011 (transcript at 34), available online at

By itself, the fact that the PTO does not enforce the doctrine would not indicate very much. The PTO lacks the institutional resources to investigate patentee conduct and adjudicate inequitable conduct issues.¹¹² After all, entire reason for requiring patentees to disclose prior art to the PTO is because the agency lacks adequate resources to find all the relevant prior art by itself. It is inherently even more difficult to find out about—and prove—cases where patentees had *intentionally hidden* the prior art at issue. As a matter of sensible institutional allocation of responsibility, it would make little sense for the PTO to investigate inequitable conduct cases: someone who has already been fooled once is not the best person to prevent a repeat.

At the same time, the fact that the supposed beneficiary of the doctrine has shown so little support—and in fact hopes that the doctrine will be “dramatically” scaled back—is indicative of the degree to which inequitable conduct doctrine is universally unpopular. And as the Federal Circuit has dramatically narrowed the doctrine over the years, the PTO has shown strong support every step of the way.¹¹³

3. Congress: Creating loopholes.

The belief that litigated inequitable conduct cases are always frivolous—and that this is because true patentee misconduct never occurs—affects not only the judges of the Federal Circuit, but also other members of the patent community who see the same data set as the judges. This includes members of Congress. Senator Orrin Hatch, for example, has made comments that epitomize the conventional view:

As you well know, the inequitable-conduct defense is frequently pled, rarely proven, and always drives up the cost of litigation.

Under current law, any perceived transgression of the patent owner is being painted as fraud. If an inequitable-conduct claim wins, a valid patent will be held entirely void, and the infringer walks away without any liability.

<http://www.directorsroundtable.com/pdf/London%20Patent%20Program%204-4-11.pdf>.

¹¹² Dep’t of Commerce, Notice of Proposed Rulemaking, Duty of Disclosure, 56 Fed. Reg. 37321, 37323 (Aug. 6, 1991).

¹¹³ See Dep’t of Commerce, Notice of Proposed Rulemaking, Revision of the Materiality to Patentability Standard for the Duty To Disclose Information in Patent Applications, 76 Fed. Reg. 43631 (Jan. 21, 2011) (endorsing the *Therasense* materiality standard); Dep’t of Commerce, Notice of Proposed Rulemaking, Duty of Disclosure, 57 Fed. Reg. 2021 (Jan. 17, 1992) (“The Office does not advocate any change to the *Kingsdown* ruling.”).

There is virtually no downside for the infringer to raise this type of attack. This is why inequitable-conduct challenges are raised in nearly every patent case. It has become, in the words of the Federal Circuit, a “plague” on the patent system.¹¹⁴

Senator Hatch’s assumptions are wrong in many respects. The result of inequitable conduct is not always that a “valid” patent is held entirely void—tellingly, he appears to assume that no invalid patents are ever obtained through patentee fraud. And an infringer faces the same “downsides” to raising an inequitable conduct defense as to raise any other defense, such as invalidity or non-infringement: it requires attorneys fees and litigation costs to seriously litigate any defense to patent infringement, and the investigatory costs are especially high when the relevant evidence has been intentionally concealed by the patentee. Finally, Senator’s Hatch’s observation that inequitable conduct is “frequently pled” while “rarely proven” is obviously making the common argument that allegations of patentee dishonesty are generally frivolous.¹¹⁵ Contrary to this implicit argument, however, my analysis suggests that this phenomenon may in fact indicate that many meritorious inequitable conduct cases are being abandoned precisely *because* the fraud is so serious that the patent is invalid.

Again, my point here is not to pick on Senator Hatch’s comments as wrong, but to show that they represent the conventional wisdom, which has arisen because of the selection effect. The clear assumption underlying his remarks is that Senator Hatch believes patentees are never (or at least very rarely) dishonest enough to obtain invalid patents by fraud. Given this erroneous-but-widely-shared premise, it logically follows that inequitable conduct doctrine serves no other purpose than to allow evil infringers to “walk[] away without any liability” while punishing innocent and worthy patentees.¹¹⁶

Unsurprisingly, the fact that members of Congress believe this conventional wisdom leads to legislation to narrow the inequitable conduct doctrine. Section 12 of the Leahy-Smith America Invents Act creates a new “supplemental examination” procedure, where a patent owner may—at any time after the patent is issued—ask the PTO to conduct a supplemental examination of the patent to consider

¹¹⁴ Orrin Hatch, *Keynote Address*, 78 Geo. Wash. L. Rev. 513, 515–16 (2010).

¹¹⁵ See *supra* text accompanying notes 70–78.

¹¹⁶ Cf. *People v. Defore*, 150 N.E. 585, 587 (N.Y. 1926) (Cardozo, J.).

information that was previously concealed from the PTO.¹¹⁷ The Act then provides that a “patent shall not be held unenforceable on the basis of conduct relating to information that had not been considered, was inadequately considered, or was incorrect in a prior examination of the patent if the information was considered, reconsidered, or corrected during a supplemental examination of the patent.”¹¹⁸

It is important to see that this new legislation destroys any incentive to honestly disclose information upfront.¹¹⁹ In Part I.E., I discussed the fact that, in the middle portion of the diagram—where a patent is only partially invalid—there is some deterrence effect from rendering the entire patent unenforceable in cases of dishonesty. Under the new legislation, even this limited deterrence effect is eliminated. Suppose our patentee who claims a pencil and an eraser discovers prior art showing a pencil in the public domain. Previously, a risk-averse patentee might disclose the prior art pencil to avoid losing the valid claim to the eraser. With the new supplemental reexamination procedure available, however, the patentee will reason thus: “If I submit the prior art now, I will obtain only a patent on the eraser, since the claim to the pencil would be rejected. If I hide the prior art, then I will obtain a patent on both a pencil and an eraser unless and until I am caught. *And even if I am caught, I can then*¹²⁰ submit the prior art in a supplemental examination proceeding and still keep the patent on the eraser.” The patentee is therefore strictly better off to always hide the prior art until caught. The new legislation therefore exacerbates the under-deterrence problem. Once again, the universal unpopularity of inequitable conduct—based on the unsubstantiated belief in intrinsic patentee honesty—leads to doctrinal changes that create an incentive for dishonesty.

III. THE EFFECT OF ADJUSTING LIABILITY STANDARDS

Thus far, my analysis has considered only the effect of the unenforceability penalty, with the implicit assumption that it would always be applied. One seemingly obvious response is that surely the

¹¹⁷ Leahy-Smith America Invents Act, § 12, Pub. L. No. 112-29, 125 Stat. 284, 325–26 (2011).

¹¹⁸ *Id.*

¹¹⁹ See Jason Rantanen & Lee Petherbridge, *Toward a System of Invention Registration: The Leahy-Smith America Invents Act*, 110 Mich. L. Rev. First Impressions 24, 25 (2011) (calling the provision “a patent amnesty program”).

¹²⁰ The statute does have a narrow exception that immunity does not apply if inequitable conduct has already been fully pleaded. Leahy-Smith America Invents Act, § 12. So the patentee needs to race quickly to the PTO before the accused infringer reaches the courthouse.

unenforceability penalty would not be applied to the low-culpability cases. This response jumps the gun, in the sense that the *reason* that the penalty should not be applied in low-culpability cases is that it induces over-deterrence, and to reach this conclusion first requires a consideration of what would happen *if* the penalty were applied. Moreover, the assumption is not quite true. In the conventional debate over inequitable conduct, the most commonly contested issue is the standard for liability—*i.e.* the degree of culpability that should be required before the unenforceability penalty attaches. This Part explores the effects of varying the liability standard. As shall be seen, the results are quite different from the conventional understanding.

A. *The Debate Over Liability Standards*

As described previously, there is a broad consensus of the patent community in favor of a high liability standard. Nonetheless, there are disagreements at the margins about just how high the standard should be. The two camps are exemplified by the majority and the dissenters in *Therasense*. The majority favored, and therefore imposed, a so-called “but for” standard for liability.¹²¹ That is, it held inequitable conduct could be found—and the unenforceability penalty applied—only if honest disclosure would have invalidated the patent.¹²² This is probably the highest liability standard possible,¹²³ since it restricts inequitable conduct findings to situations where a patentee obtained an invalid patent by concealing damning information from the PTO.

The dissent in *Therasense* argued for a lower standard, where inequitable conduct could be found even when the concealed information turns out to be harmless and the patent is valid, so long as the misstatement violated the PTO’s disclosure regulations.¹²⁴ The rationale given by the dissent for preferring this lower (and rather vague) standard is, at first blush, very similar to the core analysis that I have presented in Part I. Namely, if the unenforceability penalty could only be applied in cases where the patent was invalid under the true state of facts, then it would be superfluous:

If a failure to disclose constitutes inequitable conduct only when a proper disclosure would result in rejection of a claim, there will be little incentive for applicants to be

¹²¹ *Therasense*, 649 F.3d at 1291.

¹²² *Id.* (“[P]rior art is but-for material if the PTO would not have allowed a claim had it been aware of the undisclosed prior art.”).

¹²³ Scott D. Anderson, Comment, *Inequitable Conduct: Persistent Problems and Recommended Solutions*, 82 Marq. L. Rev. 845, 854 n.65 (1999).

¹²⁴ *Therasense*, 649 F.3d at 1303 (Bryson, J., dissenting).

candid with the PTO, because in most instances the sanction of inequitable conduct will apply only if the claims that issue are invalid anyway.¹²⁵

Although the reasoning of the dissent resembles my analysis in Part I, our conclusions are ultimately very different. The dissenters' solution to the problem is to *weaken the liability rule* and impose the unenforceability penalty even in cases where the patent is valid.¹²⁶ As the next Section will demonstrate, this is precisely the wrong solution. To state the reason quickly, lowering the liability standard and levying punishment on relatively innocent patentees will not provide deterrence for the highly culpable patentees. A highly culpable patentee like Andy already knows he will be found 100% liable if the true facts are ever discovered, but he *still* has no incentive for honest disclosure because liability brings no punishment when the unenforceability "penalty" is actually superfluous. All the dissenters' solution would do is create more examples of draconian over-punishment on people like Betty, which will then spark even more criticism and more calls for abolishing the inequitable conduct doctrine entirely.¹²⁷ In this way, the dissenters' "solution" is self-defeating.

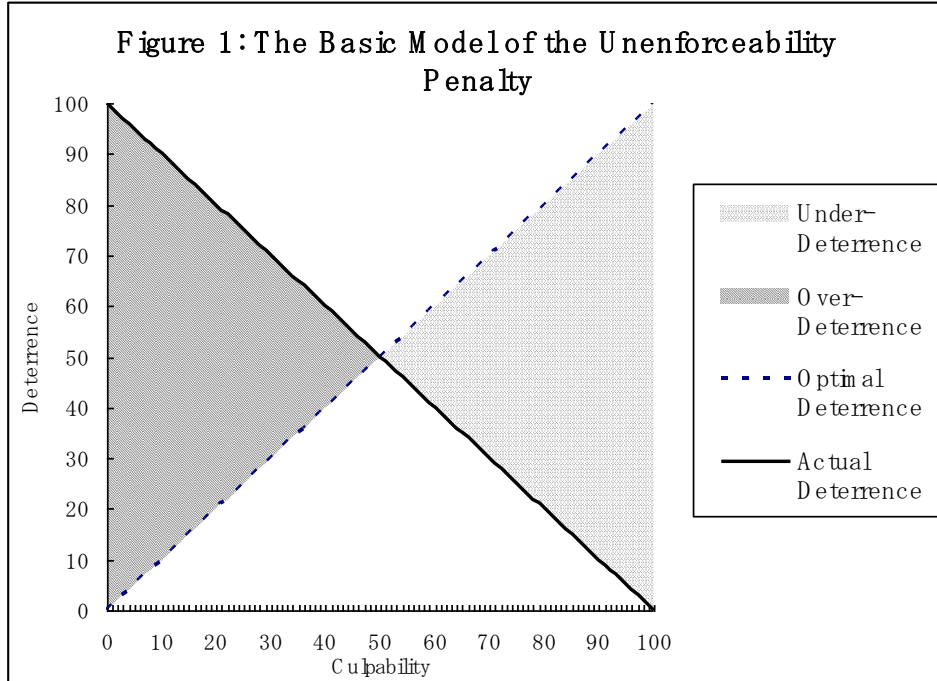
B. A Model of Unenforceability With Liability Thresholds

As discussed in Part I.D, if the unenforceability penalty is applied in all cases, then the result is an upside down punishment structure. This can be conceptualized as the *lowest* liability standard—in every case the patentee is found liable for inequitable conduct. Figure 1, which shows the basic model, is reproduced below:

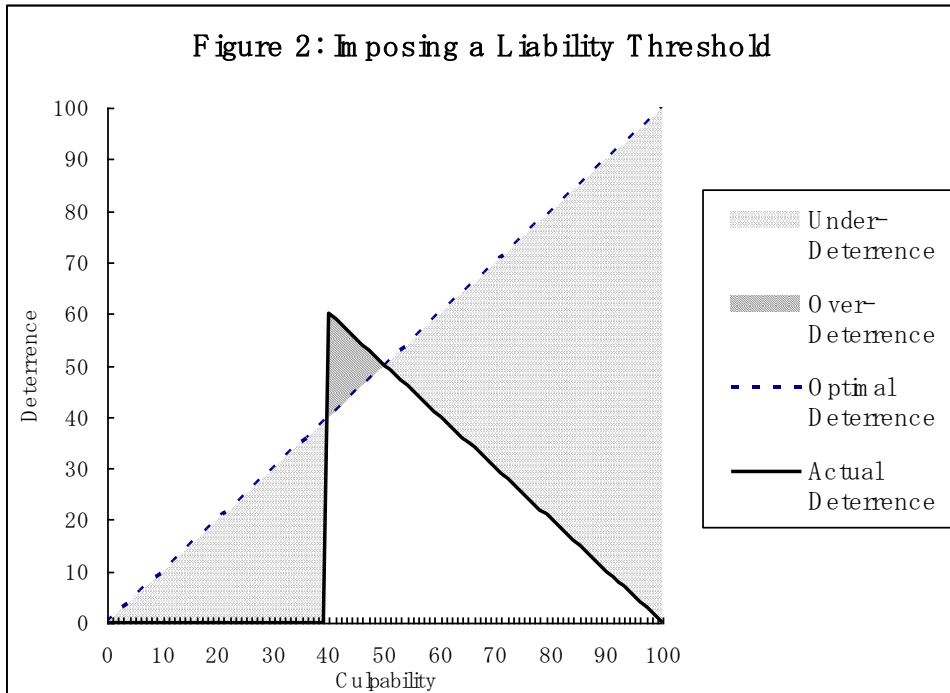
¹²⁵ *Id.* at 1305–06.

¹²⁶ *Id.* at 1314. *See also* Cotropia, *supra* note 7, at 779 (“if materiality were limited to claim-invalidating information, the inequitable conduct doctrine would become redundant during litigation”).

¹²⁷ *See, e.g.*, NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, A PATENT SYSTEM FOR THE 21ST CENTURY 123 (Stephen A. Merrill, Richard C. Levin & Mark B. Myers, eds. 2004) (recommending abolition); Lynch, *supra* note 7, at 9 (same).



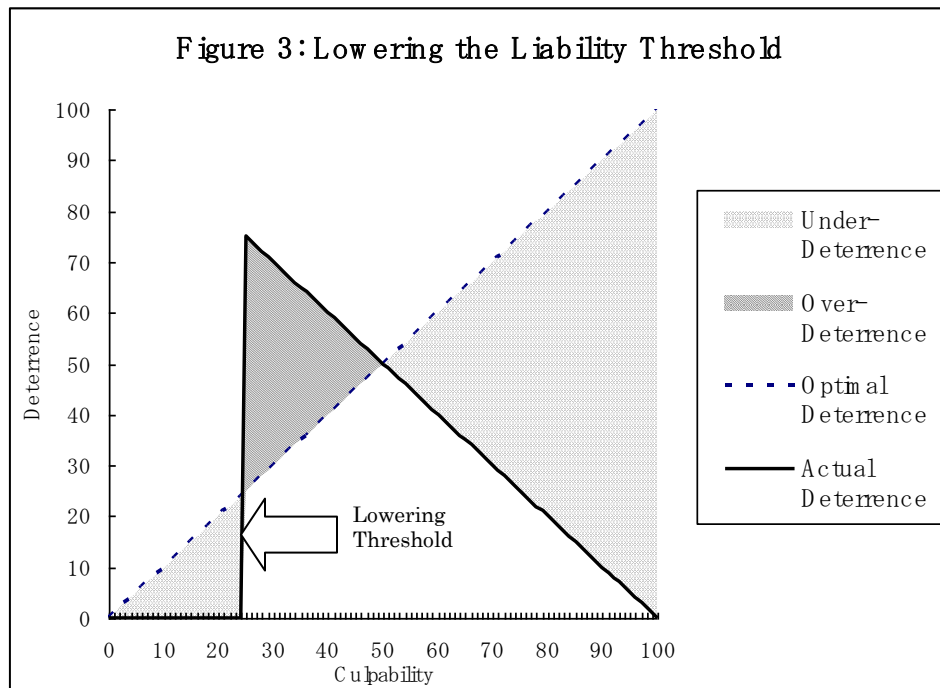
Imposing a liability threshold means that cases with lower culpability (left of the threshold) incur no penalty. Figure 2 illustrates:



As can be seen, the liability threshold removes most of the over-deterrence effect seen in Figure 1. The under-deterrence effect on the right side of the diagram remains. Perhaps more counter-intuitively, there is now an under-deterrence effect on the left side of the diagram.

What this represents is patent applicants taking too few precautions against minor errors. For example, a rule that says misspelled citizenship will never be punished means that applicants have no incentive to check their citizenship statements. Although this is better than imposing draconian over-punishment and having applicants take grossly excessive precautions against such minor errors, having patent applicants take no precautions at all is still a social cost—patent applications riddled with typos and other minor mistakes are still undesirable. Thus in Figure 2, there is an area of under-deterrence, but this area is smaller than the area of over-deterrence seen in Figure 1 (in both cases I am speaking only of the left side of the diagram).

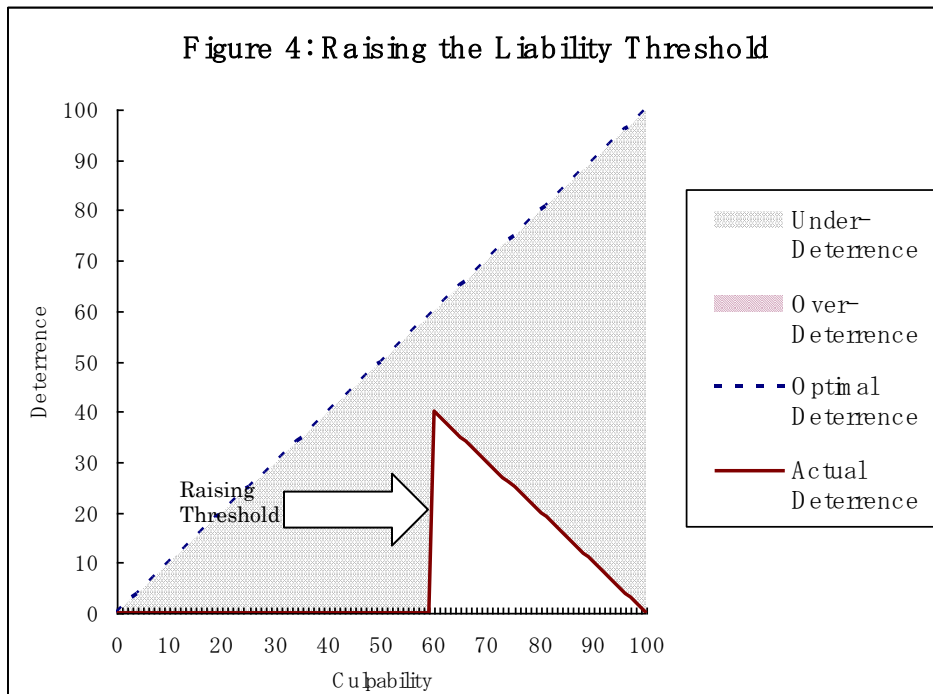
Now consider the right side of Figure 2. This represents the cases where the patent is likely invalid—at the extreme, it is a case like *Andy*. This is the problem that the dissenters in *Therasense* seemingly point out. How does their proposed solution affect this problem? Figure 3 illustrates the effect of expanding liability:



Note that the right portion of the diagram, representing the more culpable patentees who hide the highly damaging, likely-invalidating,

information from the PTO, is *completely unaffected* by the lowering of the liability threshold. The only effect of lowering the liability standard is to change the left-middle portion of the diagram, where we switch from under-deterrence to over-deterrence. Most strikingly, the point where the liability rule is initially satisfied (the sharp spike) now produces *a great deal* of over-deterrence. This would represent a case similar to Betty—a fairly minor error (e.g. misstated citizenship) that almost certainly would not invalidate the patent even if revealed, but which a court might deem a violation of statutory disclosure requirements.¹²⁸ Imposing the unenforceability penalty in such a case *exacerbates* the upside-down effect, since it creates severe over-deterrence without reducing the worst cases of under-deterrence on the right side of the diagram.¹²⁹

What about the *Therasense* majority, which wants to narrow liability? The effect of raising the liability threshold is to shift the starting point for punishment to the right. Figure 4 illustrates:



As can be seen, the result of raising the liability threshold beyond the middle point of the diagram is to remove all over-deterrence effects.

¹²⁸ 35 U.S.C. § 115 (2006) (specifically requiring citizenship to be disclosed).

¹²⁹ While there is a narrow band in the center of the diagram where lowering the liability threshold reduces under-deterrence more than the increase in over-deterrence—indicating efficiency—this is a very small effect.

But it does so at the price of creating an even greater under-deterrence problem: Previously, the center portion of the diagram was fairly close to the optimal level of punishment, with the exact center being perfectly optimal. Now, the exact center of the diagram in fact suffers from rather severe under-deterrence. Raising the liability threshold further would only increase this under-deterrence effect, and beyond the center of the diagram there is no over-deterrence effect to reduce, so increasing the liability threshold beyond that point is a pure social loss. In other words, a liability threshold that is *too high* would create inefficient outcomes.

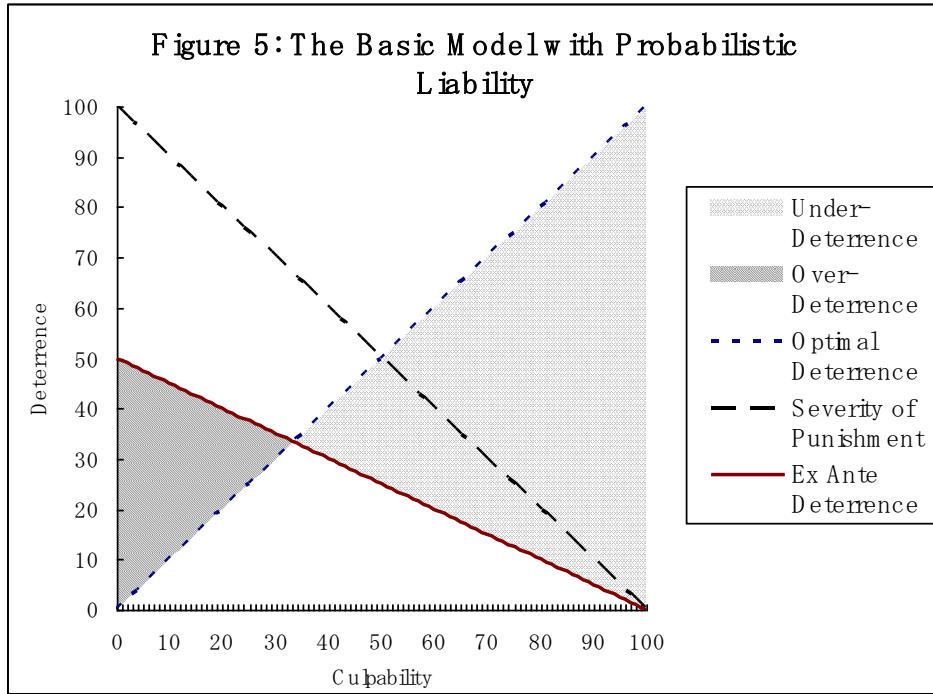
A final point to note is that, common throughout Figures 2 to 4 is the fact that the right half of the diagram *always* has under-deterrence. No matter what rule we set for the liability threshold, a patentee like Andy will always be better off to lie to the PTO. The only effect of varying the liability threshold is to change the levels of over- and under-deterrence on the left side of the diagram, in the cases of relatively lower culpability. Thus, unless there is some reason to believe that high-culpability cases simply do not occur despite the obvious economic incentives for patentees to commit such misconduct, then varying the liability threshold will be a highly inadequate solution that does nothing to address half the problem. Of course, as discussed in Part II, courts and many commentators in fact do believe that high-culpability cases never occur, which may explain why the debate has focused on varying the liability rules. But Part II also explains why this assumption of intrinsic patentee honesty is unsubstantiated, and therefore the conventional focus on reforming the liability rule is misguided, or at least incomplete.

C. *Expanding the Model with Probabilistic Liability*

An objection to the model in Section B might be that a liability threshold is too simplistic and unrealistic. Implicit in that model is an assumption that courts determine culpability with a great deal of consistency: if a patentee falls above the threshold, even by a tiny amount, the patent will be held unenforceable in every such case; while if a patentee falls below the threshold, no penalty will be applied. In real life, of course, courts are not so consistent. Some judges are more prone to find inequitable conduct than others, and this “panel dependence” means that liability outcomes are probabilistic.¹³⁰

¹³⁰ See Thomas L. Irving *et al.*, *The Evolution of Intent: A Review of Patent Law Cases Invoking the Doctrine of Inequitable Conduct from Precision to Exergen*, 35 U. Dayton L. Rev. 303, 319–20 (2010) (arguing that inequitable conduct liability determinations are “panel dependant”).

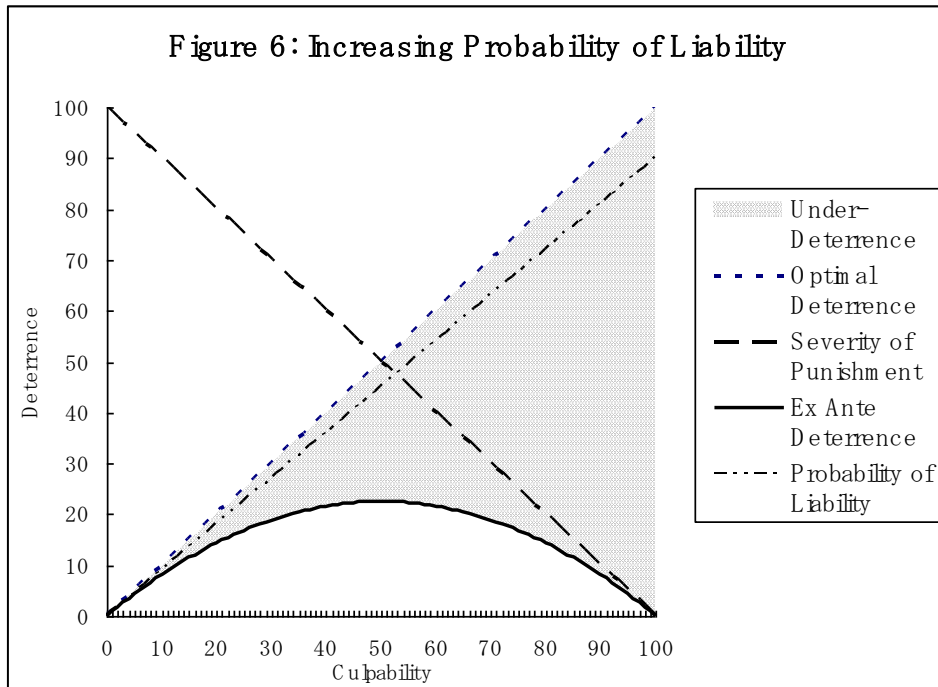
The effect of probabilistic liability is to reduce the ex ante deterrence value of the punishment. For example, a 50% chance of being found liable for a \$100 fine results in \$50 worth of ex ante deterrence. It follows that a 50% chance of losing a completely valid patent worth \$100 would also yield \$50 worth of ex ante deterrence. As a starting model, we can therefore consider the deterrence effect of saying that there is a flat 50% chance of being found liable for inequitable conduct in any particular case. Figure 5 shows the result:



As seen in the diagram, the basic effect of having probabilistic liability determinations is to proportionately reduce the deterrence effect of the punishment. In much the same pattern as Figure 1, a flat 50% likelihood of imposing liability would still produce an upside-down incentive effect. For the most innocent cases on the left side of the diagram, there is the most over-deterrence; while for the most culpable cases on the right side, there is the least ex ante deterrence. While the over-deterrence effect is reduced (the line-shaded area is smaller than in Figure 1), and the under-deterrence effect increased, the basic pattern remains the same. For a patentee like Betty, a 50% chance of losing a completely valid patent because she made a typo on her citizenship statement will still cause a lot of excessive precaution taking in the future, so she will “merely” triple-check everything for spelling errors rather than sextuple-check everything. For a patentee like Andy, a 50% chance of having the patent rendered unenforceable

is the same as a 100% chance—in all cases he is strictly better off to hide the reference since submitting it to the PTO would lead to a 100% chance of immediate rejection.

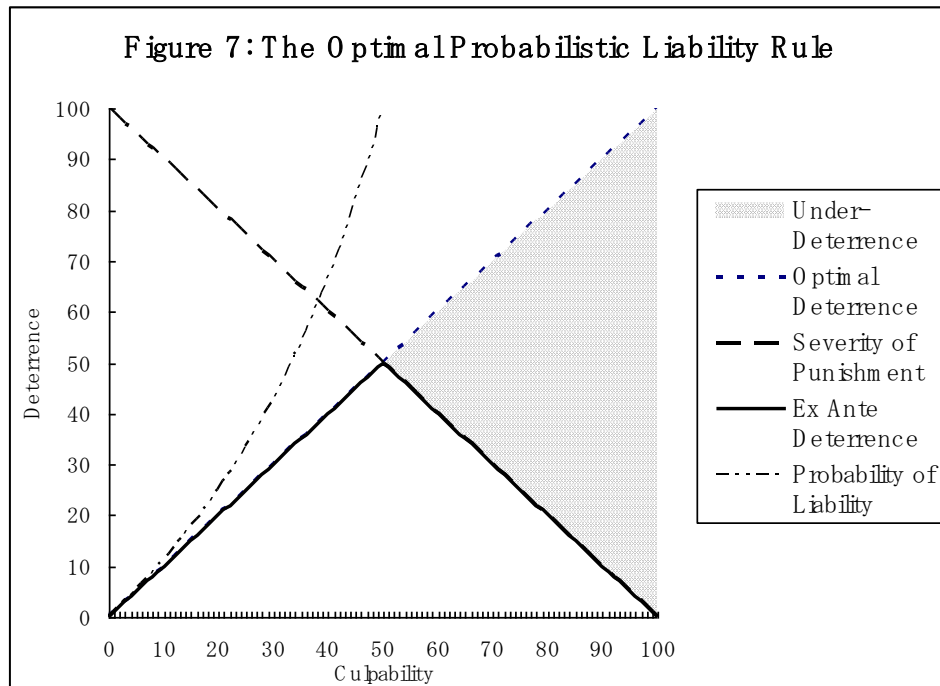
At this point, a reader might still object that my model is highly unrealistic. In the real world, a court is much more likely to find Andy guilty of inequitable conduct than Betty. In other words, as culpability increases, so too is the likelihood of being found liable in the first place. This is very true. Therefore, let us consider a situation where the likelihood of being found liable increases with increasing culpability, on a scale of 1 to 90. That is, for a completely innocent patentee who makes no misstatement whatsoever, the chance of being found liable for inequitable conduct is zero, while a patentee like Andy who uses fraud to obtain a 100% invalid patent has a 90% chance of being found liable for inequitable conduct (the 10% is represents the chance of evading detection). Figure 6 illustrates this model:



Two features of this model are worth noting. The first is the arch-like structure of the deterrence effect. At the beginning, the severe punishment effect is offset by a low probability of being found liable, resulting in very low deterrence. Towards the end, the high likelihood of being found liable is offset by the miniscule penalty levied. The highest deterrence therefore occurs in the middle, where an intermediate penalty (losing a patent of uncertain validity) is multiplied by an intermediate probability of being found liable.

