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Taking Patents

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Taking Patents

Gregory Dolin*
Irina D. Manta†

WASHINGTON & LEE LAW REVIEW (forthcoming 2016)

The America Invents Act (AIA) was widely hailed as a remedy to the excessive number of patents that the Patent & Trademark Office issued, and especially ones that would later turn out to be invalid. In its efforts to eradicate “patent trolls” and fend off other ills, however, the AIA introduced serious constitutional problems that this Article brings to the fore. We argue that the AIA’s new “second-look” mechanisms in the form of Inter Partes Review (IPR) and Covered Business Method Review (CBMR) have greatly altered the scope of vested patent rights by modifying the boundaries of existing patents. The changes in the boundaries of the patent grant made it significantly more likely that the patent owner would see his patent invalidated. This new state of affairs has already reduced the value of some patents that were obtained before the AIA became effective, and further declines will likely follow. We show on the basis of constitutional takings jurisprudence that the loss of value that some patent owners have suffered as a result of the new procedures—even if their patents have not been specifically subjected to them—potentially compare with physical takings and definitely fall under the umbrella of regulatory takings. The way to remedy these failings is for the government either to change its procedures or provide just compensation to the patent owners that received patents from the PTO before the enactment of the AIA.

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WASHINGTON & LEE LAW REVIEW (forthcoming 2016)

I. Introduction	3
II. The History of Patent Reform	7
A. The Creation of a “Claim”	7
B. The Evolving (Re)Examination System	12
C. The Post-Issuance Proceedings under the America Invents Act	18
1) Post Grant Review	19
2) Inter Partes Review and Covered Business Method Review	20
III. Claim Construction and Meaning	22
A. Claim Construction During Patent Examination	23
B. Claim Construction in Litigation	25
C. Claim Construction in Post-Issuance Proceedings	29
D. The Effect of the Post-Issuance Review Process	31
IV. The History of Eminent Domain	37
A. Predecessors to the Takings Clause	37
B. The Fifth Amendment and the Takings Clause	40
C. Without Due Process of Law	41
D. All Aboard Penn Central, with Stops at Agins, Lingle, Lucas, and Loretto	44
1) <i>Penn Central</i> and the World of Regulatory Takings	44
2) <i>Agins</i>	45
3) <i>Lingle</i>	45
4) <i>Lucas</i> and <i>Loretto</i> as Tests for Total Regulatory and Physical Takings	46
E. Sour Grapes in <i>Horne v. Department of Agriculture</i>	47
V. Post-Issuance Review as a Taking	49
A. Are Patents Property?	49
B. Patents Are Subject to the Takings Clause	52
C. Was Anything Actually Taken?	56
1) The Difference Between AIA Mechanisms and Reexamination	56
2) The Inchoateness Problem	61
D. A Regulatory or a Physical Taking?	62
1) The Argument for a Physical Taking	62
2) The Argument for a Regulatory Taking	64
VI. Conclusion	67

I. Introduction

This Article demonstrates for the first time that recent changes in patent law have yielded unconstitutional results by forcing a taking of patent owners' property. We show that the new post-issuance proceedings under the America Invents Act (AIA)³ have occasioned a permanent reduction in the value of patents granted before the enactment of the Act. Patent owners have a colorable claim that this redrawing of the boundaries of their intellectual property resembles a physical taking, and they have an even stronger claim that they have suffered a regulatory taking without just compensation. We argue that the most straightforward solution to this significant problem is either to change the scope of post-issuance review procedures or to make pre-AIA patents ineligible for such review.

In 2011, after a decades-long debate, Congress enacted a series of patent reforms meant to decrease the cost of patent litigation, reduce the number of "dubious" or improperly granted patents, and increase the certainty of patent rights.⁴ The mechanism that Congress chose to accomplish these goals is an increase of power of the Patent and Trademark Office ("PTO")⁵ to adjudicate certain patent disputes in quasi-judicial, yet ultimately administrative proceedings.⁶ Under the new post-issuance review procedures, a number of challenges to patent validity can now be adjudicated in the PTO, rather than in court.⁷ The objectives of the new system are faster and more consistent outcomes.⁸ These twin goals

³ Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 28 and 35 U.S.C.).

⁴ *Id.*; Gregory Dolin, *Dubious Patent Reform*, 56 B.C.L. REV. 881, 881-82 (2015).

⁵ Prior to 1881, when trademark registration and examination was added to its functions, the PTO was known simply as the "Patent Office." See Ty Halasz, *The Game of the Name: Shortcomings in the Dual-Agency Review of Drug Trademarks and a Remedial Cure*, 64 ADMIN. L. REV. 235, 241 (2012).

⁶ See Sarah Tran, *Policy Tailors and the Patent Office*, 46 U.C. DAVIS L. REV. 487, 498-99 (2012).

⁷ 35 U.S.C. §§ 301-29; H.R. Rep. No. 112-98, pt. 1, at 46-48 (2011).

⁸ See *id.* at 38-40; Jonathan Tamimi, *Breaking Bad Patents: The Formula for Quick, Inexpensive Resolution of Patent Validity*, 29 BERKELEY TECH. L.J. 587, 587 (2014).

are supposed to be achieved by having an expert body of specialized Administrative Patent Judges adjudicate the disputes,⁹ and imposing strict statutory deadlines on resolving the cases.¹⁰ Reduction in costs and increase in speed, however, were not the only aims of the 2011 AIA reforms. Instead, much of the debate was focused on the problem of so-called “patent trolls” or entities whose business model is not the in-house production of tangible goods, but rather the licensing of their inventions to others who are engaged in such production.¹¹ Congress was convinced that “patent trolls” are a significant drain on the economy and that measures must be taken to reduce the ability of the “trolls” to “blackmail” other companies into payments of supposedly unwarranted licensing fees.¹² Congress became convinced that many issued patents should have never seen the light of day,¹³ and that the PTO needed a “toolbox of new or fortified proceedings in which it may weed out low quality patents.”¹⁴

To accomplish this goal, Congress created a set of new administrative review procedures housed in the PTO.¹⁵ These procedures, often collectively referred to as “post-issuance proceedings,” ostensibly allow the PTO to correct its own mistakes in issuing a patent in the first

⁹ *PersonalWeb Technologies, LLC v. Facebook, Inc.*, No. 5:13-CV-01356-EJD, 2014 WL 116340, at *4 (N.D. Cal. Jan. 13, 2014) (“Indeed, allowing these invalidity arguments to be determined once, employing the specialized expertise of the PTO, produces the exact results—avoiding duplicative costs and efforts and averting the possibility of inconsistent judgments—intended by the AIA and previous procedures.”)

¹⁰ See Andrew Byrnes, *Standing Sentinel over Innovation: The Importance Of a Balanced and Effective IP System*, 18 CHAP. L. REV. 617, 628 (2015)

¹¹ See Tracie L. Bryant, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 HARV. J.L. & TECH. 687, 688 (2012); Jared A. Smith & Nicholas R. Transier, *Trolling for an NPE Solution*, 7 HASTINGS SCI. & TECH. L.J. 215, 222 (2015).

¹² See Bryant, *supra* note 11, at 694; Aria Soroudi, *Defeating Trolls: The Impact of Octane and Highmark on Patent Trolls*, 35 LOY. L.A. ENT. L. REV. 319, 323 (2015). For a discussion on how “patent trolls” can supposedly “blackmail” their targets, see generally, Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583, 1588 (2009).

¹³ See, e.g., 157 Cong. Rec. S7413 (daily ed. Nov. 14, 2011) (statement of Sen. Kyl) (arguing that the AIA is needed to get rid of the worst patents, which probably never should have been issued.”).

¹⁴ Tran, *supra* note 6, at 498-99.

¹⁵ 35 U.S.C. §§ 301-29; Dolin, *supra* note 4, at 913-923 (describing the procedures).

place.¹⁶ In creating these new mechanisms, Congress insisted on speed by providing a specific deadline for completion of each post-issuance proceeding,¹⁷ but left all other details of design and implementation to the PTO.¹⁸

The procedures adopted by the PTO—in conjunction with the Congressional abrogation of the “clear and convincing” standard for declaring a patent invalid in the context of post-issuance proceedings¹⁹—have had a serious effect on the value of patents to their owners, and for good reason.²⁰ The economic value of a patent must take into account the chance that the patent itself will be declared invalid during litigation.²¹ That chance is almost never zero, even with respect to the “strongest,” most innovative and thoroughly examined patents.²² The higher the

¹⁶ See Note, *Recasting the U.S. International Trade Commission’s Role in the Patent System*, 126 HARV. L. REV. 2337, 2342 (2013) (“The AIA overhaul was expressly designed to address the endemic problem of low patent quality outlined in the introduction to this Note by better empowering the PTO as a forum for invalidating bad patents.”).

¹⁷ See 35 U.S.C. § 316(a)(11); *id.* § 326(a)(11); Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18(a)(1), 125 Stat. 284, 330 (2011); Dolin, *supra* note 4, at 909. The America Invents Act required CMBR to be conducted under the same rules as PGR. Thus, all citations to the rules governing the conduct of PGR apply with equal force to CBMR. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18(a)(1), 125 Stat. 284, 330 (requiring that CMBR “be regarded as, and shall employ the standards and procedures of, a post-grant review.”). To avoid unnecessary prolixity, whenever there are no differences between PGR and CBMR, we cite to the relevant provision governing the conduct of PGR.

¹⁸ See 35 U.S.C. § 316(a) (requiring the Director of the PTO to prescribe regulations for the conduct of the IPR); *id.* § 326(a) (same for the conduct of PGR and CBMR).

¹⁹ See 35 U.S.C. § 316(e) (establishing a “preponderance of the evidence” standard for declaring patent invalid in IPR); *id.* § 326(e) (same for PGR and CBMR).

²⁰ See *In re Cuozzo Speed Technologies, LLC*, 2015 WL 4100060, at *6 (Fed. Cir. July 8, 2015) (Newman, J., dissenting from the denial of rehearing en banc) (quoting amicus brief by 3M Company, Caterpillar Inc., Eli Lilly and Company, General Electric Company, GlaxoSmithKline LLC, Illinois Tool Works Inc., Johnson & Johnson, Pfizer Inc., Procter & Gamble, and Sanofi US); Jennifer L. Case, *How the America Invents Act Hurts American Inventors and Weakens Incentives to Innovate*, 82 UMKC L. REV. 29, 67 (2013).

²¹ See Herbert Hovenkamp et. al., *Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719, 1761 (2003).

²² Barry C. Harris, et al., *Activating Actavis: A More Complete Story*, 28 ANTITRUST 83, 88 n.25 (2014). Cf. Maureen A. O’Rourke & Joseph F. Brodley, *An Incentives Approach to*

chance that the patent is invalid, the lower the value of the patent to the patentee,²³ and the lower the price he will obtain in any licensing or sale of that patent.²⁴ Consequently, making a patent easier to invalidate necessarily reduces the value of that patent.²⁵ This would not present a problem if the rule change were prospective only, meaning if the lower standard applied only to patents issued after the effective date of the AIA. Though the wisdom of making issued patents easier to invalidate can be debated,²⁶ a prospective rule change would allow the inventors, investors, patent applicants, and patentees to adjust their behavior and investment decisions based on the known projected return on their investment.²⁷ Yet, when the rules are changed retroactively, i.e., when already issued patents are subject to new legislative and administrative rules that could not have been anticipated at the time the patent issued, the patentees lose that which makes their patents actually valuable.²⁸ As we demonstrate in this Article, these retroactive changes present a serious constitutional problem.

Part II describes the history of patent reform leading up to and including the AIA. Part III explains how patent claim construction proceeds before the PTO and in the court system. In Part IV, we discuss the history of takings jurisprudence from the early days to this year's Supreme Court pronouncements on the subject. Part V applies that doctrine to the context of post-issuance review of patents granted before

Patent Settlements: A Commentary on Hovenkamp, Janis and Lemley, 87 MINN. L. REV. 1767, 1779 (2003).

²³ Hovenkamp, *supra* note 21, at 1761.

²⁴ Harold See & Frank M. Caprio, *The Trouble with Brulotte: The Patent Royalty Term and Patent Monopoly Extension*, 1990 UTAH L. REV. 813, 842-43 (1990).

²⁵ *Id.* at 843.

²⁶ *Cf. Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 127 (2006) (Breyer, J., dissenting) (discussing the pros and cons of patent protection).

²⁷ See Benjamin K. Guthrie, *Beyond Investment Protection: An Examination of the Potential Influence of Investment Treaties on Domestic Rule of Law*, 45 N.Y.U. J. INT'L L. & POL. 1151, 1185 (2013) (noting that "prospective rules [allow] persons [to] plan their behavior.").

²⁸ See generally Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 511, 516 (1986) ("[I]nvestment decisions must be based - at least implicitly - on some assumptions concerning what [legal] rules and policies will be. To the extent that future government action departs from these expectations, the value of investments will be affected.").

enactment of the AIA, and shows that these types of patents have suffered an unconstitutional taking without just compensation. Part VI concludes.

II. The History of Patent Reform

A. *The Creation of a “Claim”*

The American patent system boasts a long history. The first Patent Act was passed by the very first Congress, a mere year after the Constitution was ratified.²⁹ Though the patent system has undergone many changes over the last two plus centuries, the first Patent Act had a number of provisions that are similar to the current statute.

When it was initially created, the system involved rudimentary examination of an application for a patent.³⁰ The first Patent Act also created a progenitor of the modern reexamination process. Under the provisions of the 1790 Act, within one year of a patent’s issuance any person could file a suit in a district court seeking cancellation of a patent.³¹ Provided that a sufficient initial showing was made, the burden would shift to the patentee to prove that the patent was properly issued.³² Failure to do so resulted in cancellation of the patent.³³ Thus, in some sense, for the first year post-issuance, the patent was provisional.

The 1790 Act was relatively short-lived. Given that it required three out of five Cabinet officials to spend their time examining patents rather than attending to their other, more direct duties, it is unsurprising that pressure was soon brought to bear to switch to a different system.³⁴

²⁹ Patent Act of 1790, ch. 7, 1 Stat. 109 (1790) (repealed 1793).

³⁰ See Andrew P. Morriss & Craig Allen Nard, *Institutional Choice & Interest Groups in the Development of American Patent Law: 1790-1865*, 19 SUP. CT. ECON. REV. 143, 150-51 (2011) (discussing the early examination system); Edward C. Walterscheid, *Novelty & the Hotchkiss Standard*, 20 FED. CIR. B.J. 219, 228 (2010) (hereinafter “Walterscheid, *Hotchkiss*”).

³¹ Patent Act of 1790, § 5.

³² *Id.*

³³ *Id.*

³⁴ See Morriss & Nard, *supra* note 30, at 150-51.

Congress readily obliged, but in doing so, it abolished patent examination altogether.³⁵ Instead, under the new system the applicant simply swore an oath that he was a true inventor of whatever he described in his application, and paid a fee to have the patent issued.³⁶ The 1793 Act also expanded the cancellation practice by extending the time to seek such cancellation from one year to three years.³⁷ The Act also did away with the presumption of validity.³⁸ Nonetheless, the patentees who obtained their rights under the earlier regime kept them even in the face of that Act's repeal.³⁹

As could be surmised, patents granted without any substantive examination were, quite often, of rather dubious validity. Additionally the system was ripe for abuse by unscrupulous claimants. Things got so bad that in 1809, William Thornton, who then served as Superintendent of Patents, wrote that "many of the patents are useless, except to give work to the lawyers, & others so useless in construction as to be . . . merely intended for sale."⁴⁰ A few years later, he went so far as to declare that a patent issued under his own authority was a fraud on the public.⁴¹ The legislative and judicial branches were of the same view, with a Senate committee concluding that "[a] considerable portion of all the patents granted are worthless and void,"⁴² while a federal judge complained that "[t]he most frivolous and useless alterations in articles in common use are denominated improvements, and made pretexts for increasing their

³⁵ See *id.*; Patent Act of 1793, ch. 11, 1 Stat. 318 (1793) (repealed 1836).

³⁶ Patent Act of 1793, §§ 1, 11.

³⁷ *Id.* § 10.

³⁸ Compare Patent Act of 1790, § 6 (making issued patents *prima facie* evidence of the exclusive rights by the patentee), with Patent Act of 1793, § 6 (not having a similar provision). See also 6 MOY'S WALKER ON PATENTS § 17:11 (4th ed.) (2015).

³⁹ See Patent Act of 1794, 1 Stat. 393 (1794).

⁴⁰ Edward C. Walterscheid, *Patents and Manufacturing in the Early Republic*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 855, 888 (1998) (quoting Letter, William Thornton to Amos Eaton, May 5, 1809).

⁴¹ Edward C. Walterscheid, *The Winged Gudgeon - an Early Patent Controversy*, 79 J. PAT. & TRADEMARK OFF. SOC'Y 533 (1997).

⁴² S. Rep. accompanying Bill No. 239 24th Cong., 1st Sess. (April 28, 1836), available at http://ipmall.info/hosted_resources/lipa/patents/Senate_Report_for_Bill_No_293.pdf.

prices, while all complaint and remonstrance are effectually resisted by an exhibition of the great seal."⁴³

Faced with this torrent of criticism,⁴⁴ Congress decided to abandon the registration system of patents and require the applicant to prove an entitlement to a patent before such would issue to him. To that end, Congress enacted the Patent Act of 1836, which returned the country to the system of pre-issuance patent examination.⁴⁵ The 1836 Act formally established the Patent Office,⁴⁶ and required an examination⁴⁷ to ensure that what the applicant claimed "had [not] been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had [not] been patented or described in any printed publication in this or any foreign country, or had [not] been in public use or on sale."⁴⁸ If these conditions were not met, no patent would issue.⁴⁹ The applicant, however, could amend his application by "altering his specification to embrace only that part of the invention or discovery which is new."⁵⁰ Thus, the applicant engaged in a "negotiation" with the Patent Office over the proper scope, if any, of his exclusive rights.

To permit the Patent Office to conduct a rigorous examination of patent applications, Congress needed to give the Office something specific it could examine. Thus, the formal requirement of the patent claim arose. Although it is true that it became more common to add a "statement of

⁴³ *Thompson v. Haight*, 23 F. Cas. 1040, 1041 (C.C.S.D.N.Y. 1826).

