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Federal Patent Takings

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FEDERAL PATENT TAKINGS

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I. INTRODUCTION

Patents are property.¹ The Fifth Amendment protects property owners

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¹ See 35 U.S.C. § 261 (2000) (“[P]atents shall have the attributes of personal property.”); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730 (2002) (stating that a patent “is a property right”); *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627, 642 (1999) (“Patents . . . have long been considered a species of property.”); *Filmtec Corp. v. Allied-Signal Inc.*, 939 F.2d 1568, 1572 n.5 (Fed. Cir. 1991) (defining patents by comparison to real and personal property).

against government “takings” of private property.² Therefore, the Takings Clause applies to patent rights.

* * *

Unfortunately, the preceding paragraph may have oversimplified the issue. Although the Patents Clause and the Takings Clause have coexisted for over two hundred years, the Supreme Court has never fully explained the relationship between patent law and takings law. The Supreme Court last examined the subject over a century ago, and the nineteenth-century cases suggesting that patents are constitutionally-protected property are not binding precedent.³ For example, the Federal Circuit recently ignored this early Supreme Court precedent in *Zoltek Corp. v. United States*,⁴ but the Federal Circuit’s reasoning fails to appropriately resolve whether the Fifth Amendment protects patent owners from government takings.⁵

Over the last decade, scholars exploring whether the Takings Clause applies to patent rights have focused on topics such as the expansive “propertization” of property rights⁶ and whether the Fifth Amendment should apply to state infringement.⁷ This Article, however, temporarily assumes that patents are private property within the scope of the Takings Clause and instead focuses on a more interesting question: How would two-and-a-half centuries of Fifth Amendment jurisprudence apply to federal takings of patent rights? Specifically, this Article will discuss how real property precedent would analogize to federal takings of patent rights outside the scope of 28 U.S.C. § 1498, which provides a cause of

² U.S. CONST. amend. V (“[N]or shall private property be taken for public use, without just compensation.”).

³ See *infra* Part II.A (chronicling nineteenth-century Supreme Court’s precedent).

⁴ *Zoltek Corp. v. United States*, 442 F.3d 1345, 1352 (Fed. Cir. 2006) (per curium) (holding that the Takings Clause does not apply to patent rights), *rehearing en banc denied*, 464 F.3d 1335 (Fed. Cir. 2006), *cert. denied*, 127 S. Ct. 2936 (2007); see also *infra* notes 58–74 and accompanying text (discussing the *Zoltek* decision).

⁵ See *infra* notes 69–74 and accompanying text (presenting several criticisms of the Federal Circuit’s reasoning in *Zoltek*).

⁶ For listings of articles suggesting that the propertization of patent law has gone too far at the expense of the public, see 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, 20 n.115, 21 n.116 (2007); Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689, 699–700 nn.47–51 (2007).

⁷ For example, the Supreme Court’s decision in *Florida Prepaid Postsecondary Education Expense Board v. College Savings Bank*, 527 U.S. 627 (1999), which held that Eleventh Amendment immunity barred suits for patent infringement against states, resulted in a series of articles analyzing state infringement as a taking under the Fifth Amendment. See, e.g., 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 (2000) (proposing that courts should consider government infringement to be a taking only if government use diminishes the licensing value of the patent); 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, 564–66 (2002) (“[T]he typical [patent] infringement would likely effect a taking if perpetrated by a duly authorized state actor.”); Daniel J. Melhman, Comment, *Patently Wrong: A Critical Analysis of Florida Prepaid Postsecondary Education Expense Board v. College Savings Bank*, 74 ST. JOHN’S L. REV. 875, 914–24 (2000) (“[P]atent property is perhaps the quintessential Fourteenth Amendment property interest” because any state infringement is a violation of the patent holder’s right to exclude, which “defines the property rights of a patent holder.”).

action against the federal government for federally-authorized infringement.⁸ These questions are difficult because patents are fundamentally different from real property: patent rights are intangible, cannot be physically “possessed,” and are the creation of federal law.⁹ However, courts are comfortable with comparing patents and real property, as illustrated through their frequent use of property law analogies to illustrate patent law concepts.¹⁰ Such analogies will be necessary here because the vast scholarship on eminent domain law “focus[es] almost exclusively on land.”¹¹ Thus, in order to understand how the Takings Clause might apply to patent rights, one must build upon lessons from real property law.

This Article explores the relationship between real and intellectual property and proposes a framework for analyzing takings of patent rights under the Fifth Amendment. Part II introduces the Takings Clause and the Patent Clause, highlighting the judicial debate regarding whether patent rights are “private property” within the scope of the Fifth Amendment. Next, Part III begins with a primer on Fifth Amendment jurisprudence, explaining the possessory and regulatory takings doctrines and how they apply to real property. Part III then introduces a takings framework for patent law based on real property precedent.

Part IV tests the proposed framework by analyzing three modern takings issues: (1) congressional modification of patent protection; (2) creation of a public

⁸ Section 1498 states:

Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by 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.

35 U.S.C. § 1498(a) (2000). For a brief discussion of federally-authorized infringement under the Takings Clause, see *infra* note 128.

⁹ But see *Filmtec Corp. v. Allied-Signal Inc.*, 939 F.2d 1568, 1572 n.5 (Fed. Cir. 1991) (“Like real property . . . [intellectual property] may be disposed of, territorially, by metes or bounds; it has its system of conveyancing by deed and registration; estates may be created in it, such as for years and in remainder; and the statutory action for infringement bears a much closer relation to an action of trespass than to an action in trover and replevin.”).

¹⁰ In the 1800s, Courts characterized patents as a “title” and identified multiple patent owners as “tenants in common.” Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent “Privilege” in Historical Context*, 92 CORNELL L. REV. 953, 994 (2007). Classification of patents as “titles” allowed courts to introduce the choate/inchoate distinction into patent law. *Id.* at 994–96. In addition, “the document establishing ownership rights in land was traditionally described as a ‘land patent.’” Isaacs, *supra* note 6, at 31–32 (citing *Amoco Prod. Co. v. S. Ute Indian Tribe*, 526 U.S. 865, 867 (1999); *United States v. Beggerly*, 524 U.S. 38, 40–41 (1998); *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 382–83 (1996)). Modern courts have continued this tradition of treating a patent as a title in property; patent claims, for example, are commonly referred to as the “metes and bounds” of the patent. See, e.g., *Zenith Labs. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424 (1994) (“It is the claim that sets the metes and bounds of the invention entitled to the protection of the patent system.”).

¹¹ Mossoff, *supra* note 6, at 692 n.12 (citing John F. Hart, *Land Use Law in the Early Republic and the Original Meaning of the Takings Clause*, 94 NW. U. L. REV. 1099 (2000); Carol M. Rose, *Mahon Reconstructed: Why the Takings Issue is Still a Muddle*, 57 S. CAL. L. REV. 561 (1984); Jed Rubenfeld, *Usings*, 102 YALE L.J. 1077, 1077–1110 (1993)); see also BRUCE A. ACKERMAN, *PRIVATE PROPERTY AND THE CONSTITUTION* (1977) (neglecting to discuss patent takings); RICHARD A. EPSTEIN, *TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN* (1985) (neglecting to discuss patent takings).

domain for biomedical research by eliminating the right to exclude from some “blocking patents;” and (3) congressional elimination of DataTreasury’s right to exclude other banks from using its patented check-imaging technology. Finally, Part V will return to the debate regarding whether the Takings Clause applies to patent law. Armed with an understanding of how the Fifth Amendment *would* apply to patent rights, this Article concludes that the Takings Clause *should* apply to patent rights.

II. THE TAKINGS CLAUSE AND PATENT RIGHTS

The introduction to this Article presented a question plucked straight from a college entrance exam: If all patents are property, and the Fifth Amendment protects property, then does the Fifth Amendment protect all patents? Surprisingly, this question has remained unanswered for over two hundred years. This section will not provide an answer; rather, the goal here is to outline the controversy and identify doctrinal barriers to resolution.

A. The History of Patents as Fifth Amendment Property

This Article does not rest its thesis solely on history, and a full discourse on the history of patents as constitutional property is outside the scope of this discussion.¹² However, an introduction to the historical treatment of patents as Fifth Amendment property is a proper starting point for an analysis of how the Takings Clause would apply to patent rights in practice.

In the nineteenth century, the Supreme Court spoke of patents as private property.¹³ This development began in 1843, when the Supreme Court held in *McClurg v. Kingsland* that Congress could not retroactively limit patent rights granted by the government under prior patent statutes.¹⁴ *McClurg* recognized

¹² According to Professor Adam Mossoff, there are two types of arguments regarding whether patents are Fifth Amendment property: historical arguments and policy arguments. Audio recording: Are Patents “Private Property” Under the Fifth Amendment?, held by the Federalist Society (Mar. 6, 2007), available at http://www.fed-soc.org/publications/pubID.161/pub_detail.asp. Professor Mossoff focuses his scholarship on historical arguments because of the Supreme Court’s recent interest in patent history. *Id.* However, Professor Davida Isaacs, for example, rejects the nineteenth-century history of constitutional protection for patent rights as “inconclusive;” rather, Isaacs argues against constitutional protection as a matter of policy. See generally Isaacs, *supra* note 6 (arguing that the Takings Clause should not apply to patent rights as a matter of policy because the regulatory takings doctrine would undermine congressional goals, and asserting that nineteenth-century precedent is not relevant to this discussion).

This Article recognizes that historical and policy arguments are equally relevant. Policy arguments regarding whether the Takings Clause *should* apply to patent rights are incomplete without an understanding of how the Takings Clause *would* apply to patent rights. To reach this understanding, however, one must first appreciate the historical development of takings and patent jurisprudence.

¹³ See, e.g., *Consol. Fruit-Jar Co. v. Wright*, 94 U.S. 92, 96 (1876) (“A patent for an invention is as much property as a patent for land.”).

¹⁴ *McClurg v. Kingsland*, 42 U.S. (1 How.) 202, 206 (1843); Mossoff, *supra* note 6, at 702 (chronicling the Supreme Court’s treatment of patents as constitutional private property during the nineteenth century, beginning with *McClurg*). In *McClurg*, the inventor, Hartley, had secured a patent under the acts of 1793 and 1800, but after the plaintiffs filed suit, the act of 1836 repealed the acts of 1793 and 1800. *McClurg*, 42 U.S. at 206. The Court held that the patent, which was a right in property, must “stand as if the acts of 1793 and 1800 remained in force; in other respects[,] the 14th and 15th

patents as property by holding that repeal of a patent statute “can have no effect to impair the *right of property* then existing in a patentee.”¹⁵ In 1870, the Court expanded on this language in *United States v. Burns*, which held for the first time that a patent holder could sue the federal government for unauthorized use of his patented invention under a theory of implied contract.¹⁶ Although the *Burns* decision never expressly cited the Fifth Amendment, the Court invoked the “just compensation” requirement of the Takings Clause: “[T]he government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or *making compensation to him*.”¹⁷ The Supreme Court echoed this proposition six years later in *Cammeyer v. Newton*, characterizing patent rights as “[p]rivate property [that], the Constitution provides, shall not be taken for public use without just compensation.”¹⁸

According to Professor Adam Mossoff, the Court of Claims “firmly placed patents within the scope of private property rights secured under the Takings Clause” by relying on the takings principles expressed in *Burns*, *Cammeyer*, and *McClurg*.¹⁹ In *McKeever’s Case*, the Court of Claims rejected the government’s argument that the sovereign is both the lawful creator and destroyer of patent rights.²⁰ The court reached this conclusion by parsing the language of the Patent Clause: the Patent Clause “*secures*” to inventors “*the exclusive right*” to their discoveries, and

the term “to secure a right” by no possible implication carries with it the opposite power of destroying the right in whole or in part by appropriating it to the purposes of government without complying with that other condition of the Constitution, the making of “just compensation.” Neither does the term “*the exclusive right*” admit of an implication that with regard to such patentable articles as the government may

sections of the act of 1836 prescribe the rules which must govern on the trial of actions for the violation of patented rights, whether granted before or after its passage.” *Id.* at 206–07.