The second feature is that this model results in universal under-deterrence, which means too much dishonesty in the PTO. In this model, the liability standard is so low that even the left side of the diagram (where there had previously been severe over-deterrence) now shows under-deterrence. This suggests that the probability of being found liable should be increased, which would translate to lowering the liability standard.

In fact, Figure 6 suggests the possibility that if we can adjust the probability of being found liable *just* right, so that it *exactly* offsets the high penalty on the left side of the diagram, then it is possible to achieve optimal deterrence on the left side of the diagram. Figure 7 illustrates this possibility:



This is the *best* outcome that can be achieved through manipulation of the liability rule. On the left side of the diagram, the over-deterrence effect is exactly offset by manipulating the probability of being found liable, resulting in the perfect amount of deterrence, and increasing proportionately to culpability. However, once we pass the center point, even a 100% chance of liability—which is not achievable in reality since we can never eliminate the possibility of evasion—will not result in sufficient deterrence, because at this point it is quite likely that the patent is invalid anyway and the unenforceability penalty superfluous. Thus, beyond the center, the amount of ex ante deterrence *declines*. The sum of the situation is that, even with perfect calibration of the

liability rule, the under-deterrence problem cannot be solved. Thus, the conventional focus on adjusting the liability rule is misguided, in that even a perfect liability rule will achieve distinctly sub-par results.

Moreover, it should be noted that the type of calibration contemplated by Figure 7 would be extremely demanding on courts, to the point of being impossible in practice. In order to achieve the optimal result, courts must be able to determine the amount of culpability and the severity of the punishment with a high degree of precision, and then manipulate the probability of finding liability (including not only the win rate in cases actually brought to litigation, but also the probability of having litigation in the first place) to exactly offset the severe punishment. Achieving this degree of precision will be difficult, especially towards the left extremis where the severity of the punishment (when imposed) is very high and thus even slight changes in the probability of imposing such punishment will have large effects. Not only is achieving such precision difficult, it also offends a basic moral premise of our legal system that similar cases should receive the same outcome.¹³¹ For example, in Figure 7, a relatively innocent patentee with 5% culpability will receive very severe punishment when liability is imposed, and therefore courts must impose such liability only very occasionally (to be precise, 5.263% of the time). This is equivalent to saying that one unlucky patentee out of approximately twenty similarly-situated patentees must get randomly zapped by a harsh penalty to provide optimal deterrence to others—a situation that is difficult to design administratively, and not all that desirable from a moral viewpoint even were it feasible. And if this perfect probabilistic liability rule cannot realistically be achieved, then the problems created by the upside-down unenforceability penalty will be even worse than what I have presented here.

IV. A PROPOSED SOLUTION: ADJUSTING REMEDIES

A. *Generalizing the Problem: The Paradox of Fraud*

Before proceeding to my proposed solution, it is useful to note that the problem being analyzed is not unique to patent law. The core problem underlying inequitable conduct doctrine can be termed the “paradox of fraud”: by the time a fraud charge can be litigated, the previously-concealed truth will necessarily have been exposed; and, once the truth is exposed, there will usually be an independent legal

¹³¹ See, e.g., Henry J. Friendly, *Indiscretion About Discretion*, 31 Emory L.J. 747, 758 (1982) (“[T]he most basic principle of jurisprudence [is] that we must act alike in all cases of like nature.” (internal quotation omitted)).

remedy that provides full restitution.¹³² A consideration of how other areas of law deal with this same problem illuminates why the inequitable conduct solution has thus far proven a failure.

Take contract law. Suppose that a builder contracts with a homeowner to build a house using Reading pipes.¹³³ The builder's employee inadvertently substitutes cheaper Cohoes pipes, which creates a breach of the contract. Once the builder discovers this error, however, the builder decides to lie and tell the homeowner that he installed Reading pipes, rather than to disclose the truth and pay the difference in value.

It is immediately apparent that the fraud paradox applies here as well: By the time the homeowner discovers that the pipes are really Cohoes pipes, he can sue the builder for breach of contract. The contract remedy is fully restitutionary—that is, it places the homeowner in the same position as if the builder had fully complied with his legal duty in the first place.¹³⁴ If the fraud remedy was also merely restitutionary, it would be superfluous and provide no deterrent against the builder choosing to lie after he discovers the employee's inadvertent error.¹³⁵ But clearly there is social value in deterring the cover-up lie, over-and-above the initial breach of contract. It is for this reason that fraud allows punitive damages,¹³⁶ whereas breach of contract is only restitutionary.¹³⁷ The potential for punitive damages creates deterrence over-and-above the breach of contract claim, solving the fraud paradox.

¹³² See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 6.15 (7th ed. 2007) (“If a tort is concealed . . . , punitive damages or a criminal penalty must be added to the defendant's profit or the victim's loss to provide adequate deterrence.”).

¹³³ This hypothetical is obviously based on *Jacob & Young, Inc. v. Kent*, 230 N.Y. 239 (1921).

¹³⁴ See RESTATEMENT (SECOND) OF CONTRACTS § 344(a) (purpose of contract remedies is to put the victim “in as good a position as he would have been in had the contract been performed”).

¹³⁵ Cf. George J. Stigler, *The Optimum Enforcement of Laws*, 78 J. Pol. Econ. 526, 527–28 (1970) (“If the thief had his hand cut off for taking five dollars, he had just as well take \$5,000.”).

¹³⁶ Posner, *supra* note 132, at § 6.15. See, e.g., *Etter v. Von Sternberg*, 244 S.W.2d 321, 324 (Tex. App. 1951) (punitive damages against party that fraudulently concealed breach of contract).

¹³⁷ See generally 11 JOSEPH M. PERILLO, *CORBIN ON CONTRACTS* § 59.2 (rev. ed. 2005) (“As a general rule, punitive damages are not recoverable for breach of contract”); see also *id.* (noting that in cases “falling within the field of tort,” such as for fraud, there is an exception).

In comparison to contract law's solution to the fraud paradox, patent law falls short on three fronts. First, the invalidity remedy is not even fully restitutionary in the way that a breach of contract remedy is. That is, *ex post* judicial invalidation does not place a patentee who obtained an invalid patent in the same position as if the patent never issued, because the patentee is not required to disgorge monopoly profits made during the period between the patent's issuance and its judicial invalidation.¹³⁸ Nor does a finding of inequitable conduct and applying the unenforceability remedy have this effect. The result is that applicants have a strong incentive to apply for patents regardless of the underlying merits of their inventions, because any mistake by the PTO will accrue to the applicant's benefit in the form of interim monopoly profits. As another comparison, imagine a doctrine that said any mistaken interim payments by the Social Security Administration was the recipients' to keep, even after the mistake is discovered, and the only effect of discovery is to terminate future undeserved payments. The result would surely be a flood of undeserving applications—some outright fraudulent, and some merely hoping for a bigger payday than deserved—all hoping for such “lucky” mistakes.¹³⁹ Not surprisingly, there is in fact a flood of dubious patent applications,¹⁴⁰ which are often analogized to lottery tickets,¹⁴¹ and which clog the PTO.¹⁴² At a minimum, therefore, a sensible reform for patent doctrine would be to make the default invalidity remedy fully restitutionary, even in the absence of intentional concealment.¹⁴³

¹³⁸ Mark A. Lemley, *Ignoring Patents*, 2008 Mich. St. L. Rev. 19, 28.

¹³⁹ *Cf.* 42 U.S.C. § 404 (2006) (provision for Social Security Administration to recover mistaken overpayments).

¹⁴⁰ See John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. Ill. L. Rev. 305, 318–21 (describing a “patent quality crisis”).

¹⁴¹ See, e.g., Dennis D. Crouch, *The Patent Lottery: Exploiting Behavioral Economics for the Common Good*, 16 Geo. Mason L. Rev. 141, 149–51 (2008).

¹⁴² John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 Berkeley Tech. L.J. 987, 1065 (2003) (“[T]here have been dramatic increases in the number of patent applications in recent years, straining the PTO's resources and resulting in longer average pendency times in all technology areas.” (internal citations omitted)).

¹⁴³ Another way of thinking about this is that a patentee who obtained an invalid patent has breached his contract with society, since he did not in fact supply a new, useful, and non-obvious invention as promised. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150–51 (1989) (analogizing patents to a “bargain” between society and inventors). Society should then be entitled to rescission, including a disgorgement of interim payments.

The second difference is that punitive damages create marginal punishment, in that they go beyond the remedy for breach of contract and place the dishonest builder in a worse position than if he had been honest initially. This creates an incentive for the builder to be honest upon discovery of the initial inadvertent error (of the employee using Cohoes pipes). The super-restitutionary remedy also creates an incentive for the homeowner to bring the intentional fraud to light even after prevailing on a strict liability breach of contract claim, in order to gain the punitive damages.¹⁴⁴ In contrast, the unenforceability remedy is superfluous in light of the invalidity remedy, which means there is no additional punishment for dishonesty and little incentive for an accused infringer to bring the fraud to light afterwards. The obvious solution in light of this comparison is to ensure that the inequitable conduct remedy provides something over-and-above the invalidity remedy, so that a dishonest patentee is placed in a worse position than if he had been honest upfront.

A third difference is that, as described in Part II.C.1., inequitable conduct has a far higher burden of proof than any other type of fraud, and indeed any other type of civil litigation. This point is somewhat tangential to the point of this Article, because as demonstrated in Part III, changing the liability standard will not fundamentally solve the upside-down incentives problem, and a better solution is to fix the remedy. But a liability standard that is so high that inequitable conduct is de facto impossible to prove will still present a problem, since no remedy will suffice to deter misconduct if the penalty is never applied. Given the fact that inequitable conduct now has the highest burden of proof in all of civil litigation—and perhaps, when considering the Federal Circuit’s disallowance of ordinary commonsensical evidentiary inferences of intent,¹⁴⁵ even higher than the “beyond reasonable doubt” standard of criminal law—there is quite the possibility that the liability standard has been raised to the extent that it would create this problem.

B. Punitive Remedies as a Solution

The usual solution to the fraud problem is some kind of punitive sanction. As can be seen from the prior analysis, the unenforceability remedy serves very badly as a punitive sanction because of the interaction with invalidity, producing upside-down marginal

¹⁴⁴ See *Mathias v. Accor Economy Lodging, Inc.*, 347 F.3d 672, 677 (7th Cir. 2003) (Posner, J.) (noting that one reason for awarding punitive damages is to provide an incentive to sue).

¹⁴⁵ See *supra* text accompanying notes 102–107.

deterrence. A much more direct solution is to abandon the unenforceability remedy and impose direct monetary fines instead.¹⁴⁶

It should be noted that abandoning the unenforceability remedy does not mean that people who fraudulently obtain invalid patents from the PTO would then be able to enforce those patents by paying a fine. The patent would be invalidated in such a case where the truth came to light. The point of a punitive remedy is to punish the dishonesty, by imposing punishment *over-and-above* the result that would occur but for the dishonest conduct. The failure to impose this additional loss is what makes the unenforceability remedy a failure as a solution to the fraud paradox.

Conversely, it should also be noted that, in cases where some misstatement occurs but the patent is not otherwise invalid (the left side of the diagram), a small fine can and should be assessed even while leaving the patentee with a valid patent. This is because even minor errors should receive some deterrence;¹⁴⁷ just not the disproportionate penalty of losing an otherwise-valid patent.

The key question is how the fine should be calculated. There is a vast law and economics literature on setting the right amount of punitive fines and damages.¹⁴⁸ In short, a remedy for misconduct should do two things: (1) impose *restitution* by restoring the world to a state it would have been if the misconduct had not occurred; and (2) *punish* the misconduct by placing the wrongdoer in a worse state than what would-have-been, in proportion to the ex ante likelihood of evasion, to deter future incentives for misconduct.¹⁴⁹

1. The baseline: restoring the “but for” state.

The typical starting point for legal remedies is to restore the world into the state where it would have been, had the misconduct not occurred.¹⁵⁰ One might think that the invalidity remedy—by invalidating an erroneously issued patent while maintaining a properly valid patent—would suffice for this purpose. And indeed the invalidity remedy does fulfill *part* of this function. However, it fails to

¹⁴⁶ Cf. Cotropia, *supra* note 7, at 775 (considering a monetary fine, but arguing that unenforceability produces better tailoring).

¹⁴⁷ See *supra* Figure 2.

¹⁴⁸ See, e.g., A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 Harv. L. Rev. 869 (1998).

¹⁴⁹ *Id.* at 887–88.

¹⁵⁰ See generally RESTATEMENT (THIRD) OF RESTITUTION & UNJUST ENRICHMENT § 51(4) (“The object of restitution . . . is to eliminate profit from wrongdoing.”).

do so completely, because the invalidity remedy does not require patentee disgorgement of interim monopoly profits.¹⁵¹

Where a patentee misstatement causes an invalid patent to issue—which in a but-for world would never have issued—a proper restitutionary remedy must remove all the future *and past* effects of the patent. The fact that the patent would be independently invalidated once the truth comes to light does remove the future effects of the patent, so no further action is needed on that front. However, in order to redress the past effect of the patent, a disgorgement remedy is required.¹⁵² Thus, just as in other fraud contexts, a patentee who obtained an invalid patent through fraud should be required to repay all the ill-gotten monopoly profits made during the interim.¹⁵³

Where a patentee misstatement causes a partially invalid patent to issue, the analysis is largely the same. The fact that the patent would be partially invalidated removes the future effect of the excessive scope received. A disgorgement remedy should also be imposed for the excess profits made over-and-above what a properly issued patent would have earned. To be sure, assessing the difference between the actual monopoly profits gained under the improperly enlarged patent vis-à-vis the hypothetical monopoly profits that would have been earned under a properly issued patent may be difficult as a practical matter—I will discuss the assessment problem in Part IV.C.1.—but conceptually the baseline is quite clear.

Where a patentee misstatement does not cause an invalid patent to issue but causes some other benefit to the patentee (*e.g.* allows the patentee to pay lower PTO fees), the result is that the patent should not be invalidated.¹⁵⁴ Rather, a restoration of the but-for state would simply entail removing the benefit, such as by paying the PTO fee at the proper rate (with interest on the difference).

Most obviously, where a patentee misstatement had no effect at all, this prong of the test would have no application. A somewhat tricky problem, which I will address in the next prong, deals with *attempts* at

¹⁵¹ Lemley, *supra* note 138, at 28.

¹⁵² See Pruitt, *supra* note 41, at 487–88 (arguing for disgorgement remedy).

¹⁵³ See RESTATEMENT (THIRD) OF RESTITUTION & UNJUST ENRICHMENT § 51(4) (“the unjust enrichment of a conscious wrongdoer . . . is the net profit attributable to the underlying wrong”).

¹⁵⁴ *Cf.* Nilssen v. Osram Sylvania, Inc., 504 F. 3d 1223, 1230–32 (Fed. Cir. 2007) (holding patent unenforceable for inequitable conduct in falsely claiming small entity status).

fraud that prove immaterial ex post, but which might nonetheless need some deterrence ex ante.

2. The punishment: accounting for the chance of evasion.

Even after applying a restitutionary remedy, there would be insufficient deterrence of fraud. If the remedy were limited to restitution, the patentee would reason thus: “If I am dishonest and succeed, I will gain a benefit; while if I fail, I would only be placed in the same position as if I were honest to begin with, and so I am strictly better off being dishonest.” What is needed is therefore a punishment that offsets this expected gain (in cases where evasion is successful) with an expected loss (in cases where the wrongdoer is caught).¹⁵⁵

For example, if a dishonest patentee has a 75% chance of evading detection, and expects to gain \$100 in those cases where he is not caught, then in the 25% of cases where he is caught he must be made to pay a punitive fine of \$300, in addition to disgorging the \$100 gain. This achieves optimal ex ante deterrence, because the total expected gain from dishonesty, after accounting for the deterrence value of punishment, is zero. Stated algebraically:

$$p_e G - (1 - p_e) F = 0$$

where

p_e is the probability of evading detection and liability

G is the anticipated gain in cases where evasion is successful

F is the amount of punitive fine required.

Reworking the equation produces this formula for calculating the fine:

$$F = \frac{p_e G}{1 - p_e}$$

Applied to the example above, p_e would equal 0.75, $(1 - p_e)$ would equal 0.25, and G would equal \$100, resulting in an F of \$300.

As a general approximation, the value of the anticipated gain in cases of successful evasion (G) can be proxied by the actual gain of the patentee. If the patentee in fact received an invalid patent worth \$100 through his fraud, then it can usually be assumed that \$100 was what he anticipated. This is because, over the long run, patentee

¹⁵⁵ *Mathias*, 347 F.3d at 677 (“If a tortfeasor is ‘caught’ only half the time he commits torts, then when he is caught he should be punished twice as heavily in order to make up for the times he gets away.”).

expectations would be formed based on actual results.¹⁵⁶ In the usual case, therefore, courts should assess the fine by taking the value of the ill-gotten patent (or the ill-gotten portion of a partially invalid patent), and multiplying that value by an appropriate multiplier to account for the chance of evasion.

The one complication is situations where the patentee's anticipated gain clearly differs from the actual gain. For example, a patentee may mistakenly believe his pending patent to be invalid, and thereby use deceptive tactics to obtain it, with the monopoly being worth \$100. It may emerge afterwards that the patent was in fact perfectly valid and would have issued even without the deceptive tactics, and so the actual gain from the lie is \$0. Nonetheless, it remains important to punish the patentee for the attempted fraud—to deter *future* patentees when they expect an illicit gain of \$100—but it is more difficult to calibrate the penalty as an administrative matter.¹⁵⁷ A patentee's objectively ascertainable *actual* gain is relatively easy for a court to calculate, and a multiplier for the chance of evasion can then be applied to determine the correct penalty. A patentee's *subjectively anticipated* gain is much more difficult to reliably determine.¹⁵⁸ Thus, while it is important to punish attempts at intentional misconduct—and the law usually *does* punish attempts—courts should generally refrain from punishing an immaterial misstatement unless the evidence of intent is very clear.¹⁵⁹ The rationale for this hesitation is not based on moral aversion; rather it is that punishing attempts entails higher administrative costs for courts, since they must undertake the difficult (and thus costly) task for discerning a patentee's subjective expected gain and levy an appropriate multiple as a fine.

At a bottom line level, therefore, I agree with the prevailing doctrine that evidence of intent should be very clear before imposing liability¹⁶⁰

¹⁵⁶ The assumption that individuals form and adjust expectations in reaction to actual results is quite standard in the decision-making literature. See, e.g., Avery Katz, *The Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation*, 89 Mich. L. Rev. 215, 284 (1990).

¹⁵⁷ See generally Steven Shavell, *Deterrence and Punishment of Attempts*, 19 J. Legal Stud. 435 (1990) (outlining the deterrence rationale for punishing attempts that ultimately produce no harm).

¹⁵⁸ See David D. Friedman, *Impossibility, Subjective Probability, and Punishment for Attempts*, 20 J. Legal Stud. 179 (1991) (arguing that subjective assessments of the offender are more important).

¹⁵⁹ See Shavell, *supra* note 157, at 449 (observing that “the presence of ‘intent’ is generally a prerequisite for punishment and, in particular, for punishment of attempt”).

¹⁶⁰ See *supra* text accompanying notes 98–107.

in cases where the patent is completely valid and there are no other gains from the misstatement (e.g. lowered PTO fees) accruing to the patentee. However, the doctrine is quite wrong to impose a similarly demanding standard for intent even in cases where the patent is invalid, since making inequitable conduct de facto impossible to prove in all cases places us in the universal under-deterrence scenario of Figure 4.

3. The liability standard: an administrative cost saver.

If we adopt the penalty structure that I advocate, what should the liability rule be for inequitable conduct? In other words, what should the standards be for intent and materiality? My argument is that, if we can calibrate the penalty correctly, liability should be found in almost all cases where the patentee makes any kind of error that creates measurable benefit to the patentee (or measurable harm to the PTO).

Let me start by illustrating this argument with an example. Suppose the patentee makes a minor typographical error in his address. There is tremendous resistance to imposing inequitable conduct liability in this type of case, because the current unenforceability remedy will impose very severe punishment by removing an otherwise-valid patent.¹⁶¹ But it is not that we want *no* punishment for minor typographical errors—we optimally would like a *very minor* punishment for such a minor mistake. The problem in current law is not that punishment is applied at all, but only that the punishment is disproportionate to the offense.

If the punishment is appropriately tailored, however, there is no theoretical reason not to apply a \$1 punishment to a \$1 error. Thus a minor typographical error by the patentee would attract liability, but the only consequence would be a \$1 fine. The patent would neither be held unenforceable nor invalidated. There is no injustice in such an outcome.

This theoretical precision runs into a practical problem: It is administratively difficult for courts to determine the correct amount of the fine in particular cases,¹⁶² and in cases of minor error it is not worthwhile to expend these administrative costs to impose a \$1 fine. A liability threshold that categorically exempts minor transgressions will conserve administrative resources, so that the judicial apparatus is

¹⁶¹ See *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (“The need to strictly enforce the burden of proof and elevated standard of proof in the inequitable conduct context is paramount because the penalty for inequitable conduct is so severe.”).

¹⁶² See *infra* Part IV.C.1.

only invoked for cases that are serious enough to warrant concern.¹⁶³ Thus, even under my regime, patentees who make trivial errors like typos will not be penalized, because it would likely cost more for a court to determine the correct amount of the fine than the fine would be worth.

The administrative cost rationale applies similarly to the problem of attempts, discussed in Part IV.B.2. “Attempt” means a case where the patent is in fact valid, and the information suppressed is therefore actually immaterial, but the patentee clearly *believed* that the patent was invalid and intentionally hid information based on that belief. The problem with attempts is not that the fine will always be small—the fine can be quite large if the patentee *expected* a large gain from his fraud (which only fortuitously failed to materialize). Instead, the problem is that the administrative cost of determining the fine is particularly high in cases of attempt, because the court is required to discern the patentee’s subjective anticipated profit from wrongdoing rather than calculating the fine based on a patentee’s actual profit. A liability rule makes sense in this context because the high administrative cost will outweigh the deterrence benefits in all cases except those with the highest anticipated gains from wrongdoing (G) and probabilities of evasion (p_e). This means that a high liability threshold (which in practice means a high intent threshold, since in cases of attempt the suppressed information is by definition immaterial) is justified.

C. Addressing Objections

In this Section, I address some possible objections to my proposal. The first two objections attack the validity of my solution, and the remaining three objections are based on pursuing alternative solutions.

1. Courts lack information to calibrate the penalty.

An immediate objection is likely to be that courts lack the information to accurately impose a penalty that exactly matches the culpability in a particular case. This is true enough. But the information deficit problem will plague any solution to the inequitable conduct problem, and indeed plagues every legal problem more generally. The relevant question is not my proposal is *perfect*, but only

¹⁶³ See Richard A. Posner, *Free Speech in Economic Perspective*, 20 Suffolk U. L. Rev. 1, 29 (1986) (“The maxim *de minimis non curat lex* can be given an economic meaning: do not intervene judicially if the costs of intervention exceed the potential stakes in the dispute.”).

whether it achieves *better* results.¹⁶⁴ And using a flexible penalty to match culpability to deterrence is better than the regime of current law.

As discussed in Part III, what courts attempt to do now is use the liability standard as the relevant policy lever to match culpability to deterrence, while imposing a mandatory penalty. This liability-as-policy-lever approach is both more inherently limited, and more information-intensive, than my proposal. The inherent limitation is that the *best* result that can be achieved through calibrating the liability standard is the result in Figure 7, where there is still sub-optimal under-deterrence on the entire right portion of the diagram. This under-deterrence effect is extremely pernicious because, at least on the right half of the diagram, the unenforceability penalty is still upside-down: the *most* culpable cases of misconduct still receive the *least* punishment. Over the long-term, this perverse result will inevitably generate criticism and calls for narrowing and abolition.¹⁶⁵ In this sense, reliance on the liability standard as the policy lever, while leaving the unenforceability penalty untouched, is an unstable equilibrium that is politically self-defeating.

Moreover, to even achieve the result depicted in Figure 7 by adjusting liability requires an impossible amount of information and very precise fine-tuning. What Figure 7 requires is for courts to very accurately assess the culpability of a particular patentee, and to very carefully calibrate the probability of finding liability, so that the probability is exactly offset by the severity of punishment. Because the probability of finding liability is subsequently *multiplied* by the severity of the punishment, even minor errors in the calculation will be magnified, and towards the extreme left the magnification will be very large. The liability-as-policy-lever approach thus demands that courts must not make even small errors in fine-tuning the liability rule, and this requires an enormous amount of information to make sure the result is precisely correct every time. In comparison, my proposal for calibrating the penalty is less information-intensive and more tolerant of small errors, because errors in assessing the anticipated gain G (which correlates strongly with culpability) and the probability of evasion p_e are *not* subsequently magnified. And unlike the inherent defect of the liability rule approach, there is no reason that a flexible

¹⁶⁴ See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1, 1 (1969) (criticizing the Nirvana Fallacy that “presents the relevant choice as between an ideal norm and an existing ‘imperfect’ institutional arrangement.”).

¹⁶⁵ See *supra* Part II.C.

penalty cannot achieve optimal deterrence in all cases, provided the relevant information can be collected.

All that said, it is true that collecting the necessary information to calibrate the penalty will still be costly, and so there will necessarily be some degree of imprecision and error in a world of limited resources and finite information. Therefore, in cases where the cost of adjudicating the penalty (encompassing both the assessment costs and the costs of error) exceed the social harms of under-deterrence, it is preferable to impose a liability threshold and forgive small mistakes on the part of patentees—thereby avoiding the need to adjudicate a penalty—even with the understanding that this will induce patentees to take less than the perfect amount of care.¹⁶⁶

2. The penalty will fall on innocent assignees.

One concern is that my proposed punitive fine must necessarily be levied against the patent owner who brings an infringement lawsuit and is subject to a counter-claim by the accused infringer; a court generally would not have jurisdiction to impose fines on non-parties.¹⁶⁷ In cases where the patent has been assigned by the initial patent applicant to an assignee, this means that the fine will be imposed on an innocent assignee who has done nothing wrong, while the truly guilty party—the initial patent applicant¹⁶⁸—will be beyond the jurisdiction of the court. This would seem to be rather unfair and to negate the deterrence value of my proposed solution.

There are several responses to this point. The first is that the same argument applies to existing inequitable conduct doctrine, where the unenforceability penalty is also applied to the patent owner, who may be an innocent assignee.¹⁶⁹ Thus, in the comparison of whether my

¹⁶⁶ This point also answers the potential argument that courts should calibrate *both* the liability standard and the penalty to achieve the policy of optimal deterrence. A simple liability threshold is easy to administer and reduces the administrative cost of calibrating the penalty. Having a very complicated and finely-tuned liability standard, in contrast, would increase the administrative cost with little benefit, because optimal deterrence can be more easily achieved by calibrating the penalty.

¹⁶⁷ See *Smith v. Bayer Corp.*, 131 S. Ct. 2368, 2376 (2011) (“general rule against binding nonparties”).

¹⁶⁸ Or the prosecuting attorney, who acts on behalf of the patent applicant, and whose actions will therefore be attributable to the principal under standard agency law. RESTATEMENT (THIRD) OF AGENCY § 7.04.

¹⁶⁹ Margo A. Bagley, *The New Invention Creation Activity Boundary in Patent Law*, 51 Wm. & Mary L. Rev. 577, 603 (2009) (“the innocent assignee might just have to suffer”).

proposal is better than existing law, the two come out a wash. The underlying difficulty is that courts cannot punish non-parties who are outside of their jurisdiction, and short of creating a *qui tam* cause of action¹⁷⁰ against dishonest patent applicants—where any person can affirmatively sue the patent applicant for the amount of the fine in the district where the patent applicant resides—this difficulty will remain.

More importantly, the *initial* imposition of the fine on an innocent assignee does not mean that the monetary loss will *stay* on the innocent party. The assignee will likely now have a breach of contract action against the initial patent applicant, since one term of the assignment contract—which can reasonably be implied as a matter of law even if not expressed in the contract itself—is that the patent being assigned was not dishonestly obtained.¹⁷¹ The monetary fine that is levied the assignee can therefore be recovered from the initial patent applicant as a consequential loss arising from this breach.¹⁷² And a court would have proper jurisdiction to adjudicate a breach of contract lawsuit brought by the assignee against the initial patent applicant.

Indeed, this type of regime—where an innocent assignee is initially saddled with a loss so that he will chase down the guilty assignor and transfer the loss through a breach of contract suit—is quite common in property law.¹⁷³ For example, the innocent purchaser of stolen goods is nonetheless required to return the goods to the true owner, which saddles the purchaser with the loss.¹⁷⁴ The rationale for this rule is that the purchaser will then sue the thief who sold the stolen goods to him.¹⁷⁵ This regime is far better than one where an innocent assignee

¹⁷⁰ *Cf.* 35 U.S.C. § 292 (2006) (creating a *qui tam* cause of action against people who falsely mark their products as patented), *repealed by*, Leahy-Smith America Invents Act, § 16(b), Pub. L. No. 112-29, 125 Stat. 284, 329 (2011).

¹⁷¹ *Cf.* *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 150 F.3d 1374, 1378 (Fed. Cir. 1998) (finding an “implicit representation of validity contained in [every] assignment of a patent”).

¹⁷² RESTATEMENT (SECOND) OF CONTRACTS § 347(b) (allowing recovery of consequential losses).

¹⁷³ This is implemented by the traditional legal principle that a seller cannot convey better title than he has. *See* Alan Schwartz & Robert E. Scott, *Rethinking the Laws of Good Faith Purchase*, 111 Colum. L. Rev. 1332, 1335 (2011) (“Common law and civil code systems all begin with the fundamental principle that, ordinarily, one cannot convey greater rights than one has—a principle embodied in the Latin maxim *nemo dat quod non habet*.”).

¹⁷⁴ *See* RESTATEMENT (SECOND) OF TORTS § 229 (making the possessor of stolen goods liable in conversion).

¹⁷⁵ *See* Uniform Commercial Code § 2-312(1) (creating an implied warranty of good title in every contract for the sale of goods).

automatically became free of all liability,¹⁷⁶ since that would induce those who commit misconduct to immediately “cleanse” their misconduct by finding a cooperative buyer, who would pay full price for the goods due to the immunity granted.¹⁷⁷

3. Alternative policing mechanisms.

My proposal in this Article is to preserve and improve the inequitable conduct doctrine, by implementing a relatively small fix of replacing the mandatory unenforceability penalty with more flexible system of punitive fines. The existing literature, in contrast, has usually advocated more drastic changes, and always one-sided changes to narrow the doctrine and reduce deterrence.¹⁷⁸ The most drastic narrowing change advocated has been to abolish the inequitable conduct doctrine altogether.¹⁷⁹ I shall address that suggestion separately in Part IV.C.5.

The obvious difficulty with narrowing or abolishing the inequitable conduct doctrine is that it is the primary doctrinal safeguard against patentee dishonesty.¹⁸⁰ As a consequence, critics of inequitable conduct doctrine frequently propose placing greater reliance on other policing mechanisms.¹⁸¹ None of the proposed mechanisms, however, offer adequate solutions to the problem of patentee dishonesty and under-deterrence seen on the right side of Figure 1. Because the conventional

¹⁷⁶ Recording statutes, which allow an innocent purchaser to take priority, operate as an exception from the common law rule. Robin Paul Malloy & Mark Klapow, *Attorney Malpractice for Failure to Require Fee Owner’s Title Insurance in a Residential Real Estate Transaction*, 74 St. John’s L. Rev. 407, 429 (2000). But recording statutes effectively require purchasers to search title registries, and thus are not blanket immunities for purchasers.

¹⁷⁷ See Bagley, *supra* note 177, at 603 (calling this “patent laundering”).

¹⁷⁸ See, e.g., Wasserman, *supra* note 90, at 3 (“this article advocates limiting the doctrine of inequitable conduct and pursuing alternative avenues for increasing patent quality”); Cotropia, *supra* note 7, at 774 (arguing to “minimize the remedy”).

¹⁷⁹ See, e.g., National Research Council of the National Academies, *supra* note 127, at 123 (calling for abolition); Lynch, *supra* note 7, at 9 (same).

¹⁸⁰ Stijepko Tokic, *In re “DDAVP” Direct Purchaser Antitrust Litigation: Is the Second Circuit’s “Massage” the Way to Relieve the Key Pressure Points Between the Patent System and Antitrust Laws?*, 92 J. Pat. & Trademark Off. Soc’y 536, 539–40 (2010).

¹⁸¹ Wasserman, *supra* note 90, at 3; National Research Council of the National Academies, *supra* note 127, at 122–23 (arguing that “invalidity, disciplinary action, and reputational concerns” provide alternative mechanisms of deterring dishonesty).

wisdom has not appreciated the under-deterrence effect,¹⁸² its proffered solutions do not adequately address this concern.

The most frequently cited alternative is for the PTO to enforce disciplinary measures against patent attorneys who engage in misconduct, under which the PTO can define for itself both the standards for liability and the appropriate penalty for violation.¹⁸³ The problem with this approach is threefold. First, the PTO itself has shown absolutely no interest in performing this policing function, having unilaterally stopped enforcement of existing inequitable conduct doctrine since 1988.¹⁸⁴ Second, as the PTO itself explained to the Federal Circuit in *Therasense*, it has neither the institutional capability nor resources to perform such an enforcement role.¹⁸⁵ On resources, the PTO is chronically under-funded already;¹⁸⁶ and on institutional capability it is hobbled by the fact that it cannot issue subpoenas or compel testimony.¹⁸⁷ Moreover, the statute of limitations for PTO discipline is five years,¹⁸⁸ and it would be rare for dishonest conduct to surface merely one quarter of the way into a patent's lifetime.¹⁸⁹

¹⁸² See *supra* Part I.F.

¹⁸³ See, e.g., Merges & Duffy, *supra* note 1, at 1112 (arguing that “administrative agencies are generally held to be masters of their own procedures” and “the best punishment might be such disciplinary sanctions”).

¹⁸⁴ See *supra* Part II.C.2.

¹⁸⁵ Brief for the United States as Amicus Curiae Supporting Neither Party at 15–16, *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011) (en banc) (No. 2008–1511) (“not practical or possible” to rely on PTO discipline).

¹⁸⁶ Rochelle Cooper Dreyfuss, *In Search of Institutional Identity: The Federal Circuit Comes of Age*, 23 Berkeley Tech. L.J. 787, 813 (2008); *but see* Clarisa Long, *The PTO and the Market for Influence in Patent Law*, 157 U. Pa. L. Rev. 1965, 1986 (2009) (arguing that the PTO's financial position has steadily improved since 1994).

¹⁸⁷ See 35 U.S.C. § 24 (2006) (limiting the PTO's subpoena power to contested cases, which does not encompass investigations prior to a disciplinary proceeding).

¹⁸⁸ 28 U.S.C. § 2462 (2006) (time limit for the “enforcement of any civil fine, penalty, or forfeiture”).

¹⁸⁹ See 35 U.S.C. § 154 (2006) (twenty year patent term). See also Brief for the United States as Amicus Curiae Supporting Neither Party at 15–16, *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011) (en banc) (No. 2008–1511) (“the PTO infrequently learns of inequitable conduct within” the five year time frame).

Third, the PTO's enforcement power is limited to disciplining patent attorneys and not their clients.¹⁹⁰ This is often cited as an advantage, in that dishonest conduct is usually perpetrated by the attorney and not directly by the client.¹⁹¹ However, such a view is backwards. While it is true enough that the conduct is usually performed by the attorney, the *benefit* and thus *motivation* lie with the client. A client obviously benefits from gaining an invalid patent that the PTO should have denied, and would have denied if the true state of facts were known. A prosecuting attorney has almost nothing to gain from using dishonesty to obtain an undeserved patent for his client, aside from higher fees (which the client would be willing to pay only as a function of the benefit gained). If the point of disciplinary sanctions is to remove the benefits of misconduct and create deterrence, it makes obvious sense to impose the sanctions on the client, which the PTO cannot do.

An alternative that does allow imposing sanctions on the client is criminal prosecution for violation of 18 U.S.C. § 1001, which criminalizes making a “materially false, fictitious, or fraudulent statement or representation” to a government agency.¹⁹² The problem with this approach is largely the same as that of relying on PTO discipline. The Department of Justice has shown *even less* interest in assuming the enforcement function than the PTO has. The last reported case involving a § 1001 prosecution for dishonesty to the PTO occurred in 1976,¹⁹³ and the one before that appears to be from 1934.¹⁹⁴ One potential reason—aside from limited prosecutorial resources—might be that there is a five year statute of limitations against criminal prosecution,¹⁹⁵ and, like the PTO statute, it begins running from the time the offense is committed (*i.e.* not from when the fraud is discovered).¹⁹⁶ Because it is unlikely that fraud on the PTO will be discovered in five years—and patentees can virtually ensure this by waiting six years before doing anything with their patent¹⁹⁷—there is

¹⁹⁰ 35 U.S.C. § 32 (2006).

¹⁹¹ *Merges & Duffy, supra* note 1, at 1112 (“Inventors and patentees might fairly think that, if misconduct occurs at the agency, the best punishment might be such disciplinary sanctions (which fall on the offending attorneys) rather than the sanction of patent unenforceability (which falls primarily on the patentee).”).

¹⁹² 18 U.S.C. § 1001(a)(2) (2006).

¹⁹³ *United States v. Markham*, 537 F.2d 187 (5th Cir. 1976).

¹⁹⁴ *Meehan v. United States*, 70 F.2d 857 (9th Cir. 1934).

¹⁹⁵ 18 U.S.C. § 3282 (2006).

¹⁹⁶ *Id.* (“five years next after such offense shall have been committed”).

¹⁹⁷ Patentees can wait six years before filing infringement suits without losing any damages. 35 U.S.C. § 286 (2006) (six year limitation on damages).

little credible deterrence from criminal prosecution, even if prosecutors were inclined to be more vigorous.

A third option that relies on private enforcement (and therefore does not suffer the problem of lack of inclination and resources by government agencies), has no statute of limitations issue, and also allows super-restitutionary damages is a private antitrust counter-claim under the doctrine of *Walker Process Equipment, Inc. v. Food Machinery Corp.*¹⁹⁸ The *Walker Process* doctrine holds that a patent plaintiff who fraudulently obtains an invalid patent and then files an infringement suit upon it commits an antitrust violation.¹⁹⁹ The standard remedy for an antitrust violation is treble damages, based on the amount of competitive injury.²⁰⁰

In many ways, therefore, a counter-claim by an accused infringer under the *Walker Process* doctrine fits my proposed reform: rather than rendering the patent unenforceable for the dishonesty, a monetary penalty is imposed, which imposes a penalty over-and-above the invalidity of the patent that would occur anyway, and thereby achieves deterrence. As the doctrine is *currently* constituted, however, *Walker Process* is an inadequate substitute for the inequitable conduct doctrine, for three reasons.

First, courts impose an even higher burden of proof for *Walker Process* allegations than for inequitable conduct allegations,²⁰¹ which makes *Walker Process* claims basically impossible to prove and the doctrine a virtual dead letter.²⁰² One study found that, between 1985 and 2001, only three *Walker Process* claims were successful.²⁰³ Even with treble damages, the chance of evasion is so high that there is likely to be no meaningful deterrence against patentee dishonesty.

¹⁹⁸ 382 U.S. 172 (1965).

¹⁹⁹ *See id.* at 176–77.

²⁰⁰ 15 U.S.C. § 15(a) (2006).

²⁰¹ *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1346–47 (Fed. Cir. 2007) (“To demonstrate *Walker Process* fraud, a claimant must make higher threshold showings of both materiality and intent than are required to show inequitable conduct.”).

²⁰² Blair Silver, *Controlling Patent Trolling with Civil RICO*, 11 Yale J.L. & Tech. 70, 94 (2009); see 1 HERBERT HOVENKAMP, MARK D. JANIS & MARK A. LEMLEY, *IP AND ANTITRUST* § 11.2, at 11-18 (Supp. 2009) (“*Walker Process* claims are usually not successful.”); David R. Steinman & Danielle S. Fitzpatrick, *Antitrust Counterclaims in Patent Infringement Cases: A Guide to Walker Process and Sham-Litigation Claims*, 10 Tex. Intell. Prop. L.J. 95, 99 (2001) (“extremely difficult to plead and prove”).

²⁰³ Steinman & Fitzpatrick, *supra* note 202, at 99 n.22.

Second, a *Walker Process* claim requires the accused infringer to prove other antitrust elements, such as defining the relevant “market” being monopolized.²⁰⁴ These antitrust elements are not relevant to the wrong that inequitable conduct doctrine seeks to prevent, which is dishonesty to the PTO. Relying on *Walker Process* as the primary policing mechanism for fraud on the PTO, therefore, imposes needless barriers to achieving proper deterrence of that wrong.

Third, and perhaps most importantly, the *Walker Process* doctrine can easily be avoided by a cunning patent applicant, who can simply assign the patent to someone else and thereby “cleanse” the misconduct.²⁰⁵ This is because *Walker Process* requires the *plaintiff in litigation* to know of the invalidity of the patent and its fraudulent history.²⁰⁶ As described in Part IV.C.2., allowing assignees to take a patent unencumbered by the assignor’s fraud opens an enormous loophole, because the guilty assignor ultimately benefits through the ability to charge a higher price in the transfer.

Of course, the *Walker Process* doctrine can be broadened to remedy all of these defects, though it would probably require a Supreme Court decision to do so. But at that point we are merely talking about the doctrinal label under which my proposed reform would be implemented, not its substance. Whether my proposal is implemented under the heading of a “modified *Walker Process* doctrine” or a “modified inequitable conduct doctrine” really does not matter. What matters is that there is a doctrine that imposes a more-than-restitutionary remedy—*i.e.* real punishment—whenever patent applicants commit highly culpable fraud in the PTO.

4. Attorney-fee awards as a punitive remedy.

Another potential objection to my analysis is that current law already permits an additional enforcement mechanism, namely the possibility of awarding attorneys fees to accused infringers. A judgment of inequitable conduct allows, but does not require, an award of attorneys fees in favor of the accused infringer.²⁰⁷ Since this award of attorneys fees creates an effect over-and-above the simple forfeiture of the patent, it provides some amount of additional deterrence that

²⁰⁴ *Walker Process*, 382 U.S. at 177–78 (“Without a definition of that market there is no way to measure Food Machinery’s ability to lessen or destroy competition.”).

²⁰⁵ See Bagley, *supra* note 177, at 603 (calling this “patent laundering”).

²⁰⁶ *Walker Process*, 382 U.S. at 177 n.5.

²⁰⁷ *Gardco Mfg., Inc. v. Herst Lighting Co.*, 820 F.2d 1209, 1215 (Fed. Cir. 1986).

mitigates the under-deterrence effect. The prospect of receiving attorneys fees also provides some incentive for accused infringers to pursue inequitable conduct arguments even in cases where the patent is invalid.

While the potential for attorneys fees does ameliorate the under-deterrence problems I have identified to some extent, it is clearly inadequate, at least under current practice. Given the miniscule chance of winning on an inequitable conduct defense even with a highly meritorious claim (because the burden of proof is so high),²⁰⁸ plus the fact that the courts usually deny attorneys fees even when inequitable conduct is proven,²⁰⁹ it would basically never make sense for an accused infringer to expend attorneys fees to investigate and litigate the inequitable conduct issue after a patent has already been invalidated, solely for the prospect of an attorney fee award. This is because these additional attorneys fees must be expended upfront, while the chance of their recapture (only *if* incriminating evidence is found despite the patentee's best efforts to conceal it, and *if* the inequitable conduct argument then succeeds, and *if* the court in its discretion then awards the fees) is remote. Similarly, given that the amount of attorneys fees that can possibly be awarded is inherently less than the value of a fraudulently obtained patent (it would never make sense to spend more in attorneys fees than the value of the patent at stake), plus the miniscule chance that any such sanctions will ever be imposed, no patentee should ever be deterred solely by the remote prospect of paying attorneys fees. As even the courts have long recognized, attorneys fees are "of secondary importance" in the inequitable conduct calculus,²¹⁰ and without a stronger penalty "the relationship of confidence and trust between applicants and the Patent Office [would not] have any real meaning."²¹¹ While courts are mistaken in believing that the unenforceability remedy provides a stronger penalty that deters serious patentee misconduct, the belief that attorneys fees are inadequate is quite correct.

Of course, attorney fee sanctions can be made easier to impose—by lowering the burden of proof for inequitable conduct and by regularly imposing attorney fees sanctions when inequitable conduct is found—and thereby obviate the problem that the likelihood of their imposition under current law is so miniscule as to make them not worth thinking

²⁰⁸ Petherbridge, Rantanen & Mojibi, *supra* note 11.

²⁰⁹ Nolan-Stevaux, *supra* note 9, at 168 (even when inequitable conduct is proven, courts award attorneys fees only 40% of the time)

²¹⁰ *Norton v. Curtiss*, 433 F.2d 779, 795 & n.14. (C.C.P.A. 1970).

²¹¹ *Id.*

about. And if attorneys fees were regularly imposed, the prospect of such fees may be enough to induce at least some accused infringers to continue pursuing an inequitable conduct claim even when the unenforceability penalty is superfluous due to the invalidity of the patent. Even then, however, relying on attorneys fees as the primary remedy would be problematic, because attorneys fees will always be less than the value of the patent, and in the very worst cases of misconduct such a cap would be too low to provide adequate deterrence. Thus, while attorney fee sanctions can work as a complement to a system of punitive fines, they cannot be a full substitute.

5. Abolish the duty of candid disclosure instead.

The most extreme alternative solution that is usually suggested is to abolish the inequitable conduct doctrine entirely.²¹² This has the obvious problem that inequitable conduct is the primary—indeed, for all practical purposes, the only—enforcement mechanism to ensure patentee honesty in dealings with the patent office.²¹³ To abolish inequitable conduct, therefore, would leave no enforcement mechanism for the duty of candor (also known as the duty of disclosure).²¹⁴

To which one response is that we should abolish the duty of disclosure also.²¹⁵ The argument is usually put in terms that the United States is the only country with a duty of disclosure, but our patent system is not of a noticeably higher quality than those of other countries.²¹⁶ I have two responses to this argument.

The first is that it is not true. A duty of disclosure is inherent in every patent system, because a core part of the patent bargain is

²¹² See, e.g., National Research Council of the National Academies, *supra* note 127, at 121–23 (calling for abolition); Lynch, *supra* note 7, at 9 (same).

²¹³ Dolak, *supra* note 12, at 17–22 (arguing that alternative proposals are unsatisfactory). See also *supra* Part IV.C.3.

²¹⁴ 37 C.F.R. § 1.56 (2011) (“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.”); 37 C.F.R. § 1.105 (allowing PTO to demand disclosure of additional information beyond that required to be automatically disclosed under § 1.56).

²¹⁵ See, e.g., Jay Erstling, *Patent Law and the Duty of Candor: Rethinking the Limits of Disclosure*, 44 Creighton L. Rev. 329, 365 (2011) (arguing for abolition of duty of disclosure).

²¹⁶ *Id.* at 346–47 (arguing that “the duty of disclosure is not only failing to achieve its objective of providing more comprehensive patent examination, but also is contributing to poorer quality,” compared to other countries).

honest disclosure of the invention.²¹⁷ Without a duty of disclosure and a policing mechanism to ensure honesty, a patent applicant could fabricate an invention such as by fabricating, out of thin air, clinical trial results showing a cure for AIDS, and then wield any patent that is obtained to terrorize competitors, all without penalty even if the applicant is caught. Thus, every patent system has a duty of honest disclosure and requires a mechanism to enforce honest disclosure to the patent office. Other countries might have *less onerous* requirements of disclosure,²¹⁸ and they might enforce the requirement using *different policing mechanisms* such as patent office discipline or perjury prosecutions,²¹⁹ but every country has a duty of candid disclosure of some sort or another.

The second point that follows is that the question is not whether there should be a duty of disclosure, but only the scope of that duty and the policing mechanism used to enforce it. The scope of the duty of disclosure is a worthwhile question, but it is tangential to the argument of this Article on improving the inequitable conduct doctrine. As long as *some* duty of disclosure exists, there will be a corresponding need for the inequitable conduct doctrine, because it is the best policing mechanism that we have to ensure patentee honesty in complying with whatever disclosure requirement is imposed.²²⁰ This is not to say that current inequitable conduct doctrine and its unenforceability penalty performs this function well—it doesn’t, as Figure 1 shows—but only to say that inequitable conduct is the best mechanism available, which can be reformed to achieve the desired result with only slight doctrinal adjustments.

CONCLUSION

Three propositions dominate the conventional wisdom on inequitable conduct. The first proposition is that the unenforceability penalty is always a draconian “atomic bomb.”²²¹ The second proposition is that inequitable conduct is frequently alleged but rarely successful

²¹⁷ *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124, 142 (2001) (“The disclosure required by the Patent Act is ‘the quid pro quo of the right to exclude.’” (quoting *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 484 (1974))).

²¹⁸ *See, e.g.*, European Patent Convention, art. 124, Oct. 5, 1973, 1065 U.N.T.S. 199 (allowing the European Patent Office to demand applicants provide information on prior art).

²¹⁹ *See, e.g.*, Patents Act, 1977, c. 37, § 92 (U.K.) (making perjury penalties applicable to proceedings in the European Patent Office).

²²⁰ *See supra* Part IV.C.3.

²²¹ *Therasense*, 649 F.3d at 1289.

in litigation, and that this implies the allegations are generally unmeritorious and patentees are almost never truly dishonest.²²² The third proposition is that the proper solution in light of the first two propositions is to raise the liability threshold.²²³ As the Article has demonstrated, each of these propositions is wrong.

Contrary to the conventional wisdom, the unenforceability penalty is not always a draconian atomic bomb. While it is true enough that the penalty is very harsh when applied to minor errors, it is equally true that the penalty is practically non-existent in cases of serious patentee fraud, where unenforceability is redundant with invalidity. Thus, at the same time as generating too much deterrence against minor errors, the unenforceability penalty also creates insufficient deterrence against the very worst types of patentee misconduct. The conventional wisdom that focuses only on preventing over-deterrence, and not under-deterrence, thus misses half the equation.

Similarly, although it is true enough that inequitable conduct allegations are rarely successfully litigated, this fact does not imply that the allegations are unmeritorious or that patentees are rarely seriously dishonest. Rather, the low win rate is virtually certain to occur given upside-down accused infringer incentives to litigate. Judges will rarely see the very worst types of misconduct litigated as inequitable conduct cases, because in those cases accused infringers will choose to devote their resources to a defense of invalidity that is far easier to prove and almost equally rewarding. The false inference that is normally drawn from low success rates in litigation—that this means that the allegations are generally frivolous and that patentees are generally honest—in turn prompts judges to narrow the inequitable conduct doctrine. This perpetuates a vicious cycle, since the narrowing of inequitable conduct doctrine makes the defense even less appealing to accused infringers in litigation and means that even fewer meritorious cases will be brought to the judges' attention. This vicious cycle continues even when the underlying empirical assumption (that patentees rarely or never engage in serious misconduct in the PTO) has no valid foundation.

Once the nature of this upside-down incentive effect is understood, it also becomes clear that changing the liability standard will not solve

²²² *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) (allegations are “an absolute plague” because accused infringers “get anywhere with the accusation in but a small percentage of the cases”).

²²³ *See, e.g., Therasense*, 649 F.3d at 1290 (tightening intent and materiality elements); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (raising pleading standards).

the fundamental problem. Neither narrowing liability nor expanding liability will achieve good outcomes. As seen in Figure 4, narrowing liability can reduce or eliminate the over-deterrence problem, but only at the cost of maintaining or even exacerbating the under-deterrence problem. Conversely, as seen in Figure 3, expanding liability will not meaningfully resolve the under-deterrence problem, but will significantly exacerbate the over-deterrence problem. In all cases a significant under-deterrence problem will remain if reform is focused on the liability standard. The conventional focus on liability standards, therefore, is another reflection of the fact that the under-deterrence side of the equation has been overlooked.

Rather than modifying the liability standard, a more fruitful avenue for reform would be to focus on calibrating the penalty to match punishment to culpability. Because the unenforceability penalty in fact achieves the very opposite of the desired effect, it should be abolished. In its place, a system of punitive fines that are calculated according to my proposed formula can achieve better outcomes, with less information cost, than a system based on modifying the inequitable conduct liability rule and preserving the unenforceability remedy.