⁴⁴ See generally John F. Duffy, *The FCC and the Patent System: Progressive Ideals, Jacksonian Realism, and the Technology of Regulation*, 71 U. COLO. L. REV. 1071, 1126-29 (2000) (highlighting general dissatisfaction with the pre-1836 patent system and calls for reform).

⁴⁵ Patent Act of 1836, ch. 357, § 7, 5 Stat. 117, 119 (repealed 1870).

⁴⁶ *Id.* § 1.

⁴⁷ *Id.* § 2.

⁴⁸ *Id.* § 7.

⁴⁹ See *id.*

⁵⁰ *Id.* The applicant was also permitted to persist in his application without any amendments, *id.*, in which case his claim would be heard by an independent board composed of persons knowledgeable in the relevant art. *Id.* This procedure is very similar to the present-day appeals of examiners' rejections to the PTAB.

claim” to patent applications as the 19th century progressed,⁵¹ the 1836 Act for the first time *required* that the patent applicant “particularly *specify and point out the part, improvement, or combination, which he claims* as his own invention or discovery.”⁵² It is by this claim that the applicant’s entitlement to and the eventual scope of exclusive rights would be measured.⁵³ The claiming method, however, left much to be desired. Though claims were present in every patent application, they often were often nothing more than “a catalog of selected elements without explanation of how they interacted, merely followed by words such as ‘constructed and adapted to operate substantially as set forth.’”⁵⁴ Needless to say, this sort of claim did not help the courts fix the boundaries of the exclusive rights claimed by the patentees.⁵⁵

The problem stemmed from the way that inventors wrote their claims. The claims were written in what is now known as “central claiming” form where the applicant “describe[s] or point[s] to representative embodiments of the inventive idea.”⁵⁶ The claim would then encompass a variety of the “satellite” creations of that idea.⁵⁷ Under the 1836 Act, patent practice centered on the “drafting of a narrow claim setting forth a typical embodiment coupled with broad interpretation by the courts to include all equivalent constructions.”⁵⁸ While affording some flexibility, this approach presented an obvious problem. The scope of the patent grant was necessarily uncertain, because no one really knew how

⁵¹ Joshua D. Sarnoff, *The Historic and Modern Doctrines of Equivalents and Claiming the Future, Part 1 (1790-1870)*, 87 J. PAT. OFF. SOC’Y 371, 384 (2005).

⁵² Patent Act of 1836, § 6.

⁵³ *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419 (1908).

⁵⁴ Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 732-33 (2009) (quoting *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*, 62 F3d 1512, 1564 & n.14 (Fed. Cir. 1995) (Plager, J., dissenting)).

⁵⁵ *See id.* at 732-34.

⁵⁶ John M. Golden, *Construing Patent Claims According to Their “Interpretive Community”*: A Call for an Attorney-Plus-Artisan Perspective, 21 HARV. J.L. & TECH. 321, 348-49 (2008)

⁵⁷ *See generally* *Winans v. Denmead*, 56 US 330 (1853) (upholding an infringement claim even though the accused product did not fall within the literal scope of the patent); Fromer, *supra* note 54, at 733 (discussing how the courts dealt with central claiming).

⁵⁸ *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1565 (Fed. Cir. 1995) (en banc) (Nies, J., dissenting), *rev’d in part on other grounds*, 520 U.S. 17 (1997).

far from the “heart of the invention” one must be to avoid liability for infringement (or, for that matter, what the “heart of the invention” really was).⁵⁹

These shortcomings ultimately led Congress to enact the Patent Act of 1870.⁶⁰ This law was in many ways similar to the 1836 Act, but contained one major change when it came to patent claims. The scope of the change is particularly noteworthy given that the difference in language was quite subtle. Whereas the 1836 Act required the applicant to “*particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery,*”⁶¹ the 1870 Act forced the applicant to “*particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention.*”⁶² This seemingly minor change had a profound impact on the development of patent law.⁶³ From that point on, the applicant’s exclusive rights would be delimited by the claim language.⁶⁴ The claims would also serve the notice function by advising the public where the applicant’s rights end and the public rights begin.⁶⁵ This system, in contrast to the one that existed under the 1836 Act is known as “peripheral claiming.”⁶⁶ Whereas in the central claiming system, the patentee claims the “heart of the invention” and then

⁵⁹ See Emily Michiko Morris, *Res or Rules? Patents and the (Uncertain) Rules of the Game*, 18 MICH. TELECOMM. & TECH. L. REV. 481, 533 (2012); Fromer, *supra* note 54, at 769 (noting the uncertainty attendant to central claiming).

⁶⁰ Patent Act of 1870, ch. 230, 16 Stat. 198 (1871) (repealed 1952).

⁶¹ Patent Act of 1836, § 6 (emphasis added).

⁶² Patent Act of 1870, § 26.

⁶³ Hilton Davis, 62 F.3d at 1566 (Nies, J., dissenting).

⁶⁴ See *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876) (holding that a “distinct and formal claim is [] of primary importance, in the effort to ascertain precisely what it is that is patented....”). *But see* Golden, *supra* note 56, at 351-52 (arguing that the evolution of claims’ importance has been a slow, decades-long process, rather than a discrete event occasioned by the 1870 Act).

⁶⁵ Craig Allen Nard, *Legal Forms and the Common Law of Patents*, 90 B.U. L. REV. 51, 67 n.67 (2010).

⁶⁶ See JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 54 (2d ed. 2006) (“Peripheral claiming means that the claim recites a precise boundary or periphery of the patentee’s property right”)

potentially sweeps within the orbit of exclusive rights similar products,⁶⁷ in the peripheral claiming system the applicant

stakes out the boundaries within which the patentee holds his monopoly. The general description of the invention which makes up the bulk of the patent is thus considerably less important in the context of patent infringement. In the peripheral claiming system it is therefore possible for a product to be virtually identical to an invention described in a patent, yet the claimed invention is not infringed.⁶⁸

In creating this new system, Congress hoped both to equip the Patent Office with tools to separate meritorious applications from the undeserving ones, and “to improve the quality of the patents by circumscribing the patentee’s ability to enforce overly vague patents against the unsuspecting public.”⁶⁹

B. The Evolving (Re)Examination System

Once the PTO became charged with evaluating patent applications prior to granting, it had to create a method to separate applications directed to legitimate inventions from those that were concerned with frivolous or non-novel things.⁷⁰ Given the importance of this step to obtaining patents, much of the reform efforts over the past century and a half have focused on the patent application examination procedures.⁷¹

On one hand, an inventor must write his claims in such a way as to “particularly point[] out and distinctly claim[] the subject matter [that he]

⁶⁷ See Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction?*, 157 U. PA. L. REV. 1743, 1746 (2009).

⁶⁸ Werner Stemer, *The Doctrine of Equivalents After Hilton Davis and Markman, and a Proposal for Further Clarification*, 22 NOVA L. REV. 783, 789 (1998).

⁶⁹ Dolin, *supra* note 4, at 889.

⁷⁰ See, Joseph Scott Miller, *Substance, Procedure, and the Divided Patent Power*, 63 ADMIN. L. REV. 31, 42 (2011).

⁷¹ See Dolin, *supra* note 4, at 886-95; Stephen Yelderman, *Improving Patent Quality with Applicant Incentives*, 28 HARV. J.L. & TECH. 77, 78 (2014).

regards as his invention.”⁷² On the other hand, as Judge Richard Linn of the Federal Circuit observed,

[A] claim is a linguistic description of a mental concept. Due to the inherent limitations of language, the fit between the description and the concept is almost always inexact. In addition to the inexact fit caused by the inherent limitations of language, the language itself may not be adequately developed at the early stages when patent applications typically are filed, particularly in rapidly evolving research fields.⁷³

The efforts to improve the PTO evaluation of the claim language have been mostly of two varieties. One focused on the personnel, and another on the process of quality control.⁷⁴ Over the years, the PTO has grown in both the number and the sophistication of people it employs (perhaps little differently from any other government agency).⁷⁵ While the personnel reforms attempted to address problems through the “all hands on deck” approach,⁷⁶ the procedural reforms (and proposed reforms) focused on the ability of the PTO to catch its own mistakes via a “second look” at patents or patent applications.⁷⁷

As early as 1918, an observer of a patent system argued that the then-existing patent system resulted in patents being granted for things “not invented,” “not new,” and “not useful,” all causing “unsettled, unsafe and unsound business conditions.”⁷⁸ To address this problem, he

⁷² 35 U.S.C. § 112(b).

⁷³ *Festo v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 621–22 (Fed. Cir. 2000) (Linn, J., concurring in part, dissenting in part); *see also* *French v. Rogers*, 9 F. Cas. 790, 792 (C.C.E.D. Pa. 1851) (No. 5,103) (noting that “as inventors are rarely experts either in philology or law, it has long been established as a rule, that their writings are to be scanned with a good degree of charity”).

⁷⁴ *See* R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 U. PA. L. REV. 2135, 2158-62 (2009).

⁷⁵ *See* John M. Golden, *Proliferating Patents and Patent Law’s “Cost Disease”*, 51 HOUS. L. REV. 455, 486-87 (2013).

⁷⁶ *See id.*

⁷⁷ *See generally* Dolin, *supra* note 4, at 886-923; Wagner, *supra* note 74, at 2158-62.

⁷⁸ James H. Lightfoot, *A Proposed Department of Invention and Discovery*, 1 J. PAT. OFF. SOC’Y

proposed creating a “Bureau of Validity Examinations” that would be staffed with “re-examiners to re-examine claims held allowable by other assistant examiners.”⁷⁹ In his view, this additional procedure would “afford inventors full protection and be essentially valid, thus constituting a safe and sound basis for the establishment of industries and safe and secure investments for the capitalists who may promote the establishment thereof.”⁸⁰ This early “second look” proposal focused on early stage re-examination (perhaps even pre-formal patent issuance),⁸¹ so that an issued patent would “provide for the grant of unconditional, *secure* and exclusive rights.”⁸² Though not heeded, the idea did not entirely disappear, either. In 1943, this thought reappeared in a Report of the National Patent Planning Commission, which suggested an administrative claim revocation procedure in lieu of litigation.⁸³ The recommendation, however, suggested that these procedures be limited to the first six months of patent life (and was altogether silent on whether to apply the proposed procedure to patents that have already issued).⁸⁴

The drumbeat of complaints about “poor quality” patents that make it through the porous sieve of the PTO continued even after Congress enacted the far-reaching reforms in the 1952 Patent Act.⁸⁵ Although for the first time the Act clearly delineated the separate requirements for patentability,⁸⁶ and instituted a number of other improvements to the system,⁸⁷ within about a dozen years, complaints of lax PTO procedures and multitudes of erroneously issued patents reared their head again.

116, 118-19 (1918).

⁷⁹ *Id.* at 127.

⁸⁰ *Id.*

⁸¹ *Id.* (proposing that the Bureau “[re-]examine the subject-matter of *each application* . . . so that *when granted* patents may afford inventors full protection. . . .”) (emphases added).

⁸² *Id.* at 118 (emphasis added).

⁸³ REPORT OF THE NAT’L PATENT PLANNING COMM., 78th Cong. (1943), reprinted in 25 J. PAT. OFF. SOC’Y 455, 460 (1943).

⁸⁴ *Id.* at 460-61.

⁸⁵ See Dolin, *supra* note 4, at 891-93.

⁸⁶ See 35 U.S.C. §§ 101, 102, 103, 112.

⁸⁷ See L. James Harris, *Some Aspects of the Underlying Legislative Intent of the Patent Act of 1952*, 23 GEO. WASH. L. REV. 658, 659-60 (1955).

Following the recommendations of the Presidential Commission on the Patent System,⁸⁸ Congress made several attempts to create procedures which would address the “lax” standards of the Patent Office that supposedly resulted in “low quality” patents,⁸⁹ but the first reexamination procedure was not enacted until 1980.⁹⁰ Under most of these proposals, patents would be subject to reconsideration at the PTO, but just for a limited time, and after the expiration of that period could only be attacked in court.⁹¹ The proposals were also consistent with the European practice of patent opposition, as was noted by Judge Giles S. Rich, one of the key authors of the Patent Act of 1952 and a preeminent authority on patent law: “Oppositions shortly after patent rights come into being (between five months and one year in the British ‘belated opposition’) are favored.”⁹² Indeed, Edward F. McKie, Jr., a premier patent litigator who went on to argue (and win) the landmark case of *Diamond v. Chakrabarty*, explicitly cautioned against patent reexaminations unrestricted by time, but endorsed a proposal that would have allowed public opposition and reexamination proceedings within a year of a patent’s allowance.⁹³

Yet, despite these warning, the reexamination procedure created as part of the Bayh-Dole Act was significantly more far-reaching than the early proposals. First, it was made to apply to all patents whether issued before or after the effective day of the Act.⁹⁴ Second, there were no time

⁸⁸ REPORT OF THE PRES. COMM’N ON THE PATENT SYS., S. DOC. NO. 90-5 (1st Sess. 1967).

⁸⁹ See, e.g., S. 1042, 90th Cong. (1967); S. 1691, 90th Cong. (1967); S. 2597, 90th Cong. (1967); H.R. 5924, 90th Cong. (1967); S. 1569, 91st Cong. (1969); S. 1246, 91st Cong. (1969); H.R. 12880, 91st Cong. (1969); S. 643, 92d Cong. (1971); S. 4259, 93d Cong. (1974); S. 2930, 93d Cong. (1974); S. 2504, 93d Cong. (1973); S. 1321, 93d Cong. (1973); S. 2930, 93d Cong. (1974); S. 1321, 93d Cong. (1974); S. 4259, 93d Cong. (1974); S. 473, 94th Cong. (1975); H.R. 14632, 94th Cong. (1976).

⁹⁰ Act of December 12, 1980 (Bayh-Dole Act). Pub. L. No. 96-517, ch. 30, 94 Stat. 3015 (1980).

⁹¹ See Dolin, *supra* note 4, at 893-94.

⁹² Giles S. Rich, *Forward—and Comments on Post-issuance Reexamination*, 4 AM. PAT. L. ASS’N Q.J. 86, 87-88 (1976).

⁹³ Edward F. McKie, Jr., *Proposals for an American Patent Opposition System in the Light of the History of Foreign Systems*, 56 J. PAT. OFF. SOC’Y 94, 101 (1974).

⁹⁴ See *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 602 (Fed. Cir.), *amended on reh’g*, 771 F.2d

limits to requesting the reexamination.⁹⁵ Nonetheless, the reexamination procedure was limited only to questions of novelty and obviousness.⁹⁶ Other questions of invalidity such as lack of enablement, failure of written description, inequitable conduct, etc., were beyond the scope of the procedure.⁹⁷

The reexamination procedure established by the Bayh-Dole Act starts when any party (including the patentee himself) files a petition with the PTO that argues, by citing to prior art, that the patent fails to clear either the novelty bar of § 102 or the obviousness bar of § 103 (or both).⁹⁸ If the PTO is convinced that there exists a “substantial new question of patentability,” a reexamination shall be ordered.⁹⁹ Once ordered, the reexamination proceeds just like the original examination of a patent application would, with only the applicant and the Patent Office involved.¹⁰⁰ The requester (unless it is the patentee himself) is not a party to these further proceedings—hence the name *ex parte* reexamination.¹⁰¹ In these proceedings, the PTO considers the claims subject to review as if these claims were never granted in the first place.¹⁰² The applicant, in turn, can also take advantage of this posture and seek amendment of his claims to avoid any finding of invalidity.¹⁰³ *Ex parte* reexamination was promoted as a means for “efficient resolution of questions about the

480 (Fed. Cir. 1985) (“Congress, without apparent objection, applied the legislation to all unexpired patents.”).

⁹⁵ Pub. L. No. 96-517, § 302, 94 Stat. 3015, 3015 (1980) (codified at 35 U.S.C. § 302 (2012)) (“Any person *at any time* may file a request for reexamination by the Office of any claim of a patent on the basis of any prior art cited”) (emphasis added).

⁹⁶ 35 U.S.C. § 302.

⁹⁷ See Gregory Dolin, M.D., *Reverse Settlements As Patent Invalidity Signals*, 24 HARV. J.L. & TECH. 281, 327 (2011); 37 C.F.R. § 1.906(c).

⁹⁸ 35 U.S.C. §§ 301-02.

⁹⁹ *Id.* § 304.

¹⁰⁰ *Id.* § 305 (“[R]eexamination will be conducted according to the procedures established for initial examination. . . .”)

¹⁰¹ 37 C.F.R. § 1.550(g) (2014).

¹⁰² 35 U.S.C. § 305; 37 C.F.R. § 1.550.

¹⁰³ See *In re Yamamoto*, 740 F.2d 1569, 1572 (Fed. Cir. 1984); 37 C.F.R. §§ 1.111, 1.550.

validity of issued patents without recourse to expensive and lengthy infringement litigation.”¹⁰⁴

These confident predictions quickly gave rise to disappointment and complaints that the reexamination system is not living up to its goals of “clearing the field” of invalid patents.¹⁰⁵ One of the causes of this failure was believed to be the inability of the initial reexamination requesters to argue their case to the PTO.¹⁰⁶

In 1990, then-Secretary of Commerce Robert Mosbacher created an Advisory Commission on Patent Reform that in 1992 produced a comprehensive report recommending a number of changes in the patent system.¹⁰⁷ One of the recommendations was “providing third parties with more opportunities for substantive participation during the reexamination proceedings.”¹⁰⁸ It took another few years, but eventually Congress responded to the perceived problems of *ex parte* reexamination, and in 1999 created an additional reexamination process that allowed for the participation of the third party in the process.¹⁰⁹ If ordered, the *inter partes* reexamination, much like *ex parte* reexamination, was conducted according to the same procedures as the initial examination, except with the opportunity for the requester to file responses to any filings by the patentee.¹¹⁰ Unlike *ex parte* reexamination, however, the *inter partes*

¹⁰⁴ H.R. REP. NO. 96-1307, pt. 1, at 3-4 (1980).

¹⁰⁵ See, e.g., LAWRENCE A. STAHL & DONALD H. HECKENBERG, JR., THE CHANGING ATTITUDES TOWARD INTER PARTES REEXAMINATION 1 (June 9, 2010), available at <http://Avwvv.fitzpatrickcella.com/DB6EDC/assets/files/News/attachment622.pdf> (last visited Aug. 20, 2015); Kenneth R. Adamo, *Reexamination--To What Avail? An Overview*, 63 J. PAT. OFF. SOC'Y 616 (1981).

¹⁰⁶ See Stahl & Heckenberg, *supra* note 105, at 1.

¹⁰⁷ THE ADVISORY COMM. ON PATENT LAW REFORM, A REPORT TO THE SECRETARY OF COMMERCE (Aug. 1992), available at http://ipmall.info/hosted_resources/lipa/patents/patentact/ACPLR-1.pdf (last visited Aug. 20, 2015).

¹⁰⁸ *Id.* at 14.

¹⁰⁹ American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501 (codified in relevant part in 35 U.S.C. §§ 311-318 (2006)) (repealed 2012).

¹¹⁰ See 35 U.S.C. § 314 (2010); 37 C.F.R. § 1.937. We use the past tense because the Leahy-Smith America Invents Act abolished *inter partes* reexamination. See Pub. L. No. 112-29,

process was only applicable to patents that were applied for on or after the effective date of the act creating the procedure.¹¹¹ Thus, any pre-existing patents did not face the prospect of this quasi-litigation at the PTO.¹¹²

Inter partes reexamination was met with even less success than its ex parte cousin.¹¹³ Indeed, some attorneys have gone so far as to say that “it would be legal malpractice to recommend a client initiate an inter partes reexamination.”¹¹⁴ Because of this perceived failure in the process, Congress began to yet again look for ways to improve the quality of patents by giving the Patent Office additional tools to weed out patents that should not have issued. That led to the eventual passage of the America Invents Act and a host of new “second look” proceedings.

C. The Post-Issuance Proceedings under the America Invents Act

The AIA was Congress’s latest (though apparently not last)¹¹⁵ attempt to “fix” the patent system by reducing the number of “low-

§ 6, 125 Stat. 284, 299-313 (2011).

¹¹¹ See 37 C.F.R. § 1.913 (2014) (implementing Pub. L. No. 106-113, § 4608).

¹¹² *Id.*

¹¹³ See Gaia Bernstein, *The Rise of the End User in Patent Litigation*, 55 B.C. L. REV. 1443, 1472 (2014).

¹¹⁴ See Sherry M. Knowles, et al., *Inter Partes Patent Reexamination in the United States*, 86 J. PAT. & TRADEMARK OFF. SOC’Y 611, 614 (2004) (“It would be legal malpractice to recommend a client initiate an inter partes reexamination.”) (quoting 147 Cong. Rec. H5360 (Sept. 5, 2001) (remarks of Rep. Berman)).

¹¹⁵ See, e.g., Innovation Act, H.R. 9, 114th Cong. (1st Sess. 2015); Protecting American Talent and Entrepreneurship (PATENT) Act, S. 1137, 114th Cong. (1st Sess. 2015); Innovation Protection Act, H.R. 1832, 114th Cong. (1st Sess. 2015); Demand Letter Transparency Act, H.R. 1896, 114th Cong. (1st Sess. 2015); Targeting Rogue and Opaque Letters (TROL) Act, H.R. 2045, 114th Cong. (1st Sess. 2015); Support Technology and Research for Our Nation’s Growth (STRONG) Patents Act, S. 632, 114th Cong. (1st Sess. 2015); Innovation Act, H.R. 3309, 113th Cong. (1st Sess. 2013); Patent Transparency and Improvements Act, S. 1720, 113th Cong. (1st Sess. 2013); Patent Litigation Integrity Act, S. 1612, 113th Cong. (1st Sess. 2013) STOP Act, H.R. 2766, 113th Cong. (1st Sess. 2013); Patent Litigation and Innovation Act, H.R. 2639, 113th Cong. (1st Sess. 2013); Patent Abuse Reduction Act, S. 1013, 113th Cong. (1st Sess. 2013); End Anonymous Patents Act, H.R. 2024, 113th Cong. (1st Sess. 2013); Patent Quality Improvement Act, S. 866, 113th

quality” patents in circulation. To do that, Congress created several new mechanisms for post-issuance review. In creating these new mechanisms, Congress attempted to fix the shortcomings of the old reexamination systems.¹¹⁶ The procedures that emerged were therefore, unsurprisingly, quite different from what came before. The AIA created three distinct post-issuance review proceedings, each with its own unique applicability.¹¹⁷ The three new mechanisms created by the AIA are 1) Post Grant Review;¹¹⁸ 2) Inter Partes Review;¹¹⁹ and 3) Covered Business Method Review.¹²⁰ This article will discuss each of the procedures in turn, though it will focus mostly on the latter two for reasons that will become obvious shortly.

1) Post Grant Review

The Post Grant Review (“PGR”) process actually resembles the original, mid-20th century proposals for reexamination.¹²¹ It is also similar to the opposition practice in the European Patent Office,¹²² and indeed was enacted with an eye towards making the U.S. patent issuance process similar to the European one.¹²³ PGR, however, is not of particular relevance to the focus of this paper because Congress was quite careful in crafting this provision. Much like the now-defunct inter partes reexamination, PGR was made applicable only to applications filed after the effective date of the Act.¹²⁴ Though it is not clear that PGRs will actually improve the patent system,¹²⁵ this mechanism creates no problem similar to the one presented by the other two AIA-created post-issuance

Cong. (1st Sess. 2013); SHIELD Act, H.R. 845, 113th Cong. (1st Sess. 2013)

¹¹⁶ See Dolin, *supra* note 4, at 913.

¹¹⁷ For a detailed discussion of the mechanics of these proceedings *see id.* at 914-923

¹¹⁸ 35 U.S.C. §§ 321-329 (2012).

¹¹⁹ *Id.* §§ 311-319

¹²⁰ Leahy-Smith America Invents Act § 18, 125 Stat. at 329-31.

¹²¹ See *supra* notes 85-93 and accompanying text.

¹²² See generally *Opposition Procedure in the EPO*, OFFICIAL J. EPO 148 (Mar. 2001), available at http://archive.epo.org/epo/pubs/oj001/03_01/03_1481.pdf (last visited Aug. 20, 2015).

¹²³ See Filip De Corte et al., *AIA Post-Grant Review & European Oppositions: Will They Work in Tandem. or Rather Pass Like Ships in the Night?*, 14 N.C. J.L. & TECH. 93, 96 (2012).

¹²⁴ Leahy-Smith America Invents Act, § 6(f)(2)(A).

¹²⁵ See generally, Dolin, *supra* note 4.

proceedings.¹²⁶ Because PGR is applicable only to patents issued after the effective date of the Act, future inventors could take PGR into account when drafting their applications, but past inventors were not similarly blessed when it comes to the remaining mechanisms.

2) Inter Partes Review and Covered Business Method Review

Inter Partes Review (“IPR”) supplanted the abolished inter partes reexamination,¹²⁷ though it kept some of its features. Any person (other than a patent owner) can file an IPR request challenging an issued patent on the grounds that it is not novel or is obvious in light of prior art.¹²⁸ The challenger must identify the patent claims he believes to be improperly issued, and submit documents that would support his allegations.¹²⁹ If the PTO grants the petition and institutes the IPR proceedings,¹³⁰ the matter goes to trial before the Patent Trials and Appeals Board (“PTAB”), which then renders the final decision on the validity of the claims.¹³¹

Covered Business Method Review (“CBMR”) is in many ways similar to IPR, but has, on the one hand, additional limitations on which patents are eligible for such review,¹³² while on the other hand gives challengers more potential grounds for invalidation of CBMR-eligible patents.¹³³ Under the AIA, patents are subject to CBMR only if they “claim[] a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or

¹²⁶ See *infra* Part III.C-III.D and Part V.

¹²⁷ See *Abbott Labs. v. Cordis Corp.*, 710 F.3d 1318, 1326 (Fed. Cir. 2013) (quoting H.R.Rep. No. 112-98, pt. 1, at 46-47 (2011)).

¹²⁸ 35 U.S.C. § 311(a).

¹²⁹ *Id.* § 312(a)(3).

¹³⁰ See *id.* § 314.

¹³¹ *Id.* §§ 316(c), 318.

¹³² See ¹³² Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18(d)(1), 125 Stat. 284, 331 (2011); Transitional Program for Covered Business Method Patents, 77 Fed. Reg. 48,734, 48,735 (Aug. 14, 2012).

¹³³ See Leahy-Smith America Invents Act § 18(a)(1), 125 Stat. at 330 (requiring that CBMR be conducted under the same rules as PGR); 35 U.S.C. § 321(b) (establishing broad grounds for PGR review). In contrast, IPR is only available for petitions challenging a patent’s novelty or non-obviousness. *Id.* § 311(b).

management of a financial product or service, except that the term does not include patents for technological inventions.”¹³⁴

The trial phase of IPR and CBMR is in some ways similar to a traditional trial in the courts of record, though perhaps a bit more abbreviated and streamlined.¹³⁵ For example, discovery in the form of expert reports, cross-examination of expert witnesses, productions of documents or things inconsistent with a party’s asserted position, and the like is permitted,¹³⁶ though of course it has to be accomplished rather quickly given the twelve months deadline for the PTAB to render its final judgment.¹³⁷

The key differences between a trial before the PTAB and before an Article III judge lie in two features unique to the PTO procedures. First, the patent challenger bears a lower burden of proof before the PTAB than he does at the district court.¹³⁸ Whereas in the district courts patents can only be invalidated upon the showing of “clear and convincing evidence,”¹³⁹ in the PTO proceedings the petitioner carries his burden by satisfying the “preponderance of evidence” standard.¹⁴⁰ Second, and particularly salient to the focus of this paper, is the difference in how the Patent Office reviews the challenged claims. Whereas in federal court, claims are construed by reference to what a person having ordinary skill in the relevant art understands them to mean,¹⁴¹ at the Patent Office the

¹³⁴ Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18(d)(1), 125 Stat. 284, 331 (2011). One final difference between IPR and CBMR is that the latter is a “transitional” program and will expire eight years after first becoming available or on September 16, 2020. *Id.* § 18(a)(3), 125 Stat. at 330.

¹³⁵ Dolin, *supra* note 4, at 916.

¹³⁶ 35 U.S.C. §§ 316(a)(5); 326(a)(5).

¹³⁷ *See id.* §§ 316(a)(11); 326(a)(11).

¹³⁸ *Compare id.* §§ 316(e); 326(e) (“the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”), with *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2242 (2011) (holding that under 35 U.S.C. § 282, a patent invalidity defense raised in litigation must be proven by “clear and convincing evidence.”). *See also infra* Sections III.B & III.C.

¹³⁹ *i4i*, 131 S.Ct. at 2242.

¹⁴⁰ 35 U.S.C. §§ 316(e); 326(e).

¹⁴¹ *See Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)

claims are given their “broadest reasonable construction.”¹⁴² It is to the importance of this distinction that we now turn.

III. Claim Construction and Meaning

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’”¹⁴³ This understanding stems from the requirement that the patentee “particularly point out and distinctly claim” his invention.¹⁴⁴ Thus, it is the “the claims that measure the invention,”¹⁴⁵ or as Judge Rich put it, “the name of the game is the claim.”¹⁴⁶ At the same time, as the courts have recognized, language is often an imperfect measure of the scope of the invention, and “the fit between the description and the concept is almost always inexact.”¹⁴⁷ As a result, to understand what the inventor has claimed for herself, and to delineate the scope of the patentee’s right to exclude, the language of the claim must be construed.¹⁴⁸ Similarly, to verify that the applicant has actually invented something new and does not seek to exclude the public from that which is already known, the claim must be construed and then compared to the prior art.¹⁴⁹

¹⁴² 37 C.F.R. §§ 42.100(b); 42.200(b).

¹⁴³ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

¹⁴⁴ *See Merrill v. Yeomans*, 94 U.S. 568, 570 (1876) (“The act of Congress, therefore, very wisely requires of the applicant a distinct and specific statement of what he claims This distinct and formal claim is, therefore, of primary importance, in the effort to ascertain precisely what it is that is patented. . . .”).

¹⁴⁵ *SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc); *see also Smith v. Snow*, 294 U.S. 1, 11 (1935).

¹⁴⁶ Giles Sutherland Rich, *Extent of Protection and Interpretation of Claims—American Perspectives*, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990).

¹⁴⁷ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 621 (Fed. Cir. 2000) (Rader, J., concurring in part and dissenting in part), *vacated*, 535 U.S. 722 (2002).

¹⁴⁸ David L. Schwartz, *Pre-Markman Reversal Rates*, 43 LOY. L.A. L. REV. 1073, 1078 (2010); *see also Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 997 n.7 (Fed. Cir. 1995) (en banc) (“[W]e have held that a claim ‘must be construed before determining its validity, just as it is first construed before deciding infringement.’”).

¹⁴⁹ Thomas Chen, *Patent Claim Construction: An Appeal for Chevron Deference*, 94 VA. L. REV.

Because both infringement and validity analyses ride on the meaning of the claim, claim construction is often the “end all and be all” of patent examination and patent litigation.¹⁵⁰ Although one would think that the same words of the claim would be given the same construction at all stages of the process, in reality that is not the case. The PTO construes claims differently from the federal courts.¹⁵¹ The different treatment might make sense at the examination stage of the patent, but maintaining the difference post-issuance undermines the exclusive right secured by the patent and in so doing, at least in some cases presents a constitutional problem.

A. Claim Construction During Patent Examination

The goal of patent examination to ascertain the “patentability of the invention as ‘the applicant regards’ it,”¹⁵² and to measure it against the prior art. But as already stated, language is inherently an ambiguous medium through which to define almost anything, much less technical inventions.¹⁵³ The examination then exists “to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”¹⁵⁴

An uninitiated person might think that a broad claim is necessarily better than a narrow claim. After all, to analogize to real property, claims on more land are likely more valuable than claims on less land, because one can exclude other individuals from a broader swath of property. But patent law is different. Although a broad claim does grant one an opportunity to exclude others from a broader area of any given

1165, 1169 (2008).

¹⁵⁰ *Id.*; Christopher A. Cotropia, *Patent Claim Interpretation and Information Costs*, 9 LEWIS & CLARK L. REV. 57, 72 (2005).

¹⁵¹ See *supra* notes 138-142 and accompanying text; see also *infra* Part III.A-III.C.

¹⁵² *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989) (quoting 35 U.S.C. § 112 ¶ 2).

¹⁵³ See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 723 (2002) (“[P]atent claim language may not describe with complete precision the range of an invention’s novelty.”).

¹⁵⁴ *Zletz*, 3 F.2d at 322.

technology¹⁵⁵ (and thus charge higher prices to anyone who wishes to practice in the area),¹⁵⁶ there is a corollary maxim that makes broader claims potentially highly problematic. Because patents can only be granted for inventing new and non-obvious things,¹⁵⁷ a claim that describes something that pre-dated the claimed invention cannot be granted¹⁵⁸ (and if granted in error, is invalid).¹⁵⁹ Thus, a broad claim may well be useful to ensnare more putative infringers,¹⁶⁰ but it is also a trap for the unwary. A broad claim has a higher chance of sweeping within its ambit things that pre-existed the applicant's invention.¹⁶¹ Thus the rule: "That which infringes, if later, would anticipate [and invalidate], if earlier."¹⁶² The point of the examination, both for the PTO and the applicant, is to narrow the claims to such parameters as not to encompass prior art within its ambit.¹⁶³

To achieve those goals, the PTO pushes against the applicant to see how far his claims extend,¹⁶⁴ much like judges push against litigants in

¹⁵⁵ See Jacob Mackler, *Intellectual Property Favoritism: Who Wins in the Globalized Economy, the Patent or the Trade Secret?*, 12 WAKE FOREST J. BUS. & INTELL. PROP. L. 263, 269 (2012); Orin S. Kerr, *Computers and the Patent System: The Problem of the Second Step*, 28 RUTGERS COMPUTER & TECH. L.J. 47, 53 (2002).

¹⁵⁶ Richard S. Toikka, *Patent Licensing Under Competitive and Non-Competitive Conditions*, 82 J. PAT. & TRADEMARK OFF. SOC'Y 279, 287 (2000).

¹⁵⁷ 35 U.S.C. §§ 102, 103.

¹⁵⁸ *Id.*; Clark D. Asay, *Enabling Patentless Innovation*, 74 MD. L. REV. 431, 447 (2015).

¹⁵⁹ See 35 U.S.C. § 282(b)(2); Weldon E. Havins, M.D., J.D., *Immunizing the Medical Practitioner "Process" Infringer: Greasing the Squeaky Wheel, Good Public Policy, or What?*, 77 U. DET. MERCY L. REV. 51, 57 (1999).

¹⁶⁰ See Yelderman, *supra* note 71, at 88-89.

¹⁶¹ *Id.* at 87-88.

¹⁶² *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889).

¹⁶³ See 37 C.F.R. § 1.111(c); Kristen Osenga, *Cooperative Patent Prosecution: Viewing Patents Through A Pragmatics Lens*, 85 ST. JOHN'S L. REV. 115, 136 (2011).

¹⁶⁴ See *Yamamoto*, 740 F.2d at 1571 ("This approach serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified."); *Application of Prater*, 415 F.2d 1393, 1404 (C.C.P.A. 1969) (same); *cf.* *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed.Cir.2005) ("The purpose of consulting the prosecution history in construing a claim is to 'exclude any interpretation that was disclaimed during prosecution.'" (quoting *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580 (Fed.Cir.1988)).

oral argument to see how far the logic of a given proposition extends.¹⁶⁵ In response, applicants can disclaim certain meanings or amend claims as they see fit.¹⁶⁶ This process can continue through several rounds and last months or years as the applicant and the PTO finetune the language of the claims.¹⁶⁷ These disclaimers and amendments indicate what the applicant regards as his invention and narrow the reach of the claims to avoid capturing the prior art.¹⁶⁸ It therefore makes perfect sense to interpret the claims as broadly as reasonable to confine the applicant to that which he actually invented, and to make sure that the claims as issued are not invalid for reading on prior art. Once the claims issue, however, all of the amendments, disclaimers, and modifications become part of the patent prosecution history and can be used to hold the patentee to the scope of the claims as he presented them to the PTO.¹⁶⁹ At this point, interpreting the claims as broadly as reasonable no longer makes sense.

B. Claim Construction in Litigation

It is worth remembering that the PTO does not adjudge infringement disputes (which can only arise after the patent issues).¹⁷⁰ The concern of the PTO is to make sure that the applied-for claims do not encompass or “read on” prior art.¹⁷¹ A practitioner in a relevant field, on the other hand, would want to know whether his product is encompassed by the already issued claims so as to take the necessary steps to avoid infringement.¹⁷² Thus, issued claims are construed by reference to their

¹⁶⁵ Daniel M. Friedman, *Winning on Appeal*, 9 LITIG. 15, 18 (Spring 1983) (explaining that oral argument is an “occasion that the court can question counsel, test his position to determine its strengths and weaknesses, and determine the implications and consequences of the arguments”).

¹⁶⁶ See *supra* note 163.

¹⁶⁷ See Dennis Crouch & Robert P. Merges, *Operating Efficiently Post-Bilski by Ordering Patent Doctrine Decision-Making*, 25 BERKELEY TECH. L.J. 1673, 1689-90 (2010); Hana Oh Chen, *Combating Baseless Patent Suits: Rule 11 Sanctions with Technology-Specific Application*, 54 JURIMETRICS J. 135, 178 n.36 (2014).

¹⁶⁸ Yamamoto, 740 F.2d at 1571; *Chimie*, 402 F.3d at 1384.

¹⁶⁹ *Festo*, 535 U.S. at 733.

¹⁷⁰ See Jonathan S. Masur, *Regulating Patents*, 2010 SUP. CT. REV. 275, 317 (2010).

¹⁷¹ *Franklin Pierce Law Center’s Eighth Intellectual Property System Major Issues Conference*, 47 IDEA 1, 37 (2006) (statement of Larry Pope).

¹⁷² Craig Allen Nard, *Certainty, Fence Building, and the Useful Arts*, 74 IND. L.J. 759, 799 n.

“ordinary and customary meaning.”¹⁷³ What is “ordinary and customary” is judged not by reference to the understanding of a member of the general public, but by reference to the understanding of a person having ordinary skill in the relevant art.¹⁷⁴ This approach makes sense because patents are highly technical documents, which are meant to satisfy “[c]ompetitors['] need to know not only what is protected by the claims, but also which aspects of the invention have been disclosed, but not claimed, and are thus, considered to have been dedicated to the public domain.”¹⁷⁵ The inquiry into the meaning of the claims post-issuance is fundamentally different from the inquiry during examination.¹⁷⁶ Although it is certainly possible and appropriate to attack patent validity in litigation,¹⁷⁷ the fundamental role of an issued claim is to put the public on notice as to what the patentee claims as his own property. Professor Chris Cotropia explained:

The public notice function of patent claims now stands at the ‘forefront of patent law jurisprudence.’ Both the Supreme Court and the Federal Circuit have emphasized the role the patent claim plays in informing the public of the subject matter a patent protects.

Patent claims perform another function; they actually establish the scope of exclusivity afforded to an issued patent. That is, patent claims define the invention the patent will protect. This definitional function is tied to the claim's public notice function. The substantive function of a patent claim, however, goes well

153 (1999); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991).

¹⁷³ *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

¹⁷⁴ *Phillips*, 415 F.3d at 1313 (“We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.”)

¹⁷⁵ Crissa A. Seymour Cook, *Constructive Criticism: Phillips v. AWH Corp. and the Continuing Ambiguity of Patent Claim Construction Principles*, 55 U. KAN. L. REV. 225, 268 n.28 (2006).

¹⁷⁶ Compare *Yamamoto*, 740 F.2d at 1571 (“This approach serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.”), with *Chimie*, 402 F.3d at 1377 (“Courts construe claim terms in order to assign a fixed, unambiguous, legally operative meaning to the claim.”) (emphases added).

¹⁷⁷ See 35 U.S.C. § 282(b).

beyond the claim simply being locatable and open to public inspection. The claim tells the public the patent's particular scope of exclusivity by defining the patent grant's metes and bounds. This is the most fundamental trait of the modern patent claim. Through the claim's words, the patent claim establishes the primary area of exclusivity the patentee will enjoy because of the patent grant. A claim resembles a land description in a deed because it defines the exact area protected by the legal instrument.¹⁷⁸

Patent applicants know the function of the claims and how the claims are construed by the courts. They know who the claims are being written for and therefore “negotiate” the claim language with the Patent Office with an understanding of the scope each claim will be given.¹⁷⁹ They do so because “[t]he patent claim's scope is often dispositive for most patent issues. Once the subject matter the patent claim identifies is defined, infringement and validity questions usually are answered easily.”¹⁸⁰

It therefore matters a great deal how claims are construed. The patentee wishes to avoid an overly broad claim construction because that would greatly increase the chances of the claim being found invalid.¹⁸¹ In fact, if the patentee were led to believe that his claims would be given a broader construction post-issuance, he would likely amend the claims further to reduce the possibility of the claims being found invalid.¹⁸² At the end of the day “[t]he breadth of protection defines the patent's exclusionary power and how it can affect the technological development in the patent's given industry. The scope of protection also . . . establish[es] how different an invention must be from an earlier accomplishment to warrant patent protection.”¹⁸³ In other words, the breadth of the patent

¹⁷⁸ Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 64-65 (2005) (hereinafter “Cotropia, *Claim Interpretation*”).

¹⁷⁹ See Osenga, *supra* note 163, at 136-37.

¹⁸⁰ Cotropia, *Claim Interpretation*, *supra* note 178, at 67.

¹⁸¹ Yelderman, *supra* note 71, at 88-89.

¹⁸² Cf. Palmaz's European Patents, [1999] R.P.C. 47, 59 (Patents Ct.) (U.K.) (“The purpose of making an amendment to a patent is to avoid a finding of invalidity.”).

¹⁸³ Cotropia, *Claim Interpretation*, *supra* note 178, at 68.

claim determines both the scope and the very existence of the patentee's exclusive rights.¹⁸⁴

It should also be noted that while claims may be (and often are) invalidated in litigation,¹⁸⁵ once issued they are presumed valid.¹⁸⁶ This presumption is codified in the Patent Act,¹⁸⁷ and has been construed for over a century to mean that the claims will not be invalidated except upon clear and convincing evidence of invalidity.¹⁸⁸ This presumption accords a certain level of security to the patentees and is often the most valuable part of the patent grant.¹⁸⁹ Indeed, cases often rise and fall (once claims are construed) on the presumption of validity. Thus, in *Microsoft v. i4i*, after the claims were construed, the question of validity came down to whether Microsoft, which had made a solid showing that the claims in question may well be invalid, made a "clear and convincing" showing.¹⁹⁰ That requirement was the difference between a \$200 million award as well as a prohibition on future infringing activities,¹⁹¹ and the finding of no liability for either past or future actions. The presumption of validity can thus be a tremendously valuable asset.

¹⁸⁴ See Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 550-51 (2010) ("A nominally narrowing amendment to avoid prior art thus broadens the legal scope of the claim, and increases its monopoly cost, because the amendment transforms legal scope from zero to something greater.") (hereinafter "*Chiang, Patent Boundaries*").

¹⁸⁵ See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205-206 (1998) (reporting that about 48% of all litigated claims are found to be invalid); see also Mark A. Lemley, *An Empirical Study of the Twenty-Year Patent Term*, 22 AIPLA Q.J. 369, 420 (1994) (reporting an invalidity rate of about 44%); Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 803, 822 (1988) (same).

¹⁸⁶ 35 U.S.C. § 282(a); *i4i*, 131 S.Ct. at 2242.

¹⁸⁷ 35 U.S.C. § 282(a).

¹⁸⁸ *i4i*, 131 S.Ct. at 2245-46.

¹⁸⁹ See Yelderman, *supra* note 71, at 97-102.

¹⁹⁰ *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 846-48 (Fed. Cir. 2010) *aff'd*, 131 S. Ct. 2238 (2011) (recognizing that while Microsoft put on a strong case, it was not enough to carry the burden under the "clear and convincing" standard of proof).

¹⁹¹ *Id.* at 839.

In a one-two punch, however, the AIA created post-issuance proceedings that construe the claims more broadly than takes place in court¹⁹² and do not apply the presumption of validity that courts do.¹⁹³

C. Claim Construction in Post-Issuance Proceedings

The AIA's post-issuance proceedings, as the name implies, occur after the patent has issued. In other words, claims have been "negotiated" with the PTO, narrowing amendments and disclaimers have been made, and the patentee has created a record on which a person of ordinary skill in the art can rely to judge both the likelihood that his own activity is infringing and the likelihood that the claims in question are invalid.¹⁹⁴ Furthermore, the claims have acquired a presumption of validity that is only rebuttable by clear and convincing evidence.¹⁹⁵ Or at least all of this was true until the passage of the America Invents Act.

When the AIA was enacted, the PTO had to create rules that would govern the proceedings contemplated by the Act.¹⁹⁶ The Act itself left unresolved the question of which standard of claim construction to apply. Instead, the PTO decided the issue via rulemaking.¹⁹⁷ The PTO chose to apply the "broadest reasonable construction" standard mostly on the strength of history.¹⁹⁸ In adopting the rule, it provided no analysis of the propriety of this construction in the new trial-type proceedings at the PTO. Instead, it explained that such a practice is consistent with what the PTO had been doing in *ex parte* and *inter partes* reexamination "[f]or nearly thirty years."¹⁹⁹ The PTO noted that the "Federal Circuit has continued to require the Office to give patent claims their broadest reasonable construction consistent with the specification in patentability

¹⁹² 37 C.F.R. §§ 42.100(b); 42.300(b); *see also infra* Section III.C.

¹⁹³ 35 U.S.C. §§ 316(e); 326(e).

¹⁹⁴ *See supra* Part III.A.

¹⁹⁵ 35 U.S.C. § 282(a); *id.*, 131 S.Ct. at 2242.

¹⁹⁶ *See* *Cuozzo*, 2015 WL 4097949, at *5 (joint dissent).

¹⁹⁷ *Id.*

¹⁹⁸ 37 C.F.R. §§ 42.100(b); 42.200(b) (stating the rule); 77 Fed. Reg. 48680-01, 48688, 48690 and 48697 (discussing historical basis for the rule).

¹⁹⁹ 77 Fed. Reg. at 48697.

determination proceedings.”²⁰⁰ It further concluded that adhering to this rule is “consistent” with the legislative history of the AIA,²⁰¹ and therefore refused to adopt the “perspective of a person having ordinary skill in the art”²⁰² as the governing standard.²⁰³

Nonetheless, as Judge Pauline Newman pointed out in her dissent from the Federal Circuit upholding the PTO’s approach, while it is true that the court

approved the use of ‘broadest reasonable interpretation’ as an expedient in examination and reexamination, [the] approval was based on the *unfettered* opportunity to amend in those proceedings. That opportunity is not present in Inter Partes Review; amendment of claims requires permission, and since the inception of Inter Partes Review, motions to amend have been granted in only two cases, although many have been requested.²⁰⁴

In other words, unlike in other Patent Office proceedings, where the applicant is engaged in a process of *negotiations* with the Office over the scope of the claims,²⁰⁵ in IPR, the patentee is engaged in a process of *litigation* where the meaning of the claims is nearly fixed.²⁰⁶ Indeed, this was the very purpose Congress had in mind when it created the IPR. As the House report accompanying the bill stated, “[t]he Act converts inter partes reexamination from an examinational to an adjudicative proceeding.”²⁰⁷ The PTAB itself recognized as much, holding in an early IPR proceeding that “[a]n inter partes review is neither a patent

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² Menell et al., *Patent Case Management Judicial Guide*, § 5.2.3.1.2 at 5-49 (2d ed. 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2114398 (last visited Aug. 22, 2015).

²⁰³ 77 Fed. Reg. at 48697.

²⁰⁴ *In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1287 (Fed. Cir. 2015) *opinion withdrawn and superseded on reh’g*, 2015 WL 4097949 (Fed. Cir. July 8, 2015) (Newman, J., dissenting) (emphasis added).

²⁰⁵ See *supra* notes 164-169 and accompanying text.

²⁰⁶ *Chimie*, 402 F.3d at 1377.

²⁰⁷ H.R. Rep. No. 112-98, pt. 1, at 46.

examination nor a patent reexamination. Rather, it is a trial, adjudicatory in nature and constitutes litigation.”²⁰⁸ The PTAB further noted that there are no “prosecution activities” in an IPR.²⁰⁹

Making matters worse still, the AIA required the PTO to dispense with the “clear and convincing” standard for the showing of invalidity.²¹⁰ Instead, a challenger to any issued claim carries her burden by meeting a much laxer “preponderance of the evidence” standard.²¹¹ The upshot is that the Patent Office adopted IPR rules that nullified the expectations of the patentees about the scope of their patent rights, and it did so without a meaningful opportunity to “renegotiate” those rights with the PTO, while the Act itself undermined, if not altogether abolished, what is perhaps the most meaningful component of a patent right—the robust presumption of validity. The effect of this “one-two punch” is discussed in the next Section.

D. The Effect of the Post-Issuance Review Process

The distinctions regarding claim construction and quantum of proof required in Article III courts versus those required in PTAB proceedings are not just grist for an academic debate. Instead, these distinctions have dramatic effects in the “real world.” It has always been the case that some of the patents duly issued by the Patent Office are thereafter invalidated by a judicial decision.²¹² Some of these invalidations stem from the PTO misapprehending the law or applying the law incorrectly,²¹³ while others may originate in the PTO not being aware of some invalidating prior art,²¹⁴ and others still due to the patentee

²⁰⁸ Google, Inc. v. Jongerius Panoramic Techs., LLC, IPR2013-00191, Paper No. 50, at 4 (P.T.A.B. Feb. 13, 2014) (Decision: Granting Motion for *Pro Hac Vice* Admission).

²⁰⁹ *Id.*

²¹⁰ 35 U.S.C. §§ 316(e); 326(e).

²¹¹ *Id.*

²¹² See *supra* note 185; ARGUMENTS BEFORE THE COMM. ON PATENTS, H.R. MIS. DOC. 50, at 135 (2d Sess. 1878) (argument of J.J. Storrow).

²¹³ See *e.g.*, Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012) (invalidating a granted patent because the PTO misapprehended the proper test for patentability under 35 U.S.C. § 101).

²¹⁴ See Tun-Jen Chiang, *The Upside-Down Inequitable Conduct Defense*, 107 NW. U. L. REV.

committing fraud on the PTO.²¹⁵ That granted patents can be invalidated is not a surprise to anyone (including patentees themselves) and is and has always been part of the legal landscape. Indeed, when markets value a patent, they take into account the possibility that upon judicial scrutiny the patent may be found to be invalid.²¹⁶ A study by Professors Mark Lemley and John Allison showed that the rate of invalidation in judicial proceedings is just under 50%.²¹⁷ Yet, that includes *all* causes of invalidation, and not just invalidation for lack of novelty or obviousness. Invalidation for these two causes is limited to about 33% of litigated patents.²¹⁸ Another recent study by Shawn Miller that attempted to quantify the *proper* invalidation rate, suggested that about 28% of all patents are invalid if subjected to correct anticipation or obviousness analysis.²¹⁹ According to this study, the courts are invalidating roughly as many patents as they should be invalidating based on these criteria if they were getting the law correct all the time. (Indeed, the courts are somewhat over-invalidating patents, but the numbers are in line with what the Miller study predicts ought to be happening).²²⁰

The invalidation numbers in the post-issuance proceedings are starkly different. The rate of invalidation in IPR proceedings exceeds 75% of all claims subject to adjudication.²²¹ The CBMR numbers are more eye-popping still. In the CBMR proceedings the claims are invalidated at a rate of over 90%.²²² The question is what accounts for such disparity between district court invalidation rates and PTAB invalidation rates.

1243, 1249 (2013).

²¹⁵ See Christopher R. Leslie, *Patents of Damocles*, 83 IND. L.J. 133, 137 (2008)

²¹⁶ See Hovenkamp, *supra* note 21, at 1761.

²¹⁷ See Allison & Lemley, *supra* note 185, at 205-06. For other studies confirming the same approximate invalidity rates, see *supra* note 185.

²¹⁸ Allison & Lemley, *supra* note 185, at 209.

²¹⁹ Shawn P. Miller, *Where's the Innovation: An Analysis of the Quantity and Qualities of Anticipated and Obvious Patents*, 18 VA. J.L. & TECH. 1, 6-7 (2013).

²²⁰ Compare *id.* at 6-7 (suggesting a proper invalidity rate of 28% based on anticipation and obviousness), with Allison & Lemley, *supra* note 185, at 209 (reporting a 33% district court invalidation rate based on these same criteria).

²²¹ Dolin, *supra* note 4, at 926.

²²² *Id.* at 930.

One possible answer is that the patents tested in the PTA crucible are just weaker and therefore are more likely to be invalidated. Under this hypothesis, the high percentage of invalidation at the PTAB indicates nothing other than selection bias. This hypothesis suggests that if the same patents were litigated in court, the invalidation rate would be much the same. The problem with this line of thinking, however, is that a number of patents that have been invalidated in the PTAB proceedings have gone through litigation (including an appeal to the Federal Circuit).²²³ Although the patent survived the litigation unscathed, the PTO ordered an IPR or CBMR of the patents in question, and then invalidated the challenged claims at the same rate as it did for patents that have not been through the crucible of litigation.²²⁴ Other data also undermine the “selection bias” hypothesis. Thus,

only 31% of IPR petitions rely only on “new” (i.e., previously unconsidered) prior art. Three percent rely on old art or art that was already considered by the patent examiner and not found to be invalidating, and 66% rely on a mixture of old and new art. But, all of the petitions are successful at high levels. Of the final written decisions, petitions relying on new art only and old art only result in the identical invalidation rate of 93%, while those relying on mixture of old and new art result in the invalidation rate of 81%.²²⁵

Additionally, “15% of patents in IPR have been involved in and emerged from a previous reexamination. . . . Of these patents that have already received [this] second favorable look, 60% were fully invalidated in the IPR proceedings, and 8% were partially invalidated, for a per claim invalidation rate of 83%.”²²⁶ Thus, the data undermines the hypothesis that the reason for high invalidation rate is selection bias and the weakness of the patents in the IPR. The patents being invalidated in these proceedings are not egregiously weak. Instead, these are patents that have survived

²²³ *Id.* at 927-29.

²²⁴ *Id.* at 927-31.

²²⁵ *Id.* at 928.

²²⁶ *Id.* at 927.

litigation and reexamination (and sometimes both). Something else must then be at work.

The financial markets also recognize that it is not the inherent weakness of the patents that drives the high invalidation rate at the PTAB. For example, the stock market reacted very negatively to the news that an IPR was requested on a particular patent, though that patent had been upheld in prior litigation and a federal jury had concluded it was worth \$300 million.²²⁷ The mere fact that an IPR petition was *filed* caused the patentee's stock to plummet "by 25%, which translated into a 250 million dollar loss in market capitalization."²²⁸ This happened before the PTAB decided whether to institute a trial with respect to the challenged patent, much less adjudicated the merits of the dispute.²²⁹ One would have thought that a patent that has survived litigation after a strong challenge by, of all parties, Apple²³⁰—a company with nearly limitless resources—would be in no danger from the "second look" administered by the PTO. Yet, the collective market wisdom concluded otherwise. The reason it concluded otherwise, and the reason for the disparity in invalidation rates between the courts and the PTAB, is the difference in claim construction and the burden of proof on the patent challenger in these fora.

Before moving on to the next Part, we wish to address the question of why reexamination was so much less "deadly" to patents than current post-issuance procedures. After all, in both *ex parte* and *inter partes* reexamination, claims were given their broadest reasonable construction.²³¹ Yet, the "kill" rate in reexamination was much lower than what is seen in IPR and CBMR. For example, in *ex parte* reexamination, 25% of patents emerge completely unscathed, while another "two-thirds

²²⁷ *Id.* at 932-33.

²²⁸ *Id.* at 933.

²²⁹ *Id.*

²³⁰ *VirnetX, Inc. v. Apple Inc.*, 925 F. Supp. 2d 816, 825 (E.D. Tex. 2013), *aff'd in part, vacated in part, rev'd in part sub nom. VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308 (Fed. Cir. 2014).

²³¹ See MPEP § 2258.I.G (for *ex parte* reexamination); *id.* § 2658 (stating that "[i]nter partes reexamination *does not*, however, differ from *ex parte* reexamination as to the substance to be considered in the proceeding").

of the patents exit reexamination with some changes made to the claims. Only 12% of all patents that enter reexamination fail to receive the reexamination certificate.²³² The inter partes reexamination was somewhat less favorable to the patentees, but still not as likely to invalidate a patent as IPR or CBMR. In inter partes reexamination, 31% of patents had all of the challenged claims rejected, and 8% of all of the claims confirmed.²³³ The remaining 61% of patents survived only following claim amendments.²³⁴ The picture that emerges from these data is that the key to post-issuance proceedings in the PTO under the “broadest reasonable construction” standard is the “unfettered opportunity to amend in those proceedings.”²³⁵ This ability is *de facto* absent in the AIA-created procedures.²³⁶ In the first thirty months of AIA procedures, only two (out of more than fifty) motions to amend claims were granted, resulting in twenty-two amended claims being allowed.²³⁷ Making matters even more dramatic, out of those three motions, one was in relation to a patent owned by the U.S. government and the motion encountered no opposition from the patent challenger.²³⁸ The PTAB explained that in post-issuance proceedings, the patentee has no *right* to amend the claims and held that the law “places the burden on the patent owner to show a patentable distinction of each proposed substitute claim over the prior art.”²³⁹ The PTAB denied motions to amend when it viewed the patentee’s arguments as insufficiently detailed to explain why the proposed amendments would be patentable.²⁴⁰ This posture is in stark

²³² Dolin, *supra* note 4, at 923-24.

²³³ See U.S. PATENT & TRADEMARK OFF., INTER PARTES REEXAMINATION FILING DATA--SEPT. 30, 2013 at 1, available at http://www.uspto.gov/patents/stats/inter_parte_historical_stats_roll_up_EOY2013.pdf (last visited Aug. 24, 2015).

²³⁴ *Id.*

²³⁵ *Cuozzo*, 778 F.3d 1271 at 1287 (Newman, J., dissenting).

²³⁶ *Id.*; *Cuozzo*, 2015 WL 4100060, at *4 (Prost, C.J., Newman, Moore, O’Malley, Reyna, JJ., dissenting from denial of rehearing en banc) (hereinafter “joint dissent.”).

²³⁷ Dolin, *supra* note 4, at 929.

²³⁸ *Id.*

²³⁹ *Idle Free Systems, Inc. v. Bergstrom, Inc.*, IPR2012-00027, Paper No. 26, at 7 (P.T.A.B. June 11, 2013).

²⁴⁰ See, e.g., *ScentAir Tech., Inc. v. Prolitec, Inc.*, IPR2013-00179, Paper No. 60, at 27-30; see also *PTAB Decision Highlights Little Used Claim Amendment Process in America Invents Act*

contrast with initial patent examination and reexamination. In those procedures, it is the examiner that bears the initial burden of proof to show that the claim as presented by the applicant is unpatentable in view of any of the requirements of the Patent Act.²⁴¹

Thus, unlike the reexamination where two thirds of the claims are amended and then exit the reexamination process confirmed in this new form,²⁴² the opportunity to amend in IPR and CBMR is ephemeral at best. In *In re Cuozzo*, five judges of the Federal Circuit noted as much, writing in a rare joint dissent from the court's refusal to take up the issue of proper claim construction in IPR en banc that

[d]uring IPRs, there is no back-and-forth between the patentee and examiner seeking to resolve claim scope ambiguity; there is no robust right to amend. . . . During this process, the patentee is not given the right to amend its claims, but must instead seek the permission of the Board. Even then, the patentee is limited to "one motion to amend," with additional motions allowed only "to materially advance the settlement of a proceeding" or "as permitted by regulations prescribed by the Director."²⁴³

In short, unlike the previous "second look" regimes, IPR and CBMR have both drastically changed the scope of the right that the patentees thought they bargained for *and* failed to provide them with a meaningful substitute for the vested rights lost. Nevertheless, before addressing the constitutionality of this action, we need to consider the law of takings generally as it has developed over time.

Patent Challenges, FISH & RICHARDSON, available at <http://fishpostgrant.com/alert/ptab-decision-highlights-aia-patent-challenges/> (last visited Aug. 24, 2015).

²⁴¹ *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

²⁴² See *supra* note 232 and accompanying text.

²⁴³ *Cuozzo*, 2015 WL 410060, *4 (joint dissent).

IV. The History of Eminent Domain

For nearly as long as there has been a concept of “private property,” governments have expressly or inherently retained the right to reclaim that property for uses that they have deemed appropriate. In the United States, the Fifth Amendment to the Constitution expressly reserves the right to take personal property from private individuals while providing that no property shall be taken without some form of payment. The Takings Clause states that “nor shall private property be taken for public use, without just compensation.”²⁴⁴ Yet, as the case law has developed over time, in particular since the Industrial Revolution, the government has increased its ability to take property from private citizens, both by creating new means of taking (such as through zoning and city planning)²⁴⁵ and by broadening the definition of “public use” to the point where virtually any use could be conceived of as for the public benefit.²⁴⁶ To understand how far the eminent domain doctrine has expanded, one must first consider its humble beginnings in 13th century England.²⁴⁷

A. Predecessors to the Takings Clause

Approximately 150 years after William Duke of Normandy invaded England,²⁴⁸ the landed gentry and common Englishmen alike grew weary of a despotic king’s abuse of power.²⁴⁹ King John was forced to sign the Magna Carta, granting certain liberties to his subjects, and

²⁴⁴ U.S. CONST. amend. V.

²⁴⁵ For a discussion on the adoption of city planning in the United States and the role of eminent domain, see J.S. Young, *City Planning and Restrictions on the Use of Property*, 9 MINN. L. REV. 518, 520 (1924-1925) (stating that the U.S. has four means of acquiring private property for public use, including “taxation, proprietary, eminent domain, and police [powers].”).

²⁴⁶ See, e.g., *Kelo v. City of New London*, 545 U.S. 469 (2005).

²⁴⁷ MAGNA CARTA, art. 39 (1215).

²⁴⁸ The Norman Conquest began Sept. 28, 1066 and effectively ended on October 14, 1066 with William’s, the King of France’s, victory over Harold Godwinson at the Battle of Hastings. William was crowned King of England on Christmas Day at Westminster Abbey. *British History, Norman Britain (1066-1154)*, BBC, <http://www.bbc.co.uk/history/british/normans/> (last visited Dec. 27, 2014).

²⁴⁹ See British Library, *Magna Carta*, <http://www.bl.uk/magna-carta/articles/magna-carta-an-introduction> (last visited Aug. 13, 2015).

establishing that no man, not even the king, would be above the law.²⁵⁰ Among those rights granted to the men of England was the first pronouncement of an individual's right to due process. Article 39 stated in relevant part, "[n]o freemen shall be taken or imprisoned or disseised or exiled or in any way destroyed, nor will we go upon him nor send upon him, except by the lawful judgment of his peers or by the law of the land."²⁵¹ The Fifth Amendment to the U.S. Constitution essentially borrowed from Article 39 wholesale, holding that "no person shall be . . . deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."²⁵² It is important to note that drafters of both documents did not forbid the taking of land, but simply the taking of land without some form of notice, adjudicatory process, and compensation. Both recognize that, at least on some level, occasions will arise when the government may have reason to reclaim property, generally in the interest of the public good. Only the drafters of the Bill of Rights recognized that simple due process may not be enough, and that "just compensation"²⁵³ would be an appropriate remedy, both to curb unnecessary takings and to offer a fair value to the owner for land he would have otherwise had the right to sell (or not to sell) to others.

The common law in England, as it developed through the 16th and 17th centuries, grew less favorable toward the king's ability to take land, and more favorable to the individual's right to keep himself and his property safe from the crown.²⁵⁴ In 1628, Sir Edward Coke's Petition of Right reaffirmed the rights and liberties set forth in the Magna Carta, including each Englishman's right to due process and protections against unfair seizures of property.²⁵⁵ The Petition of Right, in conjunction with the Magna Carta, established both the foundations of England's statutory

²⁵⁰ *Id.*

²⁵¹ MAGNA CARTA, art. 39 (1215).

²⁵² U.S. CONST. amend V.

²⁵³ *Id.*

²⁵⁴ *See* PETITION OF RIGHT (1928).

²⁵⁵ *Id.* at art. IV. *See also* *Petition of Right (1628)*, BILL OF RIGHTS INSTITUTE, <http://billofrightsinstitute.org/resources/educator-resources/americanpedia/americanpedia-documents/petition-of-right/> (last visited Dec. 26, 2014).

laws and the Fourth, Fifth, Sixth and Seventh Amendments of the U.S. Constitution.²⁵⁶

Sixty years after the Petition of Right, philosopher John Locke authored *Two Treatises on Government*,²⁵⁷ arguing that natural laws provided individuals with natural rights, not the crown. Locke's labor theory included an argument that an individual had a natural right to possess property, in part because an individual who worked on and made the land fruitful should be entitled to its bounty. Locke's theory advanced the premise that

[t]he *labour* of [a man's] body, and the *work* of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his *labour* with, and joined to it something that is his own, and thereby makes it his *property*. It being by him removed from the common state nature hath placed it in, it hath by this *labour* something annexed to it, that excludes the common right of other men: for this *labour* being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others.²⁵⁸

Locke would go on to argue that despite man's natural right to possess property separate from those around him, men would have to create communities and abide by common laws to protect that property.²⁵⁹ Locke's influence on the Founding Fathers can be seen not only in Thomas Jefferson's admission that he found Locke to be one of the "three greatest men that have ever lived,"²⁶⁰ but also in the underlying principles of both the Declaration of Independence and the Constitution.²⁶¹

²⁵⁶ See *Bill of Rights of the United States of America (1791)*, BILL OF RIGHTS INSTITUTE, <https://billofrightsinstitute.org/founding-documents/bill-of-rights/> (last visited Aug. 12, 2015).

²⁵⁷ JOHN LOCKE, *TWO TREATISES ON GOVERNMENT* (1680-1690) (hereinafter "TWO TREATISES").

²⁵⁸ *Id.*, Book II, § 27 (1690).

²⁵⁹ *Id.* § 47.

²⁶⁰ Letter from Thomas Jefferson to Richard Price Paris (Jan. 8, 1789), in *THE LETTERS OF*

B. The Fifth Amendment and the Takings Clause

In the years immediately following the adoption of the Constitution, there was a deep-seated and continuing distrust of a large and powerful government. The colonists and revolutionaries fought long, hard battles to keep what was “theirs” (according to Locke) and there were grave concerns that any central government could become just another monarchy. Thomas Jefferson was among those who voiced his concern that the individual’s rights must be protected from an unchecked authority. Jefferson’s belief in Locke’s natural law would lead to the incorporation of the Due Process and Takings Clauses into the Fifth Amendment. As previously outlined above, the language of the Fifth Amendment—and the ideology behind it—borrowed heavily from the Magna Carta, Petition of Right, and *Two Treatises on Government*.

While never denying that there may be instances in which utilitarianism would doubtlessly permit certain takings, the drafters included a restriction that the Magna Carta lacked: the requirement that property owners be compensated for any such taking. The “just compensation” portion of the clause was entirely new, moving beyond simple due process toward an official recognition that land had value to the owner because he had made the effort to improve the land and make it useful. Just because the land could be more useful to others did not mean that the owner’s right to use the land for his own benefit could be unilaterally usurped. In the bundle of sticks, the property owner had as much right to *not use* the land as he did to use it. Eminent domain would allow the government to take land that could be used for the common good while acknowledging that the property had some value to its

THOMAS JEFFERSON, 1743-1826: available at <http://www.let.rug.nl/usa/presidents/thomas-jefferson/letters-of-thomas-jefferson/jefl74.php>.

²⁶¹ For a discussion of the application of Lockean principles to intellectual property, see Adam Mossoff, *Saving Locke From Marx: The Labor Theory of Value in Intellectual Property Theory*, 29 SOC. PHIL. & POL’Y 283 (2012). See also Irina D. Manta, *Theory and Empirics: Where Do Locke and Mossoff Leave Us*, LIBERTY FORUM, May 8, 2015 (critiquing some of Mossoff’s theories).

previous owner, even if the owner chose not to use it for any particular purpose.²⁶²

As the post-Civil War era turned into the Industrial Revolution, and then the Civil Rights Movement, the questions of procedural and substantive due process would begin to shape the parallel law on takings and eminent domain.

C. Without Due Process of Law

The Fifth Amendment clearly states that no man shall lose life, liberty, or property without due process of law. Due process is both procedural—a question of the process of the government (did a citizen get some kind of hearing)—and substantive, meaning the Court was allowed to review the “substance” of the legislation in question via the Due Process Clause.²⁶³ As states tried to rebuild, and aggrieved private parties filed Fifth Amendment Takings claims, courts continually reviewed the new legislation to ensure the laws were fair to all parties involved.

In 1922, the U.S. Supreme Court overturned a Pennsylvania regulation that was intended to protect the rights of individual landowners from the dangerous methods employed by mining companies.²⁶⁴ The landmark case of *Pennsylvania Coal v. Mahon*,²⁶⁵ involved regulations prohibiting corporations from mining coal in the ground under streets, houses, and places of public assembly. Pennsylvania Coal held the mineral rights to numerous properties, whose surface rights were owned by other (often unsuspecting) individuals to whom Pennsylvania Coal had sold them. The legislation had been enacted to protect the residents from unanticipated cave-ins and other dangers associated with

²⁶² Some might argue that this is the inherent flaw in Locke’s labor theory. If a man who has acquired land through his hard work chooses then to let the land go fallow, is that not his right? Locke argues that once land is acquired, it would be wasteful not to put it to its use, “for it is labour indeed that puts the value on everything.” TWO TREATISES § 40. Under that theory, the government should not have to pay to take land that is not actively cultivated or put to use.

²⁶³ *Mugler v. Kansas*, 123 U.S. 623 (1887).

²⁶⁴ *Pennsylvania Coal v. Mahon*, 260 U.S. 393 (1922).

²⁶⁵ *Id.*

living and working on the surface while the coal mine dredged the land literally out from under them. Pennsylvania Coal argued successfully that the prohibition of mining amounted to a government taking without just compensation, in violation of the Fifth Amendment. The U.S. Supreme Court held that though property regulation may be permitted, where “the regulation goes too far,”²⁶⁶ as it did here, the overly restrictive law amounts to a compensable taking. Despite the Court’s finding that a taking had occurred, no compensation was ordered. Presumably, resumption of mining was compensation enough to the mining company.

On the heels of its decision in *Pennsylvania Coal*, the U.S. Supreme Court heard a series of cases involving new (to the U.S.)²⁶⁷ regulatory techniques called “zoning” and urban planning. Two of these cases were in tension with one another, *Village of Euclid v. Ambler Realty*²⁶⁸ and *Nectow v. City of Cambridge*.²⁶⁹ In *Euclid*, the plaintiff challenged a generalized zoning and city plan on the grounds that the structured assignment of commercial and industrial zones denied the property owners due process of law in that they had no opportunity to challenge the designation. The Court, however, upheld the zoning ordinance as a “valid exercise of authority,”²⁷⁰ ruling that zoning laws are not, as a general category, unconstitutional restrictions on the rights of the property owner. The Court went so far as to declare:

[W]e are not prepared to say that the end in view was not sufficient to justify the general rule of the ordinance It cannot be said that the ordinance in this respect passes the bounds of reason and assumes the character of a merely arbitrary fiat. Moreover, the restrictive provisions of the ordinance in this particular may be sustained upon the principles applicable to the

²⁶⁶ *Id.* at 415.

²⁶⁷ For a discussion of the United State’s slow adoption of city planning and zoning, see generally J.S. Young, *supra* note 2.

²⁶⁸ 272 U.S. 365 (1926).

²⁶⁹ 277 U.S. 183 (1928).

²⁷⁰ *Euclid*, 272 U.S. at 397.

broader exclusion from residential districts of all business and trade structures.²⁷¹

The public interest in “increas[ing] the safety and security of home life . . . by reducing the traffic and resulting confusion in residential sections, decreas[ing] noise and other conditions which produce or intensify nervous disorders, [and] preserv[ing] a more favorable environment in which to rear children,”²⁷² clearly surpassed the right of the property owner to use his property as he desired.²⁷³

Conversely, in *Nectow*, the court found that while the zoning ordinance in question was constitutionally sound in general, it was unsustainable as applied to the particular plaintiff.²⁷⁴ In *Nectow*, the zoning ordinance itself seemed to be facially similar to that in *Euclid*, wherein zones for residential, industrial and unrestricted use were created. Though the Court found that the ordinance met the new “substantial relation to the public health, safety, morals, or general welfare²⁷⁵” standard set forth in *Euclid*, it held that the ordinance as applied to this particular plaintiff was “an invasion of the property of plaintiff [and] was serious and highly injurious.”²⁷⁶ Yet the only remedy offered in this instance was an injunction preventing enforcement of the ordinance, not compensation for the taking. Oddly, the handful of cases evaluated during this time focused on the substantive due process rationale rather than on the terms of the Takings Clause itself, and they generally failed to offer any type of compensation when a taking was found.

The message of these early cases on takings was that while the government was allowed to regulate private property to some extent and even when that diminished the value of the property, the Takings Clause would be triggered by the removal of particular elements from the

²⁷¹ *Id.* at 389 (internal citation omitted).

²⁷² *Id.* at 394.

²⁷³ *Id.* at 396-397.

²⁷⁴ *Nectow*, 277 U.S. at 188-189.

²⁷⁵ *Id.* at 188.

²⁷⁶ *Id.*

“bundle of sticks.” The fight continued, however, about the kind and degree of protection appropriate in this context.

D. All Aboard Penn Central, with Stops at Agins, Lingle, Lucas, and Loretto

1) *Penn Central* and the World of Regulatory Takings

In 1978,²⁷⁷ the Supreme Court returned to its long-dormant and largely unchallenged *Pennsylvania Coal* takings analysis to determine whether a local government had gone “too far” in denying an owner’s right to develop and largely reshape a New York landmark, Grand Central Terminal. The developer challenged an ordinance that prevented any redevelopment of sites labeled as historic landmarks.²⁷⁸ The plaintiff urged that preventing him from utilizing the valuable space on top of Grand Central Terminal amounted to a taking.²⁷⁹ In its takings analysis, the Court enumerated three factors of particular significance: (1) the economic impact of the regulation on the claimant; (2) the extent to which the regulation has interfered with distinct investment-backed expectations;²⁸⁰ and (3) the character of the governmental action, including an analysis of whether the taking was a physical taking or merely had the effect of a taking.²⁸¹ In evaluating the economic impact of the refusal to allow “upward” development of the landmark property, the Court found that, in light of its newly-enumerated test, the public benefit far outweighed any potential economic loss to the owner. Though the underlying question of whether “some” compensation qualified as “just” compensation went unanswered by the Court,²⁸² it was ultimately

²⁷⁷ *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978) (hereinafter “*Penn Central*”).

²⁷⁸ *Id.* at 118.

²⁷⁹ For a discussion on “air rights” generally, a theme that seemingly befuddled the Court in *Penn Central*, see Frank Schnidman & Cameron Roberts, *Municipal Air Rights: New York City’s Proposal to Sell Air Rights over Public Buildings and Public Spaces*, 15 URB. LAW 347 (1983).

²⁸⁰ *Penn Central*, 438 U.S. at 124.

²⁸¹ *Id.*

²⁸² *Id.* at 137 (discussing the issue of transferable development rights as a partial solution which granted the owners of Grand Central *some* value to the lost space above the

determined that some compensation was apparently better than none, and the zoning regulations stood.²⁸³

2) *Agins*

Just three short years later, the Court reconfigured its regulation-takings analysis into a two-part “either or” test. In *Agins v. City of Tiburon*,²⁸⁴ the Court asked whether the regulation “substantially advanced a legitimate state interest,” or whether the regulation “denied an owner economically viable use of land.”²⁸⁵ The Court suddenly viewed the question of regulatory taking as a question of whether the *Nectow* (substantial state interest) or *Penn Central* (economically viable use of the land) analysis should apply, rather than a combination of the two analyses. The *Agins* Court enunciated that since plaintiffs were free to pursue their residential development elsewhere, there could be no taking, and that the zoning regulations in question did not deny the “justice and fairness guaranteed by the Fifth and Fourteenth Amendments.”²⁸⁶ *Agins* adopted the economic analysis of *Penn Central* without consideration for the compelling state interest.

3) *Lingle*

Agins was, however, a short-lived rule, abrogated twenty-five years later in *Lingle v. Chevron USA Inc.*,²⁸⁷ which eliminated the “substantially advanced a legitimate state interest” prong. The *Lingle* Court at long last declared that the substantial advancement test was clearly not a constitutional factor enumerated in the Takings Clause, and had been an improperly judicially created standard.²⁸⁸ The issue in *Lingle* focused on lease limitations on gas stations. The Hawaii legislature enacted a law

landmark property).

²⁸³ The Court took into account the existence of transferable development rights that the plaintiffs in the case received as part of the regulatory scheme and that had the potential to diminish the financial blow to them; this led the Court to conclude that an adjustment rather than deprivation of property rights was taking place. *Id.* at 137-138.

²⁸⁴ 447 U.S. 255 (1980).

²⁸⁵ *Id.* at 260.

²⁸⁶ *Id.* at 263.

²⁸⁷ 544 U.S. 528 (2005).

²⁸⁸ *Id.* at 540-43.

limiting gas station leases to no more than 15% of fuel sales gross profits and 15% of profits from non-fuel sales. The Chevron corporation argued that the limitation amounted to a taking, and the trial court disagreed.²⁸⁹ It held, in line with *Penn Central*, that Chevron would essentially “win some, lose some” and since there was not a complete loss of value in the property, and the taking substantially advanced a government interest in protecting the gas dealers and the public from high prices, there could be no taking.²⁹⁰ Upon review, the Supreme Court unanimously held that *Agins’* substantial advancement prong was an evaluation of the Due Process clause, not the Takings Clause, of the Fifth Amendment, and was therefore not the appropriate evaluation.²⁹¹ *Lingle* in effect swung the pendulum back from the substantive due process evaluation the Court had been using since *Pennsylvania Coal* to the literal “just compensation” analysis that is set forth in the language of the Takings Clause.

4) *Lucas* and *Loretto* as Tests for Total Regulatory and Physical Takings

The *Lingle* court relied on the parallel theories of “total regulatory taking,” as set forth in *Lucas v. South Carolina Coastal Council*²⁹² and of “physical takings” in *Loretto v. Teleprompter*²⁹³ to justify the shift away from state interest back toward the injury to the property owner. *Lucas* established that a total regulatory taking occurs when regulations completely deprive an owner of “all economically beneficial use,”²⁹⁴ while *Loretto* established that a physical taking occurred when a property owner suffers a permanent physical invasion of her property—at the hands of the government or a private party—even when that taking is relatively minor, such as the installation of a cable wire on the front and roof of one’s apartment building.²⁹⁵ When either type of taking occurs, the intruding party must provide just compensation.

²⁸⁹ *Id.* at 532-34.

²⁹⁰ *Chevron U.S.A. Inc. v. Cayetano*, 57 F.Supp.2d 1003, 1014 (D.Hawai’i 1998).

²⁹¹ 544 U.S. at 540.

²⁹² 505 U.S. 1003 (1992).

²⁹³ 458 U.S. 419 (1982).

²⁹⁴ *Lucas*, 505 U.S. at 1019.

²⁹⁵ *Loretto*, 458 U.S. at 435.

When it comes to *Loretto*, the intrusion that the plaintiff in the case suffered was insignificant in regard to the decline in value incurred, given that it was equipment mostly consisting of cables and cable boxes affixed to the outside of a building.²⁹⁶ Nonetheless, the Court stated that a permanent physical occupation “is perhaps the most serious form of invasion of an owner’s property interests. . . . [T]he government does not simply take a single ‘strand’ from the ‘bundle’ of property rights: it chops through the bundle, taking a slice of every strand.”²⁹⁷ It added that “property law has long protected an owner’s expectation that he will be relatively undisturbed at least in the possession of his property. To require, as well, that the owner permit another to exercise complete dominion literally adds insult to injury.”²⁹⁸ Last, the Court emphasized that permanent occupations present few issues of proof.²⁹⁹

E. Sour Grapes in Horne v. Department of Agriculture

Recently, the Supreme Court had to decide a case dealing with an administrative marketing order that required growers to set aside a certain percentage of raisin crops for the government at no charge and with at most the hope of recouping a percentage of the government’s profits when selling the raisins, should those profits exist.³⁰⁰ The petitioner refused to set aside raisins, arguing that this was an unconstitutional taking, and the government fined the petitioners the fair market value of the raisins plus civil penalties as a result.³⁰¹ The Court held that this constituted a taking under the Fifth Amendment, which was of particular significance because it was the first time that the Court unambiguously applied the Takings Clause to personal property rather than real property.³⁰² Notably, the Court did not mince words when it stated: “Nothing in this history suggests that personal property was any less

²⁹⁶ *Id.* at 422.

²⁹⁷ *Id.* at 435.

²⁹⁸ *Id.* at 436.

²⁹⁹ *Id.* at 437.

³⁰⁰ *Horne v. Dep’t of Agriculture*, No. 14-275 (2015).

³⁰¹ *Id.*

³⁰² *Id.*

protected against physical appropriation than real property.”³⁰³ It went on to explain:

[A patent] confers upon the patentee an exclusive property in the patented invention which cannot be appropriated or used by the government itself, without just compensation, any more than it can appropriate or use without compensation land which has been patented to a private purchaser.³⁰⁴

This reconfirms the Court’s position that patents are the beneficiaries of Fifth Amendment protection just as much as pieces of land.³⁰⁵

The Supreme Court further explained that the government’s decision to take possession and control of the raisins results in a taking as much as if the government had full title and ownership.³⁰⁶ The Court noted that the growers’ retention of “a contingent interest of indeterminate value does not mean there has been no physical taking, particularly since the value of the interest depends on the discretion of the taker, and may be worthless, as it was for one of the two years at issue here.”³⁰⁷ The government’s argument that the regulatory scheme resulted in higher prices for the remaining raisins did not sway the Court to hold that, therefore, no taking had occurred.³⁰⁸ This entire line of reasoning would presumably apply in the patent context as well, and even contingent interests in patents would not eliminate the possibility that a taking took place. The *Horne* case shows that even when some interest remains in personal property, a category in which the Court also situates patents, a taking can occur.

³⁰³ *Id.* at 6 (slip op.).

³⁰⁴ *Id.* (quoting *James v. Campbell*, 104 U.S. 356, 358 (1882)).

³⁰⁵ See also Adam Mossoff, *Supreme Court Recognizes That Patents Are Property*, CENTER FOR THE PROTECTION OF INTELLECTUAL PROPERTY BLOG, June 22, 2015, <http://cpip.gmu.edu/2015/06/22/supreme-court-recognizes-that-patents-are-property/>.

³⁰⁶ *Horne*, No. 14-275 at 9.

³⁰⁷ *Id.* at 10.

³⁰⁸ *Id.* at 15-16.

V. Post-Issuance Review as a Taking

A. Are Patents Property?

There is a tension between scholars as to the question of whether patents should be protected as property rights.³⁰⁹ Adam Mossoff and Simone Rose have stated their view unambiguously: “Patents are property.”³¹⁰ Mossoff argues that the application of the Takings Clause to patents has a long historical pedigree rather than arising out of modern legal interpretations.³¹¹ John Duffy agrees that patents should be treated as a form of property.³¹² Judge Frank Easterbrook from the U.S. Court of Appeals for the Seventh Circuit stated in a scholarly symposium: “Except in the rarest case, we should treat intellectual and physical property identically in the law”³¹³ One of the leading textbooks in intellectual property explains: “Patent law is a property-rights regime”³¹⁴

Shubha Ghosh argues that, while “private property has been read to encompass both real and personal property[, a]pplication to intellectual property or intangible property would occur only through analogy.”³¹⁵

³⁰⁹ See generally Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1 (2004) (discussing the propertization of intellectual property); Stephen L. Carter, *Does It Matter Whether Intellectual Property Is Property?*, 68 CHI.-KENT L. REV. 715 (1993); Irina D. Manta & Robert E. Wagner, *Intellectual Property Infringement as Vandalism*, 18 STAN. L. TECH. REV. 331 (2015) (analyzing the relationship between intellectual property and property law, including as it applies to the sanctions regime of intellectual property).

³¹⁰ Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689, 690 (2007) [hereinafter “Mossoff, *Constitutional Private Property*”]; Simone A. Rose, *Patent “Monopolyphobia”: A Means of Extinguishing the Fountainhead?*, 49 CASE W. RES. L. REV. 509, 515 (1999). See also Adam Mossoff, *The Trespass Fallacy in Patent Law*, 65 FLA. L. REV. 1687 (2013).

³¹¹ See Mossoff, *Constitutional Private Property*, *supra* note 309.

³¹² John F. Duffy, Comment, *Intellectual Property Isolationism and the Average Cost Thesis*, 83 TEX. L. REV. 1077, 1078 (2005).

³¹³ Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL’Y 108, 118 (1990).

³¹⁴ CRAIG ALLEN NARD ET AL., *THE LAW OF INTELLECTUAL PROPERTY* 27 (4th ed. 2014).

³¹⁵ Shubha Ghosh, *Toward a Theory of Regulatory Takings for Intellectual Property: The Path Left Open After College Savings v. Florida Prepaid*, 37 SAN DIEGO L. REV. 637, 667 (2000).

Davida Isaacs mainly criticizes the application of the Takings Clause to patents on two grounds: first, because patentholders already receive compensation for most government uses of patented technologies; second, because regulatory claims would allow patentholders to intervene when the government limits the circumstances under which they can assert claims or the damages they can receive.³¹⁶ Many scholars have emphasized that rather than focus on the relationship between patents and property law, one should ask both with regard to the delineation of liability and of proper remedies what would advance a utilitarian purpose.³¹⁷ Meanwhile, Cynthia Ho describes the view, held by a number of individuals in the public health context including the U.N. Commissioner for Human Rights, that patents are a privilege rather than property right.³¹⁸ As Michael Davis summed up that position, “[c]alling patents property . . . fails to properly analyze the patent bargain. . . . Nothing is inevitably or incurably wrong with calling the temporary

³¹⁶ Davida H. Isaacs, *Not All Property Is Created Equal: Why Modern Courts Resist Applying the Takings Clause to Patents, and Why They Are Right to Do So*, 15 GEO. MASON L. REV. 1 (2007).

³¹⁷ See, e.g., Chiang, *Patent Boundaries*, *supra* note 184, at 545 (arguing in favor of using a utilitarian basis to decide how to amend claims); David S. Olson, *Taking the Utilitarian Basis for Patent Law Seriously: The Case for Restricting Patentable Subject Matter*, 82 TEMP. L. REV. 181, 183 (2009) (“[A] properly crafted patent law should provide enough property rights to incentivize the socially desirable (efficient) level of innovation, and no more.”); Ted Sichelman, *Purging Patent Law of “Private Law” Remedies*, 92 TEX. L. REV. 517 (2014) (arguing against the view that patent infringement remedies should make whole the plaintiff and in favor of a more utilitarian view of each case). One of us has argued that one can simultaneously hold a utilitarian view of intellectual property and “not see a sharp dividing line between property and intellectual property.” See Manta, *supra* note 261. See also Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531, 542 (2005) (arguing that most modern-day property scholars base their understandings on utilitarianism rather than natural rights).

³¹⁸ Cynthia M. Ho, *Unveiling Competing Patent Perspectives*, 46 HOUS. L. REV. 1047, 1053-57 (2009) (citations omitted). See also James Thuo Gathii, *The Structural Power of Strong Pharmaceutical Patent Protection in U.S. Foreign Policy*, 7 J. GENDER RACE & JUST. 267, 272 (2003) (“In short, referring to patents primarily as private property rights is to overshadow their public essence by overstating their privateness. Such an overstatement of the privateness of patents is exemplified by the enormous limitations placed on the permissibility of overriding patents through compulsory and parallel licensing.”).

privileges property, but the concept is certainly far removed from the general notion of property.”³¹⁹

Whoever carries the debate as a theoretical matter, when it comes to the Fifth Amendment, “[j]udicial precedent and statutory analysis quite clearly support the proposition that patents are property. Whether patents share the ‘attributes’ of or are ‘of the same dignity’ as property, they are property. They therefore satisfy the property prong of an eminent domain claim.”³²⁰ The Patent Act itself states that “patents shall have the attributes of personal property.”³²¹ Even before the recent pronouncements by the Supreme Court in *Horne*,³²² the U.S. Court of Appeals for the Federal Circuit stated in *Patlex Corp. v. Mossinghoff*: “It is beyond reasonable debate that patents are property.”³²³ The Federal Circuit has also referred to a patent as “a bundle of rights which may be divided and assigned, or retained in whole or part.”³²⁴

The case of *Zoltek Corp. v. United States*³²⁵ raised some questions at one point in this context when the Federal Circuit suggested that because a patent holder can still exclude the rest of the world from the use of its carbon fiber technology, the government’s use of it amounted to mere patent infringement rather than a taking. The decision by the trial court on this point was later vacated, however, because “[s]ince the Government’s potential liability under § 1498(a) is established, we need not and do not reach the issue of the Government’s possible liability under the

³¹⁹ Michael H. Davis, *Patent Politics*, 56 S.C. L. REV. 337, 376 (2004).

³²⁰ Joshua I. Miller, 28 U.S.C. § 1498(A) and the Unconstitutional Taking of Patents, 13 YALE J.L. & TECH. 1, 18 (2010-2011).

³²¹ 35 U.S.C.A. § 261 (2013).

³²² See *supra* Section V.B.

³²³ 758 F.2d 594, 599 (Fed. Cir. 1985).

³²⁴ Alfred E. Mann Foundation for Scientific Research v. Cochlear Corp., 604 F.3d 1354, 1360 (Fed. Cir. 2010) (internal quotation omitted), *accord* *Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1341 n.8 (2007); *Intellectual Property Development, Inc. v. TCI Cablevision of California, Inc.*, 248 F.3d 1333, 1342 (Fed. Cir. 2001).

³²⁵ 442 F.3d 1345 (Fed. Cir. 2006) (per curiam).

Constitution for a taking.”³²⁶ The Supreme Court left no doubt in *Horne*, however, as mentioned, that patents are subject to the Takings Clause.³²⁷

B. Patents Are Subject to the Takings Clause

As most recently demonstrated in *Horne*, one cannot reject the proposition that patents are property in the constitutional sense under controlling Supreme Court doctrine.³²⁸ Not only did the Court recognize in *Horne* that intangible patents are, in a constitutional sense, identical to tangible raisins, it also emphatically stated that “[n]othing . . . suggests that personal property was any less protected against physical appropriation than real property.”³²⁹ It therefore follows that patents, like any other private property, can be appropriated by the government for private use. And if so, such appropriation is forbidden absent “just compensation.” Yet, two cases seemingly unambiguously reject this proposition. On closer examination, though, the cases that are consistently cited for the proposition that there can be no “taking” of patents, cannot bear the weight that is too often assigned to them.

In *Schillinger v. United States*,³³⁰ the Supreme Court rejected the argument that “the constitution forbids the taking of private property for public uses without just compensation; that, therefore, every appropriation of private property by any official to the uses of the government, no matter however wrongfully made, creates a claim founded upon the constitution.”³³¹ Instead, it held that a claim against the United States for patent infringement is a claim in tort, rather than in property, and therefore is not compensable under the Takings Clause.³³²

³²⁶ *Zoltek Corp. v. United States*, 672 F.3d 1309, 1327 (Fed. Cir. 2012).

³²⁷ *See supra* Section V.B.

³²⁸ *Horne*, 135 S.Ct. at 2427 (quoting *James v. Campbell*, 104 U.S. 356, 358 (1882)).

³²⁹ *Id.*

³³⁰ 155 U.S. 163 (1894).

³³¹ *Id.* at 168.

³³² *Id.* at 169. In *Schillinger*, the patentee sued the U.S. Government for actions of its contractor, not those of any Government officer acting in his original capacity. Because there was no allegation that the Government in any way encouraged the contractor to infringe a patent, the Court concluded that there was no contract, express or implied between the plaintiff and the Government on which he could pursue his Fifth

The Federal Circuit held firm to this reasoning in *Zoltek*, concluding that sovereign immunity bars claims against the government for patent infringement.³³³ The Federal Circuit held that § 1498 was a limited waiver of sovereign immunity and that a patentee is not entitled to any other relief or remedy.³³⁴ The conclusion that is often drawn from these two cases is that a violation of patent rights does not rise to the level of a constitutional, Fifth Amendment issue.³³⁵

Leaving aside the question of whether either *Schillinger* or *Zoltek* were correctly decided (and we have our doubts), the rule of law announced in those cases is simply not that broad. All that these cases stand for is that *infringement* of a patent is insufficient to trigger the Takings Clause.³³⁶ But infringement is not the only way to interfere with patent rights. One can imagine a hypothetical in which the government would reassign ownership of a patent from person A to person B. That would be qualitatively different from the situation facing the courts in *Schillinger* and *Zoltek*. As even the defenders of the outcome in *Zoltek* acknowledged

takings claims could occur if the government changed the patent laws so as to decrease the value of the patent when enforced against a private infringer—for instance, by narrowing the circumstances under which a patentholder could assert a claim or

Amendment claim. *Id.* at 169-72.

³³³ 442 F.3d at 1349-52. The only exception to this bar according to the panel majority, is a lawsuit authorized by 28 U.S.C. § 1498, which permits a patentee to bring an “action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture” whenever the government infringes a valid patent. *Id.*

³³⁴ *Id.*

³³⁵ See e.g., Mossoff, *Constitutional Private Property*, *supra* note 310, at 693 (describing the near-unanimous view among scholars that patents cannot be “taken” under the Fifth Amendment); Davida H. Isaacs, *Not All Property Is Created Equal: Why Modern Courts Resist Applying the Takings Clause to Patents, and Why They Are Right to Do So*, 15 GEO. MASON L. REV. 1, 3 (2007) (“Upon considering the modern Supreme Court precedent pertaining to federal benefits, it becomes clear that patentholders are not entitled to a Takings Clause remedy.”).

³³⁶ *Zoltek*, 442 F.3d at 1349 n.2.

by limiting the damages that the patentholder could obtain. This could happen where new legislation reduces or eliminates subject matter from patent protection, narrows patents' scope, or reduces patent remedies.³³⁷

Even on its own terms, *Schillinger* would support the proposition that when the government changes or breaches a contract (express or implied) with another party, such a breach gives rise to a Takings Claim.³³⁸ A patent, aside from being a property right, is a contract between the patentee and the public.³³⁹ As Shubha Ghosh notes, “[p]atents are commonly understood as a hypothetical contract between the inventor and the government resulting in a quid pro quo of innovation for exclusivity.”³⁴⁰ Orin Kerr similarly argues that “[t]he cornerstone of Congress's scheme to encourage the discovery, development, and dissemination of practical knowledge is the unilateral contract offer codified by the Patent Act.”³⁴¹ An applicant, if he overcomes the hurdles of the Act “become[s] contractually ‘entitled to a patent.’”³⁴² The Supreme Court has endorsed the conceptualization of a patent as a contract between the patentee and the public.³⁴³ When the government breaches the terms of the contract, including after the patentee has “performed” by disclosing his invention and convincing the Patent Office that he met all

³³⁷ Isaacs, *supra* note 335, at 2.

³³⁸ See *Schillinger*, 155 U.S. at 170-71 (noting that there is no jurisdiction under the Fifth Amendment because “[t]here was no point in the whole transaction from its commencement to its close where the minds of the parties met, or where there was anything in the semblance of an agreement,” but recognizing that “[i]t may be well to notice some of the cases in which the jurisdiction of the court of claims over implied contracted has been sustained.”) (citing *United States v. Russell*, 80 U.S. 623 (1871)).

³³⁹ See David W. Opderbeck, *Patent Damages Reform and the Shape of Patent Law*, 89 B.U. L. REV. 127, 173 (2009).

³⁴⁰ Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1316 (2004).

³⁴¹ Orin S. Kerr, *Rethinking Patent Law in the Administrative State*, 42 WM. & MARY L. REV. 127, 135-36 (2000).

³⁴² *Id.* at 136 (quoting 35 U.S.C. § 102).

³⁴³ See, e.g., *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150-51 (1989) (describing the patent as a “bargain” between the inventor and the public).

other statutory criteria, the government takes the patentee's property even under the restrictive *Schillinger* standard.³⁴⁴

There is an additional reason why infringement may not give rise to a Takings Clause claim, while a more drastic "adjustment" of patent rights would do so. When the government infringes a patent, it leaves all other attributes of ownership with the patentee.³⁴⁵ The patentee continues to enjoy the right to exclude others (just not the government) and to specifically include others (by licensing); he continues to have the same scope of his patent as he had before; and he continues to enjoy the ability to dispose of his property (whether by sale, gift, devise, etc.) as he sees fit.³⁴⁶ The patent grant as a whole then remains intact, albeit with the inability to enforce it against one particular actor. This analysis does not extend to situations in Professor Isaacs' hypotheticals,³⁴⁷ nor to the regime created by post-issuance review proceedings.

As we have discussed in Part III, the creation of post-issuance review proceedings changed the scope of patent rights themselves.³⁴⁸ Whereas one boundary of the exclusive right was bargained for, an entirely different boundary was imposed on patentees by the America Invents Act. It is true that the boundary was not *constricted* as we would expect in a traditional takings case where the government occupies a strip of land that previously belonged to an individual, but rather the boundary was *expanded*.³⁴⁹ As we have already explained, however, in the world of patents, this is a somewhat meaningless distinction. For patentees, broad

³⁴⁴ Again, the reason the claimant lost in *Schillinger* can be explained by the fact that there was no allegation that the Government itself in any way breached his contract. See 155 U.S. at 170.

³⁴⁵ See Robert C. Wilmoth, *Toward A Congruent and Proportional Patent Law: Redressing State Patent Infringement After Florida Prepaid v. College Savings Bank*, 55 SMU L. Rev. 519, 565 (2002).

³⁴⁶ *Id.*

³⁴⁷ See Isaacs, *supra* note 335, at 2.

³⁴⁸ See *supra*, Part III.C (discussing how the new procedures have changed the boundaries of vested patent rights).

³⁴⁹ See Lee Petherbridge, *Positive Examination*, 46 IDEA 173, 220 n.34 (2006) (citing MPEP § 2111 for the proposition that "broadest reasonable construction is . . . broader than the interpretation a court construing an issued patent would reach . . .").

boundaries may be as dangerous as narrow ones.³⁵⁰ Whereas under the latter situation, it would be harder to argue infringement by third parties, in the former case, it is more difficult to maintain the validity of the patent.³⁵¹ The end result is the same—loss of the previously granted patent right. If anything, a broader claim is *more* problematic to the patentee than a narrow claim. A patentee with a claim narrowed by government fiat can still enforce it against the (admittedly reduced group of) putative infringers. A patentee with a claim broadened by the government's meddling may not be able to enforce it against *anyone* if the broadening of the claim results in its invalidation.³⁵²

C. Was Anything Actually Taken?

The argument we have made thus far is that the AIA resulted in significant change to the scope of the rights enjoyed by the patentees through the alteration of the boundaries of those rights. We recognize, however, that there are several counterarguments that must be addressed before proceeding further.

1) The Difference Between AIA Mechanisms and Reexamination

The first question is whether anything actually changed for anyone. Prior to the AIA's enactment, there were two distinct proceedings in the Patent Office that allowed for a "second look" of already issued patents under the "broadest reasonable construction" standard.³⁵³ The AIA, it could be said, did nothing more than change the procedures under which the patents are reviewed, and did not modify the actual scope of the right. After all, the argument goes, everyone who applied for a patent in 1999 or later would have received a patent subject to the PTO's ability to conduct inter partes reexamination under the looser claim construction standards.³⁵⁴ That means that a vast majority of unexpired patents would

³⁵⁰ See Giles S. Rich, *The Proposed Patent Legislation: Some Comments*, 35 GEO. WASH. L. REV. 641, 644 (1967) ("[T]he stronger a patent the weaker it is and the weaker a patent the stronger it is.").

³⁵¹ *Id.*; Yelderman, *supra* note 71, at 80.

³⁵² See Chiang, *Patent Boundaries*, *supra* note 184, at 550-51.

³⁵³ See *supra* notes 98-114 & 231 and accompanying text.

³⁵⁴ See *supra* notes 109-112 and accompanying text.

have been granted subject to that proviso,³⁵⁵ and that the AIA did nothing to undermine patentees' expectations as to how their patents would be construed throughout its lifespan. What's more, all patentees since 1980 were subject to the same broad claim construction based "second look" in *ex parte* proceedings. So what, if anything, have the patentees lost?

To answer the above question, we first must disentangle *ex parte* reexamination from *inter partes* reexamination. As it happens, the Federal Circuit addressed the question of why the creation of the *ex parte* reexamination process and its application to already issued patents does not present a constitutional problem. In *Patlex v. Mossinghoff*,³⁵⁶ a patentee had his patent subjected to *ex parte* reexamination—a procedure that came into being only after the patent issued. The patentee brought suit alleging that the (then) new procedure effectuated a taking of his vested property interest. The Federal Circuit disagreed. Although the appellate court left no doubt that it viewed patents as property rights, it concluded that "Congress had an important public purpose in mind when it enacted the reexamination statute. The statute was part of a larger effort to revive United States industry's competitive vitality by restoring confidence in the validity of patents issued by the PTO."³⁵⁷ Given the importance of this purpose, there was no taking of the patentee's property.³⁵⁸ The focus on public purpose was quite appropriate in 1985, because "public purpose" was a touchstone of Takings Clause analysis.³⁵⁹ The Supreme Court relied on this theory just a few Terms prior to *Patlex*, when it held that a regulation amounts to a taking only when it "does not substantially advance legitimate state interests, or denies an owner economically viable

³⁵⁵ Patents are valid for *at most* 20 years from the date of filing the application for the patent. 35 U.S.C. § 154. They may expire earlier for non-payment of maintenance fees. Neel U. Sukhatme, *Regulatory Monopoly and Differential Pricing in the Market for Patents*, 71 WASH. & LEE L. REV. 1855, 1881 (2014). As the AIA was enacted 13 years after the creation of *ex parte* reexamination, one can surmise that most patents have been issued in the shadow of the *inter partes* reexamination process.

³⁵⁶ 758 F.2d 594 (opinion by Newman, J.).

³⁵⁷ *Id.* at 601.

³⁵⁸ *Id.* at 602-03.

³⁵⁹ See *supra* notes 284-286 and accompanying text. *Agins* and its "legitimate state interest" was announced in 1980 and not overruled until 2005. See *Lingle v. Chevron USA Inc.*, 544 U.S. 528 (2005).

use of his” property.³⁶⁰ As discussed above, though, the “substantial state interest” test has now been explicitly overruled by the Supreme Court,³⁶¹ and therefore Federal Circuit’s reasoning in *Patlex* cannot be relied upon to uphold the AIA’s regime.

There is an additional reason why *Patlex* does not foreclose the argument presented here. In *Patlex*, the Federal Circuit viewed the ex parte reexamination procedure as resolving a dispute between the government and the patentee, rather than between two private parties.³⁶² Reexamination was not a substitute for litigation, but truly a “second look” or a “quality check” on the PTO’s initial decision to issue the patent.³⁶³ That view cannot be squared with inter partes processes (whether now obsolete reexamination or the newly created IPR or CBMR).³⁶⁴ This is why when Congress created the first inter partes procedure—inter partes reexamination—it made it available only prospectively. This is also why five out of eleven Federal Circuit judges recently acknowledged, when writing in dissent, that IPRs are fundamentally different from ex parte reexamination, as they do not bear “examinational hallmarks,” instead having “similarities to district court litigation.”³⁶⁵ One of the five judges who joined the dissent (and for good measure wrote her own) was Pauline Newman³⁶⁶—the author of the opinion in *Patlex*.

But if *Patlex* does not serve to undermine our argument that, at least for patents that had been issued by September 16, 2011 (the AIA’s effective date), the AIA worked a taking, then what about the fact that

³⁶⁰ *Agins*, 447 U.S. at 260.

³⁶¹ *Lingle*, 544 U.S. 528.

³⁶² *Patlex*, 758 F.2d at 604 (“The reexamination statute’s purpose is to correct errors made by the government, to remedy defective governmental (not private) action, and if need be to remove patents that should never have been granted.”).

³⁶³ *Id.*

³⁶⁴ For the sake of readability, in this section we will refer only to IPRs, rather than to both IPRs and CBMRs. However, our arguments about IPRs apply *a fortiori* to CBMRs because due to the breadth of CBMRs, they have circumscribed patent holders’ property rights even more so than IPRs have.

³⁶⁵ *Cuozzo*, 2015 WL 4100060, at *4 (joint dissent).

³⁶⁶ *Id.* at *1 (joint dissent); *id.* *6 (Newman, J., dissenting).

even prior to that date, patents were subject to a different, but still inter partes proceeding—i.e., inter partes reexamination? Why should it matter what form the inter partes review takes so long as the patentee was on notice that the patent could be subject to an adversarial process involving another private party and applying the “broadest reasonable” claim construction standard? The answer to that question can be found in the dissents in *Cuozzo*.

As the dissenting judges noted, the reason the Federal Circuit has previously endorsed “broadest reasonable” claim construction in “second look” proceedings is attributable to the fact that whether ex parte or inter partes, the reexamination procedures were in fact “examinational,” that is they allowed for continued negotiations between the applicant and the Patent Office.³⁶⁷ As we have explained, and as the dissent noted, “the broadest reasonable interpretation standard is a useful tool, prior to patent issuance, for clarifying the metes and bounds of an invention during the back-and-forth between the applicant and examiner when claims are not yet in their final form.”³⁶⁸ The signal feature of a proceeding where “claims are not yet in their final form,” is the ability to amend the claims until they are in their final (and hopefully acceptable to the PTO) form. It is that *unfettered* ability to amend that differentiates examinational from adjudicatory proceedings.³⁶⁹

In creating IPRs, Congress was aware that inter partes reexamination functioned on the examinational model, with the patentee being able to amend his claims as necessary to obtain a reexamination certificate.³⁷⁰ Congress consciously chose to “convert inter partes reexamination from an examinational to an adjudicative proceeding,”³⁷¹ where the opportunity to amend would be much more cabined. The PTAB itself recognized this Congressional purpose when it held that “[a]n inter partes review is neither a patent examination nor a patent reexamination,”

³⁶⁷ *Id.* at *2 (joint dissent).

³⁶⁸ *Id.* at *3 (joint dissent).

³⁶⁹ See *Cuozzo*, 778 F.3d 1271 at 1287 (Newman, J., dissenting).

³⁷⁰ *Cuozzo*, 2015 WL 410060, at *2 (joint dissent).

³⁷¹ H.R. Rep. No. 112–98, pt. 1, at 46.

but is “a trial, adjudicatory in nature [which] constitutes litigation.”³⁷² This different approach significantly affected the patentee’s ability to amend his claims during the course of an IPR.³⁷³ The ability to amend during IPR is very limited even in theory,³⁷⁴ and, as discussed in Part IV, ephemeral in practice. The practical inability to amend was also noted by dissenting judges (and obliquely recognized even by the Federal Circuit’s panel majority).³⁷⁵ This radical shift from an examinational to an adjudicatory model, which deprives the patentee of the actual ability to continue its *pas-de-deux* with the PTO, is what separates inter partes reexamination from IPR. Therefore, the AIA-mandated switch was not a mere technical change to the procedures employed for the “second look” review, but a fundamental change to the review itself.

Given the fundamental differences between IPR and both ex parte and inter partes reexamination, it cannot be gainsaid that on September 16, 2011 patent holders lost significant property rights in their existing patents. This conclusion is bolstered by the fact that a mere IPR *request* (even prior to the PTO’s decision on whether to institute a full-blown trial on the matter) has significant effects on the value of the underlying patent and even on the price of the stock of the company that owns that patent.³⁷⁶ Such a market reaction was not observed when reexamination (of either kind) was requested.³⁷⁷ This is evidence that the market also considers IPR

³⁷² Jongerius Panoramic, IPR2013-00191, Paper No. 50, at 4.

³⁷³ See *supra* notes 236-243 and accompanying text.

³⁷⁴ There is no *right* to amend the claims in an IPR. A patentee who wishes to amend the claims must seek permission of the Board to do so. See 37 C.F.R. § 42.221(a). The petitioner is limited to only one motion. *Id.*; 35 U.S.C. § 316(d)(1). Additional motions to amend are not permitted unless on a joint petition of a patentee and a patent challenger or for other “good cause showing.” 37 C.F.R. § 42.221(c); see also 35 U.S.C. § 316(d)(2).

³⁷⁵ *In re Cuozzo Speed Technologies, LLC*, 793 F.3d 1268, Slip. Op. at 16 (Fed. Cir. 2015).

³⁷⁶ See, e.g., *supra* notes 227-230 and accompanying text; see also Joseph Walker & Rob Copeland, *New Hedge Fund Strategy: Dispute the Patent, Short the Stock*, WALL ST. J., Apr. 7, 2015, <http://www.wsj.com/articles/hedge-fund-manager-kyle-bass-challenges-jazz-pharmaceuticals-patent-1428417408>.

³⁷⁷ See Robert Greene Sterne, et al., *Reexamination Practice with Concurrent District Court Litigation or Section 337 USITC Investigations*, 11 SEDONA CONF. J. 1, 20 (2010) (noting that patent owner’s stock price was subject to significant fluctuations but only after a “significant decision” such as an “Office action rejecting some or all of the claims of the patent in

to be different from inter partes review in kind rather than in mere procedure. For all these reasons, we conclude that AIA-created IPR proceedings changed the boundary of established patent rights and took from the patentees both the settled scope of the patent and the presumption of validity that attached thereto.

2) The Inchoateness Problem

Another objection to the claim that IPRs constitute a taking is the fact that if the patentee is successful in an IPR, he would have in fact lost nothing (and possibly gained something from having his patent re-confirmed before a skeptical tribunal).³⁷⁸ Thus, the argument goes, at best, the AIA created an inchoate taking, and until a patent is actually invalidated, patentees have little about which to complain. We disagree.

Though the mere creation of post-issuance review procedures did not in and of itself invalidate any patent, it did change the scope of existing patents³⁷⁹ and greatly diminished their value.³⁸⁰ As a result of these new procedures coming into being, patentees have had reduced opportunities to license their patents or to obtain fees commensurate with the pre-AIA value of the patents.³⁸¹ This has affected all patentees whether or not their own patents have ever been subjected to a full-blown IPR trial.³⁸² Similarly, all patents, whether or not subject to the PTAB process have had the boundaries of their right affected by the creation of IPR and

reexamination," but making no mention of price fluctuation upon the mere decision to reexamine the patent).

³⁷⁸ See Joshua D. Sarnoff, Bilcare, KSR, *Presumptions of Validity, Preliminary Relief, and Obviousness in Patent Law*, 25 CARDOZO ARTS & ENT. L.J. 995, 1024-25 (2008) ("[O]nce a patent issues from an ex parte or inter partes reexamination, the factual inference from the grant to its validity may be significantly stronger than from the initial grant."). The same logic would apply to IPRs and CBMRs.

³⁷⁹ See *supra* Part III.A-III.B.

³⁸⁰ See *supra* notes 227-230 and accompanying text.

³⁸¹ See Richard Baker, *Guest Post: America Invents Act Cost the US Economy over \$1 Trillion*, PATENTLYO.COM, June 8, 2015 (noting that "US Patents have lost 2/3rds of their value since the AIA was passed in 2011," and a further drop of "10-15% [is expected] in the next year or two."), <http://patentlyo.com/patent/2015/06/america-invents-trillion.html>.

³⁸² *Id.* (stating that the drop-off in value is primarily due to "the impact of the AIA IPR procedure.").

CBMR. The meaning of the claim has permanently changed for all patents irrespective of whether they have been haled before the PTAB. For these reasons, IPRs are not a mere inchoate problem that might only spring into being once a patent is subjected to trial and then invalidated. Rather, the very existence of IPRs has drastically affected the scope of patent rights.³⁸³

D. A Regulatory or a Physical Taking?

Once it is accepted that patents, like other real or personal property are subject to the Takings Clause, and that the post-issuance proceedings changed the scope of the property right previously enjoyed by the patentee, the next question to ask is whether the regime created by the AIA resulted in a physical or a regulatory taking. If it was a physical taking, then, absent compensation (which did not exist here) the action was unconstitutional *per se*.³⁸⁴ On the other hand, if this was a regulatory taking, then a more complex analysis is required to determine the scope of loss and whether, if uncompensated, the loss rises to a level of unconstitutional violation.³⁸⁵ In some sense, the very question posed by this Section may seem silly. How can a patent – an incorporeal property – be physically taken in the first place? Almost by definition, non-physical property cannot be physically taken. And yet, in our view, the answer is not so simple. Indeed, we conclude that the AIA-created IPR may in fact contain analogies to a physical taking of patents that existed prior to September 16, 2011, and that there is an even stronger claim that a regulatory taking occurred.

1) The Argument for a Physical Taking

As an initial matter, in our view it may be incorrect to conclude that patents can never be physically taken because they themselves are not physical property rights. Returning to our earlier hypothetical, if the government were to simply re-assign patent rights from person A to person B, it would be hard to argue that such an action is any different from a situation where the government takes land (or for that matter

³⁸³ *Id.*

³⁸⁴ *See* Loretto, 458 U.S. at 435.

³⁸⁵ *See supra*, Part IV.D.

raisins) from one person to give it to another.³⁸⁶ If one is to consider seriously the Supreme Court's view that a "patent for an invention is as much property as a patent for land [and] [t]he right rests on the same foundation, and is surrounded and protected by the same sanctions,"³⁸⁷ then it may follow that a physical taking can occur with respect to each. But did a physical taking occur when Congress created IPR?

To arrive at the conclusion that IPRs work a physical taking of existing patents, we must, admittedly, work by analogy. In our view, boundary changes with respect to a patent issued for an invention is similar to boundary changes with respect to a patent issued for a parcel of land.³⁸⁸ The government has the power to work some changes, but it must compensate the owner. As the Supreme Court held in *Loretto*, the government cannot simply change the boundaries of the property owner's rights without triggering the Just Compensation Clause of the Fifth Amendment.³⁸⁹ And let there be no mistake, the patent boundary changes affected by the AIA are indeed permanent changes to the patent boundaries. Though the IPRs come with estoppel provisions,³⁹⁰ these provisions only apply to a specific petitioner (and even then incompletely).³⁹¹ Other challengers can continue to seek (and obtain) IPRs against a patent multiple times over.³⁹² The specter of IPR hovers over all patents no matter how many times they were re-examined, were challenged in district or appellate courts, or benefitted from the PTAB's

³⁸⁶ Indeed, Congress has recognized as much. In 1954, Congress passed the Atomic Energy Act, Pub. L. No. 703, 68 Stat. 919 (1954), forbidding issuance of patents "for any invention or discovery which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon." 42 U.S.C. § 2181(a). Furthermore, Congress mandated cancellation of already issued patents to this technology, essentially transferring the ownership to the public. *Id.* § 2181(b). However, Congress provided for "just compensation" for the patent owners. *Id.*

³⁸⁷ *Consol. Fruit-Jar Co. v. Wright*, 94 U.S. 92, 96 (1876).

³⁸⁸ For a similar view, see *Baker*, *supra* note 381 (analogizing reversal of a previously granted patent to a reversal of a deed).

³⁸⁹ See *Loretto*, 458 U.S. at 435 (explaining that depriving the owner of a part of his property, *i.e.*, changing the boundaries of his property rights, works a taking).

³⁹⁰ 35 U.S.C. § 315(e).

³⁹¹ See Dolin, *supra* note 4, at 935-44 (discussing the ability to evade estoppel provisions).

³⁹² *Id.*

confirmation of the validity of the patent. Even if the threat of IPR could not be characterized as a “permanent” invasion of a patentee’s property interest (though in our opinion it should be so characterized), repeated albeit nominally “temporary” invasions of property rights can be as much of a taking as a permanent occupation can.³⁹³ Following this logic, courts may come to view the AIA’s changing of patent boundaries as a permanent invasion of the patentee’s rights akin to a physical taking of land.

2) The Argument for a Regulatory Taking

Even if one is not convinced that the AIA worked the equivalent to a physical taking, which is *per se* unconstitutional unless compensated, one still needs to consider the possibility that it worked a regulatory taking. The argument for this position, in our view, is quite strong.

It is well established that even though the government often performs actions that diminish the value of property, not every such action triggers the compensation requirement of the Takings Clause.³⁹⁴ Except in cases where “regulation [] deprives land of all economically beneficial use,” there is no *per se* rule requiring compensation.³⁹⁵ Instead, under *Penn Central*, the courts are required to engage in an “essentially ad hoc and fact intensive” balancing inquiry with particular attention to “the economic impact of the regulation, its interference with reasonable investment backed expectations, and the character of the governmental action.”³⁹⁶

As earlier studies have shown, the economic impact of AIA-created post-issuance proceedings is quite severe. Not only does the existence of these processes affect the value of patents for which review has been requested, it affects the value of patents even pre-request. It has been reported that the value of patents has dropped by two thirds since and

³⁹³ See *Arkansas Game & Fish Comm’n v. United States*, 133 S. Ct. 511 (2012).

³⁹⁴ *Pennsylvania Coal*, 260 U.S. at 413; *Radioptics, Inc. v. United States*, 621 F.2d 1113, 1126 (Ct. Cl. 1980).

³⁹⁵ *Lucas*, 505 U.S. at 1024.

³⁹⁶ *E. Enterprises v. Apfel*, 524 U.S. 498, 523-24 (1998) (plurality opinion) (*quoting* *Kaiser Aetna v. United States*, 444 U.S. 164 (1979)).

because of the AIA, with a further drop of 10-15% expected in the next few years.³⁹⁷ Additionally, it is now significantly harder for patentees to license their patents,³⁹⁸ and the value of the licenses actually agreed to has been significantly reduced post-AIA.³⁹⁹ The simple reason for this unwillingness to pay for a license is the putative infringer's knowledge that all patents have been significantly weakened through tinkering with their scope and the abolition of the robust presumption of validity.⁴⁰⁰ Alternatively, the putative infringer/licensee knows that he can drive down the price of the license by mere threat to tie up the patentee *or his business partners* in protracted IPR proceedings during which time *no one* would be imprudent enough to take a license to the patent in question.⁴⁰¹ Thus, the economic impact of the AIA-created regime on the patentees has been rather dramatic.

For the same reason, the AIA-created procedures significantly interfered with patentees' "investment-backed expectations."⁴⁰² Patents are obtained in expectation of profit.⁴⁰³ Patentees invest not just their time, efforts, and money into inventing, but also into more mundane activities like convincing the PTO that their invention is worth exclusive rights that come with the grant of a patent. Patentees pay attorneys' fees, filing fees,⁴⁰⁴ maintenance fees,⁴⁰⁵ etc., all in the hope of reaping some economic reward

³⁹⁷ Baker, *supra* note 381.

³⁹⁸ See Michael Gulliford, *If Patent Reform Is Meant to Starve Patent Trolls, Why Is It Feeding Them Instead?*, IPWATCHDOG.COM, Sept. 8, 2014, <http://www.ipwatchdog.com/2014/09/08/if-patent-reform-is-meant-to-starve-patent-trolls-why-is-it-feeding-them-instead/id=51067/>.

³⁹⁹ Jack Lu, *Patent Market Dynamics and the Impact of Alice and the AIA*, IPWATCHDOG.COM, May 17, 2015, <http://www.ipwatchdog.com/2015/05/17/patent-market-dynamics-aia-and-alice/id=57728/> (reporting a "crash" in the patent market post-AIA).

⁴⁰⁰ See *id.*; Jennifer L. Case, *How the America Invents Act Hurts American Inventors and Weakens Incentives to Innovate*, 82 UMKC L. REV. 29, 67-68 (2013).

⁴⁰¹ See Dolin, *supra* note 4, at 944-47.

⁴⁰² Baker, *supra* note 381.

⁴⁰³ See F. Andrew Ubel, *Who's on First? - the Trade Secret Prior User or A Subsequent Patentee*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 401, 414 (1994).

⁴⁰⁴ For information on average legal fees to obtain a patent, see generally AM. INTELL. PROP. L. ASS'N, 2015 REPORT OF THE ECONOMIC SURVEY I-85-I-87 (2015).

⁴⁰⁵ For information on fees associated with patent application, issuance, and maintenance, see generally USPTO, *USPTO Fee Schedule*, <http://www.uspto.gov/learning-and->

from their inventive activity. They construct their arguments and draft their claims with an expectation that a person of ordinary skill in the art would understand the claims and either steer clear of their property (allowing patentees to till that field themselves), or pay toll for the ability to work the invention. They also expect that once granted, the patent right would not be easily upset, and only be cancelled upon the showing of clear and convincing evidence.⁴⁰⁶ This assurance of “strong title rights” may well be the most valuable part of a patent grant. The AIA, however, did away with all that. Whereas the patentees carefully crafted their language and addressed it to a reasonable artisan, the Patent Office requires that claims be reviewed under a different standard—one that is contrary to the patentee’s “investment backed expectations.”⁴⁰⁷

We acknowledge that even post-AIA, the value of patents was not reduced to zero, and therefore (if viewed through the regulatory takings prism), the AIA-created mechanism is not a *per se* taking like the one in *Lucas*. Nonetheless, the courts have not insisted on a total loss of value to find a taking under *Penn Central*, instead requiring significant reduction in value as a result of the government’s actions.⁴⁰⁸ Certainly, the AIA did greatly diminish the value of all patents.⁴⁰⁹ This loss of value is not significantly matched by any benefits that have accrued to the public as a result of the new law. While the authors of the Act thought it would “provide[] more certainty, and reduce[] the cost associated with filing and litigating patents,”⁴¹⁰ the exact opposite has happened.⁴¹¹ Thus, the “nature of the government’s action” was not to broadly benefit the public, but to

resources/fees-and-payment/uspto-fee-schedule (last visited Aug. 25, 2015).

⁴⁰⁶ 35 U.S.C. § 282(a); *i*4i, 131 S.Ct. at 2242.

⁴⁰⁷ Baker, *supra* note 381.

⁴⁰⁸ See, e.g., *Yancey v. United States*, 915 F.2d 1534 (Fed. Cir. 1990) (holding that a 77% loss of the value of a flock of turkeys after a quarantine regulation was enacted was a compensable taking); *Cienega Gardens v. United States*, 331 F.3d 1319 (Fed. Cir. 2003) (ruling that a statutory amendment that voided the claimant’s right to pre-pay a government mortgage was a compensable taking, simply because it was *possible* that a 96% diminution in return on investment would result).

⁴⁰⁹ Baker, *supra* note 381.

⁴¹⁰ H.R. Rep. No. 112-98, pt. 1, at 42.

⁴¹¹ See generally Dolin, *supra* note 4 (discussing how the AIA increased costs and reduced certainty).

make it easier for some patent infringers to avoid having to bear the costs of their infringement.⁴¹² This was accomplished by transferring those costs to the patentee, and in the process destroying significant amount of value in issued patents.

The upshot is that whether viewed as a physical taking or as a regulatory taking, the AIA worked a great diminution of patent values for all patentees. It did so by changing vested pre-existing rights and upsetting expectations backed by significant investments, all without conferring (even judging by the Act's authors' own metrics) any clear benefit on the public. For these reasons, the application of the Act's post-issuance review provisions to patents granted prior to the effective date of the Act constitutes a taking within the meaning of the Fifth Amendment.

VI. Conclusion

At this point, only legislative or judicial intervention can ensure that pre-existing property rights in patents are not trampled by the AIA's new procedures. There is no doubt that in the context of the AIA, procedural transformations have effected a substantive change in the rights of patent owners.⁴¹³ The government is free to modify its procedures for future patent applicants, but owners whose rights vested before the AIA became effective should not become subject to this kind of drastic restriction of their investment-backed expectations. Allowing this to occur, and thus creating a legal regime that permits retroactive tectonic shifts, also sets a dangerous precedent for other areas of intellectual property and property law such as to disincentivize innovation and reliance on the law.

⁴¹² See Terry Ludlow, *Technology Patent Licensing Trends in 2015 and Beyond*, CORP. COUNSEL, Apr. 17, 2015, <http://www.law.com/sites/articles/2015/04/17/technology-patent-licensing-trends-in-2015-and-beyond/#ixzz3js6qPOfP> ("Look for more holdout behavior from defendants as there is little incentive to settle early. Before making any settlement offers, patents will be thoroughly tested through IPR filings. . . .").

⁴¹³ See generally Irina D. Manta & Cassandra Burke Robertson, *Secret Jurisdiction* (draft on file with authors) (discussing the relationship between procedural and substantive rights in the national security context).

The government only has a limited number of solutions to the identified constitutional violation. One of them, and the easiest, is not to make pre-AIA patents subject to the post-AIA procedures. Another is to roll back those procedures for everyone, by requiring the PTO to use the same claim construction standards as have always been used by the district courts. This approach has the support of nearly half the Federal Circuit judges, and of a number of legislators, albeit for reasons unrelated to the issue of takings. Last, the government can provide just compensation to patent owners whose rights vested before the AIA became effective. This last option could, however, quickly become prohibitively expensive if enough owners come forward, and the calculation of the proper levels of compensation will present its share of headaches. Hence, we have cause to believe that adopting one of the first two options will be the most plausible solution to the problem we present in this Article. Additionally, Congress should take care to avoid such constitutional conundrums in future legislation that has the potential to affect retroactively the rights of intellectual property and property owners.