¹⁵ *McClurg*, 42 U.S. at 206 (emphasis added).

¹⁶ *United States v. Burns*, 79 U.S. (12 Wall.) 246 (1870); see also Mossoff, *supra* note 6, at 703 n.68 (retelling the history of *United States v. Burns*, a case arising out of the Civil War and “not only pitted brother against brother, as the old saying goes, but also patentee against assignee”). Federal courts did not have jurisdiction over tort claims against the government, such as patent infringement. *James v. Campbell*, 104 U.S. 356, 358–60 (1881). However, the Court of Claims could hear “all claims founded upon . . . any contract, express or implied, with the government of the United States,” Act of Feb. 24, 1855, ch. 122, § 1, 10 Stat. 612, 612, allowing the court to “exploit ‘implied contract’ as a legal fiction by which a patentee could sue the government for unauthorized uses.” Mossoff, *supra* note 6, at 703 n.70 (citing *Great Falls Mfg. Co. v. Garland*, 124 U.S. 581, 598–99 (1888); *Pitcher v. United States*, 1 Ct. Cl. 7, 10–11 (1863)).

¹⁷ *Burns*, 79 U.S. at 252 (emphasis added).

¹⁸ *Cammeyer v. Newton*, 94 U.S. 225, 234 (1876). According to *Cammeyer*, “[c]onclusive support” for this proposition is found in *Burns*, which “held that the government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or making him compensation.” *Id.* at 234–35 (citing *Burns*, 12 U.S. at 246).

¹⁹ Mossoff, *supra* note 6, at 704–05.

²⁰ *McKeever v. United States (McKeever’s Case)*, 14 Ct. Cl. 396, 417–20 (1878). *McKeever’s Case*, like *Cammeyer*, involved a suit against the government in the Court of Claims alleging that the U.S. War Department’s unauthorized use of the plaintiff’s patented invention was an unconstitutional taking. *Id.* at 397.

need the right shall not be exclusive.²¹

One year later, in *Campbell v. James*,²² a U.S. Circuit Court for the Southern District of New York engaged in a similar exercise in nineteenth century formalism. The court dismissed the government's sovereign immunity argument because, once Congress issues a patent, "[t]his property, like all other private property recognized by law, is exempt from being taken for public use without just compensation."²³ The Supreme Court reversed the decision on other grounds but acknowledged that the "exclusive property in the patented invention . . . cannot be appropriated or used by the government itself, without just compensation, any more than it can appropriate or use without compensation land."²⁴

Professor Davida Isaacs, however, charges that this historical evidence is "[i]nconclusive" for several reasons.²⁵ First, Isaacs notes that the Supreme Court's language in *James* and *Cammeyer* was merely dicta,²⁶ a fact that Professor Mossoff acknowledges with respect to *James*²⁷ but not *Cammeyer*.²⁸ Second, Isaacs asserts that these nineteenth century decisions carry little weight because, at the time, the Takings Clause was not self-executing.²⁹ Finally, according to Isaacs,

²¹ *Id.* at 417–20.

²² *Campbell v. James*, 4 F. Cas. 1168 (C.C.S.D.N.Y. 1879) (No. 2,361), *rev'd on other grounds*, 104 U.S. 356 (1881).

²³ *Id.* at 1172. The circuit court in *Campbell* found that the U.S. government was liable for unauthorized use of a patented postmarking device. *Id.* In doing so, the court rejected the government's argument that, because patents are a creature of statute, the government may alter and even eliminate patent rights without effecting a taking; according to the court, "property in a patented invention stands the same as other property, in this respect," and "all property is upheld by law, either expressly or impliedly enacted or adopted, all of which is the law of the land, the same as the statutes upholding patents are." *Id.*

²⁴ *Campbell*, 104 U.S. at 358. The Supreme Court ultimately held that the asserted patent was invalid. *Id.* at 382–83.

²⁵ Isaacs, *supra* note 6, at 29 ("The History of the Characterization of Patents as Protected Property is Inconclusive.")

²⁶ *Id.* at 33 n.172 ("For example, in *James*, the court ruled for the government on the merits of the patent infringement claim, and thus, its reference to the appropriateness of a Takings Clause remedy was arguably dicta . . . Likewise, the *Cammeyer* Court held that there had been no infringement by the government and thus the discussion regarding the appropriate basis for a remedy had there been infringement was irrelevant." (citations omitted)). *But see infra* note 28 (presenting Mossoff's explanation for why *Cammeyer*'s takings discussion was not dictum).

²⁷ *See* Mossoff, *supra* note 6, at 697 (agreeing that the Supreme Court's discussion of patent takings in *James* was dicta). *But see id.* at 697 & n.38 (noting "confusion among scholars on whether the reference to patent takings in *James* was dicta or an essential part of its decision" (citing Heald & Wells, *supra* note 7, at 857)).

²⁸ *Id.* at 704. Professor Mossoff implies that *Cammeyer*'s sovereign immunity discussion was central to its holding because, before it could reach the non-infringement issue, the Supreme Court had to address the government's sovereign immunity claim as a "[p]reliminary" procedural matter." *Id.* at 704 (quoting *Cammeyer*, 94 U.S. at 234) (alteration in original).

²⁹ Isaacs, *supra* note 6, at 30. In the nineteenth century, individual claimants could not sue the government under the Takings Clause unless the government waived sovereign immunity and authorized a cause of action. *Id.* Therefore, the Supreme Court could talk about patents as constitutional property in theory without the threat of any future patent-takings lawsuits. *Id.*

Congress subsequently waived sovereign immunity through a series of enactments. First, in 1887, Congress enacted the Tucker Act, which granted general jurisdiction to the Court of Claims to hear constitutional claims against the U.S. government. Tucker Act, ch. 359, 24 Stat. 505 (1887). In 1910 and again in 1918, Congress amended the Tucker Act specifically to provide patent owners with a cause

“the position of those courts is inconsistent with the evidence which indicates that the Founding Fathers believed that there was no right to government-established monopolies.”³⁰

Professor Isaacs’s first two arguments are correct but misplaced: the current Supreme Court may not be bound by nineteenth century dicta stating that the Takings Clause applies to patents, but the language is evidence of an historical appreciation of patents as Fifth Amendment property. As for her third argument, Isaacs is correct that patents are a “‘gift of social law,’ only to be provided to the extent that [it] ‘benefit[s] society,’”³¹ and that Congress is authorized, but not required, to issue patent rights.³² However, once Congress chooses to issue a patent, the government cannot divest the owner of those patent rights without providing just compensation. Nineteenth-century courts recognized this principle in *McClurg*, *McKeever’s Case*, and *Campbell*. In *McClurg*, Congress could not retroactively limit patent rights granted by the government under prior patent statutes.³³ *McKeever’s Case* held that, once a patent is issued, the Patent Clause “secures” for the inventor an “exclusive right” to his discovery.³⁴ In *Campbell*, the Circuit Court recognized that “all property is upheld by law, either expressly or impliedly enacted or adopted, all of which is the law of the land, the same as the statutes upholding patents are.”³⁵ Contrary to Isaacs’s reading of *Wheaton v. Peters*,³⁶ the *McClurg*, *McKeever’s Case*, and *Campbell* decisions recognize that patent rights are not “merely statutory rights”³⁷ Congress can both give and takeaway freely, just as Congress cannot take-back real property without providing compensation.

In short, these nineteenth-century opinions may be inconclusive but are not altogether irrelevant. The historical evidence still weighs in favor of patents as constitutional property, even if the Supreme Court is not bound by such a finding.

B. Modern Courts Revisit Patent Takings

After Congress authorized a cause of action against the government for

of action against the government for unauthorized uses of their property. Act of July 1, 1918, ch. 114, 40 Stat. 704, 705 (codified as amended at 28 U.S.C. § 1498 (2000)); Act of June 25, 1910, ch. 423, 36 Stat. 851, 851–52 (codified as amended at 28 U.S.C. § 1498 (2000)); *see also supra* note 8 (reproducing 28 U.S.C. § 1498 (2000)).

³⁰ Isaacs, *supra* note 6, at 30.

³¹ *Id.* (quoting *Letter from Thomas Jefferson to Isaac McPherson* (Aug. 13, 1813), in *THE WRITINGS OF THOMAS JEFFERSON* 333, 335 (The Thomas Jefferson Mem’l Soc’y of the U.S. ed., 1904)).

³² *Id.*

³³ *McClurg v. Kingsland*, 42 U.S. (1 How.) 202 (1843).

³⁴ *McKeever v. United States (McKeever’s Case)*, 14 Ct. Cl. 396, 417–20 (1878).

³⁵ *Campbell v. James*, 4 F. Cas. 1168, 1172 (C.C.S.D.N.Y. 1879) (No. 2,361), *rev’d on other grounds*, 104 U.S. 356 (1881).

³⁶ Isaacs, *supra* note 6, at 30–31. Isaacs quotes the Supreme Court’s 1834 decision in *Wheaton v. Peters* for support: “‘There is at common law no property in [patent exclusivities]; there is not even a legal right entitled to protection.’” *Id.* (quoting *Wheaton v. Peters*, 33 U.S. (8 Pet.) 591, 600 (1834) (emphasis omitted)). However, this language only applies to rights in inventions at common law, not patent rights vested in the inventor under statute. *Id.*

³⁷ *Id.* at 31.

patent infringement,³⁸ courts rarely faced the question of whether patents are constitutionally-protected property under the Takings Clause.³⁹ It took the Supreme Court nearly one-hundred years after *Campbell* to hear another takings case involving intellectual property,⁴⁰ and the resulting opinion failed to mention the nineteenth-century precedent discussed above.⁴¹

In *Ruckelshaus v. Monsanto Co.*, the Supreme Court held that trade secrets are “private property” secured under the Takings Clause.⁴² The *Monsanto* decision is the foundation for most modern arguments in favor of recognizing patents as constitutional property.⁴³ For example, *Monsanto* recognized that “[p]roperty interests . . . are not created by the Constitution. Rather, they are created and their dimensions are defined by existing rules or understandings that stem from an independent source such as state law.”⁴⁴ Arguably, this statement would include patent rights defined by federal statute, which seems to qualify as “an independent source [of] law.”⁴⁵ Furthermore, the Supreme Court’s rationale for recognizing trade secrets as constitutionally-protected property also applies to patents. According to *Monsanto*, trade secrets “have many of the characteristics of more tangible forms of property:” they are assignable, can form the res of a trust, can

³⁸ See *supra* note 29 (chronicling the series of statutes waiving sovereign immunity for government infringement).

³⁹ Cf. Mossoff, *supra* note 6, at 711–12 (suggesting that the adoption of the Tucker Act, which granted general jurisdiction to the Court of Claims to hear all constitutional claims against the U.S. government, coupled with the congressional waiver of sovereign immunity in patent cases, may explain why the nineteenth century cases discussed in Part II.A, *supra*, have largely gone unnoticed).

⁴⁰ See *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984); see also *infra* notes 42–47 (discussing the *Monsanto* decision).

⁴¹ To support the proposition that “[the] Court has [historically] found other kinds of intangible interests to be property for purposes of the Fifth Amendment’s Taking Clause,” the Supreme Court cited “materialman’s lien[s],” “real estate lien[s],” and “valid contracts” as examples. See *Monsanto*, 467 U.S. at 1003 (1984) (citing *Armstrong v. United States*, 364 U.S. 40, 44, 46 (1960); *Louisville Joint Stock Land Bank v. Radford*, 295 U.S. 555, 596–602 (1935); *Lynch v. United States*, 292 U.S. 571, 579 (1934)). Scholars disagree over the significance of this omission. Compare Isaacs, *supra* note 6, at 30 (citing the *Monsanto* omission as evidence that these nineteenth-century cases “carry little weight”), with Audio Recording, *supra* note 12 (suggesting that the parties may have failed to cite the nineteenth-century precedent and that these cases may have been “eclipsed” and forgotten after the passage of section 1498).

⁴² *Monsanto*, 467 U.S. at 1003–04. In *Monsanto*, an applicant for registration of a pesticide submitted commercially-sensitive material to the Environmental Protection Agency (EPA) in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act, and the EPA subsequently disclosed the applicant’s trade secrets to the public. *Id.* at 990–91.

⁴³ See, e.g., Daniel R. Cahoy, *Patent Fences and Constitutional Fence Posts: Property Barriers to Pharmaceutical Importation*, 15 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 623, 678 (2005) (stating that “[i]f there is any argument to be made for the application of a regulatory takings scheme [to patents], it would likely be based in the Supreme Court’s rather curious decision in *Ruckelshaus v. Monsanto*”); Mossoff, *supra* note 6, at 698 (“If the Takings Clause is applicable to patents, the argument typically goes, then it is only by virtue of extending the Supreme Court’s 1984 decision in *Ruckelshaus v. Monsanto Co.* that trade secrets are private property secured under the Takings Clause.” (footnotes omitted)); J. Nicholas Bunch, Note, *Takings, Judicial Takings, and Patent Law*, 83 Tex. L. Rev. 1747, 1752–53 (2005) (asserting that trade secrets are sufficiently analogous to patents).

⁴⁴ *Monsanto*, 467 U.S. at 1001 (quoting *Webb’s Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 161 (1980)).

⁴⁵ But see *Zoltek Corp. v. United States*, 442 F.3d 1345, 1352 (Fed. Cir. 2006) (per curiam) (distinguishing trade secrets, which “stem from an independent source such as state law,” from patents, which “are a creature of federal law”), *cert. denied*, 127 S. Ct. 2936 (2007).

pass to a trustee in bankruptcy, and represent congressionally-recognized interests in property.⁴⁶ Patents possess each of these characteristics.⁴⁷

The Supreme Court has not analyzed Fifth Amendment takings of intellectual property since *Monsanto*,⁴⁸ and the Court's subsequent treatment of patents as property lacks harmony. For example, in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, the Supreme Court acknowledged that patent rights represent "the legitimate expectations of inventors in their property."⁴⁹ Professor Mossoff notes the similarity between the Court's "legitimate expectations" language and the "investment-backed expectations" factor used in regulatory takings claims to determine whether the government action results in a compensable taking claim.⁵⁰ According to Professor Mossoff, the Supreme Court's insistence that the Federal Circuit not "'disrupt' nor 'risk destroying' these 'settled expectations' in exercising its exclusive jurisdiction in deciding patent appeals" is evidence that "the *Festo* Court had takings doctrine on its mind."⁵¹

However, not all recent Supreme Court precedent is consistent with Mossoff's position. In *Eli Lilly & Co. v. Medtronic, Inc.*, Eli Lilly accused Medtronic of infringing Eli Lilly's patented medical device, but Medtronic claimed that a statutory safe harbor sanctioned its use of the medical device.⁵² Eli Lilly argued that a "'serious constitutional question'" would arise under the Takings Clause "if the [safe harbor provision] is interpreted to authorize the infringing use of medical devices."⁵³ The Supreme Court rejected this argument because "the 'serious constitutional question' (if it is that) is not avoided by [Eli Lilly's proposed] construction either."⁵⁴ This statement could be read as "implying that

⁴⁶ *Monsanto*, 467 U.S. at 1002–03 (citations omitted).

⁴⁷ See Bunch, *supra* note 43, at 1753 (citing 35 U.S.C. § 261 (2000)) (comparing patents to trade secrets using the factors set forth in *Monsanto*).

⁴⁸ See Thomas F. Cotter, *Do Federal Uses of Intellectual Property Implicate the Fifth Amendment?*, 50 FLA. L. REV. 529, 537 (1998) (describing *Monsanto* as "the only recent United States Supreme Court case dealing with an alleged taking of intellectual property").

To be clear, *Florida Prepaid* is best described as an Eleventh Amendment, not a Fifth Amendment, case. The Supreme Court did not address the Takings Clause because Congress disavowed any intent for the legislation at issue—which waived states' sovereign immunity and provided a cause of action for patent infringement under the Due Process Clause of the Fourteenth Amendment—to provide a Fifth Amendment remedy. See *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627, 642 & n.7 (1999) ("There is no suggestion . . . that Congress had in mind the Just Compensation Clause of the Fifth Amendment. . . . [W]e think this omission precludes consideration of the Just Compensation Clause as a basis for the Patent Remedy Act.").

⁴⁹ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002).

⁵⁰ See Mossoff, *supra* note 6, at 694 (citing *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978)).

⁵¹ *Id.* (quoting *Festo*, 535 U.S. at 739). More specifically, the Supreme Court may have had the *judicial* takings doctrine on the mind, which could protect property owners when courts "dramatically depart[] from settled precedent." See Bunch, *supra* note 43, at 1747–49 (proposing a preliminary definition of a "judicial taking" based on the Supreme Court's analysis in *Festo*).

⁵² *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 664–65 (1990). The safe-harbor provision exempted "uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs." (quoting 35 U.S.C. § 271(e)(1) (Supp. II 1982)).

⁵³ *Eli Lilly*, 496 U.S. at 679 n.7.

⁵⁴ *Id.*

any takings claim might be rejected even before reaching the specific facts of the case,”⁵⁵ but the Court most likely rejected Eli Lilly’s argument because both interpretations of the statute raised takings questions⁵⁶ and because Eli Lilly never asserted a Fifth Amendment challenge.⁵⁷

Although the Supreme Court has yet to answer directly whether the Takings Clause applies to patent rights, the U.S. Court of Appeals for the Federal Circuit recently held in *Zoltek Corp. v. United States* that patents are not property entitled to Fifth Amendment protection.⁵⁸ In *Zoltek*, a government contractor used Zoltek’s patented process without permission.⁵⁹ Zoltek alleged two grounds for recovery: (1) under section 1498, which authorizes tort actions for government-authorized infringement,⁶⁰ and (2) under the Fifth Amendment, which requires the government to pay just compensation for unauthorized takings of private property.⁶¹

Both the trial court and the Federal Circuit rejected Zoltek’s section 1498 claim because the contractor engaged in at least one step of the patented process outside of the United States.⁶² The trial court did recognize that Zoltek presented a cognizable Fifth Amendment takings claim, but the Federal Circuit reversed on this point.⁶³ The Federal Circuit reasoned that plaintiffs cannot maintain a takings claim outside of the statutory remedy in light of *Schillinger v. United States*,⁶⁴ an 1894 Supreme Court decision which held that the Court of Claims could not entertain the patentholder’s government-infringement claim.⁶⁵ According to the

⁵⁵ Isaacs, *supra* note 6, at 35.

⁵⁶ Eli Lilly interpreted the statutory phrase, “a Federal law which regulates the manufacture, use, or sale of drugs,” to refer only to individual statutory provisions that regulate drugs, but Medtronic argued that the provision refers to the entirety of any Act which contains provisions regulating drugs. *Eli Lilly*, 496 U.S. at 665–66. Thus, Eli Lilly’s proposed construction only reduces, but fails to eliminate, the number of potential “takings” under the statute.

⁵⁷ *Id.* at 679 n.7 (“[P]etitioner has not challenged § 271(e)(1) on constitutional grounds.”).

⁵⁸ *Zoltek Corp. v. United States*, 442 F.3d 1345, 1353 (Fed. Cir. 2006) (per curiam) (“We reverse the trial court’s ruling that Zoltek can allege patent infringement as a Fifth Amendment taking under the Tucker Act.”), *cert. denied*, 127 S. Ct. 2936 (2007).

⁵⁹ *Id.* at 1348–49.

⁶⁰ 28 U.S.C. § 1498 (2000); *see also supra* note 8 (reproducing 28 U.S.C. § 1498(a)).

⁶¹ *See Zoltek*, 442 F.3d at 1375 (Plager, J., dissenting) (explaining how the majority mistakenly “equates the taking claim with an infringement action, when as a matter of law these are two separate legal claims founded on separate legal bases”).

⁶² *Id.* at 1350 (per curiam). The Court reached this conclusion in one short paragraph:

This court has held that “direct infringement under section 271(a) is a necessary predicate for government liability under section 1498.” *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1316 (Fed. Cir. 2005) (citing *Motorola, Inc. v. United States*, 729 F.2d 756, 768 n.3 (Fed. Cir. 1984). We have further held that “a process cannot be used ‘within’ the United States as required by section 271(a) unless each of the steps is performed within this country.” *Id.* at 1318. Consequently, where as here, not all steps of a patented process have been performed in the United States, government liability does not exist pursuant to section 1498(a).

Id. (emphasis omitted).

⁶³ *Id.* at 1349.

⁶⁴ *Id.* at 1351–53.

⁶⁵ *Schillinger v. United States*, 155 U.S. 163, 168–69 (1894) (“It is true also that to jurisdiction

majority, sovereign immunity applies to all tort claims against the government, section 1498 is a limited waiver of sovereign immunity, and courts cannot entertain actions outside the scope of this limited waiver.⁶⁶ The per curiam opinion also refused to extend *Monsanto*; the court distinguished trade secrets, which “stem from an independent source such as state law,”⁶⁷ from patents, which “are a creature of federal law.”⁶⁸

Zoltek is the only decision to address whether the Fifth Amendment protects patent owners from government takings,⁶⁹ but its reasoning is subject to criticism. As Judge Plager’s dissent explains, section 1498 does not define the scope of takings claims against the government because takings claims and infringement actions are inherently different: “The tort of patent infringement is statutorily based and defined, and exists at the discretion of Congress; the right to just compensation for a taking is constitutional, it is not a tort, and it requires no legislative blessing.”⁷⁰ In addition, *Zoltek* mischaracterizes the historical treatment of patents as Fifth Amendment property; the court relied heavily on the *Schillinger* decision—which only addressed alleged government infringement and “was not a taking case at all”⁷¹—but fails to discuss cases such as *McClurg*, *McKeever’s Case*, and *Campbell*. Furthermore, Judge Dyk’s attempt to distinguish patents as “creatures of federal statute”⁷² conflicts with *Campbell*, which explained that “all

over claims founded ‘upon any contract, express or implied, with the government of the United States,’ is added jurisdiction over claims ‘for damages, liquidated or unliquidated,’ but this grant is limited by the provision ‘in cases not sounding in tort.’ This limitation, even if qualifying only the clause immediately preceding, and not extending to the entire grant of jurisdiction found in the section, is a clear indorsement [sic] of the frequent ruling of this court that cases sounding in tort are not cognizable in the court of claims.”); see also *infra* note 71 and accompanying text (explaining the scope of the *Schillinger* decision).

⁶⁶ *Zoltek*, 442 F.3d at 1349 (“A patentee’s judicial recourse against the federal government, or its contractors, for patent infringement is set forth and limited by the terms of 28 U.S.C. § 1498.”).

⁶⁷ *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001 (1984).

⁶⁸ *Zoltek*, 442 F.3d at 1352.

⁶⁹ See *id.* at 1370–71 (Plager, J., dissenting) (“[Whether] an owner of a United States patent [may] bring a cause of action under the Fifth Amendment to the Constitution against the United States for a ‘taking’ as all other owners of property rights may . . . has never been addressed directly by this or any other court.”).

⁷⁰ *Id.* at 1375.

