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Dmitry Karshedt

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2012]

DID LEARNED HAND GET IT WRONG?: THE QUESTIONABLE
PATENT FORFEITURE RULE OF *METALLIZING ENGINEERING*

DMITRY KARSHTEDT*

“[E]quity does not seek for general principles, but weighs the
opposed interests in the scales of conscience and fair dealing.”¹

I. INTRODUCTION

IN his fifty-two years of service as a federal judge,² Learned Hand penned some of the most famous decisions in the history of U.S. intellectual property law. *Nichols v. Universal Pictures Corp.*³ in copyrights, *Bayer Co. v. United Drug Co.*⁴ in trademarks, and *Parke-Davis & Co. v. H.K. Mulford Co.*⁵ in patents are opinions that are both persuasive and analytically useful, influencing future courts many years later. Judge Hand is rightly considered one of the greatest jurists in American history,⁶ and his intellectual property jurisprudence has been singled out as particularly perceptive and valuable to the development of the law.⁷ A rare exception to the nearly

* Associate, Wilson Sonsini Goodrich & Rosati, P.C. The author would like to thank Martin Adelman, Jonas Anderson, Bob Armitage, Mark Lemley, Brian Love, Samuel Oddi, David Olson, David Schwartz, Lawrence Sung, and Hal Wegner for many helpful comments on the various drafts of this Article. The author also thanks Professor Robin Feldman and her students in the IP Concentration Capstone Seminar at the University of California Hastings College of the Law, as well as participants in the 2011 Intellectual Property Scholars Conference at the DePaul University College of Law and the 2012 Works in Progress in IP Conference at the University of Houston Law Center, for valuable feedback on presentations based on this Article. The views expressed herein are solely the author's own.

1. *Dwinell-Wright Co. v. White House Milk Co.*, 132 F.2d 822, 825 (2d Cir. 1943) (Hand, J.).

2. See Charles Alan Wright, *A Modern Hamlet in the Judicial Pantheon*, 93 MICH. L. REV. 1841, 1842 (1995) (reviewing GERALD GUNTHER, *LEARNED HAND: THE MAN AND THE JUDGE* (1994)).

3. 45 F.2d 119 (2d Cir. 1930) (introducing “levels of abstraction” test in copyright law).

4. 272 F. 505 (S.D.N.Y. 1921) (establishing concept known in contemporary trademark doctrine as “genericide”).

5. 189 F. 95 (C.C.S.D.N.Y. 1911) (holding that chemical compound purified and isolated from natural source is patentable subject matter), *aff'd in part, rev'd in part*, 196 F. 496 (2d Cir. 1912).

6. See John F. Hagemann, *The Judge's Judge*, 40 S.D. L. REV. 576, 576 (1995) (reviewing GUNTHER, *supra* note 2) (noting Justice Benjamin Cardozo had Judge Learned Hand in mind when he said, “[t]he greatest living American jurist isn't on the Supreme Court.”).

7. See Gerald Gunther, *Learned Hand: Outstanding Copyright Judge*, 41 J. COPYRIGHT SOC'Y USA 315, 317 (1994) (noting Judge Hand “produced an enormous body of influential work”); Oskar Liivak, *Rethinking the Concept of Exclusion in Patent*

universal praise Judge Hand has received is an article by Kenneth Port, who strongly criticized Hand's trademark law decisions.⁸ To my knowledge, an analogous attack has not been lodged against Hand's patent law jurisprudence; many of Hand's patent opinions have withstood the test of time and continue to be taught, cited, and followed widely.⁹ This Article is about one such case, *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*¹⁰ The case held that one who "competitive[ly] exploit[s]" a secret invention at a time that precedes the filing of a patent application on that invention by a year or longer forfeits the right to the patent.¹¹

Law, 98 GEO. L.J. 1643, 1646 (2010) ("[Judge Hand] was, and continues to be, one of the most venerated judges to ever preside over a patent case." (citing GUNTHER, *supra* note 2, at 306-15)); Stephen H. Philbin, *Judge Learned Hand and the Law of Patents and Copyrights*, 60 HARV. L. REV. 394, 394-401 (1947) (reviewing Hand's contributions to development of copyright and patent law); see also PAUL H. BLAUSTEIN, *LEARNED HAND ON PATENT LAW*, at x (1983) (arguing in Preface to this collection of excerpts from Learned Hand's patent law opinions that "[h]is decisions . . . will stand the test of time, not only because of their great literary quality, but because they are fundamentally sound and correct statements of patent law"); *id.* at 44 (calling *Metallizing Engineering* "landmark decision").

8. Kenneth L. Port, *Learned Hand's Trademark Jurisprudence: Legal Positivism and the Myth of the Prophet*, 27 PAC. L.J. 221, 224-25 (1996) ("Hand's superlative reputation in the area of substantive trademark law is not only unearned, but is based on complete myth. Very few Learned Hand trademark decisions should be cited today as controlling law. This is not a great legacy for 'the greatest judge in the history of the federal courts of appeals.'" (quoting Richard A. Posner, *The Material Basis of Jurisprudence*, 69 IND. L.J. 1, 31 (1993))).

9. See, e.g., *Reiner v. I. Leon Co.*, 285 F.2d 501, 503-04 (2d Cir. 1960) (discussing "secondary factors" and "combination patents" in non-obviousness jurisprudence); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 36 (1966) (citing Judge Hand's *Reiner* opinion); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1575 n.31 (Fed. Cir. 1987) (same); see also *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946) (invalidating patent due to commercial exploitation of secret invention before critical date), reprinted in ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 533-35 (4th ed. 2007); *Parke-Davis*, 189 F. at 97-98 (dealing with patent eligibility of natural products), reprinted in ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 135-36 (4th ed. rev. 2007); *infra* note 13 and accompanying text (listing two of three Supreme Court cases that cited *Metallizing*). But see *Ass'n for Molecular Pathology v. USPTO*, 702 F. Supp. 2d 181, 225 (S.D.N.Y. 2010) (declining to follow *Parke-Davis* and invalidating patent claims to isolated DNA fragments related to genes useful for testing for susceptibility to breast cancer), rev'd in part, 653 F.3d 1329, 1352 (Fed. Cir. 2011), cert. granted, judgment vacated sub nom. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 132 S. Ct. 1794 (2012) (vacating and remanding to Federal Circuit in view of *Mayo Collaborative Svc's v. Prometheus Labs, Inc.*, 132 S. Ct. 1289 (2012)), vacated, 467 Fed. Appx. 890 (Fed. Cir. 2012). For an interesting argument explaining why Judge Hand did not correctly analyze the patent-in-suit in *Parke-Davis*, see Jon M. Harkness, *Guest Post: Myriad Misunderstandings of Parke-Davis v. Mulford*, PATENTLY-O (May 23, 2012), <http://www.patentlyo.com/patent/2012/05/myriad-parke-davis.html>.

10. 153 F.2d 516 (2d Cir. 1946).

11. *Id.* at 520 ("[I]f [the patent applicant] goes beyond that period of probation, he forfeits his right regardless of how little the public may have learned about the invention . . .").

Although the case has been on the books for more than sixty-five years, it appears that the *Metallizing* rule has never been directly criticized or even seriously questioned in subsequent judicial decisions, and received surprisingly little scrutiny from academic commentators.¹² The two rationales for the rule, encouragement of prompt disclosure of patentable inventions and prevention of a de facto extension of the patent monopoly term, have been embraced by the Supreme Court; however, the Court has never approved the actual rule since a case with facts analogous to *Metallizing* has never reached the Court.¹³ To be sure, commentators have pointed out that the rule is a bit of an oddity.¹⁴ *Metallizing* makes it clear that secret commercial uses by the inventor himself or herself are to be treated differently than those by third parties; the latter will not invalidate the inventor's patent.¹⁵ The Patent Act's "statutory bars" to patent rights make no such distinction, with the language focusing on the history of "the invention": "[a] person shall be entitled to a patent unless . . . *the invention was . . . in public use or on sale in this country*, more than one year

12. See, e.g., MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 191 (2d ed. 2003) (offering rare criticism of *Metallizing* rule). For an examination of the impact and other criticisms of *Metallizing*, see *infra* notes 13-14 and accompanying text. Andrew Ubel indirectly criticized the decision by arguing that judges who justify outcomes of *Metallizing* and cases like it by the statutory text of the Patent Act are in fact engaging in "a fiction which is used to serve independent policy objectives of the court. The traditional policy against removing inventions from the public domain does not seem to be the motivating factor in these decisions." F. Andrew Ubel, *Who's on First?—The Trade Secret Prior User or a Subsequent Patentee*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 401, 423 (1994) (footnote omitted); see also Toshiko Takenaka, *Rethinking the United States First-To-Invent Principle from a Comparative Law Perspective: A Proposal To Restructure § 102 Novelty and Priority Provisions*, 39 HOUS. L. REV. 621, 634-36 (2002) (lamenting that *Metallizing*, which led to "inclusion of secret commercial use within the meaning of 'public use or on sale'" provisions of 35 U.S.C. § 102(b), has "introduce[d] a significant uncertainty in U.S. patent validity").

13. See *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63, 68 (1998) (describing policy of promoting disclosure); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149-51 (1989) (discussing policy against commercial exploitation beyond length of patent term). For a discussion of why *Pfaff* did not approve the rule of *Metallizing*, see *infra* notes 392-400 and accompanying text.

14. See, e.g., MERGES & DUFFY, *supra* note 9, at 582; CRAIG ALLEN NARD & R. POLK WAGNER, PATENT LAW 95-96 ("Certainly, the language of 102(b) does not distinguish between inventor-applicant-patentee and third party activity. . . . The rationale for this distinction remains controversial."); ROGER E. SCHECHTER & JOHN R. THOMAS, PRINCIPLES OF PATENT LAW 89 (2d ed. 2004) ("The treatment of prior, secret uses of an invention has . . . led to some strained interpretations of the term 'public use.'"); Ubel, *supra* note 12, at 422-25 (examining distinction between secret use and non-informing public use); see also 2 DONALD S. CHISUM, CHISUM ON PATENTS § 6.02[5][b], at 6-62 (2008) ("As a result of Judge Hand's opinion in *Metallizing*, it is now well established that commercial exploitation by the inventor of a machine or process constitutes a public use even though the machine or process is held secret.")

15. See *Metallizing*, 153 F.2d at 518.

prior to the date of the application for patent in the United States.”¹⁶ Thus, even a cursory glance at the Patent Act’s Section 102(b) reveals that *Metallizing* is inconsistent with the plain language of the statute, which makes “the invention” the grammatical subject of the sentence and does not single out the inventor’s own activities in contradistinction to those of others.¹⁷ In addition, it is not immediately clear how profiting from a secret invention results in a public use or places the invention on sale; the adjectives “secret” and “public” contradict one another (they are antonyms), and courts ordinarily define “sale of an invention” as the sale of that which embodies the claims of a patent, not the sale of some secret machine or process that creates the item being sold.¹⁸

There are other odd things about the case. For one thing, in *Metallizing*, Judge Hand essentially overruled himself, declaring that the opinion he wrote in an earlier case with closely analogous facts, *Peerless Roll Leaf Co. v. H. Griffin & Sons Co.*,¹⁹ was simply wrong.²⁰ A clear reason for this departure from stare decisis is not to be found in the opinion. *Metallizing* made no indication, as the Supreme Court had carefully done in overruling one of its important precedents a few years earlier, that the discarded rule was such “a departure from the principles which have prevailed in the interpretation of [the relevant legal authorities] before and since the decision and that such vitality, as a precedent, as it then had has long since been exhausted.”²¹ Nor did Judge Hand give any traditional supporting reasons for abandoning stare decisis as articulated by the modern Supreme Court. He did not attempt to argue that the rule of *Peerless Roll Leaf* had become “unworkable,” that it could be removed “without serious ineq-

16. 35 U.S.C. § 102(b) (2006) (emphasis added). The America Invents Act (AIA) has amended the statutory bars, with the relevant changes taking effect for patents issuing out of applications with effective filing dates on or after March 16, 2013. See *infra* note 336 and accompanying text. For a discussion of the interaction between the AIA and *Metallizing* rule, see *infra* notes 435-52 and accompanying text.

17. Cf. 35 U.S.C. § 102(c) (2006) (“A person shall be entitled to a patent unless . . . he has abandoned the invention” (emphasis added)). The AIA has repealed this section. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(b), 125 Stat. 284, 299-305 (2011) (to be codified at 35 U.S.C. § 102).

18. See, e.g., *Pfaff*, 525 U.S. at 68 (positing requirement of placing invention on sale for on-sale bar to apply). While *Pfaff* deals with apparatus claims, the situation is more complicated for process claims, in which “sale” of a process involves performance of the method for which a patent is sought for consideration or sale of a machine that can perform the steps of that method. See *In re Kollar*, 286 F.3d 1326, 1332-33 (Fed. Cir. 2002) (explaining difference between sale of patented process and sale of product). Note, however, that the *Metallizing* rule applies to both process and apparatus claims; it can invalidate apparatus claims on the basis of commercial exploitation of “secret machines” through sales of products made with their aid.

19. 29 F.2d 646 (2d Cir. 1928) (Hand, J.).

20. See *Metallizing*, 153 F.2d at 518 (overruling *Peerless Roll Leaf*).

21. *United States v. Darby*, 312 U.S. 100, 116-17 (1941) (overruling *Hammer v. Dagenhart*, 247 U.S. 251 (1918)).

uity to those who have relied upon it,” or that it is “a doctrinal anachronism discounted by society”; nor did he hold that *Peerless*’ “premises of fact have so far changed in the ensuing . . . decades as to render its central holding somehow irrelevant or unjustifiable.”²²

While Judge Hand briefly discussed congressional intent to justify his ruling,²³ he relied primarily on a Supreme Court case that predated the relevant statute by several years.²⁴ To compound the mystery of *Metallizing*, Judge Hand had to distinguish one of his own opinions from six years earlier, which established the rule that commercially exploited third-party secret activities pose no threat to patenting under the statutory bars.²⁵ Finally, neither *Metallizing* nor the cases that followed it ever made it clear whether Learned Hand’s rule of patent forfeiture was really a statutory public use bar, a statutory on-sale bar, or some *tertium quid*—a non-statutory third species of a bar.²⁶

While Hand speaks of an inventor’s patent-defeating secret activities as a peculiar species of public use, the language of “competitive exploita-

22. *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833, 855 (1992); *see also* *Citizens United v. Fed. Election Comm’n*, 130 S. Ct. 876, 912 (2010) (“Beyond workability, the relevant factors in deciding whether to adhere to the principle of *stare decisis* include the antiquity of the precedent, the reliance interests at stake, and of course whether the decision was well reasoned.” (quoting *Montejo v. Louisiana*, 556 U.S. 778, 792-93 (2009))).

23. *See Metallizing*, 153 F.2d at 520 (“Although the evidence of both may at times overlap, each comes from a quite different legal source: one, from the fact that by renouncing the right the inventor irrevocably surrenders it; the other, from the fiat of Congress that it is part of the consideration for a patent that the public shall as soon as possible begin to enjoy the disclosure.”).

24. *See id.* at 518-20 (citing *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 4 (1829)). The provision of the Patent Act analogous to the modern statutory bars of Section 102(b) was initially adopted in 1836 and amended to give a two-year “grace period” to inventors in 1839. The grace period has subsequently been reduced to one year. *See Metallizing*, 153 F.2d at 520 (describing one-year statutory bar). For a further discussion of the role of *Pennock* in the *Metallizing* decision, *see infra* notes 145-64, 383-85, and accompanying text.

25. *See Gillman v. Stern*, 114 F.2d 28, 31 (2d Cir. 1940) (ruling that third party’s secret commercial use of machine later patented by another did not invalidate patent), *cert. denied*, 311 U.S. 718 (1940).

26. *Compare* *Ubel*, *supra* note 12, at 416 n.48 (arguing that “the *Metallizing* decision is a non-statutory bar” which is not subject to “in this country” limitation of Section 102(b)), *with* Winslow B. Taub, Comment, *Blunt Instrument: The Inevitable Inaccuracy of an All-or-Nothing On-Sale Bar*, 92 CALIF. L. REV. 1479, 1498 (2004) (“Courts interpreting the on-sale bar have recognized many of [the] economic consequences [of imposing the bar], though generally not all in a single case. In [*Metallizing*], the Second Circuit observed that a sale by an inventor may forfeit the right to a patent in two ways: by ‘abandon[ing]’ the invention to the public or by ‘competitive exploitation’ of the invention too long before the filing date.”), *with* Charles C. Wells & Wayland S. Riggins, *Public Use and Sale As a Bar to Obtaining a Patent and Its Application to Government Activities*, 18 AM. U. L. REV. 43, 48-49 (1968) (characterizing *Metallizing* decision as applying public use bar). For a discussion of the Federal Circuit’s inconsistent rationales in cases applying the *Metallizing* bar, *see infra* notes 190-221 and accompanying text.

tion” implicates the policies of the on-sale bar.²⁷ The two statutory bars are certainly related, but the policies behind the “on sale” and “public use” provisions are distinct and the two sets of doctrinal rules regarding what it means to be in public use or on sale are quite independent of one another,²⁸ though courts have been known to conflate the two bars.²⁹ Because the rule is not supported by the plain language of the statute, it is probably most logical to view the *Metallizing* bar as non-statutory. Nevertheless, it clearly must have some relationship to the statute because *Metallizing*, like the bars specified in Section 102(b), sets the critical date³⁰ at one year before the filing date of a patent application. The precise nature of the relationship between the holding of *Metallizing* and the Patent Act, however, has yet to be articulated.³¹

27. *Metallizing*, 153 F.2d at 517, 520; see also Stephen Bruce Lindholm, Comment, *Revisiting Pfaff and the On-Sale Bar*, 15 ALB. L.J. SCI. & TECH. 213, 241 (2004) (“Although Judge Hand continued to use the phrase ‘public use,’ he spoke in terms of two doctrines that the Federal Circuit later identified with the on-sale bar and the public-use bar, respectively.” (footnote omitted)); Taub, *supra* note 26, at 1498 (discussing role of competitive exploitation in patent invalidity analysis).

28. See *Cont’l Plastic Containers v. Owens Brockway Plastic Prods., Inc.*, 141 F.3d 1073, 1078-79 (Fed. Cir. 1998) (“*Tone Bros.* is a ‘public use’ case. We see no reason to extend the analysis to the ‘on-sale’ context. ‘Public use’ and ‘on-sale’ bars, while they share the same statutory basis, are grounded on different policy emphases.” (Rich, J.) (citing *Tone Bros., Inc. v. Sysco Corp.*, 28 F.3d 1192, 1198-99 (Fed. Cir. 1994))); *Dart Indus., Inc. v. E.I. Du Pont De Nemours & Co.*, 489 F.2d 1359, 1364 (7th Cir. 1973) (“We first note that § 102(b) contains several distinct bars to patentability, each of which relates to activity or disclosure more than one year prior to the date of the application. Two of these—the ‘public use’ and the ‘on sale’ objections—are sometimes considered together although it is quite clear that either may apply when the other does not.” (Stevens, J.)). For an illustration of how the public use and on-sale bars nevertheless serve closely related purposes, see *infra* notes 393-400 and accompanying text.

29. See Katherine E. White, *A General Rule of Law Is Needed to Define Public Use in Patent Cases*, 88 KY. L.J. 423, 429 (2000) (“In looking at the totality of the circumstances, the courts are not required to treat the public use and on sale bars as serving distinct and clear purposes. Because a more rule-oriented approach in analyzing these issues has not been used, their distinct and separate purposes have been overlooked.”).

30. “Critical date” is the date that is one year before the effective filing date (e.g., priority date) of a patent application. If the invention is placed in public use or on sale before the critical date, the patent is invalid. See 35 U.S.C. § 102(b) (2006) (defining statutory bars).

31. CHISUM, *supra* note 14, § 6.02[5][c], at 6-71 (reviewing history of statutory bars). One author described the distinction between first and third parties that courts have read into Section 102(b) as an example of a “policy polymorphism.” Jonathan R. Siegel, *The Polymorphic Principle and the Judicial Role in Statutory Interpretation*, 84 TEX. L. REV. 339, 363 n.131 (2005) (noting that, “for policy reasons, secretly practicing a process and selling the output both *is* and *is not* a ‘public use’ of the process within the meaning of § 102(b), depending on who does it.” (emphasis added)).

Although the Supreme Court has never actually examined the *Metallizing* rule,³² other circuits followed it readily.³³ The Court of Appeals for the Federal Circuit, which has exclusive jurisdiction over patent appeals,³⁴ embraced the *Metallizing* bar shortly after the court's creation in 1982,³⁵ though its opinions arguably did little to clarify the doctrine.³⁶ Without fail, courts have found Hand's two rationales for the forfeiture rule, prompt disclosure and fidelity to the patent term mandated by the statute, to be persuasive. The defining sentence in the opinion, "[the patentee] must content himself with either secrecy, or legal monopoly,"³⁷ has been quoted with apparent approval by the Supreme Court,³⁸ courts of appeals,³⁹ district courts,⁴⁰ and patent law casebooks.⁴¹ Indeed, the *Metallizing* rule appears to be as much a part of patent law as the Patent Act itself.⁴² But the fact that a common law rule has been followed for a long time does not make it immune from attack. The venerable judge-made doctrine of equivalents, which dates back to the nineteenth century⁴³ and

32. For a discussion of the Supreme Court's sparse treatment of the *Metallizing* rule, see *infra* note 189 and accompanying text.

33. For discussion of circuit court cases following the *Metallizing* rule, see *infra* notes 176-221 and accompanying text.

34. 28 U.S.C. § 1295 (2006).

35. *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147 (Fed. Cir. 1983) (citing *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir. 1946)) ("If [the patent owner] produced an emblem by the method of the invention and offered that emblem for sale before the critical date, the right to a patent on the method must be declared forfeited.").

36. Roderick M. Thompson et al., *The Section 102(b) Bar—Four Years After Pfaff v. Wells Electronics*, IP LITIGATOR, Mar.-Apr. 2003, at 11, available at http://www.fbm.com/files/Publication/39d78439-9573-4214-92f2-78493d742ec3/Presentation/PublicationAttachment/32b0cf80-be4a-4a9a-b5c3-7a5d8c963099/7FA6A34C-0EA3-483E-B052-EE9D3A2DAC6A_document.pdf (noting failure of recent case law to clarify *Metallizing* rule).

37. *Metallizing*, 153 F.2d at 520.

38. For a discussion of the Supreme Court's citations to *Metallizing*, see *supra* note 13 and accompanying text.

39. See, e.g., *Russo v. Ballard Med. Prods.*, 550 F.3d 1004, 1013 (10th Cir. 2008); *Painton & Co. v. Bourns, Inc.*, 442 F.2d 216, 224 n.6 (2d Cir. 1971); *Koehring Co. v. Nat'l Automatic Tool Co.*, 362 F.2d 100, 104 (7th Cir. 1966). For a detailed discussion of the Federal Circuit's *Metallizing* jurisprudence, see *infra* notes 190-221 and accompanying text.

40. For a recent example, see *Minemyer v. B-Roc Representatives, Inc.*, 695 F. Supp. 2d 797, 806 (N.D. Ill. 2009).

41. See MERGES & DUFFY, *supra* note 9, at 535-36 (discussing *Metallizing*); CRAIG ALLEN NARD, *THE LAW OF PATENTS* 287 (2008) (same).

42. See NARD & WAGNER, *supra* note 14, at 91 ("The *Metallizing* principle is now well established.").

43. See *Winans v. Denmead*, 56 U.S. (15 How.) 330, 344 (1853) (holding that, to infringe under the doctrine of equivalents, accused product "must be so near [to patentee's claimed invention] as substantially to embody the patentee's mode of operation, and thereby attain the same kind of result as was reached by his invention").

has been clearly affirmed by a 1950 Supreme Court decision,⁴⁴ has faced⁴⁵ and continues to face⁴⁶ severe criticism, though it ultimately survived a relatively recent Supreme Court challenge.⁴⁷ One wonders if the hagiography of Judge Learned Hand,⁴⁸ whose reputation is so strong that his name is frequently mentioned in “invocations” by judges who cite his opinions,⁴⁹ has something to do with the rarity of criticism of *Metallizing*.

I contend that this judge-made patent forfeiture rule does more harm than good and should be reexamined by the Federal Circuit or the Supreme Court in an appropriate case, or abrogated by statute.⁵⁰ It is difficult to say whether *Metallizing* was correct as a matter of policy at the time it was decided. What I am fairly sure of is that, today, this harsh rule is contributing to certain persistent problems in the patent system.⁵¹ More fundamentally, the two policy rationales advanced by Judge Hand are at least debatable. For example, recent scholarly work, which questions traditional descriptive accounts of the value of patent disclosure and reevaluates the importance of the disclosure rationale for patent law, provides ammunition for displacing the first pillar on which *Metallizing* rests.⁵² The second pillar may not fare much better. The “extension of monopoly” language is misleading at best, as it is unclear precisely what kind of a monopoly a commercializer of a secret invention really has.⁵³ I do con-

44. See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608-13 (1950) (analyzing history of doctrine of equivalents).

45. See, e.g., Paul M. Janicke, *Heat of Passion: What Really Happened in Graver Tank*, 24 AIPLA Q.J. 1, 154-55 (1996) (concluding that “[t]he doctrine of equivalents has outlived its usefulness and should now be abolished”); see also *id.* at 109 n.392 (detailing criticisms of doctrine of equivalents by lower-court judges).

46. See, e.g., Joshua D. Sarnoff, *Abolishing the Doctrine of Equivalents and Claiming the Future After Festo*, 19 BERKELEY TECH. L.J. 1157, 1157 (2004) (“This Article argues that the Supreme Court or Congress should abolish patent law’s modern doctrine of equivalents, articulated in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.* and extended to later-arising technological equivalents in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.* and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* The modern doctrine of equivalents lacks theoretical justification, imposes high costs on society, and likely impedes innovation.” (citations omitted)).

47. See *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997) (stating that doctrine of equivalents is “not free from confusion,” but declining to “speak the death of that doctrine”).

48. See Port, *supra* note 8, at 221 n.2 (listing sources praising Judge Hand).

49. For a recent example, see *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1344 (Fed. Cir. 2007).

50. For a discussion of the merits of the argument that the AIA has abrogated the *Metallizing* rule, see *infra* notes 435-52 and accompanying text.

51. For a critique of one of the policy rationales of the *Metallizing* rule, see *infra* notes 249-431 and accompanying text.

52. For a discussion of the policy in favor of patent disclosure, see *infra* notes 249-351 and accompanying text.

53. For a discussion of the “extension of monopoly” rationale, see *infra* notes 352-431 and accompanying text. Subpart III.B.1 also explores whether Judge Hand’s problem with patenting of commercially exploited secret inventions has more to do with delay, rather than extension, of the patent monopoly and addresses this view of the *Metallizing* case.

cede that Judge Hand's concerns, particularly his worry about the effects of delaying patenting, are legitimate. Nevertheless, I argue that the one-year bar is too much of a "hammer," and propose some alternatives for addressing the problems that worried Judge Hand.⁵⁴

This Article proceeds in four parts. Part II, which follows this Introduction, reviews the *Metallizing* case itself, noting that the Second Circuit's ruling is in considerable tension with the text of the Patent Act in force in 1946 and with precedents on patent forfeiture and abandonment.⁵⁵ This Part explains that the opinion misapprehends the equitable dimensions of the cases it relies on and ultimately reaches an inequitable result. This Part also looks at the *Metallizing* rule in action, reviewing the circumstances in which courts invalidated patents by relying on *Metallizing*, and attempts to clarify the limits of the *Metallizing* rule. Part III closely analyzes and critiques Judge Hand's disclosure and "extension of monopoly" rationales of the *Metallizing* case in order to understand whether the patent forfeiture rule that they support is correct. This Part considers the benefits and harms of disclosure and reviews the features of patent law, including the *Metallizing* rule, that encourage (if not force) inventors to opt promptly into the patent system, and then connects this balancing analysis to the work of other scholars who question whether early patenting is desirable. Part III also challenges the view that trade secret followed by patent protection results in harmful extensions or delays of a monopoly; as with the discussion of disclosure, it considers both the benefits and harms of competitive exploitation of secret inventions. In the course of this analysis, this Part shows that *Pfaff v. Wells Electronics, Inc.*,⁵⁶ the Supreme Court's leading on-sale bar case, did not endorse the *Metallizing* rule even though it quoted *Metallizing* with approval. Overall, Part III demonstrates that Judge Hand's rationales do not support the rule he created in *Metallizing*. Part IV speculates briefly on the effect of the recently enacted Leahy-Smith America Invents Act (AIA)⁵⁷ on the *Metallizing* rule and the choice between trade secret and patent protection. The Conclusion recapitulates the reasons why Judge Hand was incorrect on the facts and in his policy choices in the *Metallizing* opinion, notes that his methodology is inconsistent with the Supreme Court's modern patent law jurisprudence, and calls for the *Metallizing* rule to be abrogated or overruled.⁵⁸

54. For a discussion of proposed legislative solutions, see *infra* notes 361, 425, 429-31, and accompanying text. For a discussion of a proposal to return to an equitable multifactor analysis of whether a patent should be forfeited, see *infra* notes 417-31 and accompanying text.

55. For a discussion of flaws in Judge Hand's opinion, see *infra* notes 139-71 and accompanying text. In contrast, the ruling of the district court was faithful to both statute and precedent. See *infra* notes 101-38 and accompanying text.

56. 525 U.S. 55 (1998).

57. Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011).

58. For a summary of the argument that the patent forfeiture rule of *Metallizing* is unsupported by precedent or statute and is inequitable on the actual facts

II. METALLIZING: THE INVENTION, THE CASE, AND THE RULE

A. *The Invention and the Patent-in-Suit: An Introduction*

On reading the pithy (just three-and-a-half pages of the Federal Reporter) appellate opinion, one gets the impression that the facts of *Metallizing* are relatively simple. An inventor named Frank Meduna developed a method for refurbishing surfaces of machine parts and other metal objects by improving upon a process called “metallizing.”⁵⁹ Prior to Meduna’s invention, it was known that corroded or worn-down metal parts—be they steel plate components of factory machines or beams used to support bridges—could be reconditioned by spraying molten metal onto their surfaces.⁶⁰ The problem, however, was that the layer of sprayed metal did not always bond well with the native surface and would often come off if the surface was not properly primed.⁶¹ To solve this problem, prior inventors used “mechanical roughening or heating”⁶² of the surface on which the molten metal was to be applied. The roughening process, which created grooves on the surface that would fill up with the spray, could be accomplished by blasting the surface with sand or grit.⁶³ As Meduna noted in his patent, however, this approach “will often not yield a surface capable of bonding applied spray metal with a satisfactory degree of bond,”⁶⁴ especially for hardened metal surfaces. The other approach,

of the case, see *infra* notes 453-59 and accompanying text. For a discussion of the merits of the argument that the AIA has abrogated the *Metallizing* rule, see *infra* notes 435-52 and accompanying text. While it is unlikely that *Metallizing* has been abrogated, per Section 3(n)(1) of the AIA, the “old” Section 102 will in any event continue to apply to any patent with an effective filing date that precedes March 16, 2013, which is 18 months from the date that the AIA was signed into law by President Obama. AIA § 3(n)(1). Thus, patents issuing for years to come will continue to be governed by the pre-AIA Section 102, and the interaction between *Metallizing* and the pre-AIA Section 102 will continue to be relevant. Given that the *Metallizing* bar is best viewed as non-statutory, however, it might become ineffective in both pre- and post-AIA regimes if the holding of the case is overruled by the Federal Circuit or the Supreme Court.

59. *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946). The name of the process is apparently spelled with one “l,” in contrast to the name of the company. I follow this distinction throughout the Article. Nevertheless, the name of the process was spelled with two “l’s” in the district court’s opinion.

60. *Id.*

61. *Id.*

62. Application of Spray Metal to Metal Surfaces, U.S. Reissue Patent No. 22,397 col.1 l.33 (filed Aug. 6, 1942) (reissued Nov. 30, 1943) [hereinafter ‘397 Patent]. The patent-in-suit, a reissue patent, was based on the original U.S. Patent No. 2,320,327 (filed Aug. 6, 1942) (issued May 25, 1943). The propriety of the reissue, which involved fairly minor changes to the original patent, was not in controversy in the litigation: “no claim is pressed of infirmity in the reissue not attaching to the original patent.” *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 62 F. Supp. 42, 43 (D. Conn. 1945), *rev’d*, 153 F.2d 516.

63. See ‘397 Patent col.1 ll.39-42 (“In the past the most common method of procuring such type surface has been by sand or grit blasting.”).

64. *Id.* col.1 ll.43-45.

heating, would sometimes warp the metal parts, ultimately making them unusable.⁶⁵

Meduna discovered an alternative solution. Using an electrode, he repeatedly applied an electric current to surfaces that needed to be repaired, resulting in deposits of small amounts of electrode metal onto the surfaces.⁶⁶ These “projections,” which significantly improved the ability of the spray metal to bond to the surfaces, could be patterned in various ways (and further modulated by varying the electrode metal) depending on the condition and chemical characteristics of the surface to be refurbished, resulting in a highly modular, versatile method for preparing metal surfaces for spraying.⁶⁷ While Judge Hand noted that the deposition method itself was known in the art, accomplished by means of a “McQuay-Norris machine” which “[the inventor] used . . . unchanged,”⁶⁸ he did not question the novelty of the application of the machine to the preparation of metal surfaces for metalizing.⁶⁹ The patent is, indeed, highly focused on the process of priming metal surfaces: it contains eight independent and three dependent claims, all directed to “improvement[s]” in the “method for applying spray metal to a metal surface with a high degree of bond.”⁷⁰

In district court proceedings, in addition to its attacks on the patent based on the inventor’s own activities, defendants unsuccessfully challenged the validity of the claims on various theories of anticipation by other inventors and lack of “patentable invention,”⁷¹ as well as claim indef-

65. *Id.* col.2, ll.8-28; *see also Metallizing*, 62 F. Supp. at 44 (“Nor was it practicable to soften the metal by heat, then roughen the surface and harden the metal again, for such treatment resulted in warping strains.”).

66. *See* ‘397 Patent col.3 ll.8-20 (describing patentee’s “alternative form of mechanical surface roughening”).

67. *Id.* col.5 l.60 to col.6 l.31.

68. *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946) (describing patentee’s use of “McQuay-Norris machine”).

69. The district judge rejected defendants’ challenges to the novelty and inventiveness of the patent’s claims in a comprehensive analysis, which Judge Hand did not disturb. *Metallizing*, 62 F. Supp. at 44-46, 53-54. The case predated the Patent Act of 1952, which codified the non-obviousness requirement in 35 U.S.C. § 103, and the inventiveness analysis in *Metallizing* was driven by the then-common-law requirement of “patentable invention.” *Metallizing*, 62 F. Supp. at 53. The district judge held that the invention passed muster under the Supreme Court’s now-obsolete “flash of creative genius” test of *Cuno Eng’g Co. v. Automatic Devices Corp.* and relevant Second Circuit cases. *Id.* at 54 (citing *Cuno Eng’g Co. v. Automatic Devices Corp.*, 314 U.S. 84 (1941)). It is interesting to note that patents on improvements to the metalizing process still continue to be issued. *See, e.g.*, *Metalizing Process*, U.S. Patent No. 5,770,032 (filed Oct. 16, 1996) (issued June 23, 1998) (claiming process for metal coating).

70. ‘397 Patent col.8 ll.64-66; *see also id.* col.9 l.10 to col.11 l.6 (describing method of coating). The patent specification, it must be added, is written in very easy-to-read, flowing language, generally avoiding legalese. *Cf.* Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information?*, 25 HARV. J.L. & TECH. 531 (2012) (examining whether modern patent documents are useful to scientists).

71. For a discussion of “patentable invention” analysis, *see supra* note 69 and accompanying text.

initeness.⁷² Anticipation and other issues, however, were not examined on appeal, as the panel found that the case could be disposed of on a theory of invalidity arising ostensibly from the inventor's public use.⁷³ Thus, Judge Hand stated that "[t]he only question which we find necessary to decide is as to Meduna's public use of the patented process more than one year before [the patent application date of] August 6, 1942."⁷⁴ Summarizing some of the district judge's findings of fact, Hand noted that "the inventor's main purpose in his use of the [new metalizing] process prior to August 6, 1941 . . . was commercial" and that "the use [of the process] was not public but secret."⁷⁵ After describing the invention and briefly restating these selected findings of fact, Judge Hand began the legal analysis, which I will consider in due course.⁷⁶

B. District Court Proceedings

1. The Facts

A much richer picture of the case emerges when one fully examines the district judge's⁷⁷ findings of fact, which Judge Hand cited to only briefly in his opinion. "Early in the spring of 1940, [Meduna] purchased a small machine shop" whose previous owner apparently performed metalizing work on occasion, though Meduna himself had been "without experience in the more recent art of metallizing."⁷⁸ After another mechanic told Meduna of problems with the metalizing process as currently practiced,⁷⁹ Meduna had a eureka moment: "he recalled the characteristic roughened surface of deposited electrode-material produced by the McQuay-Norris transformer" and realized that "a roughened surface thus fused upon the base [of the metal part to be refurbished] might constitute

72. See *Metallizing*, 62 F. Supp. at 55 (rejecting defendants' argument that claims of patent-in-suit are "too ambiguous and indefinite"); see also 35 U.S.C. § 112 para. 2 (2006) (setting forth requirement of definiteness of patent claims).

73. *Metallizing*, 153 F. 2d at 517.

74. *Id.*

75. *Id.* at 517-18 (internal quotation marks omitted).

76. For a discussion of Judge Learned Hand and his decision in *Metallizing*, see *infra* notes 139-71 and accompanying text.

77. The district judge was Carroll C. Hincks, a Yale Law School graduate and a U.S. Army Captain. Hincks was later elevated to the Court of Appeals for the Second Circuit by President Eisenhower, to a seat that became open when Judge Thomas Swan took senior status in 1953. There, Hincks served alongside Judge Learned Hand until Hand's death in 1961. Prior to his confirmation as a court of appeals judge, Judge Hincks had served as a Chief Judge of the U.S. District Court for the District of Connecticut for over five years, and as a district judge for a total of over twenty-two years. See *Biographical Directory of Federal Judges*, FED. JUDICIAL CTR., <http://www.fjc.gov/servlet/nGetInfo?jid=1052&cid=999&ctype=na&instate=na> (last visited July 4, 2012).

78. *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 62 F. Supp. 42, 46 (D. Conn. 1945), *rev'd*, 153 F.2d 516.

79. See *id.* (discussing Meduna's conversation with mechanic).

a suitable bond for the sprayed metal.”⁸⁰ Sure enough, sometime in March 1940, Meduna experimented with the McQuay-Norris machine and found that the grooves or projections it made on metal surfaces really did improve the ability of spray metal to bond to surfaces.

“Elated by the apparent results of his experiment,”⁸¹ Meduna then pondered what to do next. “[H]e sought the advice of a friendly engineer who told him that his process would indeed be valuable if it served to produce a satisfactory bond but advised him to test it out thoroughly in actual service before attempting to patent it.”⁸² To a person uninitiated in the state of patenting today, the advice would seem sound: isn’t it a good idea, before rushing off an application to the patent office, to make sure that one’s invention works well for its intended purpose? Of course, in the eyes of Judge Hand, the friendly engineer’s advice ultimately doomed the validity of Meduna’s patent. The inventor began to “solicit[] metallizing jobs for hardened metal as well as soft,” and made a total of \$1,100 thanks to his new process in the next few months.⁸³ In a finding of fact that helped establish both secret use and the absence of experimental use,⁸⁴ Judge Hincks stated that “most of these jobs were done . . . for owners who were without knowledge as to the process to be used, and whose identity

80. *Id.*

81. *Id.*

82. *Id.*

83. *Id.*

84. *See* SCHECHTER & THOMAS, *supra* note 14, at 98 (explaining common-law experimental use “exception”, which can negate finding of public use or on-sale bar, allowing inventor to keep his or her patent rights). “If a use is judged as experimental, then it is not a public use within the meaning of Section 102(b). The experimental use doctrine also applies to inventions placed ‘on sale’ prior to the critical date . . .” *Id.* The leading Supreme Court case on the doctrine held that, to qualify for experimental use, the inventor must have made “‘a *bona fide* effort to bring his invention to perfection, or to ascertain whether it will answer the purpose intended.’” *Id.* (quoting *City of Elizabeth v. Am. Nicholson Pavement Co.*, 97 U.S. 126, 137 (1877)). Under the modern doctrine, courts analyze the inventor’s actions through the prism of a multifactor test to determine whether experimental use negation is warranted. *See* *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1353 (Fed. Cir. 2002) (discussing such factors as “(1) the necessity for public testing, (2) the amount of control over the experiment retained by the inventor, (3) the nature of the invention, (4) the length of the test period, (5) whether payment was made, (6) whether there was a secrecy obligation, (7) whether records of the experiment were kept, (8) who conducted the experiment, . . . (9) the degree of commercial exploitation during testing[,] . . . (10) whether the invention reasonably requires evaluation under actual conditions of use, (11) whether testing was systematically performed, (12) whether the inventor continually monitored the invention during testing, and (13) the nature of contacts made with potential customers.” (alterations in original) (quoting *EZ Dock, Inc. v. Schafer Sys., Inc.*, 276 F.3d 1347, 1357 (Fed. Cir. 2002) (Linn, J., concurring))). As the district court opinion suggests, Meduna failed to satisfy the requirements of experimental use negation primarily because, not knowing the identity of those who used the parts refurbished by the metalizing process, he did not have sufficient control over the “experiment” and did not receive feedback from his customers as a matter of course.

was never known to the inventor and whose identity he never sought to ascertain.”⁸⁵ As he continued to offer the metalizing service with his newly discovered process, however, Meduna kept the possibility of patenting in mind.⁸⁶ In fact, a representative of Kenyon Bearing & Auto Parts, a company that ultimately became one of the defendants in the *Metallizing* case, offered Meduna “a contract whereby the inventor was to apply for a patent and give [Kenyon] an exclusive license thereunder.”⁸⁷ Meduna rejected this advance, “not because he was averse to patenting his process, but because he was not satisfied with the terms and because of unwillingness to deal with [the representative] personally, rather than his corporate principal.”⁸⁸ Instead, Meduna later entered into an agreement to sell the rights to his invention to Metallizing Engineering Company, the eventual plaintiff, culminating in a formal assignment of his rights in July of 1942.⁸⁹ Earlier, representatives of Metallizing had “agreed to investigate the patentability of the process . . . and if [the company] should find the invention patentable to make application for the patent thereon and to prosecute the same diligently.”⁹⁰ A patent application was filed on August 6, 1942, shortly after the assignment.⁹¹ The district judge had no doubt, and the Second Circuit did not dispute, that the inventor kept his metalizing method secret; it was a powerful process trade secret that, according to the judge, members of the public would never be able to deduce by reverse engineering:⁹²

85. *Metallizing*, 62 F. Supp. at 46.

86. *See id.* (discussing Meduna’s consideration of patenting metalizing process).

87. *Id.*

88. *Id.*

89. *See id.* at 46-47 (detailing Meduna’s agreement to assign rights to his invention).

90. *Id.* at 47.

91. *See id.* (noting date patent application was filed).

92. If the process could be deduced by reverse engineering, the defendants could have perhaps had a stronger public use invalidation argument articulated by the modern “non-informing public use” doctrine. *See* SCHECHTER & THOMAS, *supra* note 14, at 128-33 (considering treatment of second inventor discovering same invention and obtaining a patent before first inventor applies for patent). That doctrine provides that when a non-patenting inventor sells a product embodying a trade secret capable of being reverse-engineered, he or she does not “abandon[], suppress[], or conceal[]” the invention within the meaning of 35 U.S.C. § 102(g)(2). *See id.* Such a non-informing public use can thus invalidate someone else’s later patent on the same invention under this section. *See id.* In the leading case, *Dunlop Holdings Ltd. v. Ram Golf Corp.*, the earlier inventor, golfer Butch Wagner, made and sold golf balls made with a highly durable material called Surlyn, which was protected as a trade secret. *See* *Dunlop Holdings Ltd. v. Ram Golf Corp.*, 524 F.2d 33, 34 (7th Cir. 1975). Because the commercially available product actually contained the secret material, there was no abandonment, suppression, or concealment. *Id.* at 37. This use thus qualified the Surlyn invention as a patent-defeating prior invention under Section 102(g)(2) and helped the panel distinguish *Dunlop Holdings* from product-of-secret-invention cases like *Gillman v. Stern*, which held that there was no patent-defeating prior invention or use when a

At all times prior to [the critical date of] August 6, 1941, the practice of the process was so guarded as not to come to public knowledge; its nature was disclosed only to a few employees and advisers of the inventor, less than half a dozen in number, in all cases under a promise of confidence which was not abused. Although there was some conflict in the evidence on the point, I find that prior to August [6,] 1941, *the nature of the process could not*

machine embodying the invention never entered the stream of commerce. *See id.* at 35-36 (discussing nature of use at issue in case); *see also supra* note 25 and accompanying text (distinguishing text (distinguishing commercial exploitation of secret invention in *Gillman v. Stern*).

Although the first inventor was not applying for a patent but instead sought merely to invalidate a patent asserted by another, then-Judge Stevens, the author of the opinion, assumed that the first inventor had lost his own patent rights under these facts under a straightforward application of 35 U.S.C. § 102(b): “If Wagner had applied for a patent more than a year after commencing the public distribution of Surlyn covered golf balls, his application would have been barred notwithstanding the non-informing character of the public use or sale.” *Dunlop Holdings*, 524 F.2d at 36 (citing *Egbert v. Lippmann*, 104 U.S. 333, 336 (1881)). Of course, *Metallizing*, like *Gillman*, involved a fully non-public use because commercially available refurbished machine parts did not embody the secret invention but were instead products of it, so that reverse engineering of the metalizing process through an analysis of the parts, no matter how thorough, was simply not possible. With Butch Wagner’s Surlyn, however, Judge Stevens acknowledged that at least a possibility of reverse engineering existed, making the use sufficiently public to allow Section 102(g)(2), and possibly Section 102(b), to apply:

[E]ven though there may be no explicit disclosure of the inventive concept, when the article itself is freely accessible to the public at large, it is fair to presume that its secret will be uncovered by potential competitors long before the time when a patent would have expired if the inventor had made a timely application and disclosure [C]ompeting manufacturers of golf balls in search of a tough new material to be used as a cover, might make inquiries of Wagner’s Surlyn supplier that would soon reveal his secret ingredient.

Dunlop Holdings, 524 F.2d at 37, 37 n.13. Be that as it may, *Dunlop Holdings* and the non-informing public use doctrine have likely lost much of their significance with the passage of the AIA, which repealed Section 102(g) and, more importantly, introduced prior user rights into the patent system. Thus, under the new Section 102(a)(1), the prior inventor in Butch Wagner’s position can argue that the patent is invalid because its subject matter was already “available to the public” before the effective filing date or the patentee’s first disclosure, without worrying about abandonment, suppression, or concealment. AIA, Pub. L. No. 112-29, § 3, 125 Stat. 284, 285-86 (2011) (to be codified at 35 U.S.C. § 102(a)(1)). And even if that argument fails, and the use is deemed completely non-informing such that the subject matter was never made available to the public within the meaning of the new Section 102(a)(1), the prior, non-patenting inventor can now attempt to avoid liability without having to invalidate the patent. *See id.* § 5(b)-(c) (discussing defense to patent infringement based on prior commercial use). Under Section 5 of the AIA, the inventor can assert a personal defense to infringement on the basis of “prior commercial use,” so long as such use occurred one year or longer before the effective filing date or the patentee’s first disclosure. *Id.* Section 5, which has been codified in part at 35 U.S.C. § 273(a), requires proof of prior commercial use by clear and convincing evidence and can be used against any patent issued on or after September 16, 2011. *Id.* For a further discussion of the *Metallizing* rule in light of the AIA, see *infra* notes 435-52 and accompanying text.

*have been deduced from inspection or physical tests upon specimens of the processed product in the hands of the public . . .*⁹³

To support the conclusion of secret use, Judge Hincks noted wryly in passing that the “defendants’ manufacturer, who knew of the existence of the process even before its acquisition by the plaintiff and whose eagerness to use the process is fully apparent, offered no evidence to show that it had fathomed the process and begun its practice prior to its publication.”⁹⁴

All of these facts, missing from the appellate opinion, add up to paint a rather sympathetic picture of the inventor. He owned a small shop, discovered a new and valuable variant of the metalizing process, used it to support his own livelihood,⁹⁵ carefully considered his options for assigning and patenting the invention, and ultimately sold his rights to a corporate buyer who promptly filed a patent application. Kenyon, the would-be assignee whom Meduna had spurned, apparently began infringing the patent soon after it was granted;⁹⁶ if Meduna’s patent were valid, Kenyon would no doubt be subject to enhanced damages for willful infringement under today’s law.⁹⁷

We have no way of knowing what happened between Meduna and the representatives from Kenyon and Metallizing with whom he negotiated the invention assignment. It is no stretch to speculate, however, that one of Meduna’s big selling points was that his customers did not complain about the quality of the parts refurbished by his novel metalizing process, though most of them had no idea the process had recently been invented and used on their parts. Indeed, as mentioned above, Meduna did not follow up with most of the customers about the quality of his work, which precluded the finding of experimental use as a legal matter.⁹⁸ However, according to the record developed by the district court, only one customer questioned the quality of Meduna’s work, and Meduna performed the job

93. *Metallizing*, 62 F. Supp. at 46 (emphasis added).

94. *Id.* at 56.

95. *See id.* at 58 (describing inventor’s background). For a discussion of how Meduna’s actions helped inform Judge Hincks’s decision, see *infra* note 133 and accompanying text.

96. *See Metallizing*, 62 F. Supp. at 47 (“Since the date of Meduna’s original application, the process disclosed therein has had a wide commercial application. Both the plaintiff and the defendants’ manufacturer have developed electrical bonding machines adapted to facilitate the practice of the process which have been widely distributed through commercial channels. As a result, a great volume of worn machine parts of hardened metal which under the earlier art were junked as being not susceptible of metallizing it is now economically advantageous and mechanically possible to rebuild by metallizing.” (emphasis added)).

97. *See* 35 U.S.C. § 284 (2006) (explaining damages resulting from patent infringement may be increased up to three times at court’s discretion); *see also In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007) (en banc) (setting forth legal standards for willful infringement).

98. For an explanation of why Meduna could not succeed in establishing experimental use negation, see *supra* notes 83-84 and accompanying text.

again for that customer “at his own expense.”⁹⁹ The fact that the repair stations that sent the jobs Meduna’s way continued to do so for several months after he switched to the new process suggests that there were not too many other complaints.¹⁰⁰

2. *The District Court’s Legal Analysis*

a. Prior Public Use

Judge Hincks’s analysis of whether the facts of the case warranted a finding of public use by Meduna was rather thorough and grounded in statute and precedent,¹⁰¹ though at times he conceded that the legal issue before him was confusing and unsettled.¹⁰² The distinction he attempted to capture¹⁰³ appeared to be roughly analogous to the distinction that modern courts have drawn between “secret use” and “non-informing public use” in analyzing priority disputes under the recently repealed Section 102(g). The former type of activity constitutes “concealment,” which eviscerates a prior inventor’s rights under the statute, while the latter, depending on the circumstances and timing, allows the inventor to maintain a claim of priority over later inventors in an interference proceeding¹⁰⁴ or to invalidate a later inventor’s patent.¹⁰⁵

In the context of the district court’s *Metallizing* opinion and outside the factual scenario of the priority contest, however, concealment appeared to be a good thing for the inventor, because the use of an inven-

99. *Metallizing*, 62 F. Supp. at 46.

100. *See id.* (explaining that Meduna used his new process and did not receive many complaints). *But see id.* at 56 (suggesting absence of complaints from customers could be attributed to causes other than Meduna’s successful execution of his metalizing invention).

101. *See id.* at 57 (“If, as is well established . . . , an invented machine may be secretly operated and its product freely sold without involving a public use or sale of the invention inherent in the machine, I can see no reason whatever for withholding the same immunity from an invented process, provided it is proved that the inherent invention could not be learned from the product sold. Certainly there is nothing in the statute to require a distinction.” (citing *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940))).

102. *See id.* at 56 (“[A] question relating to sales of the product of a process secretly practiced, is one of considerable difficulty.”).

103. *See id.* at 56-58 (distinguishing between different types of use).

104. For a helpful analysis of “another inventor” invalidation of patents under 35 U.S.C. § 102(g)(2), which presaged prior user rights under the AIA, and a comparison of Section 102(g) with the public use bar under Section 102(b), see James R. Barney, *The Prior User Defense: A Reprieve for Trade Secret Owners or a Disaster for the Patent Law?*, 82 J. PAT. & TRADEMARK OFF. SOC’Y 261, 269-72 (2000). For another set of views on the non-informing public use doctrine, see Ami Patel, Note, *Advocating a Totality of the Circumstances Test to Analyze a Non-informing Use of an Invention*, 48 WAYNE L. REV. 1287 (2002). For a discussion of cases that suggest that U.S. patent law has not recognized prior user rights until the AIA, see *infra* notes 193-95 and accompanying text.

105. For a discussion of the use of Section 102(g) to invalidate patents, see *supra* note 92.

tion in secret does not appear to give rise to a patent-defeating public use under the plain language of what is now 35 U.S.C. § 102(b).¹⁰⁶ Judge Hincks started with the well-established proposition that “to put an invented article subsequently patented into the hands of the public . . . will constitute a public use of the invention even though the essence of the invention is not thereby disclosed to the public.”¹⁰⁷ Thus, for a court to find that a patented device is in public use, the inventor need not teach the public how the invention works in explicit detail—all that is required is that the device be minimally accessible to the public.¹⁰⁸ In contrast, two appellate decisions penned by Judge Hand led Hincks to state confidently that “the sale of the product of an invented machine subsequently patented does not constitute a public use [of the machine] if the machine in producing the product was secretly operated.”¹⁰⁹

The unsettled issue facing Judge Hincks was whether a *secret process* that generated a publicly used product was barred from patentability by the public use provision of the statute. Yet another Learned Hand decision, *Grasselli Chemical Co. v. National Aniline & Chemical Co.*,¹¹⁰ complicated matters and made Hincks pause before deciding that *Gillman v. Stern*¹¹¹ and *Peerless Roll Leaf* were dispositive of the *Metallizing* case on the public use issue.¹¹² Addressing the validity of a patent on a process for the vulcanization of rubber, Hand had stated that “[o]nce the invention has been embodied in goods which are put in public use it becomes impossible for a later inventor to secure a patent.”¹¹³ This statement was dictum, however, because the vulcanization process did not appear to be kept secret and thus constituted true public use; more importantly, the vulcanization patent was invalidated on the independent ground of being anticipated by a prior patent.¹¹⁴ Another Second Circuit precedent ex-

106. Recall that, unlike the inventor in the *Dunlop Holdings* case, who was a non-patenting infringement defendant trying to invalidate a later inventor’s patent, *Metallizing Engineering Co.* was a patent-owning plaintiff trying to defend the validity of its own patent right.

107. *Metallizing*, 62 F. Supp. at 56 (citing *Hall v. Macneale*, 107 U.S. 90 (1883); *Egbert v. Lippmann*, 104 U.S. 333 (1881)).

108. See NARD & WAGNER, *supra* note 14, at 89-90 (describing sufficiency of public accessibility to warrant finding of public use). For discussion of non-informing public use, see *supra* note 92.

109. *Metallizing*, 62 F. Supp. at 56 (citing *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940); *Peerless Roll Leaf Co. v. H. Griffin & Sons, Co.*, 29 F.2d 646 (2d Cir. 1928)).

110. 26 F.2d 305 (2d Cir. 1928).

111. 114 F.2d 28 (2d Cir. 1940).

112. For a discussion of the effect of *Gillman* and *Peerless* on Judge Hincks’s decision, see *supra* note 109 and accompanying text. Judge Hand departed from these precedents in *Metallizing*. See *supra* notes 20-25 and accompanying text.

113. *Metallizing*, 62 F. Supp. at 56 (quoting *Grasselli*, 26 F.2d at 309).

114. See *Metallizing*, 62 F. Supp. at 57 (discussing invalidation of vulcanization patent in Second Circuit’s *Grasselli* opinion). Moreover, the dictum says nothing of the distinction between secret activities by the inventor and those of third parties—a distinction that became all-important on appeal.

amined by Judge Hincks, in which a process patent was invalidated on the basis of public use—in yet another opinion written by Judge Hand—also turned squarely on the fact that the process could be deduced from a commercially available product, and that the process itself was not kept sufficiently secret by the patentee.¹¹⁵

With the authorities now canvassed and distilled, Judge Hincks was ready to decide on the issue of public use. While in some apparent tension with one another, upon close analysis the Second Circuit cases on public use of secret inventions could be summarized by the following rule: as long as “the plaintiff sustains the burden of proving that at the time the product is sold the process could not have been learned from the product,”¹¹⁶ there is no public use. The use of the passive voice is notable—in the final analysis, Hincks relied heavily on *Gillman*, which held that a secret use of an invention by a *third party* was not a bar to a patent and noted that the statute did not differentiate between first- and third-party uses.¹¹⁷ The burden of showing that Meduna’s process invention could not be gleaned from its products, which were the refurbished machine parts turned out by Meduna’s shop, “has been amply sustained by the plaintiff.”¹¹⁸ The patent withstood the public use challenge at the district court level.

b. Abandonment

Another pesky, and closely related, attack on the patent remained to be dealt with by the district judge; defendants pled abandonment. The Patent Act mentioned abandonment in two sections, before they were repealed by the AIA: Section 102(c) said that a “person shall be entitled to a patent unless . . . he has abandoned the invention,” and Section 102(g) denied priority to those who “abandoned, suppressed, or concealed” an invention. At the time of the *Metallizing* decision, there existed only the

115. See *id.* (“There a prior use of the invention had been proved which the plaintiff sought to avoid by proof that the use was not public but secret only, notwithstanding that the product of the process had been put upon the market. To accomplish this avoidance, the plaintiff had tried to prove that at the time (1926) when the product was marketed the invented process could not have been learned from its product. But as to this, the court concluded its opinion by saying: ‘The plaintiff argues that this was not true in 1926, but the record does not affirmatively bear this out; once more it has failed to carry the burden of proof.’” (quoting *Aerovox Corp. v. Polymet Mfg. Corp.*, 67 F.2d 860, 863 (2d Cir. 1933))). In the appellate opinion, Judge Hand agreed with this characterization of *Aerovox*: “[T]he patent was also for a process, the use of which we held not to have been experimental, though not secret.” *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519 (2d Cir. 1946). It is interesting to note, however, that the Second Circuit placed the burden of proving secrecy on the patent owner when some type of commercial use of the invention was made. The plaintiff in *Metallizing* carried that burden. See text accompanying *infra* note 118.

116. *Metallizing*, 62 F. Supp. at 57.

117. For a discussion of Judge Hincks’s reliance on of *Gillman*, see *supra* note 101 and accompanying text.

118. *Metallizing*, 62 F. Supp. at 57.

equivalent of the modern Section 102(c)—which, unlike Section 102(b), explicitly calls out the inventor's own activities by referring to the inventor as "he" rather than using the passive voice.¹¹⁹ More importantly, in contrast to the one-year bar of Section 102(b), Section 102(c) mentions no specific time frame to warrant a finding of abandonment. A court or the U.S. Patent and Trademark Office (PTO) must take into account the length of time that the patenting of the invention was delayed, the subjective intent of the inventor, and even personal circumstances in the inventor's life that prevented him or her from applying for a patent on the invention in a timely manner.¹²⁰ The doctrine around abandonment has generated some confusion because, in many cases invoking the defense of patent invalidity by abandonment, the inventor did not ignore the invention or seek affirmatively to abandon patent rights, but instead delayed filing a patent application because of the desire to maintain the invention as a trade secret for as long as possible.¹²¹

The leading old case dealing with the defense of abandonment, *Macbeth-Evans Glass Co. v. General Electric Co.*,¹²² is in part to blame for the confusion because it appeared to find abandonment precisely in such a scenario. A corporation kept a process secret for nine years, but after a close call where a former employee stole the secret and was prevented from revealing it only upon a successful misappropriation suit, it decided to apply for a patent on the secret invention.¹²³ The *Macbeth* court invalidated the patent,¹²⁴ but it was unclear whether the court really thought the inventor abandoned the invention within the meaning of the statute.¹²⁵ Indeed, an abandonment argument against an inventor who continues to develop and exploit an invention at issue, all while jealously

119. For further comparison of Sections 102(b) and 102(c), see *supra* notes 16-17 and accompanying text.

120. See U.S. PATENT & TRADEMARK OFFICE, U.S. DEP'T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 2134 (8th ed., rev. 2010) ("Actual abandonment under 35 U.S.C. § 102(c) requires that the inventor intend to abandon the invention, and intent can be implied from the inventor's conduct with respect to the invention. Such intent to abandon the invention will not be imputed, and every reasonable doubt should be resolved in favor of the inventor." (citing *In re Gibbs*, 437 F.2d 486 (C.C.P.A. 1971); *Ex parte Dunne*, 20 U.S.P.Q. 2d 1479 (B.P.A.I. 1991))).

121. See generally Paul T. Meiklejohn, *Abandonment Under § 102(c) and Forfeiture*, 20 IDEA 227 (1979) (exploring doctrines of abandonment and forfeiture as applied to patents); Recent Decisions, *Patents—"Prior Public Use" As Embracing "Prior Secret Use"*, 46 COLUM. L. REV. 477 (1946) (discussing development of phrase "prior public use" and its interaction with phrase "prior secret use").

122. 246 F. 695 (6th Cir. 1917).

123. See *id.* at 697 (detailing circumstances under which corporation applied for patent).

124. See *id.* at 707 (invalidating patent).

125. See *id.* at 697-707 (explaining rationale behind decision to invalidate patent); see also Recent Decisions, *supra* note 121, at 481-82, 482 n.20 (noting difficulty courts have formulating rationales for invalidating patents for reasons of abandonment).

guarding it as trade secret, seems formalistic at best and disingenuous at worst. A better interpretation of *Macbeth* is that, as a matter of equity and public policy, the court thought that it was simply unfair for an inventor to attempt to keep an invention a trade secret in perpetuity (which Macbeth-Evans Glass apparently sought to do) and then run to the PTO when the secret became threatened or when other circumstances suggested that patent protection would be useful.¹²⁶ Indeed, after a rather strained argument where the court suggested that the very election of trade secret protection over patent protection constituted abandonment under the Patent Act,¹²⁷ the *Macbeth* court advanced what seemed to be alternative, non-statutory grounds for its decision based on language in the Supreme Court's *Pennock v. Dialogue*¹²⁸ case:

There is still another view to be taken of the course pursued by the present inventor and his assignee. Their conduct was inconsistent with the duty of diligence resting upon an inventor desiring to patent his invention. This duty was in effect defined by the Supreme Court as early as 1829, when, speaking through Mr. Justice Story, it was in substance declared that withholding disclosure of an invention for *a long period of time* and for purposes only of profit was opposed to the intent and policy of the constitutional provision and the statutes in relation to patents.¹²⁹

126. See generally Recent Decisions, *supra* note 121 (discussing relationship between prior public use and prior secret use). Further confusion was sown by *Woodbridge v. United States*, a Supreme Court decision that cited *Macbeth* with approval. See *Woodbridge v. United States*, 263 U.S. 50, 60 (1923) (citing generally *Macbeth-Evans Glass Co. v. Gen. Elec. Co.*, 246 F. 695 (6th Cir. 1917)). The *Woodbridge* case, which approved of the Patent Office's denial of a patent on an application that the inventor had intentionally kept pending for several years, originated the modern doctrine of prosecution laches. See *id.* at 55. This is an equitable doctrine that punishes highly strategic uses of the PTO by those who keep patents pending so as to spring the patent on competitors at just the right time. See SCHECHTER & THOMAS, *supra* note 14, at 270-73 (discussing prosecution laches). The practice of "submarine patenting" after many years of patent application pendency is no longer viable because, since 1995, patent terms have been calculated as twenty years from the date of the application, rather than as seventeen years from the date that the patent issues. See 35 U.S.C. § 154(a) (2006). For further analysis of prosecution laches and a comparison of effects of delay in *Woodbridge* with delay in cases like *Macbeth*, see *infra* notes 302-04, 409-14, and accompanying text.

127. See *Macbeth*, 246 F. at 698-702 (discussing abandonment).

128. 27 U.S. (2 Pet.) 1 (1829).

129. *Macbeth*, 246 F. at 702 (emphasis added) (referencing *Pennock*). Notably, unlike the *Macbeth* court, Judge Hand simply omitted the phrase "for a long period of years" in his quote from *Pennock* in the *Metallizing* opinion. See *infra* notes 383-85 and accompanying text. In so doing, Judge Hand misapprehended the equitable import of *Pennock*'s language and turned the fact-specific approach asking whether the inventor deserved to forfeit the patent into a strict one-year bar. For a discussion of Judge Hand's decision, see *infra* notes 139-75 and accompanying text. For a comparison of Judge Hand's approach to that of earlier cases, see *infra* notes 425-28 and accompanying text. In general, I agree with the policy of forfeiture-through-delay announced in *Pennock*, but disagree with Judge Hand's implementa-

While this language and the language of *Pennock* convinced Judge Hand ultimately to rule against the patentee, Judge Hincks decided that there was neither statutory abandonment nor non-statutory forfeiture—however one is to read *Macbeth*—under the facts of *Metallizing*.¹³⁰ He held that “the secret practice of a process prior to application for a patent thereon, [] even for more than a year prior to the application,” does not have to be “conclusive evidence of an election to forego patent protection.”¹³¹ Meduna’s “delay in making application for a patent was not necessarily attributable to an intent to forego a patent” and was “at most of moderate dimension[].”¹³² The district court’s abandonment-forfeiture analysis thus reflected a totality of circumstances approach and eschewed a one-year, bright-line rule. Given that the statute does not specify a precise time period for an abandonment finding, and the equitable, policy-based forfeiture doctrine is inimical to bright-line rules almost by definition, Judge Hincks’ approach makes a great deal of sense:

While developing his invention it was necessary for [Meduna] to continue to earn a living in the little two-man machine shop which he had recently acquired. Nothing in the law required him to give up all his other work and devote his whole time to the task [of preparing a patent application]. . . . And while on the whole it seems clear that the invention had been reduced to practice by some time before August, 1941, his secret practice of the invention for the time intervening was of slight weight in itself, and of wholly inadequate weight in the light of the entire situation, to support a finding of an intent to abandon.¹³³

tion of this policy through the one-year bar. *See supra* notes 53-54 and accompanying text.

130. *See Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 62 F. Supp. 42, 58 (D. Conn. 1945) (analyzing issue in terms of statutory abandonment), *rev’d*, 153 F.2d 516 (2d Cir. 1946).

131. *Id.* (citing *Peerless Roll Leaf Co. v. H. Griffin & Sons, Co.*, 29 F.2d 646, 649 (2d Cir. 1928)).

132. *Id.*

133. *Id.* Judge Hincks’s characterization of Meduna’s conduct resembles an inquiry into “reasonable diligence” of inventors who were first to conceive an invention but reduced it to practice after another inventor, as governed by the recently repealed 35 U.S.C. § 102(g)(2), as well as an inquiry into “abandonment, suppression, or concealment” of an invention by the first inventor as provided by this section. *See, e.g.*, *Griffith v. Kanamaru*, 816 F.2d 624 (Fed. Cir. 1987) (discussing factors that point to presence or absence of reasonable diligence); *Horwath v. Lee*, 564 F.2d 948 (C.C.P.A. 1977) (holding unexplained five-year delay between reduction to practice and application for patent to be prima facie evidence of suppression or concealment); *Peeler v. Miller*, 535 F.2d 647, 654 (C.C.P.A. 1976) (“[M]ere delay, without more, is not sufficient to establish suppression or concealment.” (quoting *Young v. Dworkin*, 489 F.2d 1277, 1281 (C.C.P.A. 1974))). Of course, there are no strict one-year bars under Section 102(g); the reasonable diligence inquiry is highly fact-specific. For a discussion of Section 102(g), see *supra* note 92. For further analysis of how Section 102(g) may provide a template

Thus, Meduna's behavior was clearly distinguishable from that of the plaintiff in *Macbeth*, who filed a patent application nearly ten years after beginning to exploit it commercially, and was spurred to do so by trade secret theft. Although the district court did not address that case, Meduna's behavior was also distinguishable from that of the patentee in *Woodbridge v. United States*,¹³⁴ who asked the Patent Office to store his application files in secret until he decided that the time was ripe to spring the patent on his competitors.¹³⁵ Since Meduna did not act in such a way as to abandon the invention, and did not do anything so inequitable as to deserve to forfeit the patent,¹³⁶ the abandonment-forfeiture challenge failed. Kenyon's other defenses, which were not examined on appeal, were also unavailing, and the patent was therefore adjudged not invalid.¹³⁷ The defendants' processes infringed several valid claims of the patent-in-suit, and the plaintiff won its case at the district court level.¹³⁸

C. *Learned Hand*

On appeal, the case was heard by the panel of Learned Hand, his cousin Augustus Noble Hand, and a former Yale Law School Dean Charles Edward Clark. Those were the golden years for the Second Circuit. In addition to the three judges on the *Metallizing* panel, other luminaries like Jerome Frank, a leading legal realist, and Thomas Swan, another Yale dean, served on this court during the period that *Metallizing* was decided.¹³⁹ The judges of the Second Circuit of the time issued numerous highly influential decisions;¹⁴⁰ some controversial rulings were left undisturbed by the Supreme Court¹⁴¹ perhaps precisely because of the respect

for an equitable approach to patent forfeiture, see *infra* note 431 and accompanying text.

134. 263 U.S. 50 (1923).

135. For a discussion of the patentee's actions in *Macbeth*, see *supra* note 126 and accompanying text.

136. See Thomas K. Landry, *Creativity and Discretion in Patent Law: The On Sale Bar, the Doctrine of Equivalents, and Judicial Power in the Federal Circuit*, 67 S. CAL. L. REV. 1151, 1181 (1994). ("Forfeiture should be found only in a case sufficiently egregious that reasonable people, considering the various policies behind the patent laws, could come to only one conclusion. This accords with the Supreme Court's caution that forfeiture 'is never favored.' The most egregious abusers would be denied patents or validity; debatable behavior would be excused; and breathing room would be afforded to all. In short, the level of confidence of inventors and other private actors would be heightened, while a safeguard against abuse would be preserved." (footnote omitted) (quoting *Woodbridge v. United States*, 263 U.S. 50, 62 (1923))).

137. See *Metallizing*, 62 F. Supp. at 54-55, 58 (considering invalidity defenses before declining to invalidate patent).

138. See *id.* at 58 (finding for plaintiff).

139. See MARVIN SCHICK, *LEARNED HAND'S COURT* 9-38 (1970) (discussing history of Second Circuit during Learned Hand's service).

140. See *id.* at 369-71 (collecting cases).

141. See, e.g., *Perlman v. Feldmann*, 219 F.2d 173, 178 (2d Cir. 1955), *cert. denied*, 349 U.S. 952 (1955) (holding that controlling shareholder selling his stock

accorded to its illustrious judges.¹⁴² *Metallizing* did not seem to have the makings of a case that would change the law, however. As discussed above, the Second Circuit's "public use of secret inventions" cases—*Peerless Roll Leaf*, decided in 1928, and *Gillman*, decided in 1940—were on point and the abandonment-forfeiture attack on the patent appeared weak since the equities favored the inventor. Yet thanks to a remarkable sleight of Hand,¹⁴³ if one may pardon the expression, the patent was invalidated. One has to sympathize with the plaintiff, who, in its reply brief to the respondent Kenyon's certiorari opposition brief, complained that "there is no doubt that the decision of the District Court . . . 'was altogether correct' on the basis of the law as it stood in the Second Circuit until it was reversed by the decision in the instant case."¹⁴⁴

The trick that got Judge Hand to the result he desired was a conflation of the bright-line, one-year rule of the statutory bars and the equitable principles embodied in the abandonment statute and the common-law "patent forfeiture" cases such as *Woodbridge* and, arguably,¹⁴⁵ *Macbeth*. As did *Metallizing*, these two decisions relied heavily on the language of the

must share control premium with other shareholders); see also Richard A. Booth, *Derivative Suits and Pro Rata Recovery*, 61 GEO. WASH. L. REV. 1274, 1275 (1993) ("The case prompted an avalanche of commentary addressing the question of whether control belongs to a controlling shareholder personally or is instead an asset of the corporation. . . . [T]he remedy was clearly an inappropriate one." (footnotes omitted)); Anupam Chander, *Minorities, Shareholder and Otherwise*, 113 YALE L.J. 119, 131 (2003) ("*Pelman v. Feldmann* is a controversial case.").

142. See SCHICK, *supra* note 139, at 336 ("Because the Second Circuit was so highly thought of by just about everyone who observed its operations and its members were known to try to interpret Supreme Court decisions properly, the High Court was more willing to go along with its views than with those of the other intermediate courts. . . . [I]n cases that represented intercircuit conflict involving the Second Circuit, the Supreme Court supported the Second Circuit substantially more often than it did the other circuits."). Justice Harlan himself expressed unbridled admiration for Judge Hand: "May I say that when you read in Monday's *New York Times* 'Certiorari Denied' to one of your cases, then despite the usual teachings, what the notation really means is 'Judgment Affirmed.'" SCHICK, *supra* note 139, at 331 n.2 (quoting LEARNED HAND, PROCEEDINGS OF A SPECIAL SESSION OF THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT TO COMMEMORATE FIFTY YEARS OF FEDERAL JUDICIAL SERVICES 23 (1959)).

143. On the suspicion that I am not the first to use this phrase, I did a brief search and found that at least Benjamin Zipursky, a torts scholar, beat me to it. See Benjamin C. Zipursky, *Sleight of Hand*, 48 WM. & MARY L. REV. 1999 (2007). Perhaps I should not have performed the search so as to avoid a potential charge of willful infringement from Professor Zipursky.

144. Petitioner's Reply Brief at 3, *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 328 U.S. 881 (1946) (No. 1092), 1946 WL 50103 at *3 (citation omitted) (quoting *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 518 (2d Cir. 1946)).

145. See *Metallizing*, 153 F.2d at 519 ("[I]n *Macbeth-Evans Glass Co.*, the court apparently invalidated the patent on two grounds: one was that the inventor had abandoned the right to a patent, or had forfeited it by his long delay." (citation omitted)).

1829 *Pennock* case.¹⁴⁶ But in *Pennock*, Justice Story attempted to ground the holding of the opinion firmly in the patent invalidation provisions of the statute, engaging in careful interpretation of the phrase “known or used before the application” in the Patent Act then in force.¹⁴⁷ After concluding that this phrase must mean “known or used by the public,”¹⁴⁸ Justice Story was careful to state that “the first inventor cannot acquire a good title to a patent; if he *suffers the thing invented* to go into public use, or to be publicly sold for use, before he makes application for a patent.”¹⁴⁹ He thus rejected the plaintiffs’ argument that the manufacture of a product embodying the invention under the inventors’ control, and its sale with their consent, allowed the inventors to maintain the right to patent the invention later.¹⁵⁰

Judge Hand assumed that *Pennock*, like *Metallizing* itself, involved sales of a product of a secret process.¹⁵¹ But this is by no means clear from the *Pennock* opinion, and “the thing invented” language within that opinion strongly points to the contrary conclusion. Moreover, at least one nineteenth-century Supreme Court case—*Bates v. Coe*¹⁵²—read *Pennock* as an example of patent invalidation based on something like non-informing public use¹⁵³ rather than due to commercialization of a truly secret invention: “Decided cases . . . show that *a very limited public use or sale of the invention*, if prior to the application . . . , was held to be sufficient to defeat the right of the inventor to the protection of the Patent Act.”¹⁵⁴ To be fair to Judge Hand, it is widely recognized that Congress apparently viewed Justice Story’s interpretation of the Patent Act of 1793 in *Pennock* to be so authoritative that it codified the case¹⁵⁵ by changing the language of the Patent Act from “not known or used before the application” to “not known

146. See *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 17-19 (1829) (interpreting Patent Act to limit period of time inventors have exclusive right to their inventions).

147. *Id.*

148. *Id.* at 19. Later in his argument, Justice Story noted, “If such a public use is not a use within the meaning of the statute, what other use is?” *Id.* at 21.

149. *Id.* at 23-24 (emphasis added).

150. *Id.* at 12-14; see also Joseph N. Hosteny, *Litigators Corner: How Law Is Made*, INTELL. PROP. TODAY, June 2000, at 2, available at <http://www.hosteny.com/archive/hosteny%2006-00.pdf> (discussing questions of public use, sale, and patentability).

151. See *Metallizing*, 153 F.2d at 518 (detailing process at issue in *Pennock*).

152. 98 U.S. 31 (1878).

153. For a discussion of public use, see *supra* notes 92, 107-08, and accompanying text.

154. *Bates*, 98 U.S. at 46 (emphasis added) (citing *Pennock* and three other cases).

155. See Taub, *supra* note 26, at 1498 (“The rule stated in *Pennock* is that an inventor may not obtain a patent ‘if he suffers the thing invented to go into public use, or to be publicly sold for use’ before filing a patent application. Congress first codified the *Pennock* holding in the Patent Act of 1836, but in doing so it changed the wording of the rule slightly to ‘in public use or on sale.’” (footnote omitted) (quoting *Pennock*, 27 U.S. at 23-24)).

or used by others before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use or on sale.”¹⁵⁶ Nevertheless, the above discussion,¹⁵⁷ as well as the nature of the invention at issue in *Pennock*,¹⁵⁸ makes it clear that *Pennock* does not support the interpretation of the phrase “public use” in the modern Patent Act as encompassing commercialized secret uses. Indeed, in drawing a distinction between *Gillman* and *Metallizing*, Judge Hand grudgingly, albeit indirectly, admitted that the bar to patentability he created was non-statutory.¹⁵⁹

What we are left with, then, is the “equitable forfeiture” language of *Pennock*, which is strictly speaking dictum, but persuasive dictum nonetheless as it convinced the *Woodbridge* Court to invalidate a patent on a theory similar to the modern “prosecution laches.”¹⁶⁰ In *Pennock*, Justice Story condemned the patentee in sweeping language for keeping an invention secret “for a long period of years,” thus “hold[ing] back from the knowledge of the public the secrets of his invention” and filing for a patent only “when the danger of competition should force him to secure the exclusive right.”¹⁶¹ While the Court generally emphasized the role of the patent system in promoting disclosure, the opinion’s specifics unmistakably focused on punishing strategic behavior by inventors who engaged in willful delay of patenting. In the statement of the facts, the Court noted that the pressure-resistant hose that ultimately led to the invalidation of the patent-in-suit was sold widely for seven years before the inventors obtained a patent;¹⁶² the inventors’ licensee sold “upwards of *thirteen thousand feet of hose*,

156. Patent Act of 1836, ch. 357, § 6, 5 Stat. 117 (repealed 1870). The Act was amended in 1839 to give the inventor a “grace period,” which was initially two years. Patent Act of 1839, ch. 88, § 7, 5 Stat. 353, 353-55 (codified as amended at 35 U.S.C. § 102(b) (2006)). For a discussion of grace period identified in the *Metallizing* case, see *supra* note 24 and accompanying text.

157. See *supra* notes 149-52 and accompanying text.

158. See Petitioner’s Reply Brief, *supra* note 144, at 2-3 (“Respondent says that the question presented here is an old question ‘decided according to the highest precedents. It finds support for that assertion in *Pennock v. Dialogue* only by making the same mistake that the Second Circuit Court of Appeals made in supposing that the patent was ‘for a process of making hose’ when, in fact, the patent was for a hose structure so that the patented thing was the very thing publicly sold and used.” (emphasis added) (citations omitted)).

159. See *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519 (2d Cir. 1946) (“The only issue [in *Gillman v. Stern*] was whether a prior use which did not disclose the invention to the art was within the statute; and it is well settled that it is not.”). The debate over the question of whether the *Metallizing* bar is statutory or non-statutory continues, however. For a discussion of how Judge Hand’s ambiguous language in *Metallizing* fueled debate of whether the public use or on-sale bars were implicated, see *supra* notes 27-31 and accompanying text.

160. For an examination of the interrelation of the *Pennock*, *Macbeth*, and *Woodbridge* holdings, see *supra* notes 128-38 and accompanying text.

161. *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 19 (1829).

162. See *id.* at 9 (recounting sales of product to Philadelphia Hose Company).

constructed according to the invention of the patentees”¹⁶³ before Pennock and his partner decided to opt into the patent system.¹⁶⁴

In contrast, as far as can be gleaned from the record developed by the district court, Meduna did not seek to use the patent system in an abusive or strategic manner. He was trying to make a living as he negotiated to sell the rights to his invention, all while hoping to patent the invention as soon as it was practicable.¹⁶⁵ Ignoring the equitable spirit of the *Pennock*, *Macbeth*, and *Woodbridge* decisions, which implicitly endorsed a case-by-case analysis of the patentee’s actions, Judge Hand placed no weight on the relatively short time (about two-and-a-half years) that the secret invention was exploited and relatively small earnings from sales (though not trivial for the 1940s: a little over \$1,100¹⁶⁶) that Meduna made from the date that the invention was “ready for patenting” to the filing date of the patent application.¹⁶⁷ The interesting fact that Meduna first considered assigning the rights in his invention to Kenyon, which was to become one of the defendants in the infringement action, was also omitted from the ap-

163. *Id.* at 3.

164. In *Woodbridge*, the Supreme Court referenced the views of Justice Clifford, the author of the *Bates v. Coe* opinion that in turn cited *Pennock*. Justice Clifford made the following statement in an opinion he wrote while riding circuit:

“Such an inference [of intention to surrender the invention to the public] is never favored, nor will it, in general, be sufficient to prove such a defense, unless it appears that the use, exercise, or practice of the invention was somewhat extensive and for the purpose of gain, evincing an intent on the part of the inventor to secure the exclusive benefits of his invention without applying for the protection of letters patent.”

Woodbridge v. United States, 263 U.S. 50, 62 (1923) (alteration in original) (quoting *Jones v. Sewall*, 13 F. Cas. 1017, 1029 (C.C.D. Me. 1873) (No. 7.495), *rev’d on other grounds*, 91 U.S. 171 (1875)); *see also* *Macbeth-Evans Glass Co. v. Gen. Elec. Co.*, 246 F. 695, 706 (6th Cir. 1917) (quoting same language). Courts in both *Macbeth* and *Woodbridge* viewed this language as helpful for reconciling *Pennock* and *Bates*, as *Bates* appeared to undermine *Pennock* when it said in dicta:

Inventors may, if they can, keep their invention secret; and if they do for any length of time, they do not forfeit their right to apply for a patent, unless another in the mean time has made the invention, and secured by patent the exclusive right to make, use, and vend the patented improvement.

Bates v. Coe, 98 U.S. 31, 46 (1878). By thus relying on Justice Clifford’s circuit court opinion, *Woodbridge*, with the help of the analysis in *Macbeth*, reaffirmed *Pennock*’s suggestion that a patent may be forfeited for equitable reasons in spite of the language in *Bates*. Whatever one thinks of the Supreme Court’s analysis, *Woodbridge* continues to support the proposition that abusive or strategic behavior by the patentee can result in a denial of a patent or work a forfeiture of a patent that has already been issued. But Justice Clifford’s views make it clear that such forfeiture is not favored.

165. *See* *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 62 F. Supp. 42, 46 (D. Conn. 1945) (“As early as April, 1940, the inventor caused a patent search to be made with a view to determining whether his invention was patentable.”), *rev’d*, 153 F.2d 516 (2d Cir. 1946).

166. For a discussion of the failed claim of experimental use in *Metallizing*, *see supra* notes 81-85 and accompanying text.

167. *Metallizing*, 153 F.2d at 520.

pellate opinion;¹⁶⁸ if one were to take this fact into account, the equities would lie squarely on the side of Metallizing—perhaps, if Kenyon had given Meduna a better offer, the delay would not have been as long.¹⁶⁹ Instead, Judge Hand read the forfeiture principles of *Pennock*, *Macbeth*, and *Woodbridge*—which were aimed at preventing bad-faith “competitive exploitation of [the inventor’s] machine or of his process . . . regardless of how little the public may have learned about the invention”¹⁷⁰—into a statute that specified that an inventor loses his or her right to a patent precisely one year after the invention is placed in “public use or on sale,”¹⁷¹ whether by the inventor or by a third party.

Metallizing Engineering’s arguments for certiorari picked up on many of the inconsistencies in Judge Hand’s opinion, though its brief would have perhaps been stronger if Metallizing Engineering clearly distinguished the facts of its case from those of the equitable forfeiture cases cited by Hand. Nevertheless, the argument in Metallizing Engineering’s reply brief, which focused on abandonment, is well taken as it implies that the equitable rationales behind the abandonment statute conflict in spirit with the strict one-year bars of a pre-AIA version of Section 102(b): “Congress . . . has seen fit to cover the matter of secret use under the abandonment provision of the statute which unlike the public use provision is not subject to any fixed and arbitrary time limit but is left at large to be determined on the facts of the particular case.”¹⁷² The petition also noted that Judge Hand’s apparent shoehorning of Meduna’s activities into the public use provision was completely unwarranted, quoting a leading treatise that explained that public use “is distinguished . . . from a secret use. It is a use which places the invention in such a relation to the public that if they choose to be acquainted with it, they can do so.”¹⁷³ According to Metallizing Engineering, the statutory public use bar was simply inapplicable because the patented process of metalizing was not embodied in the refurbished machine parts and could not be gleaned from them by the public: “The intent of the public use provision of the law was to prevent an inven-

168. For an explanation of the failed agreement between Meduna and Kenyon, see *supra* notes 88-89, 97-98, and accompanying text.

169. *Cf. Woodbridge*, 263 U.S. at 62 (approving of denial of patent because applicant asked Patent Office to secretly keep application pending for several years); *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 15 (1829) (noting loss of patent right by application of novelty statute then in force to patentee’s activities, and criticizing patentee in dicta for making commercial use of invention for seven years before applying for patent); *Macbeth*, 246 F. at 706 (holding patent forfeited because patentee kept process secret without intention to patent for nearly ten years and was spurred to apply for patent only when employee misappropriated secret).

170. *Metallizing*, 153 F.2d at 520.

171. 35 U.S.C. § 102(b) (2006).

172. Petitioner’s Reply Brief, *supra* note 144, at 5 (citing *Macbeth*, 246 F. 695 at 702).

173. *Id.* at 5 n.* (quoting 1 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 320, at 434 (1890)).

tor from acquiring a monopoly of an invention ‘of which they [the public] were fairly in possession.’ Until the public acquires possession by disclosure the statute does not come into operation.”¹⁷⁴ Finally, to drive home the point that the public use bar was inapposite, the reply brief referred to the already-discussed “distinction which the Court makes between secret use by an inventor and by a stranger.”¹⁷⁵ The fact that, according to Hand, the statute did not bar the patent in the latter scenario suggested that it could not also be used to invalidate the patent in the former. The plaintiff’s arguments proved unavailing, however: the Supreme Court denied certiorari and *Metallizing* became law.

D. *The Aftermath and Influence*

1. *Regional Circuits*

Subsequent decisions adopted *Metallizing* without much questioning or analysis, often invoking Judge Hand by name seemingly as if to say that if he so held, the rule must be right.¹⁷⁶ This is quite surprising. The last major pre-AIA amendment to the Patent Act, which was signed into law in 1952, introduced the judge-made doctrine of obviousness as a distinct requirement of patentability, added Section 102(g), and made several other significant substantive and procedural changes,¹⁷⁷ but did not modify the statutory bars. Perhaps this omission can be understood to mean that Congress intended for the *Metallizing* rule to stand, though of course nothing forced the sister circuits to follow that case. In any event, post-1952 opinions did not address what Congress’s failure to codify *Metallizing* meant for the rule, and perhaps more importantly, did not even try to reexamine or independently justify the rationales for the case’s holding. For example, the Third Circuit, in a 1957 decision, said simply:

The issue is what is a public use or sale within the purview of the statute. This question was cogently discussed by Judge Learned Hand in the *Metallizing Engineering Co.* case, *supra*. We can add

174. *Id.* at 4-5 (alteration in original) (quoting *Shaw v. Cooper*, 32 U.S. (7 Pet.) 292, 298 (1833)). Again, however, public disclosure need only be minimal to invalidate a patent under what is now Section 102(b). See *supra* notes 153-55 and accompanying text (discussing low threshold for finding public use); see also *Egbert v. Lippmann*, 104 U.S. 333 (1881) (finding man giving corset to his girlfriend to wear sufficient to constitute public use).

175. Petitioner’s Reply Brief, *supra* note 144, at 4; see also *supra* note 107-08, 153-54, and accompanying text (discussing public use bar). For a further discussion of how a public use may be found even where the public is unaware of the invention’s existence, see *Ubel*, *supra* note 12, at 422.

176. For a discussion of the reputational deference given to Judge Hand’s decisions, see *supra* notes 6-7, 48-49, 143, and accompanying text.

177. See, e.g., Act of July 19, 1952, Pub. L. No. 82-593, 66 Stat. 792 (codified as amended at 35 U.S.C. §§ 1-318 (2006)) (adding various new provisions to the Patent Act).

little of value to what Judge Hand said in the cited decision. We are in accord with what he stated.¹⁷⁸

The three-page *U.S. Chemical Corp. v. Plastic Glass Corp.*¹⁷⁹ opinion, however, did add something to Judge Hand's contribution. While Hand seemed to argue that the public use prong of the statutory bars figured prominently in his decision to invalidate Meduna's patent,¹⁸⁰ Chief Judge Biggs of the Third Circuit read the *Metallizing* case as applying to "public use or sale,"¹⁸¹ thereby potentially expanding the reach of the doctrine. Also, the *U.S. Chemical* case stated flatly that commercial exploitation of a secret invention falls "within the purview of the statute,"¹⁸² though the *Metallizing* case could more plausibly be read as creating a non-statutory bar to a patent right and simply borrowing the one-year term from Section 102(b).¹⁸³

Be that as it may, several other circuits also cited *Metallizing* with approval and appeared, for the most part, to view the case's holding as an interpretation or perhaps a creative application of the statutory bars.¹⁸⁴ The Ninth Circuit, for example, opined that the *Metallizing* rule effectuated "the purpose of 102(b)"¹⁸⁵ and stated the prevailing law: "Where a process patent is involved and there is a sale of a product of the process, such is a public use of the process if the product sold discloses the process, or even if it does not."¹⁸⁶ The court then invalidated the method patent

178. *U.S. Chemical Corp. v. Plastic Glass Corp.* 243 F.2d 892, 894 (3d Cir. 1957), *cert. denied*, 335 U.S. 836 (1957).

179. 243 F.2d 892, 894 (3d Cir. 1957).

180. *See Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946) (emphasizing public use prong of statutory bars in invalidating patent).

181. *U.S. Chemical*, 243 F.2d at 894 (emphasis added). The court also used a curious phrase "'prior use'" to explain the basis on which the patent-in-suit was invalidated. *Id.*

182. *Id.*

183. For a discussion of the public use bar in *Metallizing*, see *supra* notes 26, 159, and accompanying text.

184. *See* CHISUM, *supra* note 14, § 6.02[5][b], at 6-62 n.60 (collecting cases).

185. *Tool Research & Eng'g Corp. v. Honcor Corp.*, 367 F.2d 449, 454 (9th Cir. 1966), *cert. denied*, 387 U.S. 919 (1967), *reh'g denied*, 389 U.S. 893 (1967).

186. *Id.* 453-54 (footnote omitted). A later Ninth Circuit opinion explained the confusion surrounding on-sale and public use applications of *Metallizing*: The district judge's jury instruction combined the 'on sale' and 'in public use' defenses because the [potentially invalidating] transaction raised a possibility that the patent was invalid under either. Although it is clear that the 'on sale' and 'in public use' defenses are separate, many courts have evaluated them together. This is entirely appropriate in cases in which the product of the process is sold. In such cases the sale of a product before the critical date will invalidate the process patent under the 'in public use' defense.

Handgards, Inc. v. Ethicon, Inc., 743 F.2d 1282, 1291 (9th Cir. 1984) (citations omitted) (citing *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946)).

at issue under Section 102(b).¹⁸⁷ The Supreme Court continued to stay out of the fray, refusing to grant certiorari in the *U.S. Chemical and Tool Research & Eng'g Corp. v. Honcor Corp.*¹⁸⁸ cases discussed in this Subpart.¹⁸⁹

2. *The Federal Circuit*

a. *Auld and Gore*

The Federal Circuit had an opportunity to review the *Metallizing* doctrine in the second year of its existence. Though it was not binding authority upon the court,¹⁹⁰ the Federal Circuit panel treated *Metallizing* as settled law in applying it to a product-of-secret-process case before it, affirming a summary judgment order that invalidated a patent on a molding process for making decorative emblems:

If Auld produced an emblem by the method of the invention and offered that emblem for sale before the critical date, the right to a patent on the method must be declared forfeited. The “forfeiture” theory expressed in *Metallizing* parallels the statutory scheme of 35 U.S.C. § 102(b), the intent of which is to preclude attempts by the inventor or his assignee to profit from commercial use of an invention for more than a year before an application for patent is filed. . . . [T]he magistrate correctly applied the concept explicated in *Metallizing*, i.e. that a party’s placing of the product of a method invention on sale more than a year before that party’s application filing date must act as a forfeiture of any right to the grant of a valid patent on the method to that party if *circumvention of the policy animating § 102(b) is to be avoided* in respect of patents on method inventions.¹⁹¹

The Federal Circuit thus apparently acknowledged that invalidation of a patent on a secret invention that was commercially exploited by the inventor before the critical date was not dictated by the statute itself, but

187. See *Tool Research*, 367 F.2d at 455 (invalidating patent).

188. 367 F.2d 449 (9th Cir. 1966).

189. See CHISUM, *supra* note 14, § 6.02[5][b], at 6-60 (“The Supreme Court has never passed on the precise question [addressed in *Metallizing*] although in a number of cases it indicated by way of dicta that use under ‘injunction of secrecy’ might not constitute public use.” (citing *Elec. Storage Battery Co. v. Shimadzu*, 307 U.S. 5, 19-20 (1939); *Egbert v. Lippmann*, 104 U.S. 333 (1881))).

190. In its very first decision, *S. Corp. v. United States*, the Federal Circuit adopted the decisions of the Court of Customs and Patent Appeals and the Court of Claims as binding precedent; opinions of the regional circuits would have merely persuasive authority. See Jeffrey A. Lefstin, *The Constitution of Patent Law: The Court of Customs and Patent Appeals and the Shape of the Federal Circuit’s Jurisprudence*, 43 LOY. L.A. L. REV. 843, 847 (2010) (describing adoption of “the caselaw of its predecessor courts as controlling precedent” (citing *S. Corp. v. United States*, 690 F.2d 1368, 1370-71 (Fed. Cir. 1982) (en banc))).

191. *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147-48 (Fed. Cir. 1983) (emphases added) (citation omitted).

by the rationale of preventing “circumvention of the policy animating [the statute].”¹⁹² This phrase does not make it clear whether the court was relying on congressional intent, general public policy, both of those considerations, or perhaps some other authority like *Pennock v. Dialogue*, which preceded the modern version of Section 102(b). The Federal Circuit’s language did hark back to the equitable and policy-focused origins of *Metallizing*, but the *D.L. Auld Co. v. Chroma Graphics Corp.*¹⁹³ court did not examine whether the importation of the strict statutory one-year bar into the non-statutory patent forfeiture doctrine was reasonable.

Further underscoring the non-statutory nature of the *Metallizing* rule, some three months later the Federal Circuit decided the famous case of *W.L. Gore & Associates, Inc. v. Garlock, Inc.*¹⁹⁴ *Gore* affirmed the principle of *Gillman v. Stern* and has often been cited, pre-AIA, for the proposition that U.S. patent law does not recognize the rights of non-patenting prior inventors or users.¹⁹⁵ The opinion, which held that prior third-party sales of Teflon made by a secret stretching process did not invalidate the patent on essentially the same process, explicitly commented on the holding of *Metallizing* that had been recently adopted by *Auld*: “If [inventors themselves] commercialized the tape, that could result in a forfeiture of a patent granted them for their process on an application filed by them more than a year later.”¹⁹⁶ As to the factual scenario at issue, the court held that “[t]here is no *reason* or statutory basis, however, on which . . . secret commercialization of a process [by others], if established, could be held a bar to the grant of a patent to [the inventor] on that process.”¹⁹⁷ One may infer from this phrase that the court’s belief in the correctness of the forfeiture doctrine is grounded in “reason,” since it cannot be grounded in the statute. Legal reasoning, of course, drives the development of common law, but a statute that is directly on point would appear to constrain

192. *Id.*

193. 714 F.2d 1144 (Fed. Cir. 1983).

194. 721 F.2d 1540 (Fed. Cir. 1983).

195. See, e.g., SCHECHTER & THOMAS, *supra* note 14, at 133-34 (explaining that U.S. law favors patent holders and disfavors trade secret holders); Barney, *supra* note 104, at 522 (identifying defects in proposed prior user “defense”); Ubel, *supra* note 12, at 427-31 (examining secret prior use and rights of prior inventors); Kyla Harriel, Note, *Prior User Rights in a First-to-Invent Patent System: Why Not?*, 36 IDEA 543, 562, 566 (1996) (endorsing prior user rights); Leslie M. Hill, Note, *Prior User Defense: The Road to Hell Is Paved with Good and Bad Intentions*, 10 FED. CIR. B.J. 513, 522 (2001) (discussing prior user rights in context of secret use). The AIA, of course, has explicitly recognized prior user rights in the form of a personal defense to patent infringement by a prior commercial user for patents issued on or after September 16, 2011. See 35 U.S.C.A. § 273(a) (West 2011). For a discussion of how the doctrine of non-informing public use may provide some relief to inventors who do not opt into the patent system in the pre-AIA regime, see *supra* note 92.

196. *W.L. Gore*, 721 F.2d at 1550.

197. *Id.* (emphasis added).

the ability of judges to rely on reason alone.¹⁹⁸ The *Metallizing-Auld-Gore* line of cases does pay homage to the Patent Act by borrowing its one-year bar in the first-party cases, but significantly rewrites its language by subjecting activities of inventors and third parties to different treatment. Policy reasons aside, the absence of clear authority for the *Metallizing* rule¹⁹⁹ alone suggests that it may be in need of reexamination.

b. *Kinzenbaw*

Federal Circuit cases following *Auld* and *Gore* did little to clarify the rationales for the *Metallizing* doctrine,²⁰⁰ but subsequent opinions did provide some examples of factual scenarios where the *Metallizing* bar would or would not apply. *Kinzenbaw v. Deere & Co.*,²⁰¹ decided by a five-judge panel a few months after *Gore*, is notable because the patent owner did not, strictly speaking, sell any products of a secret invention.²⁰² This odd case also confirmed that *Metallizing* could apply to all sorts of secret inventions that are commercially exploited, as the patent-in-suit in *Kinzenbaw* was directed to a machine rather than to a process.²⁰³ The offending activity at issue: Deere & Company “made . . . available”²⁰⁴ (not sold!) planting machines to a number of farmers, which Deere argued the farmers used at its behest to test for their “warrantability, durability, and acceptability.”²⁰⁵ Strangely, at oral argument, the plaintiff “disavowed any claim that such use was experimental”²⁰⁶ and relied solely on secrecy to defend its patent against charges of public use. The court held that it did not need to consider whether or not Deere lent planters to the farmers with an expectation of confidentiality, because the use, even if secret, invalidated the patent under *Metallizing*.²⁰⁷ The court reasoned that the farm-

198. See Siegel, *supra* note 31, at 364-65 n.131 (attempting to justify this distinction as form of “policy polymorphism”).

199. See CHISUM, *supra* note 14, § 6.02[5][c], at 6-71 (“Unfortunately, the court in *Gore* gave sparse treatment to the point [of treating first and third parties differently], citing only *Metallizing*, dictum in its prior *D.L. Auld* opinion, and general policy considerations favoring inventors who make an early public disclosure. Both *D.L. Auld* and *Gore* leave unclear the theory for finding a bar when the secret commercial use of a process or machine is by the inventor/patentee but not when it is by another.”).

200. See Thompson et al., *supra* note 36, at 11 (recognizing *Auld* endorsed *Metallizing* without clearly indicating what invalidity theory was applicable, while *Kinzenbaw v. Deere & Co.* applied *Metallizing* despite facts that were not entirely on point).

201. 741 F.2d 383 (Fed. Cir. 1984).

202. For a discussion of how no money changed hands when Deere lent planting machines to farmers, see *infra* notes 209-11 and accompanying text.

203. See *Kinzenbaw*, 741 F.2d at 385 (explaining patent at issue was for “rather complex” planting machine).

204. *Id.* at 390.

205. *Id.*

206. *Id.* at 390-91.

207. See *id.* at 390 (stating that secret use, even pursuant to confidential arrangement, is “public use” due to commercial nature of activity). In the court’s

ers were “agents” of the inventor, and that “[i]n using the machines to test them for Deere, the farmers served Deere’s commercial purposes.”²⁰⁸

The Federal Circuit did not make it clear precisely what the nature of the commercial use was. Since Deere did not sell or offer to sell the planting machines to the farmers, but merely lent them free of charge,²⁰⁹ the court could not rely on the on-sale bar of Section 102(b). But if there was no sale of any sort, how could *Metallizing*—a case where sales activities appeared important to invalidating the patent—apply here? To be sure, *the farmers* likely derived a commercial benefit from growing and selling the agricultural products made possible with the help of Deere’s planters; all told, the beneficiaries of Deere’s largess used the machines to plant a total 40,000 acres in the course of two planting seasons.²¹⁰ But if the farmers were really agents, they owed the profits derived from such agricultural output to Deere under the laws of agency,²¹¹ with Deere being the ultimate beneficiary of the sales as the principal. This scenario, where the eventual patentee simply collects revenue from the commercialization of a secret invention through its agents, falls in a straightforward manner under the rule of *Metallizing*. But this was obviously not what actually occurred in *Kinzenbaw*. The farmers were not agents of Deere & Co. under any conceivable legal definition of “agent.” More plausibly, Deere leased the planters to the farmers for free as a form of advertising, hoping that they would enjoy using the product and buy it later. While such activity may be “commercial” in a broad sense of the word, it is a long way from a sale of a product of a secret invention, which was the activity at issue in *Metallizing*. A creative lawyer could have perhaps argued that Deere’s activity fell directly under the on-sale bar after all, with the “sale” involving free use of planters in consideration for Deere’s building goodwill with the farming community (which would in turn help Deere make actual sales at a later time). This argument avoids *Metallizing* altogether and places the activity at issue squarely within the purview of Section 102(b), but this is not how the *Kinzenbaw* court approached the issue.

Instead, the court cited with apparent approval the jury instructions that said that “‘if you find that . . . [the planters were used] primarily for commercializing the apparatus or process or *toward gaining a competitive advantage* or realizing a commercial gain, then such work . . . makes invalid any patent issuing on such applications’”²¹² if conducted before the criti-

words, Deere applied for a patent on the planters “[o]n July 30, 1975, three years after Deere began using the invention” by lending the planters to farmers. *Id.*

208. *Id.* at 391.

209. *See id.* at 390 (noting Deere lent planting machines to test “warrantability, durability, and acceptability”).

210. *See id.* (noting Deere asked farmers to use machines to fullest extent possible).

211. *See, e.g.,* RESTATEMENT (SECOND) OF AGENCY § 403 (1958) (“If an agent receives anything as a result of his violation of a duty of loyalty to the principal, he is subject to a liability to deliver it, its value, or its proceeds, to the principal.”).

212. *Kinzenbaw*, 741 F.2d at 390 (emphasis added).

cal date.²¹³ The court summarized the settled law with the phrase “a commercial use is a public use even if it is kept secret,”²¹⁴ citing *Metallizing, Auld, Chisum on Patents*, and invoking Judge Hand by name. Under its expansive reading of *Metallizing*²¹⁵ (again, activities at issue were not sales but “uses” apparently directed toward fostering goodwill among “customers”²¹⁶), the court invalidated the patent.²¹⁷ In a final twist of irony, the court wrote definitively that “[S]ection 102(b) barred the issuance of that patent,”²¹⁸ apparently rejecting *Auld*’s non-statutory forfeiture theory of *Metallizing*.²¹⁹ For those keeping score at home, the use of the planters was not public but secret, as the court stipulated.²²⁰ There was no sale or even an offer for sale in the conventional sense of those terms.²²¹ And yet Section 102(b) was held to be applicable.

E. *Limits of the Metallizing Doctrine*

Kinzenbaw’s gloss on *Metallizing* suggests a very expansive sweep of the *Metallizing* rule. The *raison d’etre* of business associations is to “gain[] a competitive advantage” and “realiz[e] a commercial gain.”²²² Therefore, any pre-critical-date activities in the ordinary course of business that some-

213. To be sure, the “competitive exploitation” language in *Metallizing* supports such a broad reading of the case. See *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946) (attributing “competitive exploitation” language to *Pennock*). Nevertheless, the facts of *Metallizing* involved sales of a service rather than development of commercial goodwill in a general sense. See *id.*

214. *Kinzenbaw*, 741 F.2d at 390.

215. See CHISUM, *supra* note 14, § 6.02[5][b], at 6-62 n.60 (noting that “appropriate approach” for what “constitutes ‘commercial exploitation’ within meaning of *Metallizing* . . . would seem to be to ask whether the product of the secret process or machine was in public use or on sale as those terms are used in Section 102(b).” (citing Wells & Riggins, *supra* note 26)). The *Kinzenbaw* court did not follow this approach, however. As mentioned above, the *agricultural products* (presumably, grain) made with the aid of the secret planting machine were on sale and in public use, but the benefit of the sales did not inure to Deere, the inventor, which prevented a straightforward application of *Metallizing* in the manner suggested by Professor Chisum. Instead, the court held that *Metallizing* applied because, “[i]n using the machines to test them for Deere, the farmers served Deere’s commercial purposes.” *Kinzenbaw*, 741 F.2d at 391. This “commercial purposes” test is unhinged from the doctrines surrounding the public use and on-sale provisions.

216. *Kinzenbaw*, 741 F.2d at 390.

217. See *id.* (invalidating patent because of commercial character of use).

218. *Id.* at 391.

219. For a discussion of the theory of forfeiture in *Auld*, see *supra* notes 191-93 and accompanying text.

220. More precisely, the *Kinzenbaw* court said that it did not matter whether the use was public or secret, because, even if secret, the patent was forfeited under *Metallizing*. See *Kinzenbaw*, 741 F.2d at 390 (focusing analysis on whether use was commercial).

221. For a discussion of how the use was apparently only for purposes of testing and building general goodwill, even though Deere referred to farmers internally as “customers,” see *supra* notes 209-10 and accompanying text.

222. *Kinzenbaw*, 741 F.2d at 390 (internal quotation marks omitted).

how implicate a secret invention that later becomes the subject of a patent application could invalidate the patent. In two important subsequent decisions, however, the Federal Circuit significantly limited *Kinzenbaw*. *In re Kollar*²²³ dealt generally with the question of whether a license that transfers the ownership of know-how that is subsequently patented triggers the on-sale bar, and held that it does not. The court reasoned that “such a transaction is not a ‘sale’ of the invention within the meaning of Section 102(b) because the process has not been carried out or performed as a result of the transaction.”²²⁴ The court stressed, however, that its holding applied to the unique context of licensing and took pains to note that it was not overruling the principle of *Metallizing* as explained in *Auld*:

Surely a sale by the patentee or a licensee of the patent of a product made by the claimed process would constitute such a [patent-barring] sale because that party is commercializing the patented process in the same sense as would occur when the sale of a tangible patented item takes place.²²⁵

Presumably, though its precise holding interpreted the on-sale bar of Section 102(b), *Kollar* means that a license to a product of a secret process within the meaning of *Metallizing* likewise does not invalidate the patent.²²⁶ *Kollar* did not specifically mention the messy *Kinzenbaw* case, whose broad reading of *Metallizing* is in some tension with *Kollar* given the latter case’s dicta focusing on sales instead of “competitive exploitation.”²²⁷ Three years after *Kollar*, in *Invitrogen Corp. v. Biocrest Manufacturing, L.P.*,²²⁸ Judge Rader attempted to clean up the mess.

The *Invitrogen* opinion engaged *Kinzenbaw*’s reading of *Metallizing* directly and explicitly limited the *Kinzenbaw* case, though in a backhanded sort of way. The patent-in-suit in *Invitrogen* involved a process for producing *E. coli* cells with improved ability to replicate exogenous DNA.²²⁹ The district court held the patent invalid because “Invitrogen had used the claimed process in its own laboratories [before the critical date] to further other projects beyond development of the claimed process and to acquire a commercial advantage.”²³⁰ In other words, Invitrogen employed the im-

223. 286 F.3d 1326 (Fed. Cir. 2002). For a cogent criticism of *Kollar* and similar cases as inconsistent with *Metallizing*’s policy against commercial exploitation, see Roderick M. Thompson, *The Licensing Exception to the On-Sale Bar: A Wrong Turn on the Path to Predictability*, 45 IDEA 35, 53-57 (2004).

224. *Kollar*, 286 F.3d at 1332.

225. *Id.* at 1333 (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983); *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147-48 (Fed. Cir. 1983)).

226. See Thompson, *supra* note 223, at 39 (asserting licensing exception will be linked to “inconsistent application of the on-sale bar”).

227. *Id.*

228. 424 F.3d 1374 (Fed. Cir. 2005).

229. See *id.* at 1377-78 (detailing process described in patent).

230. *Id.* at 1380 (internal quotations omitted).

proved cells “in other projects within the company,” which generated “commercial benefits” for “Invitrogen’s general business of widespread research.”²³¹ On appeal, Invitrogen contended that it “kept its use of the claimed process confidential” and “that this secret internal use was not ‘public use’ . . . because it neither sold nor offered for sale the claimed process or any product derived from the process.”²³² The Federal Circuit agreed with the plaintiff and held that the patent was not invalid.²³³ The court approvingly cited *Metallizing* for the proposition what “there are instances in which a secret or confidential use of an invention will . . . give rise to the public use bar,”²³⁴ but distinguished the case at issue because Invitrogen used the cells only “internally to develop future products that were never sold.”²³⁵

In a footnote, the court dealt with *Kinzenbaw*’s broad “commercial gain” language.²³⁶ Though *Kinzenbaw* said that whether the farmers’ activities were public or secret did not matter, and proceeded on the assumption that the use was secret,²³⁷ the *Invitrogen* court re-characterized the case by stating that “the jury had good reason to find Deere’s widespread commercial exploitation of the invention ‘public.’”²³⁸ After citing the facts suggesting that the use of the planters had to become public at some point (since it would be tough to plant 40,000 acres in secret),²³⁹ the *Invitrogen* court opined, “[n]o wonder this court sustained a finding that Deere’s wide-spread activities were ‘primarily for commercializing the apparatus’ and therefore public.”²⁴⁰ This revision of *Kinzenbaw* suggests that Deere lost the case because its invention was actually in public use; there was no need to rely on the legal fiction that the use became “public” within the meaning of *Metallizing* due to Deere’s lending of planting ma-

231. *Id.*

232. *Id.* (internal quotations omitted).

233. *See id.* (disapproving district court’s finding that, because company’s use of process in research generated commercial benefits, use was public within meaning of *Metallizing*).

234. *Id.* at 1382 (citing *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 250 (2d Cir. 1946)).

235. *Id.* at 1382-83.

236. *See id.* at 1381 n.* (dealing with *Kinzenbaw*’s holding that commercial exploitation can render confidential use public).

237. For a description of the farmers’ use of the planting machines, see *supra* notes 212-18 and accompanying text.

238. *Invitrogen*, 424 F.3d at 1381 n.*.

239. For a discussion of how the usage also spanned at least eleven states, see *supra* note 208 and accompanying text.

240. *See Invitrogen*, 424 F.3d at 1381 n.* (citing *Kinzenbaw v. Deere & Co.*, 741 F.2d 383 389-90 (Fed. Cir. 1983)). Capturing the confusion surrounding this area of law, another case Judge Rader cited to in *Invitrogen* addressed the *Metallizing* principle in a dictum, lamenting with admirable honesty: “Decisions under [the on-sale bar] provision and comparable provisions in earlier statutes are marked by confusion and inconsistency.” *TP Labs., Inc. v. Prof’l Positioners, Inc.*, 724 F.2d 965, 968 (Fed. Cir. 1984).

chines to its potential customers. Of course, that was not the reasoning of *Kinzenbaw* itself.

While *Invitrogen* did not directly overrule *Kinzenbaw*, the latter case's "commercial gain" language appears now to be limited to activities leading to some type of a concrete monetary gain directly derived from a secret invention. After *Invitrogen*, creation of goodwill, business intelligence, or internal research advancements owing to secret inventions should not work patent forfeiture under the general rule of *Metallizing*. A recent district court decision made it clear that the fact that the patentee "did not use its claimed process to make money since it never sold any later product developed using the process"²⁴¹ explained the result in *Invitrogen*. The *Trading Technologies International, Inc. v. eSpeed, Inc.*²⁴² court relied partly on *Kinzenbaw*, however, to rule that a triable issue of patent invalidity existed where the defendant produced facts tending to show that the patentee "used his inventive software for personal commercial gain prior to the critical date."²⁴³ The software at issue was used to analyze the stock market; the court opined that if the patentee "did in fact use the software to trade and make money, such action, in our determination, falls within the ambit of public use under § 102(b)."²⁴⁴ The *Trading Technologies* scenario is unusual because no sale of a product of a secret invention was involved, as the invention made money for a trader quite literally by helping him become more successful in the stock market;²⁴⁵ one wonders if the court would have felt the same way if the inventor was actually losing money on

241. *Trading Techs. Int'l, Inc. v. eSpeed, Inc.* 507 F. Supp. 2d 883, 893 (N.D. Ill. 2007).

242. 507 F. Supp. 2d 883 (N.D. Ill. 2007).

243. *Id.* at 893. The court then made the following cryptic statement, conflating the competing principles of *Kinzenbaw* and *Invitrogen*:

If defendants succeed in proving that [the plaintiff] *used his invention to trade for profit—to garner a competitive advantage in the marketplace*—such is a barring public use different from the use discussed in *Invitrogen*. Further, because [the plaintiff's] invention need not have been disclosed to the public in order to be commercially exploited, [the plaintiff's] exclusively private use of the invention would not abrogate the public use bar.

Id. (emphasis added). In the spirit of *Metallizing*, the defendants had thus successfully argued that *Invitrogen* is not controlling:

[A] rule requiring that an inventive method be placed 'on sale' would render the 'public use' prong of § 102(b) meaningless, and would permit inventive methods to be used for commercial gain in secret for years and still be eligible for patent protection whenever the inventor decided it was time to share it with the public, an outcome antithetical to the public policy of offering a limited term of exclusivity in exchange for prompt disclosure.

Id. (internal quotations omitted).

244. *Id.*

245. The inventor hurt his case when he testified that, "the minute I started trading with MD Trader, the trajectory of my trading went up and never came close to tracing back to that original point." *Id.* at 897 (citation omitted) (internal quotations omitted).

the market by using the software.²⁴⁶ The courts have yet to address this tantalizing issue directly, though the *Trading Technologies* court suggested in dicta that evidence of the inventor's monetary loss could also be probative of patent-defeating commercial exploitation.²⁴⁷ Tricky issues raised by the *Trading Technologies* case aside, it is clear that, even in the wake of *Invitrogen*, the *Metallizing* rule lives on.²⁴⁸

III. METALLIZING'S FLAWED POLICY RATIONALES

A. Disclosure

1. Practical and Theoretical Problems with the Disclosure Rationale

The foregoing discussion indicates that, as a matter of common law development and statutory interpretation, Judge Hand's analysis in *Metallizing* was shaky at best. As noted bluntly by one commentator on *Metallizing* and similar cases, "[s]ome of these uses are deemed 'public' primarily to penalize the inventor for her own delay in seeking a patent. . . . Clearly the 'public' nature of the use in these cases is a fiction which is used to serve independent policy objectives of the court."²⁴⁹ In addition, at least on the facts of *Metallizing* itself, the outcome against the patent owner under the one-year forfeiture rule appeared to be quite harsh.²⁵⁰ Because, for Judge Hand, policy objectives were apparently

246. A plausible case can be made that such use is competitive exploitation because it is made with the intention of achieving a commercial gain. The *Invitrogen-Kinzenbaw* issue became moot when the jury ultimately determined that the commercial use at issue did not occur more than one year before the critical date. *Trading Techs. Int'l, Inc. v. eSpeed, Inc.* 581 F. Supp. 2d 915, 916 (N.D. Ill. 2008), *aff'd*, 595 F.3d 1340 (Fed. Cir. 2010). The district court did note in dicta that, even though the inventor experienced monetary losses with his market-analysis invention, the use was still a commercial exploitation under *Metallizing*. *See id.* at 916-17 ("[Inventor's] receipts for the day, also presented at the hearing, showed that a large amount of trading actually occurred that day, resulting in a loss. We agree with [defendant's] expert . . . that it is not common practice to engage in a substantial amount of trading, ultimately resulting in a large loss when testing software in a live environment. Therefore, we find [the defendant] has proved by clear and [convincing] evidence that Brumfield engaged in commercial use of the invention").

247. For a discussion of the inventor's monetary loss, see *supra* note 246 and accompanying text.

248. *See* Bradley C. Wright, *Recent Developments in Patent Law*, 5 J. MARSHALL REV. INTELL. PROP. L. 630, 633 (2006) ("In *Invitrogen*, the Federal Circuit distinguished the circumstances in *Metallizing Engineering*. . . . The court held that the correct test is the traditional public use test, which asks whether the use was either accessible to the public or if there was a commercially exploited use. There was no evidence in this case that the patent owner received any compensation for its internal, secret use. Merely using the invention to develop future products was held not to be commercial exploitation. Here, the court really put a crimp in the secret public use doctrine." (footnotes omitted)).

249. Ubel, *supra* note 12, at 422-23.

250. For a discussion of the factual background to the court's analysis in *Metallizing*, see *supra* notes 77-100 and accompanying text.

strong enough to override the statute by importing first-party secret inventions into the statutory bars of Section 102(b), they are worth examining in detail.

As mentioned above, one of Judge Hand's rationales for the rule was to encourage prompt disclosure of inventions to the public via early filing of patent applications.²⁵¹ He held that "it is part of the consideration for a patent that the public shall as soon as possible begin to enjoy the disclosure."²⁵² As this language reveals, the disclosure rationale for the patent system can be framed as part of the quid pro quo of the patent system: the patentee receives a monopoly right to exclude others from practicing his or her invention in exchange for revealing technical information to the public.²⁵³ The patentee's disclosures, the reasoning goes, will stimulate future research building on the patentee's invention; moreover, after the expiration of the patent, the invention will enter the public domain, free for everyone to use.²⁵⁴ The Supreme Court has highlighted disclosure as an important reason for the existence of the patent system,²⁵⁵ and several patent theorists have commented positively on the role of the patent system in promoting technological progress by disseminating information.²⁵⁶ In addition, an important function of a patent is to disclose the existence

251. For a discussion of the two rationales behind Judge Hand's *Metallizing* rule, see *supra* note 13 and accompanying text.

252. *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946).

253. See Orin S. Kerr, *Rethinking Patent Law in the Administrative State*, 42 WM. & MARY L. REV. 127, 133-37, 182-83 (2000) (explaining economics of patent system); A. Samuel Oddi, *Un-unified Economic Theories of Patents—The Not-Quite-Holy Grail*, 71 NOTRE DAME L. REV. 267, 274 (1996) (same).

254. See Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 553 (2009) ("The accepted understanding in patent policy and doctrine is that disclosure of a patented invention to the public—and its dedication to the public after the expiration of the patent term—is part of a quid pro quo the patentee must provide to gain the broad patent right."); Elizabeth Pesses, Note, *Patent and Contribution: Bringing the Quid Pro Quo into eBay v. MercExchange*, 11 YALE J.L. & TECH. 309, 320-23 (2009) (discussing patent exchange and quid pro quo of patent law).

255. For a discussion of the Supreme Court's approval of prompt disclosure, see *supra* note 13 and accompanying text.

256. See, e.g., Fromer, *supra* note 254, at 599 (criticizing problems with patent disclosure but arguing for "the deserved centrality of the disclosure function in the patent system to promote the flow of information about inventions from patentees to potential future innovators, thereby stimulating increased and speedier follow-up innovation"); Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CALIF. L. REV. 803, 808 n.9, 809 (1988) ("There is a significant amount of evidence showing that inventors in many fields rely on published patents for technical information. . . . [T]he patent statute and case law—not to mention commercial practices—repeatedly demonstrate [the disclosure function's] vitality in the patent system."). See generally Ouellette, *supra* note 70.

of a claim of ownership of an invention to the public—and particularly to the patentee’s competitors who may wish to design around the patent.²⁵⁷

In the last several years, however, commentators have begun to question whether patent disclosures actually provide significant informational benefits to the public,²⁵⁸ both in terms of teaching those skilled in the art to practice the invention²⁵⁹ and in terms of providing notice of ownership.²⁶⁰ Mark Lemley argued that “the Federal Circuit has permitted a number of vague general disclosures that don’t actually communicate very much to anyone, and patent lawyers often have incentives to write such vague disclosures.”²⁶¹ In an earlier paper, he had noted that, especially in the information technology industry, companies appear to ignore patents completely, even when significant investment decisions are made and goals of corporate research and development are formulated.²⁶²

The reasons for ignoring patents are complex: In addition to the problem of relatively unhelpful disclosures, which plague the high-tech industry in particular²⁶³ and can be problematic in other fields as well,²⁶⁴

257. See *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 945-46 (Fed. Cir. 1987) (en banc) (Bennett, J., dissenting in part) (discussing notice to competitors as function of patent).

258. See Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. REV. 123, 146 (2006) (questioning informational benefits of patent disclosure); Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 21 (same); Note, *The Disclosure Function of the Patent System (or Lack Thereof)*, 118 HARV. L. REV. 2007, 2015 (2005) (same). Critiques of the usefulness of patent disclosures and of logical difficulties with the disclosure rationale for the patent system are not limited to very recent commentators, however. See, e.g., Alfred E. Kahn, *The Role of Patents, in COMPETITION, CARTELS AND THEIR REGULATION* 308, 317 (John Perry Miller ed., 1962) (critiquing patent disclosure system); JOHN W. SCHLICHER, *PATENT LAW: LEGAL AND ECONOMIC PRINCIPLES* § 1.04[3], at 1-26 (2001) (arguing quid pro quo rationale is “conceptual error” that “predisposes the court to try to reward the act of disclosure rather than the act of inventing”). But see Lefstin, *supra* note 190, at 872-73 (discussing court decisions that approached patent claims as contracts between patentee and government, implying strong influence of quid pro quo rationale on judges).

259. See, e.g., Fromer, *supra* note 254, at 576-77 (discussing need to improve quality of disclosure in of patents); Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621, 641-46 (2010) (same).

260. See generally Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1746-47 (2009) (questioning informational benefits of patent disclosures with regard to delineation of property rights); see also Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 529 (2010) (discussing “the public notice function of [patent] claims”).

261. Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709, 745 (2012).

262. See Lemley, *supra* note 258, at 21-22 (discussing firms’ disregard of patents).

263. See *id.* (discussing use of patents in high technology companies).

264. See Seymore, *supra* note 259 (discussing quality of disclosures in patents in life science fields). But see Ouellette, *supra* note 70, at 534-35 (finding that researchers in nanotechnology industry do find useful disclosures in patents in that field).

inventors who read patents might worry that they would be charged with willful infringement for practicing the invention with knowledge that it is covered by another's valid patent.²⁶⁵ This rule presents a serious deterrent to reading patents because a finding of willfulness can lead to an increase of monetary damages for patent infringement by up to a factor of three.²⁶⁶

The notice-of-ownership function of patents also has its problems, as the academic literature has made clear.²⁶⁷ Even when inventors are willing to risk willfulness and decide to read a patent, they might have great trouble figuring out whether the patent covers their products, as the meaning and scope of patent claims can often be difficult to determine²⁶⁸ until an infringement suit has been filed and the claims have been construed by a court.²⁶⁹ Yet another problem with the disclosure rationale is that relevant patents can sometimes be very difficult to find with currently available search techniques,²⁷⁰ so that even those who seek to read patent literature might never come across patents that include information that is useful to them.

Moreover, researchers appear to consider patents generally unhelpful as sources of technical information,²⁷¹ turning instead to the more familiar peer-reviewed publications,²⁷² or perhaps even to "product manuals or

265. See Lemley, *supra* note 258, at 21 ("Companies and lawyers tell engineers not to read patents in starting their research, lest their knowledge of the patent disadvantage the company by making it a willful infringer.").

266. See 35 U.S.C. § 284 (2006) (establishing damages for patent infringement).

267. For an insightful analysis of notice problems in patent law, see Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779 (2011).

268. See Burk & Lemley, *supra* note 260, at 1744 ("Despite repeated efforts to set out the rules for construing patent claims, . . . parties and courts seem unable to agree on what particular patent claims mean. Patent law has provided none of the certainty associated with the definition of boundaries in real property law. Literally every case involves a fight over the meaning of multiple terms, and not just the complex technical ones." (footnote omitted)).

269. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996) (holding that patent claim construction is a question of law).

270. See Alan Devlin, *The Misunderstood Function of Disclosure in Patent Law*, 23 HARV. J.L. & TECH. 401, 403 (2010) (discussing issues with patent searching techniques); Herbert Hovenkamp, *Notice and Patent Remedies*, 88 TEX. L. REV. SEE ALSO 221, 225 (2011) (same).

271. See, e.g., Lemley, *supra* note 258, at 22 n.16 ("Empirical research suggests that scientists don't in fact gain much of their knowledge from patents, turning instead to other sources." (citing Wesley M. Cohen et al., *R&D Spillovers, Patents and the Incentives to Innovate in Japan and the United States*, 31 RES. POL'Y 1349, 1362-64 (2002))). *But see* Ouellette, *supra* note 70, at 552-64 (finding in empirical study that researchers do glean some useful information from nanotechnology patents).

272. See Seymore, *supra* note 259, at 625 ("[S]cientists and engineers are not trained to read patents. In college and graduate school they learn that research funding, reputation, and tenure decisions turn on publications in peer-reviewed technical journals.").

products embodying the patents”²⁷³ when they are available. To remedy the problem of patent disclosures that lack useful examples, are riddled with jargon, and are generally inaccessible to scientists, Sean Seymore proposed reforming the enablement requirement of the Patent Act²⁷⁴ so that disclosures associated with patents would be more useful to the scientific community.²⁷⁵ But even if those reforms are adopted—certainly not a guarantee because implementing the proposals will likely require legislative action—the problems of willfulness²⁷⁶ and the difficulties of finding the right patents²⁷⁷ and understanding their claim scope will remain. In addition, as Tun-Jen Chiang argued in a sweeping attack on the disclosure rationale for the patent system, the very notion of a quid pro quo may be “an illusion” because patents tend to claim much more than they actually disclose.²⁷⁸

Admittedly, from the standpoint of business competitors or other inventors in the field, some patent disclosure, however imperfect, can still be useful.²⁷⁹ Indeed, by hypothesis, the information about secret machines

273. Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 377 (2010).

274. See 35 U.S.C. § 112 para. 1 (2006) (setting forth enablement requirement).

275. See generally Seymore, *supra* note 259 (proposing reforms to enablement requirement); Fromer, *supra* note 254 (same). Also, as I have noted elsewhere, there is some tension between the enablement requirement of patent law and the scientific norms of reproducibility and verifiability. See Dmitry Karshtedt, *Limits on Hard-to-Reproduce Inventions: Process Elements and Biotechnology’s Compliance with the Enablement Requirement*, 3 HASTINGS SCI. & TECH. L.J. 109, 109-17 (2011) (analyzing tension between norms of scientific research and patent law).

276. For a discussion of the fear of willful infringement, see *supra* note 265 and accompanying text. Seymore argues, however, that willful infringement will not be as strong of a deterrent to reading patents after *In re Seagate Technology, LLC*, which made it more difficult to prove willfulness. See Seymore, *supra* note 259, at 625 (describing difficulty in proving willfulness after *Seagate*); see also AIA, Pub. L. No. 112-29, § 17, 125 Stat. 285, 329 (2011) (codifying *Seagate’s* willfulness standard). Ouellette’s empirical work suggests that researchers’ worries about willful infringement are “extremely minor.” See Ouellette, *supra* note 70, at 564-66 (discussing willful infringement). However, the percentage of industry as opposed to academic researchers in Ouellette’s study is relatively small, suggesting perhaps that academics do not fear infringement suits in general. See *id.* at 554 (showing that only 8% of researchers surveyed were in “industry”). Another recent empirical paper found that the frequency of cases where willful infringement was found diminished by only about 10% after *Seagate*. See Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After In re Seagate: An Empirical Study*, 97 IOWA L. REV. 417, 419-20 (2012) (analyzing impact of *Seagate*).

277. For a discussion of the difficulty of locating relevant patents under the current system, see *supra* note 270 and accompanying text.

278. See Tun-Jen Chiang, *The Levels of Abstraction Problem in Patent Law*, 105 NW. U. L. REV. 1097, 1101, 1104, 1150-52 (2011) (discussing illusory nature of patent quid pro quo caused by overbreadth of claims). For Chiang’s own proposal for making claim scope more commensurate with patent disclosure, see Tun-Jen Chiang, *Defining Patent Scope by the Novelty of the Idea*, 89 WASH. U. L. REV. 1211, 1243-46 (2012) (proposing new rules for limiting claim scope).

279. See generally Jason Rantanen, *Peripheral Disclosure*, 74 U. PITT. L. REV. (forthcoming 2013), available at http://ssrn.com/sol3/papers.cfm?abstract_id=

or processes falling under the rule of *Metallizing* cannot be gleaned from commercial products made with their aid, so that disclosure of such inventions via patents may provide information that might not be otherwise available at all. Also, it is assumed that such inventions cannot be learned from other sources such as peer-reviewed publications, which would destroy trade secret rights in the invention as a legal matter²⁸⁰—and defeat patent rights as well for lack of novelty.²⁸¹ Given the total secrecy shrouding *Metallizing*-type inventions, isn't some disclosure via a patent better for the public than no disclosure at all?

The answer, suggested in a recent paper by Alan Devlin, starts with the insight that benefits of patent disclosure must always be balanced against effects of mandated disclosure on incentives to invest in inventive activities.²⁸² Indeed, Devlin argued forcefully for the proposition that disclosure is distinctly subordinate to the role of the patent system in providing incentives to invent.²⁸³ Inventors, the argument continued, most logically choose to opt into the patent system in cases where inventions tend to be “self-revealing,”²⁸⁴ as illustrated by the paradigmatic example of the paper clip.²⁸⁵ Without patent protection, the paper clip invention would be an easily appropriable “public good,”²⁸⁶ with others easily able to

1907360 (discussing patent disclosure). Rantanen provides a novel explanation for the disclosure function of the patent system, arguing that patents free their owners to make other, non-patent disclosures (such as scientific publications or presentations to potential business partners) that are beneficial to themselves and to the society as a whole. *See id.* at 1 (explaining peripheral benefits of patent disclosure). The focus of Rantanen's paper, however, is on patent protection for inventions that are self-revealing, i.e., those that are easily reverse-engineered or grasped upon inspection. *See id.* at 19-34 (describing self-disclosing or self-revealing inventions). Inventions falling under the *Metallizing* rule, however, are not self-revealing inventions. *See infra* notes 282-93 and accompanying text.

280. *See* UNIFORM TRADE SECRETS ACT § 1(4) (1985) (“‘Trade secret’ means information . . . that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.” (emphases added)).

281. *See* 35 U.S.C. § 102(a) (2006) (codifying novelty requirement).

282. *See* Devlin, *supra* note 270, at 404 (analyzing costs and benefits of disclosure); *see also* SCHLICHER, *supra* note 258, at § 1.04[3], at 1-26 (discussing disclosure).

283. *See* Devlin, *supra* note 270, at 425-26 (“[T]he normative implications of disclosure and incentive-to-invent principles point in opposing directions. The former suggests that patentability should be broader than what is minimally required to spur innovation. The latter cuts against such broad reach. The incentive-to-invent rationale, however, should carry the day.”).

284. *Id.* at 426.

285. *See* Mark A. Lemley, *The Surprising Virtues of Treating Trade Secrets as IP Rights*, 61 STAN. L. REV. 311, 338-39 (2008) (analyzing benefits of patents for protecting self-revealing inventions); *see also* Katherine J. Strandburg, *What Does the Public Get? Experimental Use and the Patent Bargain*, 2004 WIS. L. REV. 81, 104-07 (discussing comparative benefits of patent and trade secret protection).

286. Devlin, *supra* note 270, at 442.

free-ride on the research efforts of the first inventor after figuring out how paper clips work simply upon visual inspection of a commercial embodiment.²⁸⁷ For inventions that are more readily “concealable,”²⁸⁸ such as secret machines and processes governed by the rule of *Metallizing*, the Patent Act’s disclosure requirements²⁸⁹ place a significant cost on the prospective patent applicant, who is understandably averse to revealing the details of such inventions to the world.²⁹⁰

Applying Devlin’s arguments to *Metallizing*-type inventions, one realizes that the inventor in this scenario must deal with a Hobson’s choice of (1) patenting the invention and revealing its workings in the patent’s specification or (2) keeping it “suppressed or concealed” as a non-informing trade secret and risking the patenting of the invention by a third party that would turn the original inventor into an infringer,²⁹¹ or at least facing the possibility of losing the trade secret right if the invention becomes generally known.²⁹² This state of affairs might chill the development and commercial application of concealable inventions, and Devlin comes to the interesting conclusion that, to incentivize such inventions, we might in theory be better off with a patent system that does not require an enabling

287. See Rantanen, *supra* note 279, at 35-37 (explaining why patent system is particularly important for promoting investment into and disclosure of such inventions).

288. Devlin, *supra* note 270, at 417.

289. See 35 U.S.C. § 112 (2006) (establishing disclosure requirements).

290. See Devlin, *supra* note 270, at 420 (explaining costs of patent disclosure).

291. With the advent of the prior commercial use defense against patents issued on or after September 16, 2011, the trade secret holder’s fear of being found liable for infringement has been somewhat allayed. Still, the defense must be established by clear and convincing evidence. See 35 U.S.C.A. § 273(a), (b) (West 2011) (codifying prior commercial use defense). For an articulation of the non-informing public use doctrine, which in some cases can protect non-patenting prior inventors, though not necessarily prior users, see *supra* note 92 and accompanying text. For a discussion of forces pushing inventors to opt into the patent system, see *infra* note 320 and accompanying text.

292. See Devlin, *supra* note 270, at 420. Devlin explained:

If an inventor would prefer patent protection but chooses trade secrecy instead due to the cost associated with the § 112 requirements, then we know something important: the inventor would gain more utility from patent protection with no disclosure requirements than she would from trade secret. Greater utility translates into a larger ex post reward. Such enhanced ex post value means greater ex ante incentives to innovate. The “incentive to disclose” may therefore at times be in tension with the utilitarian “incentive to invent” foundation of the patent system.

....

... [R]egarding the patent regime’s creation of incentives as superior to any disclosure function is the better view.

Id. at 420-21. Devlin ultimately concludes that inventors of concealable inventions seek patent protection because reverse engineering is generally possible, which tends to make the Patent Act’s disclosure requirements less costly for such inventors. See *id.* at 421-22 (discussing Patent Act). But by hypothesis, however, reverse engineering of *Metallizing*-type inventions is not possible, leaving independent discovery as the chief concern of inventors whose discoveries are subject to the rule of *Metallizing*.

disclosure.²⁹³ To put this issue in a concrete context, it is possible that the *Metallizing* rule, which tends to force an inventor to opt into the patent system and disclose his or her secret inventions within a year of their commercial exploitation, may do more harm than good to society as a whole if it results in significant chilling of certain kinds of inventive activity. This result may follow, for example, if an inventor contemplating the development of a secret process or machine whose commercial products he or she plans to sell would prefer taking more than one year²⁹⁴ before deciding whether to opt for trade secret rather than patent protection,²⁹⁵ and might be discouraged from pursuing such an invention altogether by *Metallizing*.

293. *See id.* at 419-20 (discussing enablement requirement). The enablement requirement also plays the important role of limiting the scope of patent claims. *See, e.g.,* *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008) (holding that patent disclosure must enable practice of “the full scope of the claimed invention”). Devlin, however, does not propose doing away with the enablement requirement, but instead uses the example of patents on concealable inventions as a thought experiment revealing the costs of disclosure and the tension between disclosure and incentives to invent. *See* Devlin, *supra* note 270, at 423-41 (explaining costs of disclosure).

294. The period of time in which the inventor can make this decision can be extended by “buying time”: filing a patent application and then abandoning it before it publishes. For a discussion of how an apply-then-abandon strategy can extend the time for deciding between patent and trade secret protection, see *infra* note 297 and accompanying text.

295. It is unclear what percentage of inventions present the patent-trade secret choice such that it is not immediately obvious which form of intellectual property protection is preferable. For example, for inventions that have a short market life, it would seem that the trade secret option would be a slam dunk given how long the process of prosecuting a patent application to issuance can take. Nevertheless, the prospect of changed market circumstances can make the patent-trade secret choice less straightforward than it might appear at first. *See* Andrew Beckerman-Rodau, *The Choice Between Patent Protection and Trade Secret Protection: A Legal and Business Decision*, 84 J. PAT. & TRADEMARK OFF. SOC'Y 371, 389-90 (2002) (discussing choice between patent and trade secret protection). Interestingly, in its policy statement opposing the retention of the *Metallizing* rule in a first-to-file system, the American Intellectual Property Law Association (AIPLA) suggests that firms rarely revisit the patent-trade secret choice once the trade secret option is chosen, “[e]ven though foreign patenting is available for subject matter maintained as trade secrets until the trade secret is divulged.” *See* AM. INTELLECTUAL PROP. LAW ASS'N, SPECIAL COMMITTEE ON PATENT LEGISLATIVE PRIORITIES REPORT ON “FORFEITURE” BASED UPON INVENTIONS “IN PUBLIC USE OR ON SALE”: PROPOSAL TO ELIMINATE THE “FORFEITURE” PROVISIONS OF 35 U.S.C. § 102(B) BASED UPON ADOPTION OF A FIRST-INVENTOR-TO-FILE SYSTEM 9 [hereinafter AIPLA REPORT] (on file with author). Nevertheless, the AIPLA position paper still contends that “the forfeiture detracts from a potential ‘win-win’ outcome,” which “arises when trade secret law encourages the early adoption of new technology in the United States and the patent law remains available as an incentive to encourage a full disclosure of that technology so that competitors and others can extend and improve upon it.” *Id.* at 9-10. The fact that at least some in the industry care about the *Metallizing* rule, as revealed by this AIPLA position paper, suggests that the rule does have some effect on inventive activity.

As the law stands today, the *Metallizing* rule forces inventors to make the tough trade secret-patent choice²⁹⁶ within a year of first commercial exploitation, however it is defined.²⁹⁷ But how would additional time result in greater ex ante incentives to invent? As an initial matter, it seems intuitive that the more time inventors have at their disposal to make the trade secret-patent choice, the more likely they are to figure out correctly which of the two methods of intellectual property protection is more advantageous.²⁹⁸ The ability to choose can be viewed as a “call option”; in

296. See generally Beckerman-Rodau, *supra* note 295 (discussing choice made between trade secrets and patents for protection of inventions). For a paper arguing that the effective elimination of the best mode requirement by the AIA may allow concurrent patent and trade secret protection on the same invention, see *infra* note 450.

297. The one-year timeframe is something of an oversimplification. An inventor who is not sure of whether to opt for patent or trade secret protection and is afraid of running into the *Metallizing* bar can always file a provisional patent application, which allows him or her to “lock in” a priority date without going through the expense of filing a utility patent application. See 35 U.S.C. § 111(b) (2006). To be sure, in order to claim priority to the date that a provisional application is filed, the provisional must adequately enable and describe the invention so as to comply with Section 112; it must contain enough description to support the claims of a later-filed utility application. See *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294-97 (Fed. Cir. 2002) (describing application of Section 112’s enablement and written description requirements to provisionals). In addition, an applicant can file a utility (or provisional) patent application one year after first commercially exploiting the invention and then abandon it before the publication deadline, which is eighteen months from the priority date, thereby retaining trade secret rights in the invention. While filing a utility application can be costly, the inventor can “buy time” so as to put off the patent-trade secret decision for up to thirty months from the first commercial exploitation: i.e., twelve months grace period under *Metallizing* or the statutory bars plus eighteen months of non-publication as provided by 35 U.S.C. § 122(b)(1)(A). That period can be extended if non-publication is successfully requested, as when the applicant certifies that no foreign application will be filed on the same invention. See *id.* § 122(b)(2)(B)(i). The bottom line is that applying for a patent does not immediately and irreversibly destroy trade secret rights, though of course an inventor may lose both trade secret rights and never obtain a patent if the application publishes and the patent is never granted. I thank Professor David Schwartz and co-workers at Wilson Sonsini Goodrich & Rosati P.C. for bringing these points to my attention. The provisional application option, it must be added, was not available at the time *Metallizing* was decided.

298. The downside of allowing the inventor to take time to make the trade secret-patent decision is that the public will have to wait longer for the disclosure of the invention if and when it is finally patented (or when the application is published). On the other hand, the patentee’s delay also means that the burdening of the public with a patent monopoly is at least delayed and possibly completely avoided if intervening discoveries make the invention at issue anticipated or obvious. Indeed, this is a major risk that an inventor takes by putting off the step of filing a patent application. For a discussion of factors encouraging early patenting, see *infra* notes 320, 347, and accompanying text. For an explanation of how more robust trade secret protection can be salutary for society because of the concomitant avoidance of monopoly, see *infra* notes 331-34 and accompanying text.

More importantly, if one accepts Devlin’s (and Judge Newman’s, see *infra* note 312 and accompanying text) proposition that the incentive to invent is more important than disclosure as a justification for the patent system, perhaps the

economic terms, the longer the term during which an option can be exercised, the greater its value.²⁹⁹ Formally, the increased option value that comes with having more time to choose between patent and trade secret protection lies in enabling inventors to make the less costly of the two choices in a greater number of cases.³⁰⁰ The increased “option value” created by the longer decision time would increase the incentives to invest in research needed to produce *Metallizing*-type inventions, and society would eventually benefit from the consequently greater volume of inventive activity.

Even though giving the inventor an option of longer than one year might be preferable to the *Metallizing* rule, an infinitely long option is also undesirable because of high costs it might impose on society.³⁰¹ One has to guard against submarine-style patents sprung on competitors after significant delay of patenting,³⁰² as well other abuses of the patent system

harm of delayed disclosure is offset by the increased ex ante incentive to invent—and increased societal benefits resulting from more invention—facilitated by the rule that gives inventors more time to decide. This position is buttressed by problems with patent disclosures. For a discussion of critiques of the disclosure function of the patent system, see *supra* notes 249-78 and accompanying text. Finally, the law accepts the outcome where the public will never learn of some patentable inventions by allowing trade secret protection to such inventions. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 489-91 (1974) (analyzing implications of having trade secret law). For a discussion of how independent discovery often resolves concerns with secrecy, see *infra* notes 358-59 and accompanying text.

299. See Daniel Sorid, *Using Black-Scholes to Put a Value on Stock Options*, ABOUT.COM, <http://beginnersinvest.about.com/lw/Business-Finance/Personal-finance/Using-Black-Scholes-to-Put-a-Value-on-Stock-Options.htm> (last visited Mar. 25, 2012) (“Under the Black-Scholes model, an option with a longer life span is more valuable than an otherwise identical option that expires sooner. This makes logical sense: With more time to trade, a stock has a greater chance of surpassing its target price.”).

300. Cf. Christopher A. Cotropia, *The Folly of Early Filing in Patent Law*, 61 *HASTINGS L.J.* 65, 108-13 (2009) (analyzing patents as call options).

301. Besides the costs of unfair surprise referred to below, one also has to take into account the administrative costs of the flexible totality of the circumstances test. I believe, however, that avoidance of forfeiture might make up for these costs. For an explanation and a discussion of the potential for equitable resolution of issues that concerned Judge Hand in *Metallizing*, see *infra* notes 409-31 and accompanying text, and especially notes 420-26.

302. *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found.*, 277 F.3d 1361, 1370 n.1 (Fed. Cir. 2002) (noting problem of “submarine” patents); see also David L. Marcus, Note, *Is the Submarine Patent Torpedoed?: Ford Motor Co. v. Lemelson and the Revival of Continuation Application Laches*, 70 *TEMP. L. REV.* 521, 522 (1997) (discussing effect of *Lemelson*). It is important to distinguish *Lemelson*-style submarine patenting from mere delay of filing for a patent application, which are a different species of possibly inequitable patentee behavior. In the former scenario, an inventor files a patent application—such that the public does have some notice of the invention—and keeps filing continuation applications with new claims long after the date of the first (i.e., “parent”) application. This approach of apply-then-delay is similar to the approach taken by the plaintiff in *Woodbridge*, and should be contrasted with delay of application for a patent. In the latter scenario, the inventor uses an invention for a long period of time and only applies for a patent after many years of secret use. For an explanation of why *Lemelson*’s prac-

such as attempts to patent long-held trade secrets, exemplified by the *Macbeth* case.³⁰³ Indeed, the doctrine of prosecution laches, which protects accused infringers who have relied on the absence of patents in a particular technology space,³⁰⁴ is a subset of the common-law “equitable forfeiture” of patents authorized by the *Pennock* dicta.³⁰⁵ But the inquiry into whether the patentee has acted in bad faith is of necessity case-specific,³⁰⁶ and Judge Hand’s strict, faux-legislative one-year rule³⁰⁷ takes away the courts’ ability to figure out whether or not an inventor imposed unwarranted externalities on society by waiting as long as possible to apply for patent on a secret invention.³⁰⁸

tics are no longer possible and for further analysis of differences between *Woodbridge/Lemelson*-style delays from *Pennock/Macbeth*-style delays, see *infra* notes 409-14 and accompanying text.

303. For a discussion of the implications of the *Macbeth* holding, see *supra* notes 124-30 and accompanying text.

304. For a description of the strategy attempting to keep an invention as a trade secret in perpetuity and then patent it due to exigency such as misappropriation, see *supra* note 123 and accompanying text. Notably, unlike the traditional “litigation laches” that serves merely as a personal defense, prosecution laches renders the patent unenforceable as against the world. See Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 64, 117 (2004) (contrasting prosecution and litigation laches).

305. For a discussion of the dicta in the *Pennock* decision, see *supra* notes 160-72 and accompanying text.

306. For the two proposed rules that could replace the purely case-specific analysis in cases like *Woodbridge* and *Macbeth*, see *infra* notes 361, 425, 429-31, and accompanying text. The proposed rules might simplify patent validity determinations in court and would likely be more easily administrable by the PTO than the common law equitable forfeiture inquiry.

307. The difference between the strict one-year *Metallizing* bar and the pre-*Metallizing* case-by-case analysis is comparable to the difference between Section 102(b), which creates a strict one-year on-sale bar, and Section 102(c), which does not mandate a specific timeframe for finding patent abandonment. I believe that the pre-*Metallizing* case-by-case analysis of the motivation and conduct of the patentee is the correct approach because, like the Section 102(c) abandonment provision, the rule is a “first-party-only” bar. In contrast, the Section 102(b) on-sale bar is “agnostic” to who is doing the selling—either first- or third-party activities will do. See, e.g., *Evans Cooling Sys. v. Gen. Motors Corp.*, 125 F.3d 1448, 1452-54 (Fed. Cir. 1997) (invalidating patent due to pre-critical-date third-party sales activities even though third party apparently misappropriated patentee’s invention). For the “agnostic” bar, an inquiry into the subjective state of mind of the inventor is irrelevant and the bright-line one-year rule makes sense.

In contrast, the case-by-case inquiry is critical and the bright-line rule is much less justified for the “first-party-only” bar because of the significantly punitive nature of a rule that singles out the inventor’s activities in working patent forfeiture. While the analogy to criminal law is a stretch, one cannot help but be reminded that the law generally frowns upon punishment for strict liability offenses. Perhaps then, instead of relying upon the “strict liability” one-year bar, the courts need to revise the *Metallizing* rule and examine whether the patentee willfully or negligently delayed patenting. For a discussion of the purpose of the on-sale bar, see *infra* note 387-400 and accompanying text.

308. Such concealment might certainly be difficult to detect, though this whole subfield of patent law deals with secret inventions and secrecy can be a problem under the one-year rule as well. One expects, however, that vigorous discovery

The determination of whether possible disclosure benefits of the *Metallizing* rule outweigh the costs of the rule imposed on inventors is an empirical question, and one that has not, to my knowledge, been answered.³⁰⁹ Perhaps the strict one-year bar is the right rule from the point of view of costs and benefits, though the limited value of patent disclosures makes this highly doubtful.³¹⁰ Be that as it may, given that the one-year rule has the flavor of a legislative determination, the fatal flaw of the *Metallizing* opinion is that it is completely devoid of any discussion of incentives to invent. It is as if Judge Hand simply forgot to use one side of the scale—weighing only the benefits of disclosure without the costs it imposes on innovators. The Federal Circuit, it might be noted, has long been attuned to the tension between the utilitarian principles of the patent system and the disclosure rationale, having articulated it very clearly in *Paulik v. Rizkalla*,³¹¹ an important Federal Circuit en banc opinion: “[T]he obligation to disclose is not the principal reason for a patent system The reason for the patent system is to encourage innovation and its fruits: new jobs and new industries, new consumer goods and trade benefits.”³¹²

The policy concerns in *Paulik* are in fact closely related to the issues in *Metallizing*. In this Section 135 interference case, the junior party, Paulik, invented a process in 1970 at Monsanto, but Monsanto’s patent department did not get around to beginning a draft of the patent application on the process until February 1975 and did not file it until June 1975. The senior party, Rizkalla, filed an application in March 1975 and relied only on this filing date, while Paulik relied on the resumption of activity in February 1975 to show earlier invention under Section 102(g)(2). The Board of Patent Appeals and Interferences (BPAI) “held that Paulik’s four-year delay from reduction to practice to his filing date was prima facie suppression or concealment,” and that he “was barred by the second clause of section 102(g) from proving reasonable diligence leading to his 1975 filing.”³¹³ The Federal Circuit vacated the BPAI decision, remanding the case to the BPAI and directing it to consider Paulik’s evidence of Monsanto’s February 1975 patent drafting activities as possible proof of an earlier invention than Rizkalla’s. Over a vigorous dissent, the Federal Circuit held (in an opinion by Judge Newman) that public policy can favor—

practices can enable the ferreting out of secret machines or processes used to make commercially available products, giving courts a full picture of the facts on which to decide whether a patent should be forfeited.

309. The AIPLA’s desire to have the rule eliminated in a first-to-file system suggests that some in the industry do believe that the *Metallizing* rule has a deleterious effect on inventive activity. For a discussion of the reaction to and effect of the *Metallizing* rule, see *supra* note 295 and accompanying text.

310. For a discussion of patent disclosure, see *supra* notes 258-78 and accompanying text.

311. 760 F.2d 1270 (Fed. Cir. 1985) (en banc).

312. *Id.* at 1276.

313. *Id.* at 1272.

at least in the interference context—granting patents to inventors who have been less than diligent in applying for a patent:

A foreseeable consequence of the [BPAI's] ruling is to discourage inventors and their supporters from working on projects that had been “too long” set aside, because of the impossibility of relying, in a priority contest, on either their original work or their renewed work. This curious result is neither fair nor in the public interest. We do not see that the public interest is served by placing so severe a sanction on failure to file premature patent applications on immature inventions of unknown value.³¹⁴

Unfortunately, like the *Metallizing* opinion itself, the Federal Circuit's *Metallizing* rule jurisprudence does not engage in the necessary balancing between disclosure and incentives to invent, in spite of the exhortation in *Paulik* to the contrary.³¹⁵ In addition, even if one accepts Judge Hand's position that apparently elevates the value of disclosure to an absolute status in the patent system, the disclosure-based argument for the one-year bar might, in some circumstances, fail on its own terms. An unsuspecting inventor who “blows” the one-year bar and thereafter comes to see an attorney or a patent agent—perhaps not such an unlikely scenario—will be told that he or she can never get the patent under the *Metallizing* rule, and accordingly will keep the invention a secret in perpetuity. Thus, like the famed Coca-Cola formula, the invention may never see the light of day,³¹⁶ and the public will never get any information about it at all unless someone independently discovers the machine or process at issue.³¹⁷ Indeed,

314. *Id.* at 1276. For a further discussion of this point, see *infra* notes 319-51 and accompanying text. The author thanks Professor David Olson for a comment that helped him see the importance of this passage from *Paulik* to the arguments in this Article.

315. For a discussion of the effect of *Metallizing* on the Federal Circuit decisions in *Auld*, *Gore*, and *Kinzenbaw*, see *supra* notes 190-221 and accompanying text.

316. Perhaps the Coca-Cola formula is no longer secret. See MARK PENDERGAST, *FOR GOD, COUNTRY AND COCA-COLA: THE DEFINITIVE HISTORY OF THE GREAT AMERICAN SOFT DRINK AND THE COMPANY THAT MAKES IT* 456 (2000) (claiming to reproduce original Coca-Cola recipe).

317. See AIPLA REPORT, *supra* note 295, at 8. The report states:

The forfeiture operates to force the trade secret holder into perpetual trade secrecy once a patent is not sought within a one-year grace period. There can be no turning back to the patent system.

.....

Forcing perpetual secrecy has a perverse consequence of potentially *retarding* progress in the useful arts. Without the forfeiture, the trade secret holder would continue to have an incentive to seek a patent. If a patent were to be belatedly sought, competitors could use the disclosure to develop improvements and alternatives. These activities drive progress in the useful arts in a manner that continued trade secrecy might not.

Id. (emphasis in original). The AIPLA's analysis suggests that trade secret and patent protection do not have to be mutually exclusive and, indeed, can work synergistically to promote innovation. Trade secret protection can support initial commercialization of secret inventions, while later patent protection can further

if anything, the case for favoring the patent-delaying inventor is probably stronger in *Metallizing* than in *Paulik*. After all, in a priority contest, someone else has, by definition, invented “the same or substantially the same subject matter”³¹⁸ as the patent-delaying inventor.

2. *The Problem of Over-Patenting*

Even if the system worked as Judge Hand had intended and inventors of secret processes or machines promptly filed informative patent applications within a year of their first commercial application, this intended end result might not be socially desirable. In a sweeping critique of various doctrines that promote the early filing of patents, such as the statutory bars, Christopher Cotropia argued that inventors often lack market information that might enable them to appraise the value of their inventions.³¹⁹ Facing possible prospects of forfeiting the patent right or being preempted by another inventor,³²⁰ inventors often “err on the side of fil-

incentivize inventors by providing exclusionary rights. If this tandem protection results in increased inventive activity, the public can benefit from both the inventions themselves and the ultimate disclosure of the inventions via patents. This policy, however, does not necessarily justify allowing lengthy delays of patenting. See *infra* note 362 and accompanying text. For a discussion of the role of trade secrets in promoting innovation, see *infra* notes 330-34 and accompanying text.

318. 35 U.S.C. § 135(b)(1) (2006). Admittedly, the commercialization aspect of *Metallizing* probably cuts somewhat against patentability relative to *Paulik*; there is no evidence in *Paulik* that Monsanto was deriving a commercial benefit from Paulik’s invention within the meaning of *Metallizing*. If *Metallizing* were overturned, determining the priority date to which the secret invention is entitled would come up as an interesting issue. Taking a cue from *Paulik*, perhaps one can argue that the date that the inventor began to take active steps toward filing for a patent should be the priority date, while a stricter rule (i.e., one that would parallel the dissenting opinion in *Paulik* and make delays of patenting of a commercialized secret invention more risky) would give the inventor only the benefit of the actual filing date. In any event, it is unlikely that the inventor could rely on the original date of invention as the priority date, because the invention should be found to have been “abandoned, suppressed, or concealed” under Section 102(g)(2).

319. See Cotropia, *supra* note 300, at 93-95 (discussing effects of doctrines encouraging early filing on quality of patent applications); cf. *supra* note 314 and accompanying text.

320. See Cotropia, *supra* note 300, at 97 (“Either file for a patent with the little technical and market information available or wait while more information becomes available and the value of a patent right becomes more certain. The patent rules make it risky to wait, with each additional day increasing the risk that the inventor loses the right to her invention. If she loses her patent rights because of delaying filing, they are lost forever, and she possibly becomes subservient to another’s patent rights.” (footnote omitted)). For an analysis of delayed filing in the *Metallizing* scenario, see *supra* notes 291-92 and accompanying text. As these notes discuss, however, prior user rights under the AIA make it less likely that the first inventor who delays patenting will become “subservient to another’s patent rights.” Cotropia, *supra* note 300, at 97. There is an argument to be made that the availability of prior user rights will lead to less hasty patenting, though the transition to first-to-file will likely more than offset the effect of prior user rights by encouraging inventors to file early out of fear of losing the race to the PTO. See *id.* at 81-82 (“The inventor needs to file early because the filing date, not the date of inven-

ing.”³²¹ According to Cotropia, this approach overwhelms the PTO with patent applications,³²² leads to too many patents of dubious quality,³²³ and creates a situation where many patented inventions are underdeveloped.³²⁴ This last consequence of early filing is particularly adverse to the goals of the patent system “because it can only hamper, as opposed to promote, technological progress”; uncommercialized patents “do not generate a social benefit on their own,” “drag down the development of other technologies,” and “contribute to the patent thicket.”³²⁵ But given the uncertainty about the value of many inventions at the time that patent applications are filed, it is axiomatic that, thanks in part to the doctrines encouraging early filing, many patents will not be commercialized.³²⁶ And while one argument for early patenting is that inventions are sooner returned to the public domain,³²⁷ Cotropia’s catalogue of problems with the consequences of the “file early, file often”³²⁸ mentality suggests that the harms of early patenting might outweigh its benefits.³²⁹

tion, determines priority amongst competing inventors. Filing as early as possible—which would be at the time of conception—is the best course to protect one’s right to patent exclusivity over the invention he or she created.”). For a discussion of the interaction of the *Metallizing* rule and the AIA, see *infra* notes 432-52 and accompanying text.

321. Cotropia, *supra* note 300, at 96.

322. *Id.* at 104-07.

323. *Id.*

324. *Id.* at 107-08. See generally Michael Abramowicz, *The Danger of Underdeveloped Patent Prospects*, 92 CORNELL L. REV. 1065 (2007) (discussing potential for underdevelopment of patented inventions caused by filings of patent application early in invention process).

325. See Cotropia, *supra* note 300, at 112. But see Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727 (2000) (arguing that patent licensing may effectively solve “patent thicket” problem).

326. See Sichelman, *supra* note 273, at 383 (arguing that it may be more profitable to litigate rather than commercialize some patents).

327. See John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 440 (2004) (justifying early patent filings). See generally Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 265 (1977) (arguing that patent system functions “to increase the output from resources used for technological innovation”).

328. Cotropia, *supra* note 300, at 101.

329. Cotropia’s thesis is not without criticism. For one thing, given the high costs and prolonged time commitment needed to obtain a patent, it seems unlikely that inventors will file patent applications and continue to prosecute them without a good justification. See Gene Quinn, *The Cost of Obtaining a Patent in the US*, IPWATCHDOG (Jan. 28, 2011), <http://ipwatchdog.com/2011/01/28/the-cost-of-obtaining-patent/id=14668>. Also, per Section 11, the AIA has raised PTO filing fees across the board, subject to adjustments by the Director, and this increased cost of patenting will further discourage frivolous filings. Nevertheless, Cotropia is clearly right in that intellectual patent law provides numerous incentives to opt into the patent system as early as practically possible, and all the more so with the move to the first-to-file system. For a discussion of the incentives to file early, see *supra* note 320 and accompanying text. Yet another source of the pressure to patent is the venture capitalist (VC) sector, as VCs strongly prefer portfolio companies

Adding to Cotropia's and Devlin's insights,³³⁰ Jonas Anderson observed in a recent paper that, for inventions that are difficult to reverse-engineer, robust trade secret protection can sometimes provide stronger incentives to invent than patent protection.³³¹ Anderson argued that intellectual property law should do more to encourage secrecy in certain contexts and called for a reversal of some doctrines against secrecy.³³² Echoing Cotropia's conclusions, Anderson went on to argue that a benefit of trade secrecy as opposed to patenting, in addition to the incentives it creates for the trade secret's owner,³³³ is "increased competition for innovative ideas"³³⁴ enabled by a reduced volume of patenting.

in certain industries to pursue patent protection. See, e.g., WILLIAM LAZONICK & ÖNER TULUM, US BIOPHARMACEUTICAL FINANCE AND THE SUSTAINABILITY OF THE BIOTECH BOOM 9-10 (Indus. Studies Ass'n, Working Paper No. 2010-01, 2010), available at http://www.uml.edu/centers/cic/Research/Lazonick_Research/Lazonick_Project_1/Biopharmaceutical-Finance.pdf (describing role of patents in attracting VC funding for biotech industry).

330. For a discussion of the value of trade secret protection, see *supra* notes 282-90 and accompanying text.

331. See generally J. Jonas Anderson, *Secret Inventions*, 26 BERKELEY TECH. L.J. 917 (2011) (weighing policy advantages of promoting robust trade secrecy rather than patent protection).

332. See *id.* at 961 ("[P]olicy makers ought to be more concerned with encouraging the use of secrecy, rather than discouraging it."); see also Katherine J. Strandburg, *What If There Were a Business Method Use Exemption to Patent Infringement?*, 2008 MICH. ST. L. REV. 245, 271 (arguing that "trade secrecy will be enough to incentivize substantial innovation" in certain industries). For a description of Alan Devlin's suggestion that disclosure entails costs and his argument that in principle the patent system could function without disclosure, see *supra* notes 290-92 and accompanying text.

333. See Anderson, *supra* note 331, at 949 (noting desirability of trade secrets). The notion that an important purpose of trade secret law, like that of patent law, is to create incentives to invent is now well-established. While the Supreme Court in *Kewanee* described trade secret protection in terms of providing a reward for an inventor's labor, it also explained *ex ante* incentives created by this form of intellectual property protection, with the result of increased innovation presumably benefiting society as a whole. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493 (1974) ("Trade secret law . . . permits the individual inventor to reap the rewards of his labor . . ."); see also *id.* at 482 (commenting with approval on state supreme court decision that touted "the importance of trade secret protection to the subsidization of research and development and to increased economic efficiency within large companies through the dispersion of responsibilities for creative developments" (citing *Wexler v. Greenberg*, 160 A.2d 430, 434-35 (Pa. 1960))); J. Gregory Sidak, *Trade Secrets and the Option Value of Involuntary Exchange* 10 (July 23, 2008) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=577244 ("[T]he majority of American jurisdictions now agree on the core principles of trade secret law, including the *ex ante* view of innovation."). Nevertheless, the role of trade secret law in incentivizing innovation has been disputed. See Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 26 (2007) ("[C]reating incentives to innovate is a very minor justification of trade secret law.").

334. Anderson, *supra* note 331, at 949 (citing Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 908 (1988) (discussing effects of patents on cumulative technologies)); see also *infra* notes 352-68 and accompanying text.

Cotropia's solution to the problem of early filing focused on improving what he viewed as overly permissive disclosure rules, which allow for patenting of inventions that are not fully hashed out, and he proposed introducing actual reduction of the invention to practice as a requirement of patentability.³³⁵ Problems with enablement aside, the rules that affirmatively promote early filing, such as various doctrines that disfavor trade secrecy themselves, directly contribute to the problem of over-patenting and to the proliferation of uncommercialized patents. The question, again, is whether such rules do more harm than good. Among the features of the Patent Act that promote early filing are the statutory bars that are actually rooted in the text of the statute—the one-year public use and on-sale bars.³³⁶ While they have not escaped criticism, the statutory bars do serve a very important purpose: by displaying a product embodying an invention publicly³³⁷ or placing it into the stream of commerce, inventors at least in theory give others an opportunity to learn how to practice the invention unprotected by a patent.³³⁸ Because subsequent patenting has the highly undesirable effect of withdrawing the invention from the public domain,³³⁹ the bright-line one-year rule makes sense in situations where the invention is actually disclosed to the public³⁴⁰ or at least to a prospec-

335. See Cotropia, *supra* note 300, at 122 (proposing reduction of invention to practice as requirement of patentability). Under current law, constructive reduction to practice—e.g., description of an invention with prophetic rather than actual working examples—may be adequate to satisfy the enablement requirement of the Patent Act. See, e.g., *In re Strahilevitz*, 668 F.2d 1229, 1232 (C.C.P.A. 1982) (“[Working] examples are not required to satisfy section 112, first paragraph”).

336. 35 U.S.C. § 102(b) (2006). The AIA has amended the statutory bars such that the one-year grace period now applies only to the inventor's own “disclosures.” See AIA, Pub. L. No. 112-29, § 3(b)(1), (n), 125 Stat. 285, 293 (2011) (to be codified at 35 U.S.C. § 102). Third-party acts of placing the subject matter of the claimed invention in public use or on sale anywhere in the world, even one day before the effective filing date of the patent application, may defeat the patent right. *Id.* These changes apply to patents issuing out of applications with effective filing dates on or after March 16, 2013. *Id.* § 3(n)(1).

337. The meaning of “public” in this context, to be sure, is “theoretically accessible to the public.” See *Egbert v. Lippmann*, 104 U.S. 333, 336 (1881) (defining contours of public use); see also SCHECHTER & THOMAS, *supra* note 14, at 89 (same); ROBINSON, *supra* note 173, § 320, at 434 (describing “public use” as “in such a relation to the public that if they choose to be acquainted with it, they can do so”).

338. For further discussion of the possible “public knowledge” dimension of the on-sale bar, see *infra* notes 392-400 and accompanying text.

339. See Patrick J. Barrett, Note, *New Guidelines for Applying the On Sale Bar to Patentability*, 24 STAN. L. REV. 730, 733 (1972) (“[A]ctual or attempted sales of an invention may cause the public to reasonably rely on the belief that the information disclosed is in the public domain. If, on the basis of such disclosure, members of the public do start making, using, or selling the invention, the granting of a patent on the invention will be to their detriment.” (footnote omitted)).

340. Note, however, that for the actual statutory bars to apply, there must be public use of the invention or a sale or an offer for sale of the invention. Mere public knowledge is not sufficient to trigger a statutory bar, though the invention might still be invalidated under Section 102(a) in this situation. See *Motionless Keyboard Co. v. Microsoft Corp.*, 486 F.3d 1376, 1383-85 (2007) (reversing sum-

tive or actual buyer. Third parties will know that if an invention was, for example, exhibited publicly at a trade show³⁴¹ and no patent application was ever filed,³⁴² they may be free to practice the invention that they have learned from the display.³⁴³

In contrast, again by hypothesis, a sale of a commercial product created by a truly secret invention does not teach the public anything about the invention, so the powerful rationale of preventing withdrawal of inventions from the public domain is simply not present.³⁴⁴ It is curious, indeed, that in some jurisdictions the policy of preventing the patenting of publicly available inventions is so strong that they adhere to the absolute novelty rule,³⁴⁵ forgoing the one-year grace period afforded to inventors who file patent applications in the United States. But no country has anything like our *Metallizing* rule.³⁴⁶

mary judgment of invalidity as court found only possible public knowledge, not use); Shashank Upadhye, *To Use or Not To Use: Reforming Patent Infringement, the Public Use Bar, and the Experimental Use Doctrine As Applied to Clinical Testing of Pharmaceutical and Medical Device Inventions*, 4 MINN. INTELL. PROP. REV. 1, 10-11 (2002) (describing development of public use jurisprudence); see also *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1265-68 (Fed. Cir. 1986) (setting forth requirements for finding public use), *abrogated on other grounds by Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed. Cir. 2008) (en banc). For a discussion of the on-sale bar in *Pfaff* and the difference between it and the *Metallizing* bar, see *infra* notes 392-400 and accompanying text.

341. See, e.g., *Plumtree Software, Inc. v. Datamize, LLC*, 473 F.3d 1152, 1163 (Fed. Cir. 2006) (discussing scenario where system embodying claims of later-patented invention was exhibited at trade show, though after critical date).

342. Because patent applications are usually not published until eighteen months after the priority date, however, third parties may not know whether the application was filed within a year of the public use or sale. For a discussion of the law on publication of patent applications in the United States, see *supra* note 297.

343. They are free to do so unless, of course, an earlier inventor owns a patent on the same invention.

344. A different harm of dispensing with the *Metallizing* rule is that its absence might encourage inventors to keep secrets that they would otherwise disclose. But as Anderson and Devlin suggested, the harms of increased trade secrecy might be outweighed by increased incentives to invent and reduced monopoly burdens. See *supra* notes 330-35 and accompanying text. For a discussion of the possible benefits to inventors of having more time to make a the choice between patent and trade secret protection, which might ultimately benefit society thanks to increased inventive activity, see *supra* note 298 and accompanying text.

345. See NARD, *supra* note 41, at 319 (discussing “absolute novelty” rule of European Patent Convention).

346. See Sharon R. Barner & Harold C. Wegner, *Second Generation Chinese Patent Sophistication: Lessons from Chint v. Schneider*, TACPI (Foley & Lardner LLP), Nov. 6, 2007, at 4 n.8, available at <http://www.ipeg.eu/blog/wp-content/uploads/second-generation-chinese-patent-sophistication-lessons-from-chint-vs-schneider2.pdf> (“Only the United States adopted the unique bar against patenting an applicant’s secret invention. No other country has followed the lead of Learned Hand in *Metallizing Engineering*.”). With the AIA bringing U.S. patent law closer to harmonization with the rest of the world (by, for example, transitioning the United States to a first-to-file system under AIA § 3, and effectively eliminating the best mode requirement under AIA § 15), abrogation of the *Metallizing* rule in pursuit of

So as it stands, the *Metallizing* rule contributes to early patenting and imposes costs on inventors, while providing little in the way of corresponding benefits if one accepts the argument that patent disclosure fails to deliver enough information to the public to make up for these harms. To be sure, as Cotropia and others have noted, many legal and practical forces combine to encourage early patenting.³⁴⁷ If the Federal Circuit or the Supreme Court overturns the *Metallizing* rule, or if Congress abrogates it, it is unlikely that we will see a sudden increase in the number of quality patents that lead to commercial products. But perhaps a change in the rule will at least alleviate some of the problems with early patenting that Cotropia discussed. The subset of inventions to which the *Metallizing* rule would apply might be small, but abrogating it would surely send a positive message to inventors who contemplate the path of commercialization. After all, those who make products of secret inventions commercially available may be in the process of figuring out whether the underlying patents would have any economic value independent of the right to sue, and reversal of *Metallizing* would help ensure that such inventors will not be punished for doing so.³⁴⁸

Figuring out commercial value of his invention is precisely what Meduna was doing when he was filling orders for refurbished machine parts—that, and trying to make a living.³⁴⁹ For Meduna, and perhaps for many other small inventors, good-faith efforts to learn the market, obtain resources needed to apply for a patent, and begin commercializing the invention on a large scale may well take more than a year. Are these really the kinds of inventors we want to punish with a judge-made forfeiture rule, even though, unlike those who violate the actual Section 102(b) bars, they withdraw nothing from the public domain by patenting? Instead, why not give them the time to develop solid patents that will support their business activities? Cotropia noted that the prevalence of uncommercialized patents tends to foster “trolling” activities, defining trolls as those “who use

further harmonization would seem sensible. See also AIPLA REPORT, *supra* note 295, at 9. The AIPLA Report provides a reason for the harmonization:

A person seeking to commercialize technology, but desiring to avoid the forfeiture, can do so by simply undertaking the commercial activities offshore. By outsourcing a trade secret manufacturing process to Canada or Mexico, the trade secret holder can maintain the option of patenting the trade secret subject matter globally, including obtaining a valid U.S. patent. The U.S. patent laws should not maintain an incentive to locate manufacturing facilities outside the United States

Id. at 8. See generally *infra* notes 432-59 and accompanying text.

347. For example, the later one attempts to patent something, the more prior art is generally available that may anticipate or render obvious the invention's claims. See Cotropia, *supra* note 300, at 78-79 (describing how risk of having to deal with new prior art encourages early patenting). See generally Sichelman, *supra* note 273.

348. Such inventors, to borrow Cotropia's words, may need patents to “clear commercialization space.” Cotropia, *supra* note 300, at 114.

349. For a description of Meduna's actions, see *supra* notes 82-91 and accompanying text.

the patent to simply extract rents” by actual or threatened litigation, “as opposed to clear commercialization space.”³⁵⁰ But no matter how one feels about trolls—non-practicing entities, patent-holding entities, patent-assertion entities, or however else non-commercializing patent owners have been described—I think all can agree that an inventor like Meduna and his assignee, Metallizing Engineering Co., which both actively practiced the invention and put it to commercial use, are not trolls. The concept of a troll was not known in 1946, however.³⁵¹ Perhaps, a twenty-first century judge would have treated today’s version of Metallizing Engineering Co. better than Judge Hand treated Meduna’s assignee in 1946.

B. *Monopoly*

1. *Trade Secrets Are Not Legal Monopoly Rights*

Judge Hand’s extension-of-monopoly rationale for the *Metallizing* rule is even less convincing than the disclosure rationale. When an inventor decides to patent a secret invention, there is no monopoly to extend, because the owner of a non-informing trade secret³⁵² has, up to that point, proceeded at the risk of being sued for infringement if another person were to come up with and patent the same invention.³⁵³ The owner of a trade secret often does have powerful remedies against a departing employee in possession of information important to its business,³⁵⁴ or a competitor who improperly gathers information about its production knowhow.³⁵⁵ Nevertheless, as discussed extensively above, the trade secret

350. Cotropia, *supra* note 300, at 114.

351. In contrast, a big concern in 1946 was that patentees maintained “monopolies.” See, e.g., *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 666 (1944) (noting that “[t]he instant case is a graphic illustration of the evils of an expansion of the patent monopoly by private engagements”). For further discussion of the concern relating to monopolies, see *infra* notes 352-431 and accompanying text. The focus of public opprobrium has shifted today, with “trolls” largely held in lower regard than, say, Microsoft Corporation, which has been charged with monopolistic behavior. See, e.g., *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 44 (D.D.C. 2000) (holding that Microsoft’s efforts were anticompetitive both independently and in aggregate), *aff’d in part, rev’d in part*, 253 F.3d 34 (D.C. Cir. 2001) (en banc) (per curiam). Even if one views the *Metallizing* case from the point of view of the anti-monopoly mores of the first half of the twentieth century, Meduna was not exactly Rockefeller, and Metallizing Engineering Company was no Standard Oil.

352. It is safely assumed that a secret invention within the meaning of *Metallizing* meets the legal definition of a trade secret. See UNIFORM TRADE SECRETS ACT § 1(4) (1985) (defining trade secret); see also *supra* note 280 and accompanying text (same).

353. For a discussion of inventors’ concerns with preemption by others, see *supra* note 320 and accompanying text. For an explanation of how the AIA has helped allay these fears to some degree, see *infra* note 445 and accompanying text.

354. See, e.g., *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262, 1263 (7th Cir. 1995) (affirming injunction to prevent “inevitable disclosure” of trade secrets).

355. See, e.g., *E.I. Du Pont De Nemours & Co v. Christopher*, 431 F.2d 1012, 1015-16 (5th Cir. 1970) (holding that obtaining “knowledge of a process without spending the time and money to discover it independently is improper unless the

“monopoly” can be extinguished by reverse engineering and independent invention,³⁵⁶ by appearance of information in the public domain that makes the secret “generally known” or “readily ascertainable,” or even by the trade secret owner’s own failure to take reasonable precautions to protect the secret.³⁵⁷ These scenarios are not all that unlikely; indeed, given that near-simultaneous, independent inventions of significant technologies appear to be quite common,³⁵⁸ it is sensible to posit that, a fortiori, others stand a good chance of independently discovering processes or machines that the first inventor attempts to keep secret for years.³⁵⁹ While such discoveries will not always extinguish the trade secret, because more than one entity can own rights to the same technology without it being considered generally known or readily ascertainable within the meaning of trade secret law,³⁶⁰ the first inventor will likely lose both trade secret rights and the ability to pursue patent rights in the future if a latter researcher patents the invention, describes it in a printed publication, publicly uses it, or places it on sale; the patent rights will also be lost if such disclosures render the invention “obvious” within the meaning of 35

holder voluntarily discloses it or fails to take reasonable precautions to ensure its secrecy”).

356. For a description of the risk of a trade secret becoming generally known, see *supra* note 292 and accompanying text.

357. UNIFORM TRADE SECRETS ACT § 1(4).

358. See Lemley, *supra* note 261, at 711 (“[S]urveys of hundreds of significant new technologies show that almost all of them are invented simultaneously or nearly simultaneously by two or more teams working independently of each other.”).

359. The *Kewanee* Court, for one, was optimistic in its belief that independent invention would dissipate potentially anti-competitive effects of trade secret protection:

[S]ociety [does not] face much risk that scientific or technological progress will be impeded by the rare inventor with a patentable invention who chooses trade secret protection over patent protection. The ripeness-of-time concept of invention, developed from the study of the many independent multiple discoveries in history, predicts that if a particular individual had not made a particular discovery others would have, and in probably a relatively short period of time. If something is to be discovered at all very likely it will be discovered by more than one person. Even were an inventor to keep his discovery completely to himself, something that neither the patent nor trade secret laws forbid, there is a high probability that it will be soon independently developed. If the invention, though still a trade secret, is put into public use, the competition is alerted to the existence of the inventor’s solution to the problem and may be encouraged to make an extra effort to independently find the solution thus known to be possible.

Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 490-91 (1974) (footnote omitted) (citation omitted); see also Risch, *supra* note 333, at 39 (“[D]uplicate innovation’ . . . may lead to improvements better than the first secret.”). See generally Lemley, *supra* note 261 (chronicling prevalence of independent invention).

360. Risch, *supra* note 333, at 12 (“[T]rade secret laws allow for the protection of identical information if two parties independently discover the information. Two companies can own the same trade secret, though they arguably would never know it.” (footnote omitted)).

U.S.C. § 103. This is a harsh penalty for an attempt to delay patent monopoly,³⁶¹ and one wonders if the punitive rule of *Metallizing* is necessary if the powerful threat of independent discovery already hangs over the first inventor like the sword of Damocles.³⁶²

Stated simply, trade secret protection is weaker than patent protection precisely because it provides the owner no right to exclude others from practicing the invention. It only provides the owner with monetary and injunctive relief for obtaining the secret through conduct that rises to the level of “misappropriation.”³⁶³ And if the misappropriator’s acts have caused the trade secret to become publicly available, the owner may not be able to obtain an injunction against its further dissemination.³⁶⁴ Even though the owner of the trade secret may receive monetary relief from the misappropriator in such a scenario, courts have held that the trade secret simply ceases to exist due to public availability, even if the initial disclosure was wrongful.³⁶⁵ In sum, even though trade secrets are often recognized

361. If the problem is better characterized as “delay” rather than “extension” of the patent term, the right solution could be simply to reduce the patent term by the number of years that the trade secret was commercially exploited, with one year of grace period added back. Thus, if the trade secret was commercially exploited for six years, at which time the application for a patent was filed, the patent term would be only fifteen, rather than twenty, years from the application date. It is as if the patentee would be allowed to choose how to split the twenty-year term between patent and trade secret protection. The author thanks Professor Lemley for proposing this legislative solution to the problem that concerned Judge Hand in *Metallizing*. See Taub, *supra* note 26, at 1505-10 (proposing analogous “sliding scale” solution to reform one-year on-sale bar). For a discussion of treatment of abandonment in trademark law, which suggests another legislative solution to patent delay, see *infra* notes 425, 429-31 and accompanying text.

362. So what of inventions that do not seem to be easily susceptible to independent discovery? One might argue that the first inventor in this scenario, who gambles and wins on the possibility that someone else does not come up with the same discovery, is perhaps entitled to the opportunity to delay patenting. After all, the fact that others are unable to come up with the same invention for years might indicate that it is powerfully non-obvious, and we may wish to allow such inventors to reap the added benefits of their unique discoveries by allowing them to “extend” their monopolies—first, by enjoying the first-mover advantage, and later, by acquiring a patent. Perhaps, society might be better off if such inventors are greatly encouraged and rewarded. A better view, and one that I take, is that such strategic use of the patent system is not acceptable for public policy reasons and uses of secret inventions for a long period time, followed by strategic patenting, should lead to a loss of the patent right either through an equitable case-by-case analysis or through a new legislative rule that creates a presumption of forfeiture after a certain number of years of delay of patenting. See *supra* note 307 and accompanying text; *infra* notes 425 and 429-31 and accompanying text. But see Karl F. Jorda, *Patent and Trade Secret Complementariness: An Unsuspected Synergy*, 48 WASHBURN L.J. 1, 7 (2008) (“[O]ne may consider trade secrets as ‘wasting assets,’ whose average life is only about three to five years.”).

363. See UNIFORM TRADE SECRETS ACT §§ 1(2), 2, 3 (1985) (defining trade secret misappropriation and setting forth remedies for this tort).

364. See, e.g., DVD Copy Control Ass’n v. Bunner, 10 Cal. Rptr. 3d 185, 192-93 (Cal. Ct. App. 2004) (explaining when injunctions for trade secret misappropriation are warranted).

365. See *id.* (discussing how property rights in trade secrets can be lost).

as a property right,³⁶⁶ and, as such, offer significant benefits to their owners,³⁶⁷ they are a weak property right at best.³⁶⁸ And even though, by keeping an invention secret, the inventor delays disclosure,³⁶⁹ members of the public can often receive some value from the trade secret by being able to purchase a commercial product made possible with the aid of the secret invention.³⁷⁰

366. See, e.g., *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001-04 (1984) (setting forth proposition that trade secrets are property rights). See generally Eric R. Claeys, *Private Law Theory and Corrective Justice in Trade Secrecy*, 4 J. TORT L. 1, 6-13, 37-41, 63 (2011) (providing a property rights account of trade secret law but noting that scholars disagree on whether trade secrets are property).

367. See generally Lemley, *supra* note 285 (highlighting advantages of trade secret protection).

368. See *Bridgestone Americas Holding, Inc. v. Mayberry*, 878 N.E.2d 189, 192 n.3 (Ind. 2007) (“One of the biggest distinctions between a trade secret and ordinary property is the lack of a right to exclude others from a trade secret’s use. Thus, trade secrets may be thought of as a weaker form of property.”); see also *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 489-90 (1974) (discussing weaknesses of trade secrets rights by comparing them to rights granted to patent holders); Nuno Pires de Carvalho, *The Theorem of the Social Value of Patented Inventions and the Happiness Machine Patent Syndrome—Why Society Lets Fundamental Patents to Be Intensely Attacked*, in *REVISTA ELETRONICA DO IBPI* (Braz.), no. 3, Dec. 2010, at 126, 128, available at <http://www.wogf4yv1u.homepage.t-online.de/media/c1cd349287c9c15affff802bffffef.pdf> (“In the case of secret inventions, inventors are still able to capture revenue from their exploitation, but their exclusivity is weak, for barriers resulting from secrecy can be legally circumvented by reverse engineering or incidental disclosure.”). See generally Claeys, *supra* note 366, at 38-39, 63 (explaining that trade secrets do not provide right to exclude but should still be viewed as property rights).

369. For a review of the benefits and drawbacks of keeping an invention a secret, see *supra* note 298 and accompanying text.

370. Cf. *Dunlop Holdings Ltd. v. Ram Golf Corp.*, 524 F.2d 33, 37 (7th Cir. 1975) (“[E]ven such a [non-informing] use gives the public the benefit of the invention. If the new idea is permitted to have its impact in the marketplace, and thus to ‘promote the Progress of Science and useful Arts,’ it surely has not been suppressed in an economic sense.” (footnote omitted) (quoting U.S. CONST., art. I, § 8, cl. 8)). Even though an alternative rationale for the *Dunlop Holdings* decision is that the secret chemical was actually in the commercially available golf balls designed by golfer Butch Wagner, thereby making reverse engineering at least possible, see *supra* note 92 and accompanying text, the “benefit of the invention” language appears to sweep in fully secret inventions whose products are placed in the stream of commerce. See Jorda, *supra* note 362, at 6-7 (arguing that “trade secrets are secret only in a limited legal sense and the term ‘trade secret’ is a constricted term of art” because trade secrets confer benefits upon public through commercialization, “alert[] the competition to the existence of the inventor’s solution to the problem,” and may often dissipate because of employee mobility). But see *Dunlop Holdings*, 524 F.2d at 37 (distinguishing *Gillman* because that case “involved a patent on a machine; the benefits of using the machine were not made available to anyone except the inventor” and because “the case arose out of an interference proceeding in which the dispute was between two applicants for a patent”).

The *Metallizing* court spoke about owners of secret inventions as having “a practical monopoly by means of secrecy,”³⁷¹ but failed to analyze what this so-called monopoly means in practice under the trade secret law of the time, which arguably treated invasions of trade secret rights as torts rather than trespasses against property.³⁷² In addition, Judge Hand entertained no charge that Meduna’s assignee ever behaved monopolistically within the meaning of the antitrust laws, on a theory of misuse of an intellectual property right or otherwise.³⁷³ There is a reason why Judge Hand cited no intellectual property misuse case or, for that matter, no antitrust case in his opinion. Although the Supreme Court showed some interest in the intersection of the laws of antitrust and intellectual property in the five or so years preceding the *Metallizing* decision,³⁷⁴ the courts have rarely punished inventors for misuse of trade secrets.³⁷⁵ The plaintiff in *Metallizing* was charged with attempting to extend its monopoly³⁷⁶ even though, before the grant of the patent, it did not have a legal monopoly over the process of metalizing, and it did not appear to have a commercial monopoly in the field of refurbishing machine parts³⁷⁷ that would have placed it in danger of running afoul of antitrust law.

371. *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519 (2d Cir. 1946).

372. Compare RESTATEMENT (FIRST) OF TORTS § 757 (1938) (stating trade secret misappropriation liability attaches for wrongful disclosure or use *but not wrongful acquisition* of trade secret), with UNIFORM TRADE SECRETS ACT § 1(2) (1985) (stating wrongful *acquisition* of trade secret falls within definition of “misappropriation”). In any event, there is no discussion whatsoever of trade secret law in the *Metallizing* opinion. For a helpful analysis of various conceptions of trade secret law, see Lemley, *supra* note 285, at 319-29.

373. See generally *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661 (1944) (developing doctrine of patent misuse); *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942) (holding practice of “tying” to be patent misuse).

374. For an illustration of the patent monopoly analysis prior to *Metallizing*, see *supra* note 373 and accompanying text.

375. JULIAN O. VON KALINOWSKI ET AL., ANTITRUST AND TRADE REGULATION § 75.04 (2d ed. 2010) (“The misuse doctrine has little impact on trade secrets and know-how. Unlike patented products, which possess exclusive monopoly power for a limited duration, the rights granted to owners of trade secrets and know-how are non-exclusive. As a result, the potential anticompetitive impact of a misuse of a trade secret is minimal.”); see also HERBERT HOVENKAMP ET AL., IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW § 3.5 (2004 supp.). For further analysis of the relationship between antitrust law and trade secrets, see Harry First, *Trade Secrets and Antitrust Law*, in THE LAW AND THEORY OF TRADE SECRECY: A HANDBOOK OF CONTEMPORARY RESEARCH 332 (Rochelle C. Dreyfuss & Katherine J. Strandburg eds., 2011); Katarzyna A. Czapracka, *Antitrust and Trade Secrets: The U.S. and the EU Approach*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 207 (2008) (reviewing antitrust treatment of trade secret protection in U.S. and European courts).

376. The issue here might be more accurately characterized as “delay” of patent monopoly. For an analysis and a possible solution of the specific problem of delay of patent monopoly, see *supra* note 361 and accompanying text.

377. More precisely, if Meduna, as the trade secret holder, believed that he was the only one who came up with the metalizing method, he could in theory attempt to charge a monopoly price for the refurbishment service thanks to his

2. *Policy Against Commercial Exploitation Is Weaker for Secret Inventions As Opposed to Inventions Placed on Sale*

Some commentators have argued that, antitrust law aside, what really concerned Judge Hand was consumer welfare in another sense. For example, consumers who grow accustomed to paying a certain price for a product made with the aid of an invention protected by a trade secret might be unfairly surprised when the manufacturer received a patent on that invention and started charging a higher price. This policy against commercial exploitation sometimes serves as a reason for barring patents independent of the rationale against withdrawing inventions from the public domain—after all, the on-sale bar applies even when the invention was not publicly disclosed.³⁷⁸ Echoing Judge Hand’s “extension of monopoly” language, an influential commentary on the policies behind statutory bars justified the on-sale bar: “An inventor would certainly have the best of two worlds if he could commercially exploit his invention without disclosing it for an indefinite amount of time before he applied for a patent, giving him an additional seventeen years of exclusive rights.”³⁷⁹

This “non-antitrust monopoly” concept dates back to *Pennock v. Dialogue*, a case that predated the country’s first antitrust statute by many years,³⁸⁰ and for that matter predated the development of modern trade secret law as well.³⁸¹ The oft-quoted language from *Pennock*, however,

superior process. The rarity of trade secret misuse cases suggests that this form of monopoly, even when it exists, is rarely deemed by courts to be exercised in such an abusive manner as to penalize the trade secret owner by a refusal to enforce the intellectual property right or charging him or her with an antitrust violation. See *supra* note 375 and accompanying text.

378. Barrett, *supra* note 339, at 734; see also Hobbs v. U.S. Atomic Energy Comm’n, 451 F.2d 849, 860 (5th Cir. 1971) (“[Patentee] . . . contends that the placing on sale, if it took place at all, was done under conditions of secrecy which prevents the operation of the statutory bar to patentability. His argument is basically an attempt with no support from precedent to construe the statute so that ‘public’ in the phrase ‘in public use or on sale modifies not only ‘use’ but also ‘sale.’ This unrealistic construction has been urged elsewhere and rejected. We cannot attach any relevance to any conditions of secrecy which may have existed at the time the G valve was placed ‘on sale.’”) (citations omitted). Nevertheless, protection of the public domain appears to be an independent justification of the on-sale bar. See *infra* notes 399-400 and accompanying text.

379. Barrett, *supra* note 339, at 734.

380. The Sherman Antitrust Act became law in 1890. Sherman Act, ch. 647, 26 Stat. 209 (1890) (codified as amended at 15 U.S.C. §§ 1-7 (2004)).

381. Cases in which modern trade secret law began to take shape started to appear in the 1860s. See, e.g., *Peabody v. Norfolk*, 98 Mass. 452 (1868); see also Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CALIF. L. REV. 241, 252-53 (1998) (crediting *Peabody* as “crystallizing the law of trade secrets in the United States.”). It is sometimes argued that the “first reported trade secrets case” is *Vickery v. Welch*, 36 Mass. 523 (1837), but the “trade secret” in that case was also protected by an explicit agreement not to use or disclose. See First, *supra* note 375, at 342; see also Bone, *supra*, at 255 (discussing *Vickery* court’s reliance on contractual agreement as basis for its holding). But even the 1837 *Vickery* case post-dated *Pennock*.

clearly captures both the disclosure and monopoly rationales upon which Judge Hand based the rule in *Metallizing*:

If an inventor should be permitted to hold back from the knowledge of the public the secrets of his invention; if he should, *for a long period of years, retain the monopoly*, and make and sell his invention publicly; and thus gather the whole profits of it, relying upon his superior skill and knowledge of the structure; and then, and then only, when the danger of competition should force him to procure the exclusive right, he should be allowed to take out a patent, and thus exclude the public from any further use, than what should be derived under it, during his fourteen years; it would materially retard the progress of science and the useful arts; and give a premium to those who should be least prompt to communicate their discoveries.³⁸²

Judge Hand had to selectively omit the phrase “for a long period of years” because he sought to reach the result of the bright-line one-year bar rather than engage in a case-specific equitable forfeiture determination.³⁸³ Instead, he selectively quoted *Pennock*, ostensibly for its general language against commercial exploitation: “If an inventor should be permitted to hold back from the knowledge of the public the secrets of his invention; if he should . . . make and sell his invention publicly, and thus gather the whole profits”³⁸⁴ Even if one agrees with Justice Story in that, by delaying patenting, the trade secret owner commercially exploits the invention to the detriment of consumers, the full quotation from *Pennock* suggesting that the Court’s concern centered on those who kept their invention secret for a long time cannot be simply ignored. Moreover, an argument can be made that the *Pennock* Court’s forfeiture policy should apply only to those who affirmatively and willfully concealed an invention for as long as possible before patenting.³⁸⁵

Putting my ongoing quibbles with Judge Hand’s reasoning in *Metallizing* to one side, the policy against commercial exploitation remains a powerful justification for the on-sale, which obviously has a strict one-year limit written into it.³⁸⁶ In the important case of *Manville Sales Corp. v. Paramount Systems, Inc.*,³⁸⁷ the Federal Circuit articulated the view that policy justifications are the lens through which the bars of Section 102(b) should be viewed:

382. *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 14 (1829) (emphasis added).

383. For a discussion of Judge Hand’s analysis in *Metallizing*, see *supra* note 145-71 and accompanying text.

384. *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 518 (2d Cir. 1946) (alteration in original) (quoting *Pennock*, 27 U.S. at 14).

385. See *supra* note 307 and accompanying text.

386. See *generally* Barrett, *supra* note 339 (outlining history of on-sale bar).

387. 917 F.2d 544 (Fed. Cir. 1990)

In order to determine whether an invention was on sale or in public use, we must consider how the totality of the circumstances comports with the policies underlying the on sale and public use bars. This approach is necessary because “the policies or purposes underlying the on sale bar, in effect, define it.”³⁸⁸

The *Manville* court went on to name the already familiar rationales of “discouraging the removal of inventions from the public domain which the public justifiably comes to believe are freely available,” “prohibiting an extension of the period for exploiting the invention,” and “favoring prompt and widespread disclosure of inventions” as the policy guideposts underlying the statutory bars.³⁸⁹ Although the Supreme Court’s *Pfaff v. Wells Electronics* decision repudiated the totality of the circumstances test for applying the on-sale bar set forth in *Manville*,³⁹⁰ the Court continued to rely on the policies behind Section 102(b) in formulating the new, yet familiar, “ready for patenting” test: it quoted *Metallizing* for the proposition that “it is a condition upon an inventor’s right to a patent that he shall not exploit his discovery competitively after it is ready for patenting.”³⁹¹

But the *Pfaff* Court was careful to point out that the on-sale bar applied only to a sale or an offer for sale of an actual invention, stating that the sockets made with the aid of engineering designs for which the patentee accepted the invalidating purchase order “contained all the elements of the invention claimed in the [patent-in-suit].”³⁹² In contrast, in *Metallizing*, the invention at issue was one step removed from the “sale,” as the relevant transactions involved payments for product repairs enabled by the invention, rather than for the invention itself. Thus, while *Pfaff* relied on the formulation of *Metallizing* for determining the developmental stage of the invention that triggered the on-sale bar, the Court did not approve the case’s extra-statutory forfeiture, let alone endorse its distinction between inventors and third parties.

Moreover, it seemed important to the *Pfaff* Court that the engineering designs actually communicated the nature of the invention to the prospective buyer: “the [ready for patenting] condition of the on-sale bar is satisfied because the drawings *Pfaff* sent to the manufacturer before the critical date fully *disclosed* the invention.”³⁹³ To be sure, other cases sug-

388. *Id.* at 550 (quoting *Envirotech Corp. v. Westech Eng’g, Inc.*, 904 F.2d 1571, 1574 (Fed. Cir. 1990)).

389. *Id.* (emphasis added) (quoting *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir. 1985) (emphasis added)).

390. See *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1380 (Fed. Cir. 2005) (dismissing *Manville* as a pre-*Pfaff* opinion); see also Margaret L. Begalle, Note, *Eliminating the Totality of the Circumstances Test for the Public Use Bar Under Section 102(b) of the Patent Act*, 77 CHI.-KENT L. REV. 1359, 1361 (2002) (discussing establishment of new standard for on-sale bar in *Pfaff*).

391. *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68 (1998) (quoting *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)).

392. *Id.*

393. *Id.* (emphasis added).

gest that such disclosure is not required to trigger the on-sale bar,³⁹⁴ and the Court in this passage was more concerned with the developmental stage of the invention—the “fully” part— in any event. However, when one combines the Court’s reference to disclosure with the first prong of the on-sale bar test, which requires “a commercial offer for sale,”³⁹⁵ it becomes clear that both the buyer and the seller must at least contemplate the subject matter of the invention being sold in order for the offer to be definite enough to satisfy the “meeting of the minds”³⁹⁶ requirement for contract formation.³⁹⁷ The *Metallizing* bar ventures far beyond the confines of the *Pfaff* test, requiring forfeiture of a patent on a secret process or machine of which the buyer was not even aware.³⁹⁸ Finally, courts have noted that “[o]ne of the primary purposes of the on-sale bar is to prohibit the withdrawal of inventions that have been placed into the public domain through commercialization”³⁹⁹ and that “reluctance to allow an inventor to remove existing knowledge from public use undergirds the on-sale bar.”⁴⁰⁰ The latter rationale cannot justify the *Metallizing* bar because the secret inventions it operates against are never in the public domain, and are not even disclosed to third parties such as prospective buyers.

It appears, then, that the *Metallizing* rule takes the policy against commercial exploitation a bit too far. As discussed above, all of the internally operated inventions of a for-profit entity are designed to increase its competitive position in some way;⁴⁰¹ the *Kinzenbaw* and *Invitrogen* cases reveal the courts’ struggle to place judicially cognizable limits on this doctrine lest it swallow up all of a firm’s secret activities—an undesirable result because not all commercial exploitations are the same, and treating all internal uses (even ones greatly attenuated from actual sales) equally for the

394. See CHISUM, *supra* note 14, § 6.02[6][c], at 6-79 (“‘Public’ in Section 102(b) modifies ‘use’ and not ‘on sale.’”) (collecting cases); see also *supra* note 378 and accompanying text (discussing patent-barring effect of secret sales).

395. *Pfaff*, 525 U.S. at 67.

396. See *Loneragan v. Scolnick*, 129 Cal. App. 2d 179, 181 (1954); RESTATEMENT (SECOND) OF CONTRACTS § 17 cmt. c (1981).

397. Federal Circuit cases interpreting *Pfaff* held that, for the first prong of *Pfaff* to be satisfied, there must be a “commercial offer for sale” in the sense contemplated by contract law. See Timothy R. Holbrook, *The Risks of Early Commercialization of an Invention: The On-Sale Bar to Patentability*, in 2 INTELLECTUAL PROPERTY AND INFORMATION WEALTH: PATENTS AND TRADE SECRETS 37, 38-42 (Peter K. Yu ed., 2007).

398. The Federal Circuit developed an application of the *Pfaff* on-sale bar test to sales of inventions later patented using method claims, rather than apparatus claims at issue in *Pfaff*. See *supra* note 18 and accompanying text.

399. *Abbott Labs. v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319 (Fed. Cir. 1999).

400. *Pfaff*, 525 U.S. at 64. The *Pfaff* court noted that that this reluctance is “similar” to the reasons underlying the public use bar. *Id.*

401. For a discussion of how the main purpose of such entities is “commercial gain,” see *supra* note 222 and accompanying text.

purpose of barring patentability makes very little sense.⁴⁰² The statutory requirement that “*the invention*” be placed “on sale,”⁴⁰³ elaborated by the judicial “all-elements” gloss,⁴⁰⁴ reflects a legislative determination of the policy’s reach.⁴⁰⁵ The *Metallizing* rule upsets this balance and captures an indeterminate range of inventions beyond the purview of Section 102(b),⁴⁰⁶ undermining the certainty that the *Pfaff* rule was meant to provide⁴⁰⁷ and punishing commercializing inventors.⁴⁰⁸

3. *The Equitable Approach Is Better Suited for Dealing with Patent Delay than the Metallizing One-Year Bar*

Perhaps one of the most notorious patent enforcers of all time was Jerome Lemelson, who, during the latter half of the twentieth century, obtained patents from so-called continuation patent applications claiming priority to original, or “parent,” applications dating as far back as the 1950s.⁴⁰⁹ It has been said that Lemelson’s *modus operandi* was to wait until a technology matured and then procure a patent at a time when a lawsuit would be most devastating to a potential defendant, enabling Lemelson to extract hefty royalties.⁴¹⁰ This specific practice is not possible for patents issuing from applications filed after the changes to the Patent Act adopted in June 1995, which provided that the patent term must be measured at twenty years from the application date rather than at seventeen years from the date of issuance of the patent.⁴¹¹

The 1995 reforms prohibit Lemelson-style “infinite continuation” practices, under which patent applicants could pursue new patent claims for many years after the filing date of the parent application. Nevertheless, a patent owner can still keep an invention completely secret—poten-

402. For an illustration of the application of the *Metallizing* rule and a discussion of its limitations, see *supra* notes 200-48 and accompanying text. For further analysis explaining why a “super-*Metallizing*” rule is undesirable, see *infra* notes 417-19 and accompanying text.

403. 35 U.S.C. § 102(b) (2006) (emphasis added).

404. For the all-elements rule, as affirmed in *Pfaff*, see *supra* note 392 and accompanying text.

405. To be sure, the *Pfaff* two-part test has at times been challenging to apply. See generally Holbrook, *supra* note 397 (illustrating applications of *Pfaff* test).

406. For an explanation of the impact of *Metallizing* and *Kinzenbaw*, see *supra* notes 200-21, 241-48, and accompanying text.

407. See Holbrook, *supra* note 397, at 38.

408. For a critique of the rationale of punishing inventors acting in good faith to explore a market for their inventions, see *supra* notes 348-51 and accompanying text.

409. See Gregory F. Sutthiwan, Note, *Prosecution Laches as a Defense to Infringement: Just in Case There Are Any More Submarines Under Water*, 1 J. MARSHALL REV. INTELL. PROP. L. 383, 384-88 (2002) (explaining Lemelson’s approach to obtaining patents through continuation practice).

410. See *id.* at 392-93, 397-99 (reviewing Lemelson’s approach to obtaining royalties).

411. See 35 U.S.C. § 154(a)(2) (2006) (setting forth length of patent term).

tially infinitely—before filing for a patent. There are risks to this approach, of course. Such inventors, under pre-AIA law, may and likely will lose the benefit of the original priority date of their invention if they are adjudged to have “abandoned, suppressed, or concealed” that invention.⁴¹² Additionally, these laggard inventors take the chance that intervening prior art publications or public use or sale activities of others will render their claims anticipated or obvious by the time such inventors finally get around to filing a patent application.

In spite of these safeguards against unfair surprise from the patenting of secret inventions, scenarios under which inventors might spring the patent on their competitors and the public exist. For example, the secret inventions that *Invitrogen v. Biocrest* has exempted from the *Metallizing* bar because they are too attenuated from competitive exploitation⁴¹³ are in theory susceptible to submarine-style patenting through patent application delay, though evidence suggests that companies do not typically attempt to patent inventions that have been kept as trade secrets for several years.⁴¹⁴ Likewise, the *Metallizing* bar will not punish a non-commercializing inventor—the dreaded troll⁴¹⁵—even if the inventor monetizes the trade secret via licensing before opting for a patent.⁴¹⁶ The *Metallizing* rule thus privileges inventions, or inventor behaviors, whose commercial impact is minimal and fail to weed out some practices that many consider to be an abuse of the patent system.

412. *Id.* § 102(g). For a discussion of this statute as interpreted in the case of *Paulik v. Rizkalla*, see *supra* notes 311-18 and accompanying text.

413. For an examination of limitations of the holding of *Metallizing*, see *supra* notes 222-48 and accompanying text.

414. See AIPLA REPORT, *supra* note 295, at 9 (“When new technology is created and a decision is taken to protect the technology through the trade secret law, only rarely is that decision ever revisited in fact.”). Nevertheless, AIPLA does believe that the *Metallizing* rule has deleterious effects. See *id.* at 10. Again, it is important to distinguish Lemelson’s use of continuation applications to obtain patents many years after his initial discoveries from simple delays in filing a patent application altogether. See *supra* note 302 and accompanying text. In the former scenario, no intervening prior art can arise because the filing date is already locked in by the parent application from which continuation applications claim priority. See 35 U.S.C. § 120 (2006) (providing statutory basis for continuation applications). Also, in contrast to mere delay of application for a patent, the public receives notice of the invention (though not necessarily of the specific claims, as completely new claim sets can and do appear in continuations) if the parent application is published or if a patent issuing from the parent application is granted. See generally Lemley & Moore, *supra* note 304 (discussing problems with continuation applications after the 1995 Patent Act reforms).

415. For a discussion of the issues with patent trolls, see *supra* notes 349-51 and accompanying text. The discussion in the text assumes that the hypothetical secret invention was not exploited in such a way as to fall within the ambit of *Metallizing*.

416. For an explanation of why the *Metallizing* rule does not apply to licