

THE UPSIDE-DOWN INEQUITABLE CONDUCT DEFENSE

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ABSTRACT—“Inequitable conduct” is a patent law doctrine that renders a patent unenforceable when the patentee is found to have acted improperly before the U.S. Patent and Trademark Office. It is widely reviled and frequently criticized for being draconian: the Federal Circuit has famously called the doctrine an “absolute plague” that terrorizes patent owners. Responding to the concern about overdeterrence, the Federal Circuit has repeatedly narrowed the doctrine.

This Article takes a different perspective. The conventional wisdom is correct enough in arguing that the inequitable conduct doctrine sometimes produces overdeterrence. What has been overlooked, however, is the fact that the doctrine also produces underdeterrence. Specifically, as this Article will demonstrate, the unenforceability penalty creates too much deterrence against minor errors, but it also produces inadequate deterrence against the most serious patentee frauds. In this way, the doctrine is upside down.

Once we understand that there is an underdeterrence problem, it quickly becomes evident that conventional proposals to narrow liability (which the Federal Circuit has generally adopted) are misguided. Narrowing the inequitable conduct doctrine can mitigate the overdeterrence problem, but only at the price of exacerbating the underdeterrence problem. At the same time, the Article will demonstrate that expanding liability, as some have argued, is no better: it simply exacerbates the overdeterrence problem. Rather than focus on the liability standard, the proper solution is to reform the penalty in a way that addresses both the over- and underdeterrence effects.

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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 Although this outcome might seem quite unobjectionable to an outsider, the doctrine in fact attracts more passionate loathing, and stronger criticism, than any other doctrine in patent law. As a striking example, the Federal Circuit calls the inequitable conduct doctrine an “absolute plague” that terrorizes patent owners,³ and

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

² See *id.*

³ *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988).

calls the unenforceability penalty an “atomic bomb.”⁴ Other members of the patent community regularly voice similar sentiments—in government,⁵ in the academy,⁶ and among practitioners.⁷ The consensus is that the unenforceability penalty is always harsh and draconian—akin to a fixed, mandatory \$1 million fine. Responding to this view, courts have repeatedly narrowed the inequitable conduct doctrine to ensure that the million-dollar fine is applied only to million-dollar crimes.⁸ Calls for even more narrowing—or for outright abolition—are common.⁹

This Article argues that the conventional wisdom misunderstands the effect of the unenforceability remedy, and this misunderstanding leads to the wrong solutions. In truth, the unenforceability remedy is not analogous to a flat \$1 million fine that is severe in all cases. Rather, the effect of the unenforceability remedy is variable.¹⁰ If the patent is valid under the true state of facts, then rendering the patent unenforceable is a very severe punishment. But if the patent is already invalid for independent reasons, then holding an invalid patent unenforceable creates no punishment or deterrence against dishonesty.

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,¹¹ and it produces three implications. The first is that patentees have upside-down incentives to engage in dishonest conduct. As I

⁴ *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1288 (Fed. Cir. 2011) (en banc) (quoting *Aventis Pharma S.A. v. Amphastar Pharm., Inc.*, 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).

⁵ See, e.g., Orrin G. Hatch, *Keynote Address*, 78 GEO. WASH. L. REV. 513, 515–16 (2010) (criticizing the inequitable conduct defense).

⁶ 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 doctrine results in overdisclosure); Christian E. Mammen, *Controlling the “Plague”: Reforming the Doctrine of Inequitable Conduct*, 24 BERKELEY TECH. L.J. 1329, 1390–94 (2009).

⁷ See, e.g., 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 See, e.g., *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (arguing for a high burden of proof because “the penalty . . . is so severe”); *Aventis Pharma*, 525 F.3d at 1349 (Rader, J., dissenting) (arguing that inequitable conduct should be limited to “only the most extreme cases of fraud and deception”).

⁹ See, e.g., Cotropia, *supra* note 6, at 774–78 (arguing for narrowing the doctrine); Mammen, *supra* note 6 (same); see also Lynch, *supra* note 7 (arguing for elimination of inequitable conduct as a defense to patent enforcement).

¹⁰ To be clear, I am referring here only to the magnitude of the punishment, without regard to culpability. Thus, a million-dollar fine is “severe” even when it is applied to a million-dollar crime. I will consider culpability next.

¹¹ As I discuss in Part III, shades of this point are sometimes made in judicial opinions, especially the dissent in *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1305–06 (Fed. Cir. 2011) (en banc) (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.

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, not because of the shredding of documents. There is thus no punishment levied for the document shredding, and a patentee who 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. Punishment and deterrence therefore vary inversely with culpability.

Although the insight is simple, this portrait of inequitable conduct as upside down differs from the common understanding of the literature. Existing scholarship overwhelmingly argues that inequitable conduct produces overdeterrence and should be narrowed across the board.¹² A few isolated voices argue that inequitable conduct produces underdeterrence and should be expanded across the board.¹³ My argument is that inequitable conduct is not uniform in its effect, that it produces both over- and underdeterrence at the same time, and that a solution should 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 it is 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.¹⁴ This “availability bias” means that judges will start to believe that truly serious patentee

¹² See, e.g., Cotropia, *supra* note 6, at 762–70, 774–78; Mammen, *supra* note 6; Melissa Feeney Wasserman, *Limiting the Inequitable Conduct Defense*, 13 VA. J.L. & TECH. 1, 22–23 (2008).

¹³ See David McGowan, *Inequitable Conduct*, 43 LOY. L.A. L. REV. 945, 975–77 (2010) (arguing for loosening the intent and pleading requirements).

¹⁴ 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”).

misconduct almost never occurs.¹⁵ The result is that the same judges will narrow inequitable conduct doctrine, which is precisely what has happened in real life.¹⁶ 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 overdeterrence focus on raising the burden of proof and narrowing liability.¹⁷ The minority who believe that inequitable conduct produces underdeterrence focus on lowering the burden of proof and expanding liability.¹⁸ My argument in Part III 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 underdeterrence problem for high-culpability cases, and so too much dishonesty will occur before the PTO. Expanding liability (the conventional minority position) without fixing the penalty structure is even worse: it means that trivial cases will now be overpenalized, but it does nothing to fix the underdeterrence problem in high-culpability cases because 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 that can be tailored to the degree of culpability. This Part then addresses some potential objections. A conclusion follows.

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 through D will show, the more culpable the misconduct by the patentee, the less deterrence the unenforceability remedy will provide. The key factor

¹⁵ See Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 5 COGNITIVE PSYCHOL. 207 (1973).

¹⁶ See Lee Petherbridge et al., *The Federal Circuit and Inequitable Conduct: An Empirical Assessment*, 84 S. CAL. L. REV. 1293, 1308 (2011) (“Inequitable [c]onduct [j]urisprudence [e]vinces a [s]trong [p]reference for [p]atentee [s]uccess.”); see also *Therasense*, 649 F.3d at 1290.

¹⁷ 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 6, at 775–83; Lisa A. Dolak, *Inequitable Conduct: A Flawed Doctrine Worth Saving*, 11 WAKE FOREST J. BUS. & INTELL. PROP. L. 1, 26–29 (2010) (arguing for more rigorous materiality and intent requirements).

¹⁸ See McGowan, *supra* note 13.

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.¹⁹ A patent is valid if the invention is new, useful, and nonobvious.²⁰ 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 (nonobvious). 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 or state of mind.²¹ 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 meaningful ability to find it beforehand.²² 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 books and journal articles showing the same widget.²³ Similarly, the PTO examiner will be interested in information documenting whether the widget is operative and useful.²⁴ The resulting procedure is that, unless the PTO finds information

¹⁹ See 35 U.S.C. § 131 (2006).

²⁰ See *id.* §§ 101–103.

²¹ Jonathan S. Masur, *Patent Liability Rules as Search Rules*, 78 U. CHI. L. REV. 187, 190 (2011).

²² See *In re Hall*, 781 F.2d 897, 899–900 (Fed. Cir. 1986) (finding a single catalogued thesis in a German university library sufficient to invalidate a patent).

²³ U.S. PATENT & TRADEMARK OFFICE, MPEP § 704.01, at 700-4 (8th ed. Rev. 9, Aug. 2012) ("After reading the specification and claims, the examiner searches the prior art.").

²⁴ See *id.* § 2107, at 2100-24 to -25 (governing examination for utility).

(i.e., evidence) indicating that a patent is invalid, it will presume that the patent is valid.²⁵

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.²⁶

In order to correct such PTO errors, a defense of invalidity is available in litigation.²⁷ 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 nonobvious, 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. Accused infringers will often succeed where the PTO examiner failed because they have stronger incentives and more resources.²⁸ If the book is now found and presented to a court, the patent will be declared invalid. A patent that is held invalid is treated as a legal nullity and has no further effect.²⁹

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 *invalidated* or *found* (or declared, or held) invalid, I mean a patent where the defect in the invention has been discovered and presented to a tribunal such as the PTO or a court, so that the patent is declared to be a legal nullity with no further effect.

²⁵ See *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.”).

²⁶ See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998) (46% of litigated patents are ultimately declared invalid by courts).

²⁷ See 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 *id.* §§ 302–305 (providing for reexamination).

²⁸ See Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 STAN. L. REV. 45, 47 (2007).

²⁹ See *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 350 (1971) (holding that a judgment of invalidity can be asserted by all future accused infringers against the patent).

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. That said, 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 for Andy to now disclose the book to the PTO examiner—if the PTO receives the book, it will deny the patent; and this denial will prevent an invalid patent from issuing, which is a social good.³⁰ 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 the inequitable conduct doctrine is to counteract this incentive for dishonesty and to encourage honest disclosure.³¹

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 that the patent should be held unenforceable. If the court finds that the patentee made a material misrepresentation or omission with intent to deceive, it will hold the patentee guilty of inequitable conduct.³² Once liability for inequitable conduct is found, there is only one remedy: unenforceability of the patent.³³ Unenforceability means that the patent will be given no further effect.³⁴

In practical effect, an unenforceability judgment is basically identical to an invalidity judgment.³⁵ 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.

³⁰ See *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969) (describing the public interest in removing invalid patents).

³¹ See *Aptix Corp. v. Quickturn Design Sys., Inc.*, 269 F.3d 1369, 1376 (Fed. Cir. 2001).

³² See *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1287–88 (Fed. Cir. 2011) (en banc) (listing the two requirements of materiality and intent and noting that “the standards for intent to deceive and materiality have fluctuated over time”).

³³ *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 1561 (Fed. Cir. 1984).

³⁴ See *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556, 1563 n.7 (Fed. Cir. 1989) (noting that inequitable conduct cannot be cured by later action).

³⁵ There is one difference, which is that unenforceability renders an entire patent unenforceable while invalidity may affect only individual claims. See *J.P. Stevens*, 747 F.2d at 1561. I address the effect of this difference in Part I.E.1.

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.³⁶ Scholars have called it a “death penalty” for patentees.³⁷ As the next section will show, however, this view is incorrect in at least some cases. In a case like *Andy’s*, the unenforceability penalty is not severe. Rather, it produces no punishment or deterrence at all.

B. The Problem of Underdeterrence

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 nonexistent. 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. To draw an analogy, it is like saying that murderers (the worst criminals) get the least prison time.

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.³⁸ This comports quite well with common understandings of moral culpability: a misstatement that is material—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. Beyond moral intuitions, economic analysis reaches the same result: generally speaking, economic analysis calls for greater punishment of intentional wrongs than accidental wrongs,³⁹ and it calls for greater punishment of consequential wrongs than inconsequential ones.⁴⁰ Standard inequitable conduct doctrine also defines patentee culpability by these two factors.⁴¹

³⁶ *Therasense*, 649 F.3d at 1288 (quoting *Aventis Pharma S.A. v. Amphastar Pharm., Inc.*, 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).

³⁷ Cotropia, *supra* note 6, at 725; Nicole M. Murphy, Note, *Inequitable-Conduct Doctrine Reform: Is the Death Penalty for Patents Still Appropriate?*, 93 MINN. L. REV. 2274, 2274 (2009).

³⁸ See, e.g., *Merck & Co. v. Reynolds*, 130 S. Ct. 1784, 1796 (2010) (defining securities fraud as making “a material misstatement with an intent to deceive” (emphasis omitted)).

³⁹ See William M. Landes & Richard A. Posner, *An Economic Theory of Intentional Torts*, 1 INT’L REV. L. & ECON. 127, 135 (1981) (arguing that the transaction costs of avoiding intentional wrongs are lower than for accidental wrongs, therefore justifying supracompensatory damages as a deterrent).

⁴⁰ See Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1487 (1999) (“It is more important to deter billion-dollar oil spills resulting from negligence than million-dollar oil spills resulting from negligence.”).

⁴¹ See *Therasense*, 649 F.3d at 1287–88 (“[T]he standards for intent to deceive and materiality have fluctuated over time.”).

In the context of the 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.⁴² 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.⁴³ 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.⁴⁴

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. A “less culpable” misstatement is one that has no effect (i.e., the same patent would have issued anyway and is valid even if the truth were known). 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.⁴⁵ Concealing information showing the invention to be unpatentable makes this affirmative oath of true inventorship 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

⁴² See 35 U.S.C. § 131 (2006) (requiring examination of applications based on these considerations).

⁴³ See *Therasense*, 649 F.3d 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).

⁴⁴ 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.

⁴⁵ § 115 (patentee oath).

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.⁴⁶

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. Andy is therefore strictly better off to 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 an accused infringer must first discover the concealed information before he can prove a claim of inequitable conduct and apply the unenforceability remedy. Once the concealed information is exposed, however, a patent that was obtained through highly culpable fraud—i.e., by suppressing the 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 underdeterrence problem is made starker by comparing patents to any other government-issued entitlement, even entitlements created to incentivize and reward important social contributions. Imagine a nonveteran 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,⁴⁷ 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.⁴⁸ But in patent law the courts regard the analogous remedy—disgorgement of prior monopoly profits—as unimaginable, given that the termination of future

⁴⁶ See JEREMY BENTHAM, AN INTRODUCTION TO THE PRINCIPLES OF MORALS AND LEGISLATION 181 & n.3 (Clarendon 1879) (1780) (arguing that a “punishment should be adjusted in such manner to each particular offence, that *for every part* of the mischief there may be a motive to restrain the offender from giving birth to it” (emphasis added)).

⁴⁷ See 38 U.S.C. § 6103 (2006) (forfeiture of benefits for fraud).

⁴⁸ See *id.* § 6108 (authorizing courts to require restitution of fraudulently claimed benefits to the Department of Veterans Affairs).

monopoly profits is already an “atomic bomb.”⁴⁹ 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 terminating future benefits and requiring repayment of past benefits,⁵⁰ but fines and prison are likewise considered unimaginably draconian measures in the patentee context. The fact that commonsense remedies in any other context are considered unimaginably draconian in patent law indicates that, far from being unduly harsh, the law of inequitable conduct is in fact unduly favorable to patentees.

C. *The Problem of Overdeterrence*

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 nonobvious 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?⁵¹

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 gigantic fine.

Not only is the punishment effect very large, the culpability of the “misconduct” that triggers it is very small. All Betty has done is to 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.⁵² The misstatement also causes no noticeable prejudice to the public or to the

⁴⁹ 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).

⁵⁰ See § 6102 (criminalizing fraudulently obtaining veterans benefits and prescribing fines for violations).

⁵¹ One intuitive response 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’s 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 statute specifically requires patent applicants to state their citizenship. See 35 U.S.C. § 115 (2006).

⁵² See Paris Convention for the Protection of Industrial Property art. 2, *done as revised* July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention for the Protection of Industrial Property].

PTO. In short, in the context of harmless errors, the unenforceability penalty exacts the strongest punishment 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 overdeterrence and inefficiently high levels of precaution.⁵³ What will a patent applicant do in 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 applications, 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 is not.

The overdeterrence problem has been exhaustively described in the literature.⁵⁴ The result of imposing severe punishment for minor mistakes is that patent applicants take excessive precautions against making them, such as by flooding the PTO with every tangentially relevant book and article and double- and triple-checking against typos and minor misstatements.⁵⁵ This is wasteful and increases the social cost of the patent system.

D. A Model of the Over- and Underdeterrence 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; Betty misstates information that has no bearing on the validity of her patent and receives severe punishment.

Of course, patentee culpability is not truly a dichotomous on-off switch, but runs in degrees. Failing to disclose information to the PTO runs the gamut from "completely justified" (if the information is utterly irrelevant), to "likely excusable" (if the information is only tangentially relevant), to "dubious" (if the information is likely, but not certain, to invalidate the patent if known), to "damning" (if the information is certain to invalidate the patent if known). In other words, patent invalidity based on a particular reference is probabilistic,⁵⁶ and some types of information

⁵³ See Melvin A. Eisenberg, *Mistake in Contract Law*, 91 CALIF. L. REV. 1573, 1579 (2003).

⁵⁴ See, e.g., *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1289 (Fed. Cir. 2011) (en banc) ("[P]atent prosecutors regularly bury PTO examiners with a deluge of prior art references, most of which have marginal value."); 154 CONG. REC. 22,629–30 (2008) (statement of Sen. Jon Kyl) (arguing that patent applicants "flood the Office with prior-art references but offer no explanation" as to their relevancy); Cotropia, *supra* note 6, at 770–73 (arguing that inequitable conduct results in overcompliance).

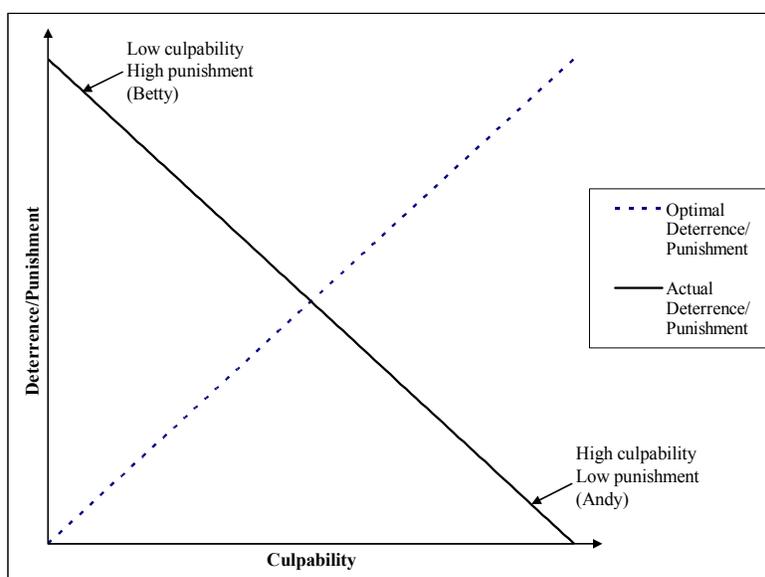
⁵⁵ Another harm that is often asserted is that applicants are deterred from explaining the materiality of references that they submit to the PTO. See, e.g., *Therasense*, 649 F.3d at 1289. This is an illusory harm, however, in that patent applicants have no preexisting incentives to honestly identify material (i.e., damaging) references in the absence of inequitable conduct doctrine.

⁵⁶ See Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75, 75–76 (2005).

are more likely to be invalidating than others. The range of culpability accordingly varies.

This means that the relationship between deterrence effects and culpability must consider the full spectrum of possible degrees of culpability. And it can quickly be seen that the inverse relationship persists for the entire spectrum: The more likely that a prior art 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 (i.e., with the existence of the reference), the less punishment and ex ante deterrence the unenforceability penalty provides. This result is depicted in Figure 1.

FIGURE 1: THE BASIC MODEL OF THE UNENFORCEABILITY PENALTY



In Figure 1, the dotted line represents the optimal relationship between culpability and punishment: generally speaking, from either an instrumental deterrence or a Kantian retributive justice perspective, we would like to see increasing punishment with increasing culpability. But, as Figure 1 illustrates, the actual relationship (represented by the solid line) is exactly contrary. For the lowest culpability cases (Betty), there is the highest punishment, while for the highest culpability cases (Andy), there is the lowest punishment.

The reason for this inverse relationship is the overlap between invalidity and unenforceability: As culpability increases, the patent becomes more likely to be invalidated if the truth is revealed. But as the patent becomes more likely to be invalidated, the unenforceability penalty has less deterrence effect. The result is an upside-down relationship between culpability and punishment.

This inverse relationship results in two undesirable effects. On the left side of the diagram, we have overdeterrence, where minor misstatements not affecting the validity of the patent are strongly punished. Indeed, as the diagram shows, the clearer it is that a particular error is harmless (i.e., the further left we go), the stronger the overdeterrence effect becomes. Conversely, on the right side of the diagram we have underdeterrence, where patentees hiding highly damaging information are only lightly punished. And the clearer it is that a concealed piece of information would invalidate the patent if honestly disclosed (i.e., the further right we go), the worse the underdeterrence effect and the correspondingly perverse incentive to conceal.

To be sure, the unenforceability penalty does achieve reasonably good results close to the center of the diagram. This represents a situation where the patentee both is somewhat culpable in failing to disclose a particular piece of information and is somewhat punished for this failure. 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, the most innocent errors are subjected to the heaviest 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. Considering Objections to the Model

1. 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.⁵⁷ 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.⁵⁸ In this way, the unenforceability 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

⁵⁷ See 35 U.S.C. § 112 (2006) (a patent may have “one or more claims”).

⁵⁸ See *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 1561 (Fed. Cir. 1984).

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 (and by this I mean 50% of its monopoly value, not the number of claims per se), 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 Figure 1 shows, the more culpable the patentee is—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.

2. *The Potential for a “Smear” Effect on Invalidity Findings.*—A second objection is that my model above relies on the independence between dishonest conduct and a judicial finding of invalidity, whereas in practice this might not strictly be the case. That is, a judge who hears about a patentee’s dishonesty might thereby become prejudiced against the patentee, and this might make the judge more likely to find the patent invalid rather than waiting to find it unenforceable.⁵⁹ If committing highly culpable dishonesty not only makes a finding of inequitable conduct more likely but also makes a finding of invalidity more likely, then this would provide some additional deterrence against highly culpable misconduct.

I have three responses to this objection. First, it obviously contradicts the formal doctrine: Invalidity is not *supposed* to depend on the patentee’s honesty or lack thereof—an old, useless, or obvious invention is invalid whether the patentee acted honestly or not.⁶⁰ And the legal system usually tries very hard to make sure that decisionmakers are not prejudiced by formally irrelevant considerations.⁶¹ Thus, to the extent that judicial bias

⁵⁹ For obvious reasons of delicacy, this argument is often made in the form of imputing an improper motivation for *accused infringers* to allege inequitable conduct rather than attributing responsibility to the *judge*. See *Therasense*, 649 F.3d at 1288 (arguing that “inequitable conduct has become a significant litigation strategy” because the allegations “cast a dark cloud over the patent’s validity and paint the patentee as a bad actor”). But the “dark cloud” would exist, and the strategy would be worthwhile, only to the extent that judges can be improperly influenced.

⁶⁰ See *supra* text accompanying notes 21–22.

⁶¹ See Andrew J. Wistrich et al., *Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding*, 153 U. PA. L. REV. 1251, 1252 (2005) (“Decisions based on inadmissible evidence, or on admissible evidence used for an improper purpose, are illegitimate and violate principles of due process.” (footnotes omitted)). Moreover, the general assumption is that judges succeed in overcoming the temptation to consider irrelevant facts. See *id.* at 1255–56 (summarizing the conventional arguments that judges can overcome prejudice). But see *id.* at 1286–1322 (presenting experimental results that cast doubt on this).

can ameliorate the underdeterrence effect I have identified, it is a case of two wrongs offsetting each other. It would be a strange defense of the conventional wisdom indeed for someone to argue that the problem I identify is “solved” by the possibility of judicial prejudice.

Second, to the extent that an increased chance of invalidity might produce deterrence, it is the invalidity judgment that is doing all the work, not the unenforceability penalty. Thus, the conventional wisdom about the unenforceability penalty—that it is a uniformly draconian sanction that deters patentees from all misconduct big and small—is still wrong. And the model in Figure 1, which concerns the incentives produced by the unenforceability penalty, is still correct, even if there is now another factor that ameliorates the underdeterrence effect (and so the practical consequences are not as dire).

Third, the possibility of improper judicial bias in finding invalidity ameliorates, but does not eliminate, the upside-down effect. At the extremes, patentees still have upside-down incentives, and in equal magnitude. A patentee such as Andy already knows he has a 100% chance of the patent being found invalid if the truth is ever discovered, even without the judge being biased against him. The result is that Andy’s incentives are completely unchanged by the possibility that a judge finding out about his dishonesty might become biased against him—the judge cannot become more likely to invalidate the patent. Andy still has everything to gain, and nothing to lose, by hiding the damaging information because the payoff to dishonesty comes from the possibility of evading detection. Thus, although there will be less over- and underdeterrence for cases of intermediate culpability (i.e., in the middle portion of the diagram), at the extremes—where the most serious problem lies in the first place—the basic problem remains.

F. The Difference from the Conventional Wisdom

The sum of my analysis above is that inequitable conduct produces both underdeterrence and overdeterrence. This contrasts sharply from the conventional wisdom, which usually views the problem solely as one of overdeterrence.⁶² Thus, the unenforceability penalty is referred to as an “atomic bomb” or a “death penalty,”⁶³ while the inequitable conduct defense has been called an “absolute plague.”⁶⁴ Common proposals for reform are aimed exclusively at reducing the punishment and deterrence

⁶² See, e.g., Cotropia, *supra* note 6 (arguing that inequitable conduct causes overdisclosure); Thomas F. Cotter, *An Economic Analysis of Patent Law’s Inequitable Conduct Doctrine*, 53 ARIZ. L. REV. 735, 778 (2011) (“[U]ncertainties in the operation of existing doctrine may induce risk-averse agents to overdisclose . . .”).

⁶³ See *supra* text accompanying notes 36–37.

⁶⁴ *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988) (quoting *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988)).

effect of inequitable conduct, such as by raising the standards of intent and materiality,⁶⁵ raising the burden of proof,⁶⁶ reducing the penalty by rendering unenforceable only certain claims of a patent (rather than the patent in its entirety),⁶⁷ and implementing a one-sided cost-shifting regime where accused infringers that raise an inequitable conduct defense and lose would have to pay attorneys' fees to victorious patentees.⁶⁸

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 the inequitable conduct doctrine, nonetheless also produced a dissent by Judge Bryson that three other judges joined. At first blush, this would suggest that there is a contrary view being voiced, albeit by a minority of judges. Even a cursory reading of the dissenting opinion, however, dashes 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 unenforceable⁶⁹

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.⁷⁰

Judge Bryson's dissent does not exactly give voice to the underdeterrence 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 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

⁶⁵ See, e.g., Mammen, *supra* note 6 (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).

⁶⁶ See *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1327–28 (Fed. Cir. 2009) (requiring heightened pleading, including pleading intent with particularity).

⁶⁷ See Cotropia, *supra* note 6, at 774–75; Dolak, *supra* note 17, at 30–31.

⁶⁸ See, e.g., Dolak, *supra* note 17, at 31; Kevin Mack, Note, *Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 BERKELEY TECH. L.J. 147, 172 (2006).

⁶⁹ *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1302 (Fed. Cir. 2011) (en banc) (Bryson, J., dissenting).

⁷⁰ *Id.* at 1304 (emphasis added).

consensus among all the judges is that inequitable conduct allegations are “raised in too many cases” and that the threat of unenforceability leads to “overdisclosure” to the PTO. The same view is shared by almost all members of the patent community, as a quick look at the amicus lineup in *Therasense* reveals.⁷¹ The fact 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 underdeterrence. It produces overdeterrence in cases of low culpability and underdeterrence in cases of high culpability. Despite this effect, the common perception of the penalty invariably focuses on its potential overdeterrence 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 at least worry very much—about the underdeterrence 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 might be invalid anyway, a point that is easy to miss.⁷² And much of the reason for the conventional wisdom can probably be attributed to this phenomenon.

This Part provides a second, complementary answer. Judges and commentators rarely consider the possibility of underdeterrence, which arises in the relatively more culpable cases of patentee dishonesty (the right side of Figure 1), because they believe that such highly culpable patentee dishonesty almost never occurs in the PTO.⁷³ 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 it is that an accused infringer will bring such misconduct to light by mounting an inequitable conduct defense. The effect of this selection effect on

⁷¹ See *id.* at 1289, 1294 (majority opinion) (noting wide support for narrowing doctrine).

⁷² Cf. Donald J. Boudreaux et al., *Talk Is Cheap: The Existence Value Fallacy*, 29 ENVTL. L. 765, 786–87 (1999) (describing, in the environmental protection context, how legal analysis often fails to consider marginal effects). In a different context of patent law, Mark Lemley has noted the need to isolate the marginal effect of the remedy in the context of patent misuse because the patent misuse remedy frequently overlaps with antitrust remedies. See Mark A. Lemley, Comment, *The Economic Irrationality of the Patent Misuse Doctrine*, 78 CALIF. L. REV. 1599, 1615–18 (1990).

⁷³ See FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY ch. 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 100.

perceptions about patentee honesty and corresponding judicial (and legislative) beliefs about the need for an inequitable conduct doctrine to deter 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—at this point the accused infringer may suspect this to be the case but has no concrete evidence. Rather than investigate the patentee's knowledge and intent, 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.⁷⁴ No evidence of patentee dishonesty will ever be located, let alone presented to a court.

There is little incentive for an accused infringer to undertake the additional task of discovering evidence and then proving in court 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.⁷⁵ Finally, and most importantly, there is very little benefit to the accused infringer in undertaking these

⁷⁴ See *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 243 F.3d 1316, 1320 (Fed. Cir. 2001) (dismissing the inequitable conduct issue as moot in light of invalidity); see also *Joovy LLC v. Target Corp.*, 437 F. App'x 932, 938 (Fed. Cir. 2011) (accused infringer voluntarily waiving inequitable conduct claim upon finding of invalidity).

⁷⁵ 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 intent to deceive the PTO. See *Optium Corp. v. Emcore Corp.*, 603 F.3d 1313, 1321 (Fed. Cir. 2010).

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.⁷⁶ A finding of inequitable conduct opens the possibility of—but does not mandate—an award of attorneys’ fees.⁷⁷ But this is a minor issue in comparison to the much higher stakes of winning the overall case—even the conventional wisdom has always treated attorneys’ fees as small potatoes.⁷⁸ 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,⁷⁹ 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.⁸⁰ Perhaps, due to an abundance of caution, the accused infringer will not completely ignore the inequitable conduct charge, but he will devote less attention to it. Notably, this effect occurs even *without* considering the possibility of settlement, which would reduce the incentive for litigation even further.⁸¹

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 nonobvious. Now the accused infringer has every incentive to emphasize the patentee’s misstatement to the patent office and play up the inequitable conduct defense,⁸² spending a great deal of his brief on this

⁷⁶ 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.1. 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.

⁷⁷ *See Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1380 (Fed. Cir. 2001).

⁷⁸ *See Norton v. Curtiss*, 433 F.2d 779, 795 (C.C.P.A. 1970) (noting that whether the patent would be held unenforceable when the asserted claims were already invalidated “would really be of secondary importance”).

⁷⁹ 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.

⁸⁰ *See infra* Part IV.C.4 for more discussion of the inadequacy of attorneys’ fees as a solution to the upside-down effects.

⁸¹ *See generally* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984) (presenting a model where litigation occurs only when parties fail to settle).

⁸² For example, the accused infringer would probably argue that the misstatement is “intentional” since the patentee must have known his own address and is “material” because getting the right address

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 “beggars can’t be choosers” applies.

This upside-down selection effect explains a phenomenon that courts have long observed, which is that accused infringers devote enormous amounts of resources to litigating obviously weak inequitable conduct cases.⁸³ Judges are often mystified by this phenomenon and emerge with the conclusion that accused infringers have extremely zealous lawyers.⁸⁴ 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.⁸⁵ Courts therefore emerge with a strong belief in intrinsic patentee honesty.⁸⁶

The basic point of this section 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 cases in litigation is because such strong cases do not exist. Rather, the counterintuitive result shown by 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.⁸⁷ It is true enough that inequitable conduct is almost always

on a patent is oh-so-important for the public interest. Of course, these are extremely weak arguments. But that is the point of the selection effect.

⁸³ See, e.g., *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); *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 . . .”).

⁸⁴ See, e.g., *Burlington*, 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”).

⁸⁵ See *id.* (“They get anywhere with the accusation in but a small percentage of the cases.”); see also Katherine Nolan-Stevaux, Note, *Inequitable Conduct Claims in the 21st Century: Combating the Plague*, 20 BERKELEY TECH. L.J. 147, 161–62 (2005) (explicitly arguing that the low win rate for accused infringers is “indicative of the rare circumstances in which patentees blatantly engaged in inequitable conduct”).

⁸⁶ *Burlington*, 849 F.2d at 1422 (calling allegations of inequitable conduct “an absolute plague”).

⁸⁷ *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.” (alteration omitted) (quoting *Burlington*, 849 F.2d at 1422)).

alleged, but this actually reinforces my point. The costs for accused infringers arise when the accused infringer seeks to prove inequitable conduct with concrete evidence 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 valuable 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.⁸⁸

The result is that virtually every accused infringer—including those with strong cases—will allege inequitable conduct in their pleadings.⁸⁹ At the same time, the defense is rarely seriously pursued: inequitable conduct defenses are litigated to a conclusion in only 16% to 35% of reported cases.⁹⁰ 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 because, in the conventional wisdom, the fact that an allegation of inequitable conduct is made but then abandoned is taken to indicate its frivolousness.⁹¹ My analysis, however, suggests that accused infringers will abandon (or, at most, only halfheartedly 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 inequitable conduct cases being litigated and never strong cases? As a great

⁸⁸ The only cost is potential sanctions for making frivolous allegations. See 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 103 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.

⁸⁹ *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1289 (Fed. Cir. 2011) (en banc).

⁹⁰ Mack, *supra* note 68, at 155–56; 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 was addressed, on average, in 20% of reported patent cases from 2000 to 2007).

⁹¹ See *Burlington*, 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”); see also *Patent Reform: The Future of American Innovation: Hearing Before the S. Comm. on the Judiciary*, 110th Cong. 24 (2007) [hereinafter *Patent Reform Hearing*] (statement of Kathryn L. Biberstein, Senior Vice President, General Counsel and Secretary, Chief Compliance Officer, Alkermes, Inc.) (“I do not believe that inequitable conduct is an issue in patent prosecution today because it is rarely found to exist.”).

deal of literature has shown—and as common sense would indicate—they start believing that serious patentee misconduct never really occurs, merely because they do not see such misconduct in the cases before them.⁹² 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.⁹³ The perception of widespread patentee honesty will therefore arise even if serious patentee misconduct is in fact rampant. And once judges start believing that true patentee misconduct rarely occurs, they then change doctrine to cut back the inequitable conduct defense.⁹⁴

The doctrinal reaction has a further effect: making inequitable conduct claims even harder to prove makes accused infringers with reasonable invalidity defenses devote even fewer resources to the inequitable conduct argument because the burden is now higher and the expected reward is even less. For accused infringers with no other options, the adage that beggars can’t be 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. Judges think that real patentee misconduct occurs even less frequently than before, making them narrow the doctrine even further. The cycle then continuously repeats.

I should make clear that, in arguing that there is no evidence to justify the belief in intrinsic patentee honesty, 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 the fact that there is no punishment levied for such fraud once we consider overlap with invalidity. My more limited 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

⁹² See, e.g., Frederick Schauer, *Do Cases Make Bad Law?*, 73 U. CHI. L. REV. 883, 893–99 (2006); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1127–28 (1974).

⁹³ See Tversky & Kahneman, *supra* note 15, at 207–08.

⁹⁴ A similar phenomenon occurs in Fourth Amendment litigation under the exclusionary rule. As Nancy Leong has discussed, the only people who are likely to invoke the exclusionary rule are clearly guilty criminal defendants who are trying to exclude the very evidence that demonstrates their guilt. See Nancy Leong, *Making Rights*, 92 B.U. L. REV. 405, 434–35 (2012); see also Christopher Slobogin, *Why Liberals Should Chuck the Exclusionary Rule*, 1999 U. ILL. L. REV. 363, 403–04 (“[U]nder the exclusionary regime, the Fourth Amendment is virtually always associated with a criminal; only people who have been found in possession of evidence of a crime seek exclusion.”). This means the most common type of Fourth Amendment challenge to police conduct involves a search that yields incriminating evidence, and judges rarely encounter an abusive search that violates citizen privacy without yielding any evidence. The result is that judges start to believe that abusive searches are rare, and they narrow the Fourth Amendment as a result. See Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 799 (1994) (“In the popular mind, the Amendment has lost its luster and become associated with grinning criminals getting off on crummy technicalities.”).

faulty inferences from litigation win rates.⁹⁵ The only clear point that litigation evidence—tainted by the selection effect—supplies is that serious patentee dishonesty at least sometimes occurs.⁹⁶ 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.⁹⁷ 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, and it is unpopular for the specific reason that it is believed to produce draconian overdeterrence against innocent patentees (i.e., not because people believe it produces insufficient deterrence against fraudulent patentees). 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.

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. This is because its judges believe that patentees are in fact almost never dishonest to the PTO and that the doctrine serves 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,”⁹⁸ and considers the unenforceability remedy an “atomic bomb” that should rarely, if ever, be deployed.⁹⁹ 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.¹⁰⁰

⁹⁵ See *infra* Parts II.C.1 (judicial changes) and II.C.3 (legislative changes).

⁹⁶ See, e.g., *Advanced Magnetic Closures, Inc. v. Rome Fastener Corp.*, 607 F.3d 817, 830 (Fed. Cir. 2010) (affirming the lower court’s findings that a patent applicant fabricated evidence to deceive the PTO).

⁹⁷ Wasserman, *supra* note 12, at 23. Paradoxically, Wasserman views this as a reason to *narrow* the inequitable conduct doctrine. See *id.*

⁹⁸ *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988) (quoting *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988)).

⁹⁹ *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1288–90 (Fed. Cir. 2011) (en banc) (quoting *Aventis Pharma S.A. v. Amphastar Pharm., Inc.*, 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).

¹⁰⁰ *Therasense*, 649 F.3d at 1289 (quoting *Kimberly–Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984)); see *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1261 (Fed. Cir.

Not surprisingly, the Federal Circuit carries these sentiments into its doctrine, so that inequitable conduct has an extraordinarily high burden of proof. As the authors of a recent empirical study summarize their findings, the Federal Circuit's "[i]nequitable conduct jurisprudence evinces a strong preference for patentee success."¹⁰¹ A comparison to other types of fraud illustrates how this incredibly onerous burden of proof works.

First, the Federal Circuit has imposed extremely severe pleading requirements. Although Federal Rule of Civil Procedure 9(b) requires allegations of fraud to be pleaded with specificity, the rule also provides that the intent element may be pleaded without specificity.¹⁰² The Federal Circuit, however, requires intent to deceive to be pleaded with specificity to show that nefarious intent, rather than innocent mistake, is the single most reasonable inference on the facts pleaded.¹⁰³ This heightened pleading standard is the most onerous in all of civil litigation. As a striking comparison, this single-most-plausible-inference standard is the precise standard that the Supreme Court *rejected* for allegations of securities fraud,¹⁰⁴ even after the Private Securities Litigation Reform Act of 1995 (PSLRA) had specifically enacted a requirement of heightened pleading for intent.¹⁰⁵ The PSLRA pleading standard is usually understood as the most onerous pleading requirement that Congress could imagine,¹⁰⁶ yet the Federal Circuit's pleading standard for inequitable conduct exceeds it.

Second, on the merits, the Federal Circuit imposes a high burden of proof, requiring inequitable conduct to be proven by clear and convincing evidence.¹⁰⁷ The court has imposed this high burden of proof explicitly for

2012) (describing inequitable conduct allegations as a "toss-in"); *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1482 (Fed. Cir. 1998); *Burlington*, 849 F.2d at 1422.

¹⁰¹ Petherbridge et al., *supra* note 16.

¹⁰² FED. R. CIV. P. 9(b) ("[A] party must state with particularity the circumstances constituting fraud or mistake. Malice, intent, knowledge, and other conditions of a person's mind may be alleged generally.")

¹⁰³ *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008). 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, 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. *See id.* at 1320 ("[T]his court has . . . requir[ed] specific and demanding showings of evidence before a party may *assert* the defense of inequitable conduct." (emphasis added)).

¹⁰⁴ *See Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 324 (2007) ("The inference that the defendant acted with scienter need not be irrefutable . . . or even the 'most plausible of competing inferences . . .'" (quoting *Fidel v. Farley*, 392 F.3d 220, 227 (6th Cir. 2004))).

¹⁰⁵ *See* 15 U.S.C. § 78u-4(b)(2) (2006).

¹⁰⁶ *See* 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 . . .").

¹⁰⁷ *See Tol-O-Matic, Inc. v. Proma Produkt-Und Marketing Gesellschaft m.b.H.*, 945 F.2d 1546, 1554 (Fed. Cir. 1991).

policy reasons: it believes that unmeritorious allegations of inequitable conduct are too easily made.¹⁰⁸ It has imposed this heightened burden of proof even though it lies in great tension with the terms of the patent statute: § 282 of the patent statute requires that a patent be presumed valid,¹⁰⁹ while making no mention of a patent being presumed to be enforceable (and the statute clearly views invalidity and unenforceability as distinct defenses).¹¹⁰ Under the canon *expressio unius est exclusio alterius*, the express statutory creation of a heightened burden of proof for invalidity would implicitly preclude a heightened burden of proof for all other defenses enumerated under § 282.¹¹¹ The Federal Circuit has never explained how its heightened burden of proof is reconcilable with the *expressio unius* canon and the Supreme Court's closely analogous holding in *Leatherman v. Tarrant County Narcotics Intelligence & Coordination Unit* that the express enumeration of heightened pleading for fraud and mistake in Rule 9(b) implicitly precludes heightened pleading for all other types of actions.¹¹²

Third, beyond imposing a high formal threshold at both the pleading and merits stages, the Federal Circuit also makes it extremely difficult to meet these elevated thresholds in practice. Not only does the Federal Circuit formally require an extremely strong inference of intent, it disallows the most commonsensical method of providing such an inference in practice. A consideration of how intent is usually proved in other fraud contexts helps explain 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 (or pays taxes) in the years where he owes 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: Was the perpetrator a knave or a fool?

¹⁰⁸ *Id.* (“Given the ease with which a relatively routine act of patent prosecution can be portrayed as intended to mislead or deceive, clear and convincing evidence of conduct sufficient to support an inference of culpable intent is required.” (citing *N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 939 (Fed. Cir. 1990))). In fairness to the Federal Circuit, there is some doctrinal support for its heightened burden of proof. *See United States v. Am. Bell Tel. Co.*, 167 U.S. 224, 240–41 (1897) (requiring clear and convincing evidence when the government revokes a patent for fraud). But the Federal Circuit has not cited *American Bell* to support its heightened burden of proof, and in any case, it is arguably superseded by the statute.

¹⁰⁹ *See Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2246 (2011) (holding that § 282 imposes a heightened standard of proof for invalidity).

¹¹⁰ *See* 35 U.S.C. § 282 (2006) (providing that a patent “shall be presumed valid” and then creating separate defenses of unenforceability in subsection (1) and invalidity in subsection (2)).

¹¹¹ *See Leatherman v. Tarrant Cnty. Narcotics Intelligence & Coordination Unit*, 507 U.S. 163, 168 (1993).

¹¹² *See id.*

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.¹¹³

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.¹¹⁴ In other words, the fact that the patentee concealed extremely damaging information—material information that would clearly invalidate the patent—while providing information that is either helpful to his cause or at least harmless¹¹⁵ is considered irrelevant to determining intent.¹¹⁶ 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 knew about the patent and clearly infringes it presumably intended the infringement,¹¹⁷ and so

¹¹³ See, e.g., *Bradford v. Comm'r*, 796 F.2d 303, 307 (9th Cir. 1986) (noting that intent to commit tax fraud can be inferred from: “(1) understatement of income; (2) inadequate records; (3) failure to file tax returns; (4) implausible or inconsistent explanations of behavior; (5) concealing assets; [or] (6) failure to cooperate with tax authorities” (citations omitted)).

¹¹⁴ *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))).

¹¹⁵ The patentee always provides information helpful to his cause because the patent application necessarily asserts the invention to be new, useful, and nonobvious. § 115 (describing the oath an inventor must make).

¹¹⁶ See *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc) (“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 Independent Living Aids, Inc. v. Acorn Mobility Services, Ltd.*, 394 F.3d 1348, 1354 (Fed. Cir. 2005) (“[I]ntent to deceive is generally inferred from . . . a knowing failure to disclose material information.”), have been overruled by the en banc decision in *Therasense*.

¹¹⁷ 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 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

intentional infringement would be found even if the infringer files a self-serving affidavit stating that he honestly believed himself to be noninfringing.¹¹⁸ 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.¹¹⁹

My point in this section is not to criticize the Federal Circuit for its doctrinal twisting; that has been done elsewhere.¹²⁰ Rather, the point is that such doctrinal twisting is motivated by a belief among judges that “real” patentee misconduct basically never occurs.¹²¹ Given the lengths to which the Federal Circuit has gone to hollow out inequitable conduct—which it cannot openly abolish because of Supreme Court precedent¹²²—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 more than twenty years.¹²³ More strikingly, the Director of the PTO has stated that the inequitable conduct doctrine “is not very popular” and that he hoped that courts would “dramatically draw[] it back.”¹²⁴ Similarly, in 2007, the then-Director of the PTO testified before Congress that inequitable conduct “unfairly punish[ed]” patent applicants

that he knew or should have known his actions would induce actual infringements” (quoting *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 554 (Fed. Cir. 1990)).

¹¹⁸ See, e.g., *Jurgens v. CBK, Ltd.*, 80 F.3d 1566, 1572 (Fed. Cir. 1996) (rejecting an infringer's argument that it honestly believed the advice of lawyers that it was not infringing the patent).

¹¹⁹ Cf. *Cancer Research Tech. Ltd. v. Barr Labs., Inc.*, 625 F.3d 724, 734 (Fed. Cir. 2010) (citing with approval a prior case “finding intent to deceive based in part on handwritten notes of prosecution counsel [showing] that counsel subjectively believed the undisclosed patent was material”).

¹²⁰ See, e.g., *McGowan*, *supra* note 13, at 962–64.

¹²¹ See, e.g., *Therasense*, 649 F.3d at 1291 (“[T]his court has tried to address the proliferation of inequitable conduct charges by raising the intent standard alone.”); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365–66 (Fed. Cir. 2008) (creating an elevated standard of proof because of concern about “striking[] down an entire patent where the patentee only committed minor missteps or acted with minimal culpability or in good faith”).

¹²² *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 816 (1945) (establishing the inequitable conduct defense).

¹²³ 4 DONALD S. CHISUM, *CHISUM ON PATENTS* § 11.03[4][b][iv] & n.66, at 11-403 (2012) (describing how the PTO stopped enforcement of the inequitable conduct doctrine in 1988); 1095 Off. Gaz. Pat. & Trademark Office 12, 16–17 (1988) (statement of Donald Quigg, Assistant Secretary and Comm’r of Patents and Trademarks).

¹²⁴ DIRS. ROUNDTABLE INST., *A DIALOGUE WITH DAVID KAPPOS, DIRECTOR OF THE U.S. PATENT & TRADEMARK OFFICE* 34 (2011), available at <http://www.directorsroundtable.com/pdf/London%20Patent%20Program%204-4-11.pdf> (statement of David Kappos, Director, U.S. Patent & Trademark Office).

with a “draconian penalt[y]” and recommended significant legislative narrowing of the doctrine.¹²⁵

By itself, the fact that the PTO does not enforce the doctrine would not indicate much. The PTO lacks the institutional resources to investigate patentee conduct and adjudicate inequitable conduct issues.¹²⁶ After all, the entire reason for requiring patentees to disclose prior art to the PTO is because the agency lacks adequate resources to find all of the relevant prior art by itself. It is inherently 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 hoped that the doctrine would be “dramatically” scaled back and narrowed—is indicative of the overwhelming unpopularity of the inequitable conduct doctrine. And as the Federal Circuit has dramatically narrowed the doctrine over the years, the PTO has shown strong support every step of the way.¹²⁷

One last, perhaps obvious, point: The fact that the PTO does nothing to investigate inequitable conduct defeats the argument that it should be relatively immune to the selection effect and cognitive illusion that I have described. *If* the PTO investigated instances of inequitable conduct, it might then become aware of cases of serious patentee misconduct that were not brought to the attention of courts by accused infringers during litigation. However, because the PTO performs no investigation, it cannot become aware of patentee frauds even if such frauds were rampant—it must rely on the same tainted public data (i.e., litigation decisions) as everyone else.

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.¹²⁸ This includes members of Congress.

¹²⁵ *Patent Reform Hearing*, *supra* note 91, at 266–67 (statement of Jon W. Dudas, Under Secretary of Commerce for Intellectual Property and Director, U.S. Patent & Trademark Office).

¹²⁶ *See* Duty of Disclosure, 56 Fed. Reg. 37,321, 37,323 (proposed Aug. 6, 1991) (codified in scattered sections of 37 C.F.R. pts. 1 & 10).

¹²⁷ *See, e.g.*, Revision of the Materiality to Patentability Standard for the Duty to Disclose Information in Patent Applications, 76 Fed. Reg. 43,631, 43,631 (proposed July 21, 2011) (to be codified at 37 C.F.R. pt. 1) (endorsing the *Therasense* materiality standard); Duty of Disclosure, 57 Fed. Reg. 2021, 2024 (Jan. 17, 1992) (“The Office does not advocate any change to the *Kingsdown* ruling.”).

¹²⁸ *See, e.g.*, *Patent Reform Hearing*, *supra* note 91 (statement of Kathryn L. Biberstein, Senior Vice President, General Counsel and Secretary, Chief Compliance Officer, Alkermes, Inc.) (“I do not believe that inequitable conduct is an issue in patent prosecution today because it is rarely found to exist.”).

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.

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.¹²⁹

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 noninfringement: it requires attorneys’ fees and litigation costs to seriously litigate any defense to patent infringement, and the investigatory costs are especially high when the patentee has intentionally concealed relevant evidence. Finally, Senator Hatch’s observation that inequitable conduct is “frequently pled” while “rarely proven” invokes the common argument that allegations of patentee dishonesty are generally frivolous.¹³⁰ 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.¹³¹

Belief in this conventional wisdom amongst members of Congress has led to legislation to narrow the inequitable conduct doctrine. Section 12 of the Leahy–Smith America Invents Act creates a new “supplemental

¹²⁹ Hatch, *supra* note 5, at 515–16 (footnotes omitted).

¹³⁰ See *supra* text accompanying notes 83–91.

¹³¹ Hatch, *supra* note 5, at 516; cf. *People v. Defore*, 150 N.E. 585, 587 (N.Y. 1926) (criticizing the Fourth Amendment exclusionary rule as saying “[t]he criminal is to go free because the constable has blundered”).

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 information that was previously concealed from the PTO.¹³² 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.”¹³³ As one commentator has described, this amounts to an “amnesty” program for dishonest patentees: So long as a patentee invokes the supplemental examination procedure and confesses to a prior deception, the prior deception is unconditionally forgiven and cannot thereafter form the basis of an inequitable conduct charge.¹³⁴

The statute does have two limitations on the amnesty. First, the amnesty does not apply to any patentee-initiated suits that are launched before the conclusion of supplemental examination proceedings.¹³⁵ In other words, if a patent owner seeks the protection of the amnesty, he must wait for the supplemental examination to conclude before filing an infringement suit. Second, the amnesty does not apply to inequitable conduct allegations that are fully pleaded before the filing of a supplemental examination request.¹³⁶ That is, a patentee cannot wait and seek the supplemental examination amnesty only after the writing is on the wall; he must do so (slightly) earlier.¹³⁷

But these are minor qualifications. The more important point is that, as a general matter, the new legislation destroys any incentive for patentees to honestly disclose information upfront.¹³⁸ In Part I.E.1, I discussed the fact that, in the middle portion of the figure—where a patent is only partially invalid—there is some deterrence effect from rendering the entire patent unenforceable. Under the new legislation, even this limited deterrence effect is eliminated. Suppose our patentee who claims a pencil and an

¹³² See Leahy–Smith America Invents Act, Pub. L. No. 112-29, § 12(a), 125 Stat. 284, 325–26 (2011) (codified at 35 U.S.C.A. § 257(c)(1) (West Supp. 2013)).

¹³³ *Id.* 125 Stat. at 326.

¹³⁴ 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”).

¹³⁵ § 12, 125 Stat. at 326 (codified at 35 U.S.C.A. § 257(c)(2)).

¹³⁶ *Id.*

¹³⁷ The statute requires an inequitable conduct charge to be “pled with particularity” before it forecloses a supplemental examination amnesty. *Id.* Given the Federal Circuit’s very high pleading burden, see *supra* text accompanying notes 102–06, a fully pleaded inequitable conduct charge can be aptly said to be writing on the wall.

¹³⁸ See Rantanen & Petherbridge, *supra* note 134, at 25–26 (explaining that the two qualifications “are largely within the control of the patentee, and thus are not likely to offer an effective counterincentive”).

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. Now, however, there is no incentive to disclose the prior art pencil unless and until its discovery by a third party is imminent.¹³⁹ The new legislation therefore exacerbates the underdeterrence 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 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 overdeterrence, and to reach this conclusion first requires a consideration of what would happen *if* the penalty were applied. Moreover, the response is not quite accurate. 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

In the conventional debate over inequitable conduct, there is a common theory on the relationship between liability standards and deterrence effects. Specifically, the theory is that narrow liability produces low deterrence, and broad liability produces high deterrence. This theory is implicit in virtually all writing about inequitable conduct.

For example, as described previously, there is an almost universal belief in the patent community that inequitable conduct produces overdeterrence. Reflecting the common theory, there is then a broad consensus in the patent community that liability standards should be narrowed. Both the majority and the dissent in *Therasense* agreed that inequitable conduct should be narrowed from the prior baseline. The majority, believing inequitable conduct to produce overdeterrence, adopted

¹³⁹ *Id.* One other limitation on invoking supplemental examination is the PTO fee for the procedure. Although it is quite large in absolute terms (\$16,500), the sum is nonetheless trivial in comparison to the increased value of an undeserved patent and to the patentee's other litigation costs. See Setting and Adjusting Patent Fees, 78 Fed. Reg. 4212, 4232 (Jan. 18, 2013) (to be codified at 37 C.F.R. § 1.20) (setting fee for supplemental examination).

a very narrow liability rule. Specifically, it held that inequitable conduct could be found only if honest disclosure would have invalidated the patent.¹⁴⁰ This is known as the “but-for” standard and it is usually regarded as the most stringent standard possible.¹⁴¹

The dissent’s position was that the majority narrowed liability too far, to the point where inequitable conduct would now produce underdeterrence:

[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.

. . . .

. . . 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 candid with the PTO, because in most instances the sanction of inequitable conduct will apply only if the claims that issue are invalid anyway.¹⁴²

This is, at first blush, rather similar to my analysis in Part I. But it is different in two ways. First, the dissent believed the problem arose from the majority narrowing liability too much, whereas Part I shows that the underdeterrence effect occurs even with absolute liability.¹⁴³ Second, the dissent accordingly believed that underdeterrence can be prevented or cured by adopting a broader liability rule—specifically, it advocated a rule where inequitable conduct could be found if a patentee violates PTO disclosure requirements, even if the concealed information is harmless and the patent is valid. But, as this Part will show, this is the wrong solution. Expanding liability does not cure the underdeterrence problem. The common theory about the relationship between liability standards and deterrence effects is wrong, or at least is overly simplistic.

The following discussion will demonstrate this counterintuitive proposition in more detail. To state the reason quickly, however, lowering the liability standard (i.e., broadening liability) and levying the unenforceability penalty on relatively innocent patentees will not provide deterrence for the highly culpable patentees because a highly culpable patentee like Andy already knows he will be found 100% liable if the true facts are ever discovered. He *still* has no incentive for honest disclosure because even certain liability brings no deterrence when the

¹⁴⁰ See *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1291 (Fed. Cir. 2011) (en banc) (defining the standard as: “the PTO would not have allowed a claim had it been aware of the undisclosed prior art”).

¹⁴¹ See Scott D. Anderson, Comment, *Inequitable Conduct: Persistent Problems and Recommended Resolutions*, 82 MARQ. L. REV. 845, 854 n.65 (1999).

¹⁴² *Therasense*, 649 F.3d at 1304–05 (Bryson, J., dissenting) (emphasis added).

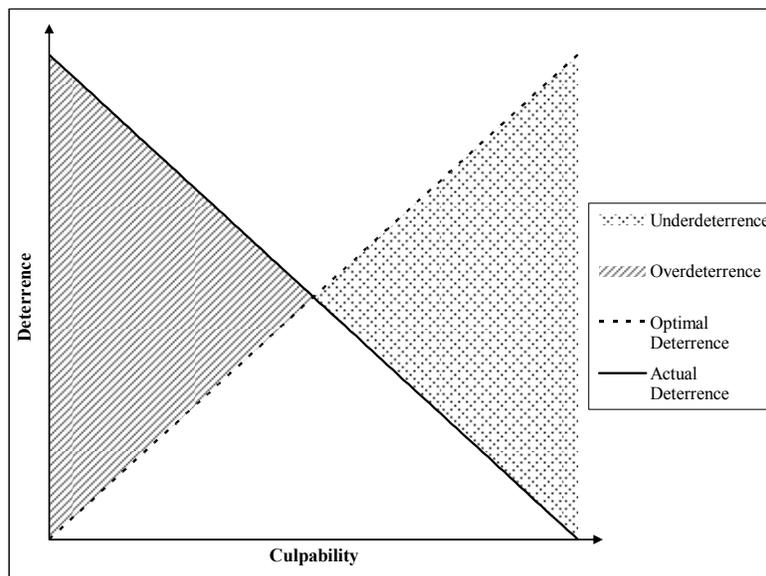
¹⁴³ See *supra* note 51 (noting that the model assumes liability is found).

unenforceability “penalty” is superfluous. All the *Therasense* dissenters’ solution would do is create more examples of draconian overpunishment on people like Betty, which would spark even more criticism and calls for abolishing the inequitable conduct doctrine entirely.¹⁴⁴ 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 (and broadest) liability standard—in every case the patentee is found liable for inequitable conduct. Figure 1, which shows the basic model, is reproduced below. For clarity, I have added shading to represent the over- and underdeterrence effects.

FIGURE 1.1: THE BASIC MODEL OF THE UNENFORCEABILITY PENALTY

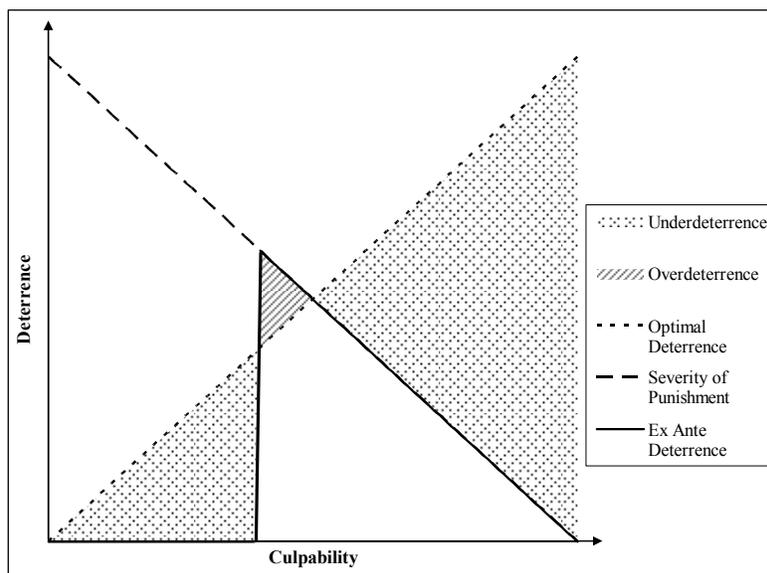


As described previously, the upside-down nature of the unenforceability penalty creates two problems: on the left side of the diagram, there is overdeterrence, while on the right side of the diagram, there is underdeterrence. Both effects get more pronounced as we go towards the extremes. The result is that patentees conceal the most damaging information (because of underdeterrence), while they massively overdisclose the most trivial information (because of overdeterrence).

¹⁴⁴ See, e.g., NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., A PATENT SYSTEM FOR THE 21ST CENTURY 123 (Stephen A. Merrill et al. 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 the effect this has on the over- and underdeterrence problems:

FIGURE 2: IMPOSING A LIABILITY THRESHOLD

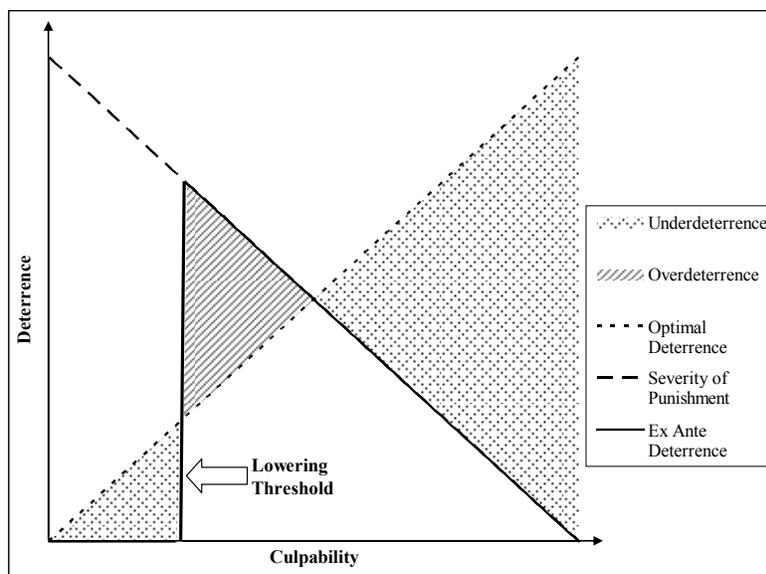


As can be seen, the liability threshold removes most of the overdeterrence effect seen in Figure 1. The underdeterrence effect on the right side of the diagram remains. Perhaps more counterintuitively, there is now an underdeterrence effect on the left side of the diagram.

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 overpunishment 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 underdeterrence, but this area is smaller than the area of overdeterrence 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's. And it represents the problem the dissenters in *Therasense* identified. The dissenters then argued that expanding liability will solve this problem. To see if this is correct, consider Figure 3, which illustrates the effect of expanding liability:

FIGURE 3: LOWERING THE LIABILITY THRESHOLD



As can be seen, the right portion of the diagram, representing patentees who hide highly damaging, likely invalidating information from the PTO, is utterly unaffected by lowering the liability threshold. Thus, contrary to the common intuitive belief, expanding inequitable conduct liability does not increase deterrence against highly culpable fraud on the PTO. A highly culpable patentee is underdeterred not because he expects to escape liability, but because the penalty is insufficient even when liability is imposed. Expanding liability thus does not fix the problem.

The only effect of lowering the liability standard is to change the left-middle portion of the diagram, where we switch from underdeterrence to overdeterrence. Most strikingly, the point where the liability rule is initially satisfied (the sharp spike) now produces a great deal of overdeterrence. This would represent a case similar to Betty's—a fairly minor error (e.g., misstated citizenship) that almost certainly would not invalidate the patent even if revealed, but that a court might deem a violation of statutory disclosure requirements.¹⁴⁵ Imposing the unenforceability penalty in such a case exacerbates the upside-down effect, since it creates severe overdeterrence without reducing the worst cases of underdeterrence on the right side of the diagram. In this way, the dissenters' solution is both wrong and self-defeating: It does nothing to solve the problem it seeks to solve, it creates additional problems, and those additional problems generate backlash against the rule by falling on highly visible and politically sympathetic victims.

¹⁴⁵ See 35 U.S.C. § 115 (2006) (specifically requiring citizenship to be disclosed).

What about the *Therasense* majority, which wants to narrow liability? Raising the liability threshold would simply take us back to Figure 2, which reduces the overdeterrence effect but does not address the underdeterrence problem. This is in one sense better (compared to Figure 3 and Figure 1), but it is still distinctly subpar as a solution. Furthermore, raising the liability threshold *too* far can be highly problematic. Beyond the center point of the diagram, there is no overdeterrence effect to reduce, and thus it becomes purely an increase in underdeterrence with no offsetting benefit.¹⁴⁶

The big problem with the conventional focus on liability thresholds is that the right half of the diagram *always* has underdeterrence. No matter what rule we set for the liability threshold, a patentee like Andy will always be better off lying to the PTO. The only effect of varying the liability threshold is to affect incentives on the left side of the diagram. This is not trivial—the liability rule still matters—but it is an incomplete solution. Unless there is some reason to believe high-culpability cases simply do not occur,¹⁴⁷ then the conventional focus on liability rules ignores half of the problem. A proper solution to the underdeterrence problem requires adjusting the remedy,¹⁴⁸ a solution I will discuss in more detail in Part IV.

C. *Expanding the Model with Probabilistic Liability*

An objection to the model in section B might be that a liability threshold is too simplistic. 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, courts are not so consistent.¹⁴⁹ However, expanding the model does not greatly change the analysis.

Rather than imposing a bright-line threshold, a more realistic model would be to suppose that the chance of being found liable increases with the culpability but is never quite 0% or 100%. That is, an innocent patentee like Betty is unlikely to be found liable but still has some chance due to the

¹⁴⁶ There is, in theory, an “optimal” liability threshold where the marginal overdeterrence effect equals the marginal underdeterrence effect. My point is therefore not that the liability rule has no effect, nor that narrow liability is always better. My point is that reforming the liability rule is a highly incomplete solution, with the best result still having significant over- and underdeterrence effects.

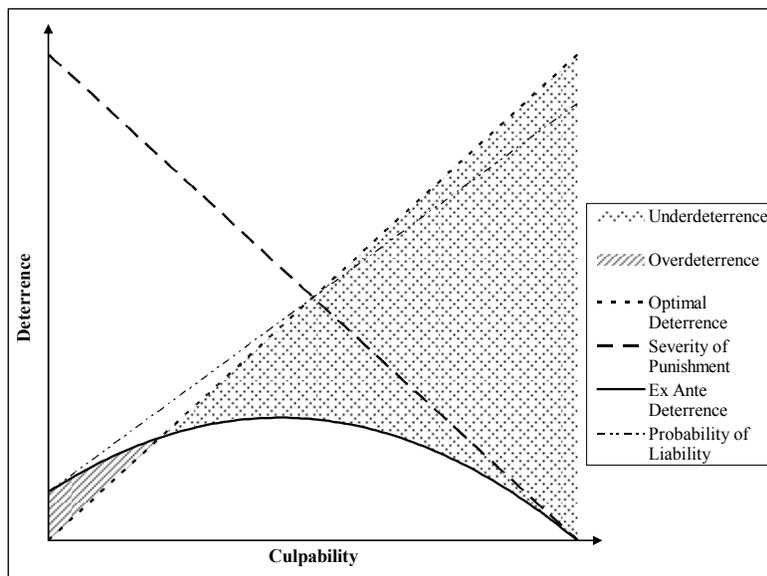
¹⁴⁷ To be sure, many judges and commentators do in fact believe that high-culpability cases never occur, which may explain why the debate has focused on the liability rule. But Part II explains why this assumption is unfounded.

¹⁴⁸ *Contra* *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1314 (Fed. Cir. 2011) (en banc) (Bryson, J., dissenting) (arguing for expanding liability as the solution); *Norton v. Curtiss*, 433 F.2d 779, 795 (C.C.P.A. 1970) (same).

¹⁴⁹ 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-dependent”).

vagaries of the trial process. Similarly, a patentee like Andy is very likely to be found liable, but the chance is not 100%, again because of the vagaries of the trial process. Figure 4 depicts how this assumption—of a variable chance of being found liable—affects the result:

FIGURE 4: PROBABILISTIC LIABILITY



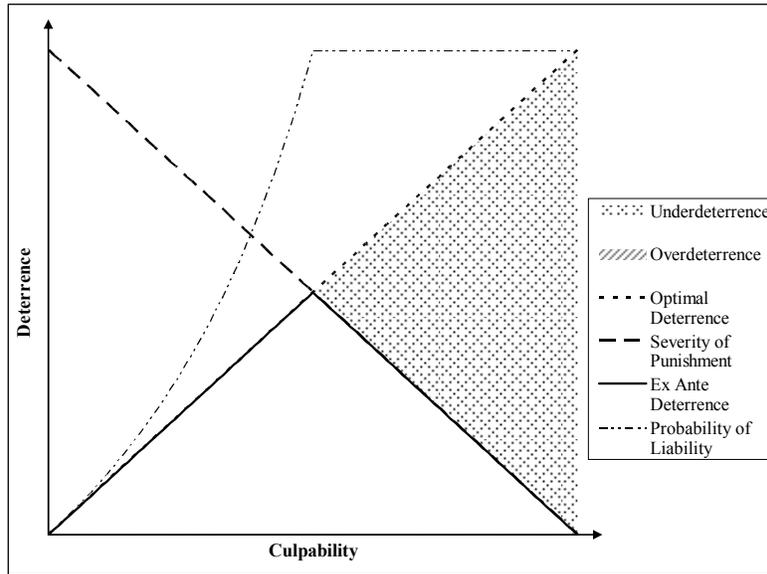
In Figure 4, the probability of being found liable for inequitable conduct increases in a straight line with increasing culpability. The patentee with no culpability has a 10% chance of being found liable, while the patentee with the highest culpability has a 90% chance of being found liable, with intermediately culpable patentees having correspondingly intermediate chances of being found liable (e.g., a patentee that is 60% culpable has a 58% chance of being found liable).

Two things are notable about this model. First, the right-hand side is once again completely unaffected—it still shows a severe and pervasive underdeterrence problem. The better news, however, is that the left side is reasonably efficient: there is a reasonable correlation where increasing culpability results in increasing deterrence, though still with some over- and underdeterrence effects. This reasonably good outcome arises because the high severity of the penalty is being offset by the low probability of being found liable. For example, although a 5% culpable patentee would face a very severe penalty (losing a 95% valid patent), that relatively innocent patentee only faces a 14% chance of liability and thus is only slightly overdeterred.

What Figure 4 suggests is that if we can adjust the probability of being found liable *just* right, so that it *exactly* offsets the high penalty, then it is

possible to achieve optimal deterrence on the left side of the diagram. Figure 5 illustrates this possibility:

FIGURE 5: THE OPTIMAL PROBABILISTIC LIABILITY RULE



This is the best outcome that can be achieved through manipulation of the liability rule. On the left half of the diagram, the overdeterrence effect is exactly offset by manipulating the probability of being found liable, resulting in the perfect amount of deterrence. However, once we pass the center point, even a 100% chance of liability—which is not achievable in reality because we can never eliminate the possibility of evasion—will not result in sufficient deterrence because the declining severity of punishment dominates the deterrence effect. In other words, beyond the center point, it becomes quite likely that the patent is invalid anyway, so the prospect of a meaningless superfluous penalty ceases to be a sufficient threat. The sum of the situation is that, even with perfect calibration of the liability rule, the underdeterrence problem cannot be solved. This is the same whether we adopt a simplistic liability threshold or a more sophisticated probabilistic liability rule.

Moreover, it should be noted that actually implementing the type of probabilistic calibration contemplated by Figure 5 would be extremely demanding on courts. 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; they must 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 extreme

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 similar outcomes.¹⁵⁰ For example, in Figure 5, 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 if it were feasible.¹⁵¹ If this perfect probabilistic liability rule cannot realistically be achieved, then existing reform efforts that are focused on tinkering with the liability standard have even lower payoffs than the incomplete solution illustrated in Figure 5.

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 analyzed here is not unique to patent law. The core problem underlying the 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 remedy that provides full restitution.¹⁵² 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 a builder contracts with a homeowner to build a house using Reading pipes.¹⁵³ 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

¹⁵⁰ 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.’” (quoting *Ward v. James*, [1966] 1 Q.B. 273, 294 (C.A.))).

¹⁵¹ Cf. *Furman v. Georgia*, 408 U.S. 238, 309 (1972) (Stewart, J., concurring) (arguing that randomly imposing punishment is impermissible “in the same way that being struck by lightning is cruel and unusual”).

¹⁵² 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.”).

¹⁵³ This hypothetical is based on *Jacob & Youngs, Inc. v. Kent*, 129 N.E. 889 (N.Y. 1921).

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.¹⁵⁴ If the fraud remedy were 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.¹⁵⁵ 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,¹⁵⁶ whereas breach of contract is only restitutionary.¹⁵⁷ The potential for punitive damages creates deterrence over and above the breach of contract claim, solving the fraud paradox.

In comparison to contract law's solution to the fraud paradox, patent law falls short on three fronts. First, the invalidity remedy is not 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.¹⁵⁸ Nor does a finding of inequitable conduct and the application of 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 were the recipient's 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; some merely hoping

¹⁵⁴ See RESTATEMENT (SECOND) OF CONTRACTS § 344(a), at 102 (1981) (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").

¹⁵⁵ Cf. George J. Stigler, *The Optimum Enforcement of Laws*, 78 J. POL. ECON. 526, 527–28 (1970) ("If the thief has his hand cut off for taking five dollars, he had just as well take \$5,000.").

¹⁵⁶ See POSNER, *supra* note 152; see, e.g., *Etter v. Von Sternberg*, 244 S.W.2d 321, 324 (Tex. App. 1951) (affirming punitive damages against a party that fraudulently concealed a breach of contract).

¹⁵⁷ See generally 11 JOSEPH M. PERILLO, CORBIN ON CONTRACTS § 59.2, at 550 (rev. ed. 2005) ("As a general rule, punitive damages are not recoverable for breach of contract . . ."); see also *id.* at 552 (noting that in cases "falling within the field of tort," such as for fraud, there is an exception to the general rule that damages should be merely restitutionary).

¹⁵⁸ See Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV 19, 28.

for a bigger payday than deserved—all hoping for such “lucky” mistakes.¹⁵⁹ Not surprisingly, there is in fact a flood of dubious patent applications,¹⁶⁰ which are often analogized to lottery tickets,¹⁶¹ and which clog the PTO.¹⁶² 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.¹⁶³

Second, the unenforceability remedy does not create marginal deterrence in the same manner as punitive damages. Punitive damages create marginal punishment and deterrence 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.¹⁶⁴ 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.

The third difference is that, as described in Part II.C.1, an accused infringer who seeks to prove inequitable conduct in patent litigation faces a far higher burden than an ordinary plaintiff seeking to prove fraud in contract litigation. This point is somewhat tangential to the point of this Article because, as demonstrated in Part III, changing the liability standard

¹⁵⁹ Cf. 42 U.S.C. § 404(a) (2006) (provision for Social Security Administration to recover mistaken overpayments).

¹⁶⁰ 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”); see also FED. TRADE COMM’N, *supra* note 73, exec. summ., at 5 (stating that low quality patents “[a]re a [s]ignificant [c]ompetitive [c]oncern”).

¹⁶¹ 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).

¹⁶² See 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 . . .”).

¹⁶³ 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 nonobvious invention as promised. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150–51 (1989) (analogizing patents to a “bargain”). Society should then be entitled to rescission, including a disgorgement of interim payments.

¹⁶⁴ See *Mathias v. Accor Econ. 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).

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. The Federal Circuit is not yet at the point of literally *never* finding inequitable conduct to be proven, but it comes sufficiently close to this extreme that it is a concern worth raising.¹⁶⁵

B. Punitive Fines as a Solution

The usual solution to the fraud problem is some kind of punitive sanction. As shown previously, the unenforceability remedy does not work as a punitive sanction because its interaction with invalidity produces upside-down marginal deterrence. A much more direct solution is to abandon the unenforceability remedy and impose direct monetary fines instead.¹⁶⁶ Because inequitable conduct and the unenforceability remedy are both judge-made doctrines, this requires only a small doctrinal change—small, at least, in comparison to abolishing inequitable conduct altogether, as is often proposed.¹⁶⁷ And although I call this monetary penalty a “fine”—which usually denotes something paid to the government—it is important that this fine be made at least partly payable to the accused infringer in order to provide an incentive for accused infringers to litigate the issue.¹⁶⁸

In advocating the abolition of the unenforceability remedy, I do not mean to endorse a moral proposition that highly culpable patentees who fraudulently obtain invalid patents from the PTO ought to be able to enforce those patents, so long as they pay the proposed fine. That is neither the motivation nor the likely effect of my proposal. Rather, the reason I advocate abolishing the unenforceability penalty is that it is superfluous in cases of highly culpable patentee misconduct—the patent would already be invalidated when 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.

¹⁶⁵ See *supra* text accompanying notes 114–19. Since its decision in *Therasense*, the Federal Circuit has issued only one published decision upholding a finding of inequitable conduct. *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324 (Fed. Cir. 2012) (finding patent both invalid and unenforceable).

¹⁶⁶ *But cf.* Cotropia, *supra* note 6, at 775 (considering a monetary fine but arguing that unenforceability produces better tailoring).

¹⁶⁷ See, e.g., NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., *supra* note 144; Lynch, *supra* note 7, at 9.

¹⁶⁸ *Cf.* 31 U.S.C. § 3730(d)(1)–(2) (2006) (providing between 15% and 30% of the recovery to private plaintiffs as an incentive to expose fraudulent claims).

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 and enforceable patent. This is because even minor errors should receive some deterrence¹⁶⁹—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.¹⁷⁰ In short, a remedy for misconduct should do two things: (1) impose *restitution* by restoring the world to the state it would have been in 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.¹⁷¹

1. The Baseline: Restoring the “But for” State.—The typical starting point for legal remedies is to restore the world to where it would have been had the misconduct not occurred.¹⁷² 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 do so completely because the invalidity remedy does not require patentee disgorgement of interim monopoly profits.¹⁷³

Where a patentee misstatement causes a wholly 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.¹⁷⁴ 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.¹⁷⁵

Where a patentee misstatement causes a partially invalid patent to issue, the analysis is largely the same. The fact that the patent would be

¹⁶⁹ See *supra* Figure 2.

¹⁷⁰ See, e.g., A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 869 (1998).

¹⁷¹ See *id.* at 887–89.

¹⁷² See RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 51(4), at 203 (2011) (“The object of restitution . . . is to eliminate profit from wrongdoing . . .”).

¹⁷³ See Lemley, *supra* note 49.

¹⁷⁴ See Pruitt, *supra* note 49 (arguing for disgorgement remedy).

¹⁷⁵ See RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 51(4), at 203 (“[T]he unjust enrichment of a conscious wrongdoer . . . is the net profit attributable to the underlying wrong.”).

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.¹⁷⁶ 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 (plus interest).

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 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.”¹⁷⁷ What is needed is a punishment that offsets this expected gain (in cases where evasion is successful) with an expected loss (in cases where the wrongdoer is caught).¹⁷⁸

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

¹⁷⁶ Cf. *Nilssen v. Osram Sylvania, Inc.*, 504 F.3d 1223, 1230–32 (Fed. Cir. 2007) (holding a patent unenforceable for inequitable conduct in falsely claiming small-entity status).

¹⁷⁷ Patent courts are acutely sensitive to this problem when the victim is a patentee and the wrongdoer is an infringer. See *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1158 (6th Cir. 1978) (opining that infringement damages must be more than restitutionary since otherwise an “infringer would have nothing to lose, and everything to gain”); *Stickle v. Heublein, Inc.*, 716 F.2d 1550, 1563 (Fed. Cir. 1983) (endorsing *Panduit*). Yet they are mysteriously blind to it when the alignment is reversed.

¹⁷⁸ See *Mathias v. Accor Econ. Lodging, Inc.*, 347 F.3d 672, 677 (7th Cir. 2003) (“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.”).

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, and
 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 expectations would be formed based on actual results.¹⁷⁹ 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.¹⁸⁰ A patentee's actual gain is objective and thus relatively feasible for a court to ascertain; a patentee's anticipated gain is

¹⁷⁹ The assumption that individuals form and adjust expectations in reaction to actual results is quite standard in the decisionmaking 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, 283–84 (1990).

¹⁸⁰ See generally Steven Shavell, *Deterrence and the Punishment of Attempts*, 19 J. LEGAL STUD. 435 (1990) (outlining the deterrence rationale for punishing attempts that ultimately produce no harm).

subjective and thus more difficult to reliably determine.¹⁸¹ 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.¹⁸² 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 of 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 liability¹⁸³ in cases where the patent is completely valid and the patentee accrues no other gains from the misstatement (e.g., lowered PTO fees). However, the doctrine is quite wrong to impose a similarly demanding standard for intent even in cases where the patent is invalid,¹⁸⁴ since making inequitable conduct *de facto* impossible to prove in all cases results in obvious problems of underdeterrence.

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.¹⁸⁵ But it is not

¹⁸¹ Cf. 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).

¹⁸² See Shavell, *supra* note 180, at 449 (“[T]he presence of ‘intent’ is generally a prerequisite for punishment and, in particular, for punishment of attempt.”).

¹⁸³ See *supra* text accompanying notes 103–19.

¹⁸⁴ I should make clear that I am not saying that patentees should be automatically held to have been acting with intent merely because a patent later turns out to be invalid. Rather, I am arguing that courts should be permitted to make their best guess as to the real patentee intent based on the evidence, unencumbered by legal fictions. As a commonsensical matter, the fact that a patentee conceals incriminating evidence would generally make people believe that the patentee knew the importance of the evidence ahead of time, *unless* the patentee provided some reason to believe otherwise. What the Federal Circuit does is use legal doctrine to artificially suppress this commonsensical intuition—it holds by fiat that the inference of intent cannot be made. See *supra* text accompanying notes 114–19. It is this legal fiction that I am criticizing here.

¹⁸⁵ 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

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,¹⁸⁶ 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 only invoked for cases that are serious enough to warrant concern.¹⁸⁷ 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 *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 calculate the fine based on a patentee’s actual profit. A stringent 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 for these cases.

inequitable conduct context is paramount because the penalty for inequitable conduct is so severe”); *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 873, 876 (Fed. Cir. 1988) (raising the intent requirement in a case involving a clerical error).

¹⁸⁶ See *infra* Part IV.C.1.

¹⁸⁷ See Richard A. Posner, *Free Speech in an 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.”).

C. Addressing Objections to the Proposal

In this section, I address some possible objections to my proposal. The first two objections attack the validity of my solution, and the remaining four 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. The relevant question is not whether my proposal is perfect, but only whether it achieves better results. 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 5, where there is still suboptimal underdeterrence on the entire right portion of the diagram. This underdeterrence effect is 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.¹⁸⁸ 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 5 by adjusting liability requires an impossible amount of information and very precise fine-tuning. What Figure 5 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

¹⁸⁸ See *supra* Part II.C.

p_e are *not* subsequently magnified. And unlike the inherent defect of the liability rule approach, there is no reason that a flexible 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) exceeds the social harms of underdeterrence, 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.¹⁸⁹

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 counterclaim by the accused infringer; a court generally would not have jurisdiction to impose fines on nonparties.¹⁹⁰ 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 applicant¹⁹¹—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.¹⁹² Thus, in the comparison of whether my proposal is better than existing law, this criticism is beside the point.¹⁹³ The underlying

¹⁸⁹ 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.

¹⁹⁰ See *Smith v. Bayer Corp.*, 131 S. Ct. 2368, 2376 (2011) (recognizing a “general rule against binding nonparties”).

¹⁹¹ 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. See RESTATEMENT (THIRD) OF AGENCY § 7.04, at 171 (2006).

¹⁹² See Margo A. Bagley, *The New Invention Creation Activity Boundary in Patent Law*, 51 WM. & MARY L. REV. 577, 603 (2009) (“[T]he innocent assignee might just have to suffer.”).

¹⁹³ Of course, one potential reply is that the unenforceability penalty imposes no punishment on anyone (in cases where the patent is invalid), so my proposed fine is harsher on assignees. But the conventional belief is that the unenforceability penalty is an atomic bomb. To now say that the problem

difficulty is that courts cannot punish nonparties who are outside of their jurisdiction, and short of creating a *qui tam* cause of action¹⁹⁴ 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.¹⁹⁵ The monetary fine levied against the assignee can therefore be recovered from the initial patent applicant as a consequential loss arising from this breach.¹⁹⁶ 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.¹⁹⁷ 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.¹⁹⁸ The rationale for this rule is that the purchaser will then sue the thief who sold the stolen goods to him.¹⁹⁹ This regime is far better than one where an innocent assignee automatically became free of all liability,²⁰⁰ since that would induce those who commit

with my proposal is that it is harsher on assignees than the unenforceability penalty would be ironic indeed.

¹⁹⁴ Cf. 35 U.S.C. § 292(b) (2006) (creating a *qui tam* cause of action against people who falsely mark their products as patented), *repealed by Leahy-Smith America Invents Act*, Pub. L. No. 112-29, § 16(b), 125 Stat. 284, 329 (2011).

¹⁹⁵ 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”).

¹⁹⁶ See RESTATEMENT (SECOND) OF CONTRACTS § 347(b), at 112 (1981) (allowing recovery of consequential losses).

¹⁹⁷ 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*.”).

¹⁹⁸ See RESTATEMENT (SECOND) OF TORTS § 229, at 446 (1965) (making the possessor of stolen goods liable in conversion).

¹⁹⁹ See U.C.C. § 2-312(1) (2012) (creating an implied warranty of good title in every contract for the sale of goods).

²⁰⁰ Recording statutes, which allow an innocent purchaser to take priority, operate as an exception from the common law rule. See 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.

misconduct to immediately “cleanse” their misconduct by finding a cooperative buyer who would pay full price for the goods due to the immunity granted.²⁰¹

3. *Alternative Policing Mechanisms.*—My proposal in this Article is to preserve and improve the inequitable conduct doctrine by implementing the relatively small fix of replacing the mandatory unenforceability penalty with a more flexible system of punitive fines. The existing literature, in contrast, has usually advocated more drastic (and always one-sided) changes to narrow the doctrine and reduce deterrence.²⁰² The most drastic narrowing change advocated has been to abolish the inequitable conduct doctrine altogether.²⁰³ 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.²⁰⁴ As a consequence, critics of the inequitable conduct doctrine frequently propose placing greater reliance on other policing mechanisms.²⁰⁵ None of the proposed mechanisms, however, offer adequate solutions to the problem of patentee dishonesty and underdeterrence seen on the right side of Figure 1. Because the conventional wisdom has not appreciated the underdeterrence effect,²⁰⁶ 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.²⁰⁷ 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

REV. 407, 429 (2000). But recording statutes effectively require purchasers to search title registries and thus are not blanket immunities for purchasers.

²⁰¹ See Bagley, *supra* note 192 (calling this “patent laundering”).

²⁰² See, e.g., Cotropia, *supra* note 6, at 774–78; Wasserman, *supra* note 12, at 3 (“[T]his article advocates limiting the doctrine of inequitable conduct and pursuing alternative avenues for increasing patent quality.”).

²⁰³ See, e.g., NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., *supra* note 144, at 123 (calling for abolition); Lynch, *supra* note 7, at 9 (same).

²⁰⁴ 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).

²⁰⁵ See, e.g., NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., *supra* note 144, at 122–23 (arguing that “invalidity, disciplinary action, and reputational concerns” provide alternative mechanisms of deterring dishonesty); Wasserman, *supra* note 12, at 3.

²⁰⁶ See *supra* Part I.F.

²⁰⁷ See, e.g., MERGES & DUFFY, *supra* note 1, at 1112 (arguing that administrative “agencies are generally held to be the masters of their own procedures” and “the best punishment might be such disciplinary sanctions”).

of existing inequitable conduct doctrine since 1988.²⁰⁸ 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.²⁰⁹ On resources, the PTO is already “chronically underfunded,”²¹⁰ and on institutional capability, it is hobbled by the fact that it cannot issue subpoenas or compel testimony.²¹¹ Moreover, the statute of limitations for PTO discipline is five years,²¹² and it would be rare for dishonest conduct to surface merely one-quarter of the way into a patent’s lifetime.²¹³

Third, the PTO’s enforcement power is limited to disciplining patent attorneys, not their clients.²¹⁴ This is often cited as an advantage, in that dishonest conduct is usually perpetrated by the attorney and not directly by the client.²¹⁵ However, such a view is backwards. While it is true enough that the attorney usually performs the conduct, the benefit and 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 truth was 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

²⁰⁸ See *supra* Part II.C.2.

²⁰⁹ Brief for the United States as Amicus Curiae on Rehearing En Banc in Support of Neither Party at 15–16, *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011) (en banc) (No. 2008-1511) (arguing that it is “not possible or practical” to rely on PTO discipline).

²¹⁰ 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 “[t]he PTO’s financial position [has] steadily improved” since 1994).

²¹¹ See 35 U.S.C. § 24 (2006) (limiting the PTO’s subpoena power to contested cases); 37 C.F.R. § 11.38 (2012) (stating that a disciplinary proceeding becomes a contested case only after an initial investigation is concluded). The Federal Circuit recently construed § 24 to cover all proceedings in which PTO regulations provide that evidence may be taken by deposition. See *Abbott Labs. v. Cordis Corp.*, No. 2012-1244, 2013 WL 1136627, at *1 (Fed. Cir. Mar. 20, 2013). The PTO’s rules for initial investigations specify that it may request information from “[a]ny person who may reasonably be expected to provide information and evidence needed in connection with the grievance or investigation” but do not specify that this can occur by means of a deposition. 37 C.F.R. § 11.22(f)(1)(iii). Given *Abbott*, it is no longer completely clear that the PTO lacks subpoena power during initial investigations, but I would still regard this as the best reading of existing law.

²¹² 28 U.S.C. § 2462 (time limit for the “enforcement of any civil fine, penalty, or forfeiture”). The Leahy–Smith America Invents Act extends this to ten years. See Pub. L. No. 112-29, § 3(k), 125 Stat. 284, 291 (2011) (codified at 35 U.S.C.A. § 32 (West Supp. 2013)). This is still only half the time period during which the misconduct may prove effective.

²¹³ See 35 U.S.C. § 154(a)(2) (twenty-year patent term); see also Brief for the United States as Amicus Curiae on Rehearing En Banc in Support of Neither Party, *supra* note 209, at 15–16 (“[T]he PTO infrequently learns of the inequitable conduct within [the five-year] time frame . . .”).

²¹⁴ See § 32.

²¹⁵ 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).”).

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 “mak[ing] [a] materially false, fictitious, or fraudulent statement or representation” to a government agency.²¹⁶ 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. As far as I could determine, the last reported case involving a § 1001 prosecution for dishonesty to the PTO occurred in 1976,²¹⁷ and the one before that appears to be from 1934.²¹⁸ One potential reason—aside from limited prosecutorial resources—might be that there is a five-year statute of limitations on § 1001 prosecutions,²¹⁹ and, like the PTO statute, it begins running from the time the offense is committed (i.e., not from when the fraud is discovered).²²⁰ 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 patent²²¹—there is little credible deterrence from criminal prosecution. To be sure, one can always argue for extending the statute of limitations—though that creates many potential side effects, since § 1001 is a general statute applicable to many government agencies—but even then it is unlikely that the DOJ will show any inclination to prosecute patent applicants, given limited prosecutorial resources and the fact that such prosecutions have so rarely occurred.

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 in a private antitrust counterclaim under the doctrine of *Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*²²² 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.²²³ The standard remedy for an

²¹⁶ 18 U.S.C. § 1001(a)(2) (2006).

²¹⁷ See *United States v. Markham*, 537 F.2d 187 (5th Cir. 1976).

²¹⁸ See *Meehan v. United States*, 70 F.2d 857 (9th Cir. 1934).

²¹⁹ § 3282(a).

²²⁰ *Id.* (barring prosecution unless “instituted within five years next after such offense shall have been committed”).

²²¹ Patentees can wait six years before filing infringement suits without losing any damages. 35 U.S.C. § 286 (2006) (six-year limitation on damages).

²²² 382 U.S. 172 (1965).

²²³ See *id.* at 176–77.

antitrust violation is treble damages based on the amount of competitive injury.²²⁴

In many ways, therefore, a counterclaim 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. This penalty is over and above the invalidation 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 (if this is even possible),²²⁵ which makes *Walker Process* claims basically impossible to prove and the doctrine a virtual dead letter.²²⁶ One study found that, between 1985 and 2001, only three *Walker Process* claims were successful.²²⁷ Even with treble damages, the chance of evasion is so high that there is likely to be no meaningful deterrence against patentee dishonesty.

Second, a *Walker Process* claim requires the accused infringer to prove other antitrust elements, such as defining the relevant “market” being monopolized and ultimately the fact of economic monopolization itself (which a patent does not necessarily establish).²²⁸ 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.

Third, and perhaps most importantly, the *Walker Process* doctrine can be easily avoided by a cunning patent applicant who can simply assign the patent to someone else and thereby “cleanse” the misconduct.²²⁹ This is because *Walker Process* requires the *plaintiff in litigation* to know of the

²²⁴ See 15 U.S.C. § 15(a) (2006).

²²⁵ See, e.g., *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.”).

²²⁶ Blair Silver, *Controlling Patent Trolling with Civil RICO*, 11 YALE J.L. & TECH. 70, 94 (2009); see 1 HERBERT HOVENKAMP ET AL., IP AND ANTITRUST § 11.2(f), at 11-25 (2d ed. Supp. 2011) (“*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) (“*Walker Process* claims [are] . . . extremely difficult to plead and prove . . .”).

²²⁷ See Steinman & Fitzpatrick, *supra* note 226, at 99 n.22.

²²⁸ See *Walker Process*, 382 U.S. at 177–78 (“Without a definition of [the relevant] market there is no way to measure Food Machinery’s ability to lessen or destroy competition.”); see also *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (holding that a patent does not establish market power for antitrust purposes).

²²⁹ See Bagley, *supra* note 192 (calling this “patent laundering”).

invalidity of the patent and its fraudulent history.²³⁰ 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 modified 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. My suggestion is to impose punitive fines under the inequitable conduct doctrine, but the same substantive effect can be achieved under other doctrinal labels.

4. *Attorney-Fee Awards as a Punitive Remedy.*—Another potential objection to my analysis is that current law already permits an additional monetary 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.²³¹ Since this award of attorneys' fees creates an effect over and above simply forfeiting the patent, it provides additional deterrence that mitigates the underdeterrence 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 ameliorates the underdeterrence problems I have identified to some extent, it is clearly inadequate, at least under current practice. First, the chance of receiving an attorneys' fee award is miniscule: the chance of winning an inequitable conduct defense is already very small (because the burden of proof is so high),²³² and courts usually deny attorneys' fees even when inequitable conduct is proven.²³³ In these circumstances, it would make little sense for an accused infringer to investigate and litigate an inequitable conduct issue solely for the prospect of an attorneys' fee award: the additional costs of investigation and litigation must be expended upfront, while the chance of recapturing them is remote.

²³⁰ See *Walker Process*, 382 U.S. at 177 n.5.

²³¹ See *Gardco Mfg., Inc. v. Herst Lighting Co.*, 820 F.2d 1209, 1215 (Fed. Cir. 1987).

²³² Petherbridge et al., *supra* note 16, at 1308–10.

²³³ Nolan-Stevaux, *supra* note 85, at 168 (noting that even when inequitable conduct is proven, courts awarded attorneys' fees only 40% of the time over the last ten years).

Second, the amount of attorneys' fees that can possibly be awarded is inherently less than the value of a fraudulently obtained patent because it would never make sense to spend more in attorneys' fees than the value of the patent at stake. Combining the low probability of attorneys' fee awards with their inherently limited value means that no patentee is ever likely to be deterred from dishonest behavior due to the availability of this sanction. As even the courts have long recognized, attorneys' fees are "of secondary importance" in the inequitable conduct calculus,²³⁴ and without a stronger penalty, "the relationship of confidence and trust between applicants and the Patent Office [would not] have any real meaning."²³⁵ 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, courts can change their doctrine to make attorney fee sanctions easier to impose. 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.²³⁶ In short, while attorney fee sanctions can work as a complement to my proposed system of punitive fines, they cannot be a full substitute and thus cannot save the existing system.

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.²³⁷ 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.²³⁸ To abolish inequitable conduct, therefore, would leave

²³⁴ See *Norton v. Curtiss*, 433 F.2d 779, 795 & n.14. (C.C.P.A. 1970).

²³⁵ *Id.* at 795.

²³⁶ To be sure, at the extremes, this problem also affects my proposal. Namely, the proper fine for a privately valuable but fraudulently obtained patent (e.g., a patent on a blockbuster drug) would be so high that a court would likely recoil at the "sticker shock," and in any case, a fine that is so high that it drives the patentee past the point of insolvency has no additional deterrence effect because the patentee is then judgment proof. See S. Shavell, *The Judgment Proof Problem*, 6 INT'L REV. L. & ECON. 45 (1986); see also U.S. SENTENCING GUIDELINES MANUAL § 5E1.2(a) (2012) (providing for waiver of fine if defendant is unable to pay). But at least the implicit "cap" is much higher under my proposal than one where the amount of punitive fines is capped by attorneys' fees expended.

²³⁷ See, e.g., NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., *supra* note 144, at 121–23 (calling for abolition); Lynch, *supra* note 7, at 9 (same).

²³⁸ See Dolak, *supra* note 17, at 17–22 (arguing that alternative proposals are unsatisfactory); see also *supra* Part IV.C.3.

no enforcement mechanism for the duty of candor (also known as the duty of disclosure).²³⁹

One response to this is that we should abolish the duty of disclosure as well.²⁴⁰ The argument is usually framed by noting 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.²⁴¹ I have two responses to this argument.

The first is that it is not quite true. A duty of disclosure is inherent in every patent system²⁴² because a core part of the patent bargain is honest disclosure of the invention.²⁴³ Without a duty of disclosure and a policing mechanism to ensure honesty, a patent applicant could fabricate an invention by, for instance, conjuring out of thin air clinical trial results showing a cure for AIDS and then wielding any patent obtained to terrorize competitors, all without penalty even if the applicant is caught.²⁴⁴ Thus, every patent system has a duty of honest disclosure and requires a mechanism to enforce honest disclosure to the patent office. Other countries generally have *less onerous* requirements of disclosure,²⁴⁵ and they enforce the requirement using different policing mechanisms such as

²³⁹ See 37 C.F.R. § 1.56(a) (2012) (“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”); see also *id.* § 1.105(a)(1) (allowing the PTO to demand disclosure of additional information beyond that required to be automatically disclosed under § 1.56).

²⁴⁰ See, e.g., Jay Erstling, *Patent Law and the Duty of Candor: Rethinking the Limits of Disclosure*, 44 CREIGHTON L. REV. 329, 365 (2011) (recommending either “abolishing the duty of candor altogether” or at least limiting it such that “no duty of disclosure would be imposed on an applicant unless an examiner determined that information was needed but the examiner was unable to access it herself”).

²⁴¹ See *id.* at 346–47 (“[T]he 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]”).

²⁴² At a minimum, every country requires filing a patent application, which inherently requires disclosing information. See, e.g., Paris Convention for the Protection of Industrial Property, *supra* note 52, art. 4 (establishing system of patent application filing); European Patent Convention art. 83, Oct. 5, 1973, 1065 U.N.T.S. 199 [hereinafter European Patent Convention] (“The European patent application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.”).

²⁴³ See *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))).

²⁴⁴ Cf. *Advanced Magnetic Closures, Inc. v. Rome Fastener Corp.*, 607 F.3d 817, 830 (Fed. Cir. 2010) (patent applicant fabricating evidence of inventorship).

²⁴⁵ See, e.g., European Patent Convention, *supra* note 242, art. 124 (allowing the European Patent Office to demand applicants provide information on prior art but not requiring automatic disclosure as the United States does).

patent office discipline or perjury prosecutions,²⁴⁶ but every patent system inherently requires some amount of disclosure from patent applicants.

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,²⁴⁷ 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 a punitive remedy for its breach, and my argument in this Article is that inequitable conduct is the best doctrinal mechanism by which this can be implemented.²⁴⁸ This is not to say that current inequitable conduct doctrine performs this function well—it doesn't, as Figure 1 shows—but only that inequitable conduct is the best mechanism available. It can be reformed to achieve the desired result with only slight doctrinal adjustments.

6. *Reducing the Penalty for Invalidity Instead.*—Finally, an alternative worth discussing is the possibility of reducing the penalty for invalidity instead. That is, the problem I identify comes from the overlap between the remedy for invalidity and the remedy for dishonest behavior. In theory we could solve this overlap either by imposing additional penalties for dishonest behavior (as I have proposed) or by reducing the penalties for invalidity; both would create a marginal difference.²⁴⁹ And though reducing the penalty for invalidity might be counterintuitive at first—to my knowledge it has not been proposed in the academic literature—it finds some support in historical practice.²⁵⁰

Until the Supreme Court's 1971 decision in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*,²⁵¹ a judgment of invalidity did not invalidate the patent but only provided a personal defense. A patent that was held invalid in one case could still be asserted and enforced in future cases.²⁵² The only way to truly “invalidate” a patent—to permanently revoke it—was to obtain a writ of *scire facias*,

²⁴⁶ See, e.g., Patents Act, 1977, c. 37, § 92(5) (U.K.) (making perjury penalties applicable to proceedings in the European Patent Office).

²⁴⁷ On this question, I am inclined to agree with Thomas Cotter's formulation that the ultimate objective is to induce applicant disclosure “only if it is less costly for the applicant to disclose the information than it would be for the examiner to find it herself,” and even then only if the disclosure is net socially beneficial. Cotter, *supra* note 62, at 752–53.

²⁴⁸ See *supra* Part IV.C.3.

²⁴⁹ This is the mirror reflection of the observation in equal protection jurisprudence that we can achieve parity by “level[ing] up” or “level[ing] down.” See Kenji Yoshino, *The New Equal Protection*, 124 HARV. L. REV. 747, 787 (2011). We can also achieve disparity by going up or down.

²⁵⁰ See John F. Duffy & Mark A. Lemley, *Why Do Juries Decide if Patents Are Valid?* 2 (2012), available at https://www.law.uh.edu/wipip2012/Abstracts/LemleyAbstract_wipip2012.pdf (discussing historical practice).

²⁵¹ 402 U.S. 313 (1971).

²⁵² See *Triplett v. Lowell*, 297 U.S. 638, 645 (1936).

which required proof of fraud.²⁵³ This regime provided some deterrence against dishonest behavior because dishonesty could result in permanent revocation while invalidity would merely result in a one-off judgment.

Although overruling *Blonder-Tongue* and returning to the traditional regime might provide a means for deterring patentee dishonesty, it would create other problems.²⁵⁴ Namely, it would result in many patents covering old, useless, and obvious inventions staying on the books even after their invalidity has been discovered and proven, so long as the patentees engaged in no misconduct. Given the widespread concern over the prevalence of undeserved monopolies impeding commerce and innovation²⁵⁵—a concern that remains even if patentees do not intentionally obtain fraudulent patents—it is unlikely that the benefits of this solution would outweigh the costs.

CONCLUSION

Three propositions dominate the conventional wisdom on inequitable conduct. The first proposition is that the unenforceability penalty is always a draconian “atomic bomb.”²⁵⁶ The second proposition is that inequitable conduct is frequently alleged but rarely successful in litigation and that this implies the allegations are generally unmeritorious and patentees are almost never truly dishonest.²⁵⁷ The third proposition is that the proper solution involves changing the liability threshold so that overdeterrence should be met by narrowing liability,²⁵⁸ while underdeterrence should be met by

²⁵³ See *Mowry v. Whitney*, 81 U.S. (14 Wall.) 434, 440 (1871) (noting that a writ of *scire facias* to revoke a patent could issue only in cases of conflicting patents or for fraud). Additionally, the writ of *scire facias* could only be obtained by the government, so the PTO could not hand over enforcement to private parties. Notably, the PTO did not stop enforcement of inequitable conduct until 1988. See *supra* text accompanying note 123.

²⁵⁴ See Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 687–88 (2004) (“We . . . should not solve the free rider problem that *Blonder-Tongue* creates simply by reinstating *Triplett*.”).

²⁵⁵ See, e.g., *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969) (“[There is an] important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain.”); see also JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* 8–11 (2008) (arguing that too many patents impede innovation); FED. TRADE COMM’N, *supra* note 73, exec. summ., at 5.

²⁵⁶ *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1288–89 (Fed. Cir. 2011) (en banc).

²⁵⁷ See *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”).

²⁵⁸ See, e.g., *Therasense*, 649 F.3d at 1290 (tightening the intent and materiality elements); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (raising pleading standards).

expanding liability.²⁵⁹ As this 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 nonexistent in cases of serious patentee fraud, where unenforceability is redundant with invalidity. Thus, at the same time it generates 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 overdeterrence, and not underdeterrence, thus misses half the equation.

Similarly, although inequitable conduct allegations are rarely successfully litigated, this fact does not prove that the allegations are unmeritorious or that patentees are rarely seriously dishonest. Rather, the low win rate is virtually certain to occur given accused infringers' upside-down 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 the fundamental problem. Neither narrowing liability nor expanding liability will achieve good outcomes. As seen in Figure 2, narrowing liability can reduce or even eliminate the overdeterrence problem, but only at the cost of maintaining or even exacerbating the underdeterrence problem. Conversely, as seen in Figure 3, expanding liability will not meaningfully resolve the underdeterrence problem, but can significantly exacerbate the overdeterrence problem. In all cases, a significant underdeterrence 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 underdeterrence side of the equation has been overlooked.

²⁵⁹ See *Norton v. Curtiss*, 433 F.2d 779, 795 (C.C.P.A. 1970) (advocating a lower materiality standard to prevent underdeterrence).

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.