⁷¹ *Id.*; see also Isaacs, *supra* note 6, at 9 (“[T]he court misinterpreted the significance of *Schillinger*. As Judge Plager correctly explained in his dissent, the *Schillinger* Court’s holding was jurisdictional—that Court had held that Congress did not intend to give the Court of Claims jurisdiction over constitutional claims against the government. . . . The Supreme Court later changed its mind, and the Court of Federal Claims now possesses jurisdiction to hear monetary claims based on the Constitution.” (footnotes omitted)); Justin Torres, Note, *The Government Giveth, and the Government Taketh Away: Patents, Takings, and 28 U.S.C. § 1498*, 63 N.Y.U. ANN. SURV. AM. L. 315, 327 (2007) (explaining that *Schillinger* “let stand the Court of Claim’s assertion that it was ‘admitted law . . . need[ing] no further discussion’ that patents were protected by the Fifth Amendment” and instead decided a separate question: “how explicit did Congress have to be in consenting to suit for takings claims, and did the Tucker Act meet the Court’s requirement?”).

⁷² See *Zoltek*, 442 F.3d at 1370 (Dyk, J., concurring). The per curiam opinion did not cite authority for this proposition, but the approach reflects the Federal Circuit’s traditionally narrow definition of constitutionally-protected property. According to Federal Circuit precedent, the Takings Clause only applies to property rights defined by state or common law, and federal regulatory systems are not “background principles” against which takings claims can be framed. JAN G. LAITOS, LAW OF PROPERTY RIGHTS PROTECTION: LIMITATIONS ON GOVERNMENTAL POWERS § 10.05A[C][2], at 10-46 (2007); see also *Preseault v. United States*, 100 F.3d 1525, 1538 (Fed. Cir. 1996) (refusing to

property is upheld by law, either expressly or impliedly enacted or adopted, all of which is the law of the land, the same as the statutes upholding patents are.”⁷³ Judge Dyk implies that patent rights never vest in the patent owner, but the historical evidence suggests otherwise.⁷⁴ Unfortunately, just as nineteenth-century precedent is inconclusive—and recent Supreme Court precedent reveals few clues, the Federal Circuit’s opinion in *Zoltek* is ultimately unpersuasive, and questions still remain.

III. FIFTH AMENDMENT TAKINGS OF PATENT RIGHTS

Patent owners still do not know whether the Fifth Amendment protects their patent rights. As discussed above, Supreme Court precedent is persuasive but not binding, and the Federal Circuit’s analysis in *Zoltek* is arguably not even persuasive. If the Supreme Court were to address the subject, the Court could find itself free from the burdens of controlling precedent and, in turn, determine whether patents are constitutional property by relying on policy rationales.⁷⁵

If the analysis shifts to a policy inquiry, courts can question whether patent owners deserve or require Fifth Amendment protection. This Article proposes that the most efficient way to weigh these policy arguments is, first, to understand how the conventional Takings Clause analysis might apply to patents and then, second, to determine whether the ultimate result is beneficial. Therefore, rather than discuss competing policy arguments in the abstract, this section will describe how a patent-takings analysis might operate in light of real property precedent.

A. The Takings Clause and Real Property

The Takings Clause of the Fifth Amendment breaks down into four basic elements: “[N]or shall [1] *private property* be [2] *taken* for [3] *public use*, without [4] *just compensation*.”⁷⁶ The second element is at the heart of eminent domain law and is the subject of discussion in this section: What is a taking?⁷⁷

acknowledge federal law as a source of “background principles” because “[t]he background principles referred to by the [Supreme] Court in *Lucas* were state-defined nuisance rules”).

⁷³ *Campbell v. James*, 4 F. Cas. 1168, 1172 (C.C.S.D.N.Y. 1879) (No. 2,361), *rev’d on other grounds*, 104 U.S. 356 (1881).

⁷⁴ See *supra* note 37 and accompanying text (arguing that nineteenth-century cases support the proposition that, once Congress grants rights in a patent, it cannot take back those rights without committing a Fifth Amendment taking).

⁷⁵ Cf. *Isaacs*, *supra* note 6, at 9–10, 35 (suggesting that, because there is “no clear evidence demonstrat[ing] that patent holders were historically entitled to a Takings Clause remedy,” courts are free to weigh competing policy concerns).

⁷⁶ U.S. CONST. amend. V (emphasis added); see also WILLIAM B. STOEBUCK & DALE A. WHITMAN, *THE LAW OF PROPERTY* 524 (3d ed. 2000) (employing a similar deconstruction of the Takings Clause); WILLIAM B. STOEBUCK, *NONTRESPASSORY TAKINGS IN EMINENT DOMAIN* 1 (1977).

⁷⁷ The first element, private property, is the subject of Part II, *supra*, which asks whether patents are private property under the Fifth Amendment. The fourth element, just compensation, is discussed *infra* Part III.B.3.

1. Physical Takings Generally

The world of takings is comprised of possessory (physical) takings and regulatory takings⁷⁸—the possessory taking doctrine being the more conventional of the two.⁷⁹ A possessory taking is a direct appropriation by a state or federal government of an individual's interest or title in property.⁸⁰ Scholars refer to possessory takings as “physical” takings because, in most condemnation cases, “the condemner physically enters upon the condemnee's land [directly or constructively] and compels the transfer to itself of an estate or lesser interest, such as an easement.”⁸¹

The recent Supreme Court ruling in *Kelo v. City of New London*⁸² provides an example of a typical possessory taking. In 1998, Pfizer Inc. announced that it would build a new research facility immediately adjacent to Fort Trumbull, a stagnant neighborhood in the “distressed municipality” of New London.⁸³ New London, hoping to capitalize on economical revitalization that Pfizer would draw to the area, approved a private development plan in Fort Trumbull.⁸⁴ The city authorized the New London Development Corporation (NLDC), a private nonprofit entity established to assist New London in planning economic development, to acquire the necessary Fort Trumbull property “by exercising eminent domain in the City's name,” if necessary.⁸⁵ The NLDC then initiated condemnation proceedings against properties that would not agree to sell.⁸⁶ The Supreme Court held that the taking was for a permissible “public use” under the Takings Clause because New London would enjoy new economic growth from the redevelopment.⁸⁷ Commentators have debated whether the Court's decision represents an overexpansion of the “public use” requirement,⁸⁸ but these

⁷⁸ See, e.g., *Yee v. City of Escondido*, 503 U.S. 519, 522 (1992) (dividing takings claims into physical invasion and regulatory takings claims); *Barefoot v. City of Wilmington*, 306 F.3d 113, 129 (4th Cir. 2002).

⁷⁹ *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 537 (2005) (citing *United States v. Pewee Coal Co.*, 341 U.S. 114 (1951); *United States v. General Motors Corp.*, 323 U.S. 373 (1945)) (“The paradigmatic taking requiring just compensation is a direct government appropriation or physical invasion of private property.”).

⁸⁰ LAITOS, *supra* note 72, § 8.02, at 8-13.

⁸¹ STOEBOCK, *supra* note 76, at 1.

⁸² *Kelo v. City of New London*, 545 U.S. 469 (2005).

⁸³ *Id.* at 473.

⁸⁴ *Id.* at 474. The seven-parcel development plan proposed new residences, restaurants, stores, marinas, museums, parks, office buildings, and a waterfront conference hotel at the center of a new “small urban village.” *Id.*

⁸⁵ *Id.* at 475.

⁸⁶ *Id.*

⁸⁷ *Id.* at 484 (“Given the comprehensive character of the plan, the thorough deliberation that preceded its adoption, and the limited scope of our review, it is appropriate for us, as it was in *Berman*, to resolve the challenges of the individual owners, not on a piecemeal basis, but rather in light of the entire plan. Because that plan unquestionably serves a public purpose, the takings challenged here satisfy the public use requirement of the Fifth Amendment.”).

⁸⁸ Compare, e.g., David L. Callies, *Kelo v. City of New London: Of Planning, Federalism, and a Switch in Time*, 28 U. HAW. L. REV. 327, 347 (2006) (“[T]he liberal wing of the Court seems overly enamored of plans and planning as an excuse to avoid applying the public use standards of the Fifth Amendment.”), Haley W. Burton, Note, *Property Law—Not So Fast: The Supreme Court's Overly*

discussions are outside the scope of this Article. Rather, *Kelo* merely illustrates the mechanics of a typical possessory taking: the government (or an agent of the government) condemns the property, takes physical possession, and offers the private owner just compensation.

2. Regulatory Takings Generally

Possessory takings, such as the one at issue in *Kelo*, are “as old as the Republic and, for the most part, involve[] the straightforward application of per se rules.”⁸⁹ Regulatory takings, on the other hand, are less than a century old and are still somewhat of a mystery. In 1922, the Supreme Court in *Pennsylvania Coal Co. v. Mahon*⁹⁰ extended the Takings Clause to government regulations that were “so onerous that its affect [was] tantamount to a direct appropriation or ouster.”⁹¹ The Court “explicitly recognized a type of unintentional taking that is a regulatory, rather than physical, interference.”⁹²

In *Pennsylvania Coal*, a state statute (commonly referred to as the Kohler Act) prohibited property owners from removing subsurface coal from the ground if removal could cause the subsidence of homes on the surface.⁹³ The Supreme Court held that the statute acted as a taking under the Fifth Amendment, seemingly obliterating the requirement that the government physically enter or take title to the property:

The rights of the public in a street purchased or laid out by eminent domain are those that it has paid for. If in any case its representatives have been so short sighted as to acquire only surface rights without the right of support, *we see no more authority for supplying the latter without compensation than there was for*

Broad Public Use Ruling Condemns Private Property Rights With Surprising Results, 6 WYO. L. REV. 255, 285 (2006) (“The Public Use Clause has evolved from being narrowly defined to being so broadly defined that it essentially negates the entire clause.”), Ashley J. Fuhrmeister, Note, *In the Name of Economic Development: Reviving “Public Use” as a Limitation on the Eminent Domain Power in the Wake of Kelo v. City of New London*, 54 DRAKE L. REV. 171, 212 (2005) (“Economic development condemnation blurs the distinction between public use and private benefit, and, for this reason, it inevitably raises concerns that the eminent domain power will be abused to further private interests at the expense of the public good.” (footnotes omitted)), and Eric L. Silkwood, Comment, *The Downfall on Kelo: How an Expansive Interpretation of the Public Use Clause has Opened the Floodgates for Eminent Domain Abuse*, 109 W. VA. L. REV. 493, 525 (2007) (“[*Kelo*’s] expansive interpretation of the Public Use Clause coupled with the judiciary’s decision to take a back seat to legislative determinations has opened the door for abuses of eminent domain power and may have essentially eliminated the safeguards afforded to private property under the Fifth Amendment.”), with Marcilynn A. Burke, *Much Ado About Nothing: Kelo v. City of New London, Babbitt v. Sweet Home, and Other Tales From the Supreme Court*, 75 U. CIN. L. REV. 663, 682 (2006) (“[T]he Supreme Court has consistently resited the argument that the ‘public use’ requirement be read narrowly to encompass only uses by the general public.”), and Joseph L. Sax, *Kelo: A Case Rightly Decided*, 28 U. HAW. L. REV. 365, 370 (2006) (“Where drawing the line between ‘public use’ and somehow ‘not public use’ is as vague and slippery as it plainly is . . . , one may truly wonder what constitutional principle is at stake.”).

⁸⁹ *Tahoe-Sierra Pres. Council v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 322 (2002).

⁹⁰ *Pa. Coal Co. v. Mahon*, 260 U.S. 393 (1922).

⁹¹ *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 537 (2005) (discussing the Supreme Court’s prior holding in *Pennsylvania Coal*).

⁹² LAITOS, *supra* note 72, § 8.02(C), at 8-18 (citing *Keystone Bituminous Coal Ass’n v. DeBenedictis*, 480 U.S. 470, 516 (1987) (Rehnquist, C.J., dissenting)).

⁹³ *Pa. Coal*, 260 U.S. at 412-13.

*taking the right of way in the first place and refusing to pay for it because the public wanted it very much.*⁹⁴

Justice Holmes's opinion set forth the "general rule . . . that while property may be regulated to a certain extent, if regulation *goes too far* it will be recognized as a taking."⁹⁵ This "storied but cryptic formulation"⁹⁶ begs one question: how far is too far? After all, "government regulation—by definition—involves the adjustment of rights for the public good,"⁹⁷ and even *Pennsylvania Coal* recognized that "[g]overnment hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law."⁹⁸

Although this new regulatory takings paradigm was revolutionary at the time of *Pennsylvania Coal*,⁹⁹ Justice O'Connor clarified in *Lingle v. Chevron U.S.A., Inc.* that regulatory takings are actually closely related to their doctrinal ancestors. According to Justice O'Connor, the regulatory takings doctrine "aims to identify regulatory actions that are functionally equivalent to the classic taking in which government directly appropriates private property or ousts the owner from his domain."¹⁰⁰ Justice O'Connor suggests that the focus is on how government action impacts the property owner.¹⁰¹ although the "character of the governmental action" is an important factor.¹⁰² This explanation echoes Justice Holmes's approach in *Pennsylvania Coal*: the Pennsylvania legislature could have either condemned the coal or prohibited mining of the coal, but the effect on the

⁹⁴ *Id.* at 415 (emphasis added); see also *infra* note 99 (explaining how, before *Pennsylvania Coal*, courts required plaintiffs prove that the government physically trespassed the property).

⁹⁵ *Pa. Coal*, 260 U.S. at 415 (emphasis added).

⁹⁶ *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 537 (2005) (O'Connor, J.).

⁹⁷ *Id.* at 538 (quoting *Andrus v. Allard*, 444 U.S. 51 (1979)).

⁹⁸ *Id.* (quoting *Pa. Coal*, 260 U.S. at 413).

⁹⁹ Before *Pennsylvania Coal*, "it was generally thought that the Takings Clause reached *only* a direct appropriation of property, or the functional equivalent of a practical ouster of [the owner's] possession." *Id.* at 537 (quoting *Lucas*, 505 U.S. at 1014) (internal quotation marks omitted); see also *id.* ("[Early constitutional theorists] did not believe the Takings Clause embraced regulations of property at all." (quoting *Lucas*, 505 U.S. at 1028 n.5)); STOEBUCK, *supra* note 76, at 16 (positing that courts in the 1800s adopted a "no taking without a touching" approach).

¹⁰⁰ *Lingle*, 544 U.S. at 539 (emphasis added).

¹⁰¹ Justice O'Connor characterized the three inquiries reflected in *Loretto v. Teleprompter Manhattan CATV Corp.*, *Lucas v. South Carolina Coastal Council*, and *Penn Central Transportation Co. v. New York City* in terms of their impact on the private property owner:

The Court has held that physical takings require compensation because of the unique burden they impose: A permanent physical invasion, however minimal the economic cost it entails, eviscerates the owner's right to exclude others from entering and using her property—perhaps the most fundamental of all property interests. . . . In the *Lucas* context, of course, the complete elimination of a property's value is the determinative factor. . . . And the *Penn Central* inquiry turns in large part, albeit not exclusively, upon the magnitude of a regulation's economic impact and the degree to which it interferes with legitimate property interests.

Lingle, 544 U.S. at 539–40 (internal citations omitted).

¹⁰² *Lingle*, 544 U.S. at 538–39 (quoting *Penn Cent. Transp. Co. v. N.Y. City*, 438 U.S. 104, 124 (1978)); see also *infra* notes 108–109 and accompanying text (describing the *Penn Central* multifactor takings test).

Pennsylvania Coal Company would still be the same.¹⁰³

3. Defining *Per Se* and *Per Quod* Takings

The previous two sections categorized government actions as either possessory takings or regulatory takings. Although this distinction is useful to real property scholars, patent takings require a slightly different approach. After all, patents cannot be “physically” possessed, but not all government actions are regulatory in nature. Therefore, this section will introduce a new categorization of government actions: *per se* and *per quod*¹⁰⁴ takings.

a. *Per Se* Takings

All possessory takings are *per se* takings: when government takes title to private property without consent, a Fifth Amendment taking has undoubtedly occurred.¹⁰⁵ In addition, the Supreme Court has defined two types of regulatory takings that also qualify as *per se* takings. First, in *Loretto v. Teleprompter Manhattan CATV Corp.*, the Supreme Court held that “where government requires an owner to *suffer a permanent physical invasion* of her property—however minor—it must provide just compensation.”¹⁰⁶ Second, *Lucas v. South Carolina Coastal Council* held that government must provide compensation if a regulation “completely deprive[s] an owner of ‘all economically beneficial us[e]’ of her property.”¹⁰⁷

¹⁰³ See *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922) (“[W]e see no more authority for supplying the latter without compensation than there was for taking the right of way in the first place and refusing to pay for it because the public wanted it very much.”); see also *supra* note 94 and accompanying text.

¹⁰⁴ The term *per quod* is typically used in libel and slander cases, but it can apply to any legal test that requires reference to additional facts. See BLACK’S LAW DICTIONARY 1177 (8th ed. 2004).

¹⁰⁵ See *Tahoe-Sierra Pres. Council v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 322 (2002) (describing possessory takings as only involving “the straightforward application of *per se* rules”); see also LAITOS, *supra* note 72, § 8.02(A), at 8-13 (“An eminent domain taking occurs when the government intentionally exercises its inherent power to take private property for public use without the property owner’s consent.” (citing *San Diego Gas & Elec. Co. v. City of San Diego*, 450 U.S. 621, 638 n.2 (1981) (Brennan, J., dissenting))).

¹⁰⁶ *Lingle*, 544 U.S. at 538 (citing *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982)) (emphasis added). In *Loretto*, the Supreme Court struck down a New York City ordinance requiring landlords to permit cable companies to install cable facilities in apartment buildings. *Loretto*, 458 U.S. at 438. Justice Marshall reasoned that “a physical intrusion by government to be a property restriction of an unusually serious character for purposes of the Takings Clause.” *Id.* at 426. When the state ordinance mandates “the extreme form of permanent physical occupation . . . , ‘the character of the government action’ not only is an important factor in resolving whether the action works a taking but also is determinative.” *Id.*

¹⁰⁷ *Lingle*, 544 U.S. at 538 (quoting *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1019 (1992)). In *Lucas*, the plaintiff had purchased two residential lots on which he intended to build single-family homes. *Lucas*, 505 U.S. at 1006. The South Carolina legislature, however, subsequently enacted the Beachfront Management Act, which effectively barred Lucas from “erecting any permanent habitable structures on his two parcels,” rendering the land “valueless.” *Id.* The Supreme Court held that “the government must pay just compensation for such ‘total regulatory takings,’ except to the extent that ‘background principles of nuisance and property law’ independently restrict the owner’s intended use of the property.” *Lingle*, 544 U.S. at 538 (citing *Lucas*, 505 U.S. at 1026–32).

b. Per Quod Takings

Outside of the three types of per se takings defined above—government actions that (1) take title to private property, (2) cause a permanent physical invasion of private property, or (3) eliminate all economic value in private property—every other form of regulatory taking is a per quod taking. Unlike per se takings, per quod takings are much more difficult to evaluate.

In *Penn Central Transportation Co. v. New York City*, the Supreme Court identified “several factors that have particular significance”¹⁰⁸ when evaluating whether a government action is a taking under the Fifth Amendment.

Primary among those factors are “[t]he *economic impact* of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment backed expectations.” In addition, the “*character of the governmental action*”—for instance whether it amounts to a physical invasion or instead merely affects property interests through “some public program adjusting the benefits and burdens of economic life to promote the common good”—may be relevant in discerning whether a taking has occurred.¹⁰⁹

According to *Pennsylvania Coal*, “the question at bottom” in a per quod takings case is to determine “upon whom the loss of the changes desired should fall.”¹¹⁰

Unlike per se takings, the regulatory takings test under *Pennsylvania Coal* and *Penn Central* is quite malleable and gives courts wide discretion in finding a Fifth Amendment violation. Thus, characterization of a government action as per se or per quod will define a court’s discretion in finding whether a taking has occurred. If government action qualifies as a per se taking, courts must recognize that a taking has occurred—unless the taking was for a public use or just compensation was provided. However, if a government regulation results in a per quod taking, courts are free to balance the economic impact of the regulation on the property owner and the property owner’s “distinct investment backed expectations” against the character of the government action and the government’s interest in adjusting property rights “to promote the common good.”¹¹¹ The court can also determine, as a matter of policy, which party should bear the costs of the taking: the government or the individual.¹¹² This inquiry raises policy issues not

¹⁰⁸ *Lingle*, 544 U.S. at 538 (quoting *Penn Cent. Transp. Co. v. N.Y. City*, 438 U.S. 104, 124 (1978)).

¹⁰⁹ *Id.* at 538–39 (emphasis added) (quoting *Penn Cent.*, 438 U.S. at 124) (internal citations omitted). In *Penn Central*, the plaintiff challenged a New York City urban landmark law after the City denied the plaintiff’s plan to construct a fifty story office building over Grand Central Terminal. *Id.* at 114–18. Justice Brennan weighed the factors listed above and held that the city ordinance did not amount to a taking: the ordinance did not “interfere in any way with the present uses of the terminal,” the ordinance only limited new construction to the extent that would not “harmonize in scale, material and character with [the Terminal],” and “[t]he restrictions imposed are substantially related to the promotion of the general welfare and not only permit reasonable beneficial use of the landmark site but also afford appellants opportunities further to enhance not only the Terminal site proper but also other properties.” *Id.* at 136–38.

¹¹⁰ *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 416 (1922).

¹¹¹ *Penn Cent. Transp.*, 438 U.S. at 124.

¹¹² See *Pa. Coal*, 260 U.S. at 416 (explaining that the ultimate inquiry is to determine “upon whom the loss of the changes desired should fall”).

relevant to a per se takings discussion and allows courts to reach a fair and equitable solution.¹¹³

4. How to “Possess” Intangible Property

As defined above, there are three types of per se takings: government actions that (1) take possession or title to private property, (2) cause a permanent physical invasion of private property, or (3) eliminate all economic value in private property. The first two categories rely on the idea of physical occupation, a concept not applicable to patent law. However, this Article asserts that a patent taking may be characterized as a physical invasion if the government action shares certain characteristics with typical takings of real property.

The fundamental distinction between physical and regulatory takings is that physical takings tend to require the transfer of title or possession from the individual to the government:

Conceptually, the line between [physical takings and regulatory takings] is drawn as follows. A physical taking deprives an owner of the present or future occupation of his property. A regulatory taking leaves an owner’s right to the possession of his property untouched, but restricts his ability to use or dispose of it, or both.¹¹⁴

In addition to this distinction, courts could ask two additional questions to determine whether a patent taking is analogous to a possessory taking. First, did the government intentionally target the affected property? Second, when the government executed the taking, who received the economic benefit in exchange for the required just compensation: the government, other private individuals, or the general public?

a. Did Government Intentionally Target Specific Property?

Jan Laitos describes regulatory takings as “unintentional” because they “occur when a law, ostensibly adopted under the police power, takes property by action ‘other than acquisition of title, occupancy, or physical invasion.’”¹¹⁵ Unlike possessory takings, a regulatory taking can occur without the government targeting specific property: the government “takes” value away from any property affected by the regulation. In *Kelo*, the condemnation process only attached to specific Fort Trumbull properties selected by the NLDC.¹¹⁶ But in *Pennsylvania Coal*, when the Pennsylvania legislature approved the Kohler Act in 1921,¹¹⁷ the state almost assuredly did not single-out the Pennsylvania Coal Company’s property as a target;

¹¹³ “Fifth Amendment’s guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all *fairness and justice*, should be borne by the public as a whole.” *Armstrong v. United States*, 364 U.S. 40, 49 (1960) (emphasis added).

¹¹⁴ RICHARD A. EPSTEIN, *SUPREME NEGLECT: HOW TO REVIVE CONSTITUTIONAL PROTECTION FOR PRIVATE PROPERTY* 97 (2008).

¹¹⁵ LAITOS, *supra* note 72, § 8.02(C), at 8-18 to 8-19 (quoting *San Diego Gas & Elec. Co. v. City of San Diego*, 450 U.S. 621, 653 (1981) (Brennan, J., dissenting)).

¹¹⁶ *Kelo v. City of New London*, 545 U.S. 469, 475 (2005).

¹¹⁷ *Pa. Coal*, 260 U.S. at 412.

instead, the Kohler Act restricted the mining of any anthracite coal and applied to any coal-mining operations in Pennsylvania.¹¹⁸ The Pennsylvania Coal Company still owned the coal, but the Kohler Act restricted the manner in which the Company could mine it.

b. Who is the Economic Beneficiary of the Taken Property?

When government executes any type of taking, the government can redistribute property either (1) to itself, (2) to other private individuals, or (3) to the general public.¹¹⁹ Possessory takings tend to only fall in the first category. For example, when the government uses condemnation proceedings, it takes title to an individual's property—a possessory taking—and retains the value for itself.¹²⁰ Of course, these condemnation proceedings may be on behalf of a private entity, or the government may subsequently redistribute the taken property to other private individuals or designate it for the general public, but these subsequent transactions do not affect the categorization of a taking as possessory or regulatory.¹²¹

But when the government executes a regulatory taking, the government may not acquire any value for itself; rather, the owner's loss is society's gain.¹²² For example, in *Pennsylvania Coal*, the Kohler Act prohibited affected property owners from removing subsurface coal: the coal company lost the economic value of the coal that may no longer be mined, and the public received peace of mind that their houses would not fall into the earth.¹²³ The transaction may also be characterized as a transfer from private individuals to other private individuals;¹²⁴

¹¹⁸ See *id.* at 412–13 (reporting that the Kohler Act applied to any mining of anthracite coal that will cause the subsidence of a house, but, “[a]s applied to this case[,] the statute is admitted to destroy previously existing rights of property and contract”).

¹¹⁹ LAITOS, *supra* note 72, § 10.09(D), at 10-94.

¹²⁰ STOEBUCK, *supra* note 76, at 1.

¹²¹ For example, in *Kelo*, the city of New London condemned the property and was forced to pay just compensation, but it received equal value in return—the property. *Kelo v. City of New London*, 545 U.S. 469, 475 (2005). New London transferred the property directly to the NLDC, but the Supreme Court analyzed the facts like any other government-executed possessory taking. See *id.* at 475 & n.3 (noting that the NLDC acted under the authority of the city and then analyzing the eminent domain issues as if New London had directly condemned the property, “differentiat[ing] . . . only where necessary”).

¹²² Professor Stoebuck relies on this distinction to suggest that regulatory takings should not be considered “takings” at all:

One group of eminent-domain cases seems to involve a departure from this general principle [that takings involve the transfer of property interests.] When a governmental entity imposes restrictions on the use of land . . . , the owner has more or less suffered a diminution of his property rights. However, it is hard to see that anything has passed to the government. The redistribution has, rather, been to the owner's neighbors, who have presumably gained because he is restricted in using his land. Zoning effects an exchange similar to that produced by the making of restrictive covenants. In theory it should follow that, because the transfer is not to the governmental entity, no exercise of eminent domain occurs.

STOEBUCK, *supra* note 76, at 19.

¹²³ See *Pa. Coal*, 260 U.S. at 414 (describing how the Kohler Act protects the integrity of some houses by making it “commercially impracticable to mine certain coal”).

¹²⁴ See EPSTEIN, *supra* note 114, at 107 (“[T]he regulation [in *Mahon*] transferred an interest in property, the support estate, from the mine owners to the surface owners. That counts as a taking of

in any event, the state of Pennsylvania never received any direct value for the taking.¹²⁵ If the state had instead condemned the subsurface coal, the government would still have to pay just compensation but could then receive some value in return—the coal.

To summarize, a per se taking occurs when the government (1) takes title to private property, (2) causes a permanent physical invasion of private property, or (3) eliminates all economic value in private property. Every other form of regulatory taking is a per quod taking. Although one cannot physically possess a patent, a government action could qualify as a per se patent taking, rather than a per quod taking, if the taking is sufficiently analogous to possessory takings of real property.¹²⁶ Finally, the scope of judicial discretion depends on whether the taking at issue is per se or per quod: the per se takings doctrine, by definition, only permits the “straightforward application of per se rules,”¹²⁷ but per quod takings cases require a fact-intensive, policy-centric analysis to determine whether government action “goes too far.”¹²⁸

B. A Fifth Amendment Framework for Patent Takings

Now armed with a general understanding of Takings Clause jurisprudence, the next step is to determine how the Fifth Amendment framework described above would apply to takings of patent rights. The remainder of this section will build on the per se/per quod distinction and propose a Takings Clause framework for patent rights.

1. Per Se Patent Takings

As defined above, real property cases define three types of per se takings: government actions that (1) take title to private property, (2) cause a permanent physical invasion of private property, or (3) eliminate all economic value in private property. This definition of per se takings reveals several categories of government restrictions of patent rights—beyond mere infringement¹²⁹—that could invoke the

private property for which compensation is prima facie owed.”)

¹²⁵ See LAITOS, *supra* note 72, § 10.09[D][3], at 10-98 (“Legislation designed to prevent surface subsidence from mining may cause the value of the mine property to decline, while raising the value of surface properties.”).

¹²⁶ See *Pa. Coal*, 260 U.S. at 415; *supra* notes 115–125 and accompanying text (describing the per quod analysis).

¹²⁷ *Tahoe-Sierra Pres. Council v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 322 (2002).

¹²⁸ *Id.* at 326.

¹²⁹ This definition of per se takings fails to include the most basic form of patent taking: government infringement. Government infringement rarely destroys all economic value in a patent, and title to the patent is still vested in the patent owner. Although government infringement is an invasion of the patent owner’s right to exclude, this invasion is temporary, not permanent. Patent infringement is thus analogous to a form of trespass. *Cf., e.g., Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1574 (Fed. Cir. 1995) (Nies, J., concurring) (“An infringement, like a trespass, may be committed unknowingly.”); *Filmtec Corp. v. Allied-Signal Inc.*, 939 F.2d 1568, 1572 n.5 (Fed. Cir. 1991) (“[T]he statutory action for infringement bears a much closer relation to an action of trespass than to an action in trover and replevin.”). But the Takings Clause does not require compensation (as compared to the Federal Torts Claims Act) for one-time government trespass. See EPSTEIN, *supra* note 114, at 57 (“[T]he Supreme

Fifth Amendment.

The most obvious example occurs when the government reacquires title to a patent after it issues: once the patent right has vested in the owner, the government must provide compensation in order to “buy back” the patent.¹³⁰ Of course, the Constitution grants Congress the discretion to require as many pre-grant limitations as it chooses,¹³¹ such as required fee payments¹³² and regulatory approval.¹³³ Pre-

Court draws a fine line between events, like flooding, that result in a permanent occupation for which compensation is owed, and isolated incidents, such as accidental sonic booms, to which sovereign immunity applies.”).

Therefore, one could argue that the Federal Circuit in *Zoltek* reached the correct result, but for the wrong reason. See *Zoltek Corp. v. United States*, 442 F.3d 1345, 1353 (Fed. Cir. 2006) (per curiam) (dismissing *Zoltek*’s Takings Clause claim of government patent infringement), *cert. denied*, 127 S. Ct. 2936 (2007). However, such an interpretation contradicts the historical appreciation of patents as constitutionally-protected patent property. See *supra* Part II.A (chronicling the nineteenth century treatment of patents as Fifth Amendment property). In addition, courts have described 28 U.S.C. § 1498 as the statutory mechanism for enforcing a Fifth Amendment takings claim. See, e.g., *Hughes Aircraft Co. v. United States*, 86 F.3d 1566, 1571 (Fed. Cir. 1996) (“The government’s unlicensed use of a patented invention is properly viewed as a taking of property under the Fifth Amendment through the government’s exercise of its power of eminent domain and the patent holder’s remedy for such use is prescribed by 28 U.S.C. § 1498(a).”), *vacated on other grounds*, 520 U.S. 1183 (1997); *Motorola, Inc. v. United States*, 729 F.2d 765, 768 (Fed. Cir. 1984) (“This is a 28 U.S.C. § 1498 action, and as such, the patent owner is seeking to recover just compensation for the Government’s unauthorized taking and use of his invention. The theoretical basis for his recovery is the doctrine of eminent domain.”); see also *Mossoff, supra* note 6, at 713 (suggesting that Congress enacted the predecessor to section 1498 to clarify “some procedural questions concerning how patentees could sue the government for unauthorized uses of their property”); *Torres, supra* note 71, at 341 (“After [Congress created section 1498,] what changed was not courts’ understanding of the Fifth Amendment status of patents, but their understanding of the Fifth Amendment itself, and of how property owners obtained the just compensation due to them under the Constitution.”). *But see* *Isaacs, supra* note 6, at 34 (“[A] sound policy basis existed for Congress to enact that statute even in the absence of Constitutional imperative: Congress may have recognized that the absence of compensation would be a disincentive to create governmental-useful inventions.”).

For government infringement to be a form of patent taking, the Supreme Court might have to depart from its narrow treatment of temporary government takings. If we accept the proposition that “[t]here is no gap between public and private law,” then government trespass should require compensation just as private trespass does. EPSTEIN, *supra* note 114, at 55; see also *id.* at 57 (“The Supreme Court draws a fine line between events, like [permanent] flooding, that result in a permanent occupation for which compensation is owed, and isolated incidents, such as accidental sonic booms, to which sovereign immunity applies. Yet, history aside, there is no principled reason why the government’s sovereign status should insulate it from liability for one-time damages to strangers.”). Of course, at some point, individual acts of trespass become a series of trespasses and then de facto permanent occupation, and the Supreme Court could treat continuous government infringement as a permanent invasion.

¹³⁰ This characterization of government reacquisition of patent rights as a “buy back” is consistent with the traditional metaphor of the patent bargain. In theory, a patent represents the grant of a limited monopoly in exchange for the disclosure of a novel invention. The Supreme Court recognized this “quid pro quo” exchange in *Eldred v. Ashcroft*, 537 U.S. 186, 216 (2003) (describing public disclosure as “the price paid for the exclusivity secured”), but scholars have since criticized the underlying “social contract theory.” See generally Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1317 (2004) (suggesting that courts reject the theory that “a body of law is justified by an exchange between the state and the affected party” in favor of the notion that patent law is “a form of regulation integrated into other activities of the modern regulatory state”). However, even if the “patent bargain” is not a true contract, public disclosure is an “investment” that should be protected. See *infra* note 155 and accompanying text (suggesting that the “investment-backed expectations” prong of the *Penn Central* test guarantees inventors that they will be compensated for their public disclosure).

¹³¹ See U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to establish patent laws “to promote the useful arts”).

grant limitations—as well as any other changes made to the patent statute before a patent issues—operate prospectively and do not implicate the Takings Clause, but retroactive changes made to protected property rights invoke Takings Clause protection.¹³⁴ The Supreme Court invoked the “retroactivity” doctrine in *McClurg v. Kingsland*¹³⁵ by holding that Congress could not retroactively limit patent rights granted by the government under prior patent statutes.¹³⁶

In addition to a government reacquisition of patent rights as described above, government action might qualify as a per se taking if it eliminates all economic value in the patent. The Supreme Court intended the regulatory takings doctrine to protect the “investment-backed expectations”¹³⁷ of property owners, and the Takings Clause here would protect the investment-backed expectations of inventors. Furthermore, government action might qualify as a per se taking if it is sufficiently analogous to a physical appropriation—e.g., the government could intentionally target a specific patent or recover a direct economic benefit.¹³⁸ For example, Congress might enact a law that intentionally targets a specific patent (or even a small number of patents), and, rather than take title to the patent, the government could attempt to rededicate the patented technology to the public domain.¹³⁹

¹³² See Isaacs, *supra* note 6, at 2, 22–23 (quoting *Figuro v. United States*, 57 Fed. Cl. 488, 503 (Fed. Cl. 2003) (“[T]he mere imposition of an obligation to pay money does not give rise to a claim under the Takings Clause of the Fifth Amendment.”)), *aff’d*, 466 F.3d 1023 (Fed. Cir. 2006), *cert. denied*, 127 S. Ct. 2248 (2007); *Korsinsky v. Godici*, No. 05 Civ. 2791 (DLC), 2005 WL 2312886, at *5 (S.D.N.Y. Sept. 22, 2005) (“[I]t is not that plaintiff’s personal property is taken away but rather the conditions of the [patent] privilege are no longer satisfied.”).

¹³³ See, e.g., EPSTEIN, *supra* note 114, at 160 (describing how Congress can restrict a patent owner’s ability to sell product by requiring licensing by a regulatory agency such as the Food and Drug Administration); see also *id.* (“For example, Congress could decree that the intellectual property holder will receive a license to market a drug or insecticide only if it agrees to share its property with its competitors.”).

¹³⁴ Statutes may operate either prospectively or retroactively. LAITOS, *supra* note 72, § 13.01, at 13-3. “If a statute applies *prospectively*, it affects the legal consequences of future private action in the future.” *Id.* Such is the case with pre-grant patent limitations: the limitations affect the rights and obligations of a future patent owner, but they do not take away rights from older patents whose owners are not subject to the limitations.

Secondary retroactivity, however, occurs when a statute operates to “affect[] the legality of past action *in the future*, after the applicable date of the new law.” *Id.* If this past action has a “*protected*” legal status, then “it is illegal or unconstitutional for the new law to alter or adversely affect that legal status in the future.” *Id.* There are several ways by which a past private action can have protected legal status, but this most common is when the party has a protected “property interest.” *Id.*, § 13.03, at 13-10; see also *id.*, § 13.03, at 13-11 to 13-12 (“Substantive rights are most commonly protected from secondary retroactivity by the Takings, Contracts, and Due Process Clauses.” (footnotes omitted)).

¹³⁵ *McClurg v. Kingsland*, 42 U.S. (1 How.) 202 (1843).

¹³⁶ *Id.* at 206–07 (holding that the patent, which was a right in property, must “stand as if the acts of 1793 and 1800 remained in force; in other respects[,] the 14th and 15th sections of the act of 1836 prescribe the rules which must govern on the trial of actions for the violation of patented rights, whether granted before or after passage”); see also *supra* notes 14–15 and accompanying text (discussing the *McClurg* opinion).

¹³⁷ *Penn Cent. Transp. Co. v. N.Y. City*, 438 U.S. 104, 124 (1978); see also *infra* notes 152–155 and accompanying text (discussing the “investment-backed expectations” test described in *Penn Central*).

¹³⁸ See *supra* Part III.A. (suggesting possible ways a court could analogize to a physical taking).

¹³⁹ See *infra* Part IV.B (describing this hypothetical in more detail in the context of a new

Note that this Article’s definition of per se takings goes beyond mere “use” of a patent. Professor Richard A. Epstein suggests that, “where the law actually allows someone else to *use* the intellectual property, the per se takings rules should apply, whether or not the original owner may continue to exploit his . . . invention.”¹⁴⁰ This formulation works quite well when describing government infringement,¹⁴¹ but this “use” test omits other government actions that qualify as per se takings under real property precedent. For example, a regulation that destroys all economic value in property is a per se taking.¹⁴² The government could also eliminate patent rights and dedicate technology to the public domain without actually using the patented invention. Of course, Professor Epstein might characterize these actions as uses of a patent because the destruction of property is the same as the taking of property.¹⁴³ Regardless, this Article defines per se takings to include more than mere “use” of a patent.

2. *Per Quod Patent Takings*

A government regulation that does not qualify as a per se taking would be analyzed as a per quod taking under *Penn Central*.¹⁴⁴ If a government regulation results in a per quod taking, *Penn Central* requires courts to balance the economic impact of the regulation on the property owner and the property owner’s “distinct investment backed expectations” against the character of the government action and the government’s interest in adjusting property rights “to promote the common good.”¹⁴⁵ As discussed above, courts must determine as a matter of policy whether the individual or the public should bear the costs of the taking.¹⁴⁶

Courts and scholars may not feel comfortable applying this policy-centric analysis to patent rights because it lacks a “set formula.”¹⁴⁷ Professor Isaacs, for one, argues that the Takings Clause should not apply to patent rights because the doctrine is unpredictable and could potentially undermine congressional policy:

Because of the underdeveloped and inconsistent regulatory takings precedent, courts should be concerned about the impact of regulatory takings claims on the

commons for biomedical research).

¹⁴⁰ EPSTEIN, *supra* note 114, at 158–59.

¹⁴¹ *See id.* at 159 (“One obvious application of the rule is to trigger compensation if the government authorizes a generic manufacturer to make a licensed pharmaceutical whose patent period has not yet run.”). *But see supra* note 128 (describing potential doctrinal problems with characterizing infringement as a taking).

¹⁴² *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 538 (2005) (citing *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1019 (1992)).

¹⁴³ *See* EPSTEIN, *supra* note 114, at 55 (“There is no gap between public and private law. Therefore, whatever actions count as takings when done by a private party also count as takings when done by the state. . . . To some extent, the case law has adhered to this principle by equating the destruction of property with the taking of property.”).

¹⁴⁴ *Penn Cent. Transp. Co. v. N.Y. City*, 438 U.S. 104 (1978).

¹⁴⁵ *Id.* at 124.

¹⁴⁶ *See Pa. Coal*, 260 U.S. at 416 (explaining that the ultimate inquiry is to determine “upon whom the loss of the changes desired should fall.”); *see also supra* notes 108–113 and accompanying text (describing how the per quod takings analysis applies to real property disputes).

¹⁴⁷ *Lingle*, 544 U.S. at 538 (quoting *Penn Cent.*, 438 U.S. at 124).

government's ability to adjust patent policy. The danger is not simply that the government might be compelled to pay damage awards, but that uncertainties about the likelihood of such awards might very well deter the government from making socially valuable changes to patent policy.¹⁴⁸

Although Professor Isaacs exaggerates some of these regulatory-takings fears,¹⁴⁹ the doctrine is admittedly somewhat unpredictable because it lacks bright-line rules.

However, with "unpredictability"¹⁵⁰ comes flexibility. The per quod takings analysis is sufficiently flexible to account for patent-specific policy concerns. For example, Congress is charged with providing patent rights "to promote the useful arts,"¹⁵¹ and must modify patent rights occasionally in order to promote technology development and to ensure that the patent statute benefits both inventors and the public. Fortunately, the *Penn Central* test expressly requires courts to account for the government's interest in adjusting property rights "to promote the common good,"¹⁵² and Congress's traditional role in weighing the benefits and burdens of patent monopolies should qualify as a "background principle" against which courts must afford additional regulatory discretion.¹⁵³ Because courts must therefore provide some deference to Congress in per quod patent takings cases, it would be very difficult to establish a per quod patent taking under *Penn Central*, which requires a "low standard of review."¹⁵⁴

Furthermore, the Supreme Court rationale behind the regulatory takings doctrine suggests that patent owners are entitled to similar protection. The *Penn Central* test aims to protect the property owner's "distinct investment-backed expectations."¹⁵⁵ These investor expectations were at the center of the Supreme

¹⁴⁸ Isaacs, *supra* note 6, at 28.

¹⁴⁹ See *infra* Part IV.A (presenting two of Professor Isaacs's hypothetical regulatory takings and explaining how they are not compensable takings under the per quod takings test).

¹⁵⁰ Isaacs, *supra* note 6, at 2, 25.

¹⁵¹ U.S. CONST. art. I, § 8, cl. 8.

¹⁵² *Penn Cent.*, 438 U.S. at 124.

¹⁵³ See *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 538 (2005) ("[T]he government must pay for just compensation for such 'total regulatory takings,' except to the extent that 'background principles of nuisance and property law' independently restrict the owner's intended use of the property.") (citing *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1026-32 (1992)). There is some question regarding whether this "background principles" language applies to intellectual property law because the Supreme Court failed to utilize the language in *Ruckelshaus v. Monsanto*, Isaacs, *supra* note 6, at 28, but the concept of "background principles" is merely another policy argument that courts must recognize under the *Penn Central* test.

¹⁵⁴ Cf. EPSTEIN, *supra* note 114, at 161 ("The key point in the analysis is this: the distinction between physical and regulatory takings gives the government the benefit of a low standard of review from the *Penn Central* case whenever it only restricts a private owner's use of property without making any use of that property itself.").

¹⁵⁵ *Penn Cent.*, 438 U.S. at 124. Of course, courts must determine whether these investment-backed expectations are reasonable, and some authors assert that the concept should be "redefined to incorporate greater scientific content, reduce its malleability, and increase legal certainty." See Johan Deprez, Comment, *Risk, Uncertainty, and Nonergodicity in the Determination of Investment-Backed Expectations: A Post Keynesian Alternative to Posnerian Doctrine in the Analysis of Regulatory Takings*, 34 LOY. L.A. L. REV. 1221, 1222 (2001) ("The problem with the use of [reasonable investment-backed expectations (RIBE)] in takings jurisprudence is that RIBE is a rather ephemeral concept that can be used to suit the political perspectives of a particular court. Such malleability creates

Court's reasoning in *Pennsylvania Coal*: the Pennsylvania Coal Company had invested in a mineral estate for the purposes of mining coal, but the Kohler Act "made it commercially impracticable to mine the coal . . . and thus had nearly the same effect as the complete destruction of [the coal company's] rights."¹⁵⁶ Inventors—and their employers—have similar economic expectations due to the high costs of research and development (R&D).¹⁵⁷ Typical industrial companies, for example, spend approximately 3.5% of revenues on R&D, and some high technology industries—such as pharmaceuticals & biotechnology, software & computer services, and technology hardware—spend over 8% of revenues on R&D.¹⁵⁸ In addition, companies make an additional investment as consideration for their patent rights: inventors make their otherwise-secret designs available to the public in exchange for limited patent rights.¹⁵⁹ The per quod takings test is appropriately suited to protect the investment-backed expectations of high technology companies and to enforce Congress's half of the "patent bargain."

3. Compensation

If government action qualifies as a per se or per quod taking under the framework described above, the patent owners would be entitled to just compensation.¹⁶⁰ Although an entire article could be written just on this subject, it is important here to note a few basic principles. First, courts calculate just compensation according to three tenets:

First, the question of just compensation asks "what has the owner lost," not "what has the taker gained. . . ." Second, since the owner's loss is the gravamen of any just compensation remedy, the Takings Clause requires that the owner receive the full monetary equivalent of that loss. . . . Third, after the just compensation has been paid, the property owner should be in the same position the owner would have occupied had no taking occurred.¹⁶¹

an undesirable legal uncertainty for both government regulators and private property owners."). Arguably, investment-backed expectations are lower in technology fields subject to constant federal regulation.

¹⁵⁶ *Penn Cent.*, 438 U.S. at 127 (citing *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 414 (1922)).

¹⁵⁷ The Organization for Economic Co-operation and Development estimates that U.S. corporations spent over \$343 billion on R&D in 2006, which was 2.6% of U.S. Gross Domestic Product. ORG. FOR ECON. CO-OPERATION AND DEV., MAIN SCIENCE AND TECHNOLOGY INDICATORS 1, <http://www.oecd.org/dataoecd/49/45/24236156.pdf>. The United States was responsible for over 40% of the world's research and development. DEP'T FOR INNOVATION, UNIVS., AND SKILLS, THE 2007 R&D SCORECARD 11, http://www.innovation.gov.uk/rd_scoreboard/downloads/2007_rd_scoreboard_analysis.pdf.

¹⁵⁸ DEP'T FOR INNOVATION, UNIVS., AND SKILLS, *supra* note 156, at 7, 20. For example, companies like Allergan (34.5%), Pfizer (26.5%), Merck & Co. (21.1%), Novartis (14.5%), and Johnson & Johnson (13.4%) invest a very high percentage of its earnings on further research. DEP'T FOR INNOVATION, UNIVS., AND SKILLS, THE 2007 R&D SCORECARD 140, http://www.innovation.gov.uk/rd_scoreboard/downloads/2007_rd_scoreboard_data.pdf.

¹⁵⁹ See *supra* note 129 (defining the "patent bargain").

¹⁶⁰ Both possessory and regulatory takings trigger the "just compensation" remedy. LAITOS, *supra* note 72, § 17.02, at 17-3, 17-5 (citing *First English Evangelical Lutheran Church v. County of Los Angeles*, 482 U.S. 304, 315-16 (1987)).

¹⁶¹ *Id.*, § 17.03[A], at 17-7 to 17-8 (footnotes omitted).

Although the second and third tenets suggest that the property owner should be made whole, “current compensation rules exclude whole categories of damages caused by government takings of private property.”¹⁶²

In order to determine what the owner has lost, the court must determine the fair market value of the property.¹⁶³ Defining market value is a fact-specific inquiry, although one scholar has suggested that the government should compensate for any loss in a patent’s licensing value.¹⁶⁴ However a court chooses to calculate market value, here it is important to understand that just compensation damages under the Takings Clause are not the same as private infringement damages, which are calculated based on a reasonable royalty.¹⁶⁵ A reasonable royalty is the amount a willing licensee would pay to make and sell the patented article at a reasonable profit,¹⁶⁶ but Fifth Amendment damages are calculated by looking at the loss to the patent owner, not by looking at the benefit to the taker.

IV. THE FRAMEWORK IN ACTION

In Part III, this Article introduced the per se/per quod framework for analyzing patent takings under the Fifth Amendment. This section will apply this framework to a few modern takings scenarios.

A. Congressional Modification of Patent Protection

Professor Isaacs warns that the regulatory takings doctrine could theoretically require Congress to compensate patent owners if it narrowed the doctrine of equivalents or reduced patent damages for some types of technology.¹⁶⁷ However, such regulatory changes would likely not qualify as a compensable taking under the Fifth Amendment.

First, neither scenario qualifies as a per se taking. Congress is not taking title to a patent, nor is it even targeting a specific patent or receiving an economic

¹⁶² See Christopher Serkin, *The Meaning of Value: Assessing Just Compensation for Regulatory Takings*, 99 NW. U. L. REV. 677, 678–79 (2005) (noting that fair market value excludes “consequential damages and compensation for any of the real but subjective harms suffered by the property owner”) (citations omitted).

¹⁶³ LAITOS, *supra* note 72, § 17.03[C], at 17-9 (citations omitted).

¹⁶⁴ Ghosh, *supra* note 7, at 685 (“[I]f the government uses protected intellectual property in a way that diminishes the licensing value of the property, then the government must compensate the intellectual property owner. All other uses are not compensable takings.”).

¹⁶⁵ 35 U.S.C. § 284 (2000) (“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”). Also, although patent owners can recover for lost profits under section 284, real property owners are rarely entitled to lost profits. See Laura H. Burney, *Just Compensation and the Condemnation of Future Interests: Empirical Evidence of the Failure of Fair Market Value*, 1989 BYU L. REV. 789, 793-94 (listing excluded categories of damages from fair market value, including “good will, lost profits, and sentimental attachment”).

¹⁶⁶ See, e.g., ROGER SCHECHTER & JOHN THOMAS, *PRINCIPLES OF PATENT LAW* 333 (2d ed. 2004) (citing *Unisplay, S.A. v. Am. Elec. Sign Co.*, 69 F.3d 512, 518 (Fed. Cir. 1995)) (“The reasonable royalty is set to the rate a willing patent owner and willing licensee would have decided upon had they negotiated the license on the date the infringement began.”).

¹⁶⁷ Isaacs, *supra* note 6, at 2–3.

benefit in return. Nor do such regulations eliminate *all* economic value in the patent. Rather, the government action merely restricts the patentholder's use of the property and should be analyzed as a per quod taking. However, under *Penn Central*, the government's interest in adjusting property rights "to promote the common good" would outweigh the economic impact of the regulation on the patentholder.¹⁶⁸ Here, courts should recognize Congress's traditional role as the balancer of patent rights among members of the public, as well as a regulator of national economic policy. The flexibility of the *Penn Central* balancing test provides Congress the discretion "to promote the useful arts"¹⁶⁹ by adjusting patent entitlements "without paying for every such change in the general law."¹⁷⁰

B. Taking Back the Commons: Creation of a Public Domain for Biomedical Research

As discussed above, eliminating the doctrine of equivalents and reducing patent damages does not destroy the underlying right to exclude, but rather regulates the scope and the value of that right. But what if Congress determined that the underlying right to exclude was deterring innovation? For example, Congress could have granted too many patents and saturated an industry with competing property rights. This, according to Professor Michael Heller, is the "tragedy of the anticommons:" rational actors might under utilize a resource (such as new technology) if the transaction costs of coordinating those rights overwhelm any previously existing benefit.¹⁷¹ Professor Rebecca Eisenberg, joined by Professor Heller, built on the theory of anticommons property and "identifie[d] an unintended and paradoxical consequence of biomedical privatization: A proliferation of [fragmented and overlapping] intellectual property rights upstream may be stifling life-saving innovations further downstream in the course of research and product development."¹⁷²

If Congress agreed with their assessment of the obstacles facing biomedical research, how far could the government go before implicating the Takings Clause? For example, Professors Heller and Eisenberg might support regulations that increase compulsory licensing or expand research-related infringement defenses.¹⁷³ These regulatory fixes would probably not invoke the Takings Clause because they do not qualify as per se takings and because the *Penn Central* balancing test would

¹⁶⁸ See *Penn Cent. Transp. Co. v. N.Y. City*, 438 U.S. 104, 124 (1978).

¹⁶⁹ U.S. CONST. art. I, § 8, cl. 8.

¹⁷⁰ *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 413 (1922).

¹⁷¹ Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 625–26 (1998); see also *id.* at 640 ("[T]he market route to bundling rights might fail altogether if the transaction costs of bundling exceed the gains from conversion, or if owners engage in strategic behavior such as holding out for the conversion premium.").

¹⁷² Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCI. 698, 698 (1998). The article identified "two mechanisms by which a government might inadvertently create an anticommons: either by creating too many concurrent fragments of intellectual property rights in potential future products or by permitting too many upstream patent owners to stack licenses on top of the future discoveries of downstream users." *Id.* at 699.

¹⁷³ *Cf. id.* at 701 ("Policy-makers should seek to ensure coherent boundaries of upstream patents and to minimize restrictive licensing practices that interfere with downstream product development.").

favor the government even though the patent owners would suffer some, but not total, economic harm. However, if Congress eliminated monopoly rights to a list of “blocking patents” that are restricting biotechnology research, the government efforts could qualify as a per se taking. Eliminating monopoly rights could destroy all economic value in a patent, and targeting specific patents—rather than enacting industry-wide regulations—is analogous to a typical possessory taking.

C. Regulation that Targets Specific Patents

The above hypothetical suggests that congressional action might implicate the Takings Clause by going “too far” and targeting specific patents. Section 14 of the proposed Patent Reform Act of 2007 does just that.¹⁷⁴

DataTreasury owns two patents covering methods of digitizing, sending, and archiving checks.¹⁷⁵ The company has sued a number of banks for patent infringement; the cases were stayed pending a reexamination of the patents,¹⁷⁶ but the stay was lifted March 2008.¹⁷⁷ The defendant banks have urged Congress to grant them immunity from suit by retroactively¹⁷⁸ eliminating DataTreasury’s right to sue for infringement.¹⁷⁹ Section 14 of the proposed Patent Reform Act “declares [that] practicing of the Check 21 industry standard should not constitute patent infringement.”¹⁸⁰ According to the Senate Report, banks should not be liable for using the patented Check 21 industry standard because all financial institutions are required to comply with the standard under the Check 21 Act of 2003.¹⁸¹ Although the Patent Reform Act of 2007 does not expressly refer to the DataTreasury patents, “it is clear that Section 14 of the Senate Bill is primarily directed at that single patent holder.”¹⁸²

Section 14 of the proposed bill is an example of a per se patent taking. First, eliminating DataTreasury’s right to exclude will destroy all economic value in the patent. Second, although the government itself is not using the technology, destroying DataTreasury’s right to sue for infringement is the functional equivalent to congressional act that takes title to a previously-granted patent and then

¹⁷⁴ Patent Reform Act of 2007, S. 1145, 110th Cong. § 14(a) (2007) (“With respect to the use by a financial institution of a check collection system that constitutes an infringement under subsection (a) or (b) of section 271, the provisions of sections 281, 283, 284, and 285 shall not apply against the financial institution with respect to such a check collection system.”).

¹⁷⁵ Jeffrey H. Birnbaum, *Lawmakers Move to Grant Banks Immunity Against Patent Lawsuit*, WASH. POST, at A22; see also U.S. Patent No. 5,910,988 (filed Aug. 27, 1997); U.S. Patent No. 6,032,137 (filed May 19, 1998).

¹⁷⁶ Birnbaum, *supra* note 175.

¹⁷⁷ Lisa Lerer, *Senate, Old Legal Woes Drawn into Patent Fight*, POLITICO, Mar. 25, 2008, <http://www.politico.com/news/stories/0308/9202.html>.

¹⁷⁸ Section 14 “appl[ies] to any civil action for patent infringement pending or filed on or after the date of enactment of this Act.” Patent Reform Act of 2007, S. 1145, 110th Cong. § 14(b) (2007).

¹⁷⁹ Birnbaum, *supra* note 175 (“Sen. Jeff Sessions (R-Ala.) has sponsored an unusual provision at the urging of the nation’s banks granting them immunity against an active patent lawsuit, potentially saving them billions of dollars.”).

¹⁸⁰ S. REP. NO. 110-259, at 34 (2007).

¹⁸¹ *Id.*

¹⁸² Posting of Dennis Crouch to Patently-O, <http://www.patentlyo.com/patent/2008/02/patently-o-bi-3.html> (Feb. 15, 2008).

dedicates that property to the public. Even though the Patent Act of 2007 is a form of government regulation, section 14 targets a specific patent and is substantively analogous to a possessory taking.

The government even agrees that section 14 will be a compensable taking under the Fifth Amendment, if enacted. According to estimates by the Congressional Budget Office, “[t]he federal government would have to pay \$1 billion to DataTreasury over 10 years as compensation for taking its property under the amendment.”¹⁸³ The Congressional Budget Office reached this conclusion even though the Federal Circuit held in *Zoltek* that the Fifth Amendment does not apply to patent rights.¹⁸⁴ Although the Congressional Budget Office report cannot be read as an admission that the Takings Clause applies to government takings of previously-granted patents, it does support the notion that federal regulation, beyond mere infringement, might require compensation under the Fifth Amendment.

V. CONCLUSION

The question of whether and how the Takings Clause should apply to patent rights cannot be comprehensively answered in a single article. This Article merely adds one point to the discussion: The Supreme Court’s treatment of real property takings cases under the Fifth Amendment can also apply to patent takings cases without undermining congressional patent policy. The balancing test set forth in *Penn Central* would require courts to acknowledge Congress’s traditional role as the balancer of patent rights among members of the public, as well as a regulator of national economic policy. Although this Article does not address every policy argument at issue, the *Penn Central* analysis is sufficiently flexible to account for policy concerns. Courts should not hesitate to apply the Fifth Amendment to government takings of patent rights because the Takings Clause can protect inventors without creating an undue burden on Congress.

¹⁸³ Birbaum, *supra* note 175.

¹⁸⁴ See *Zoltek Corp. v. United States*, 442 F.3d 1345, 1352 (Fed. Cir. 2006) (per curiam), *rehearing en banc denied*, 464 F.3d 1335 (Fed. Cir. 2006), *cert. denied*, 127 S.Ct. 2936 (2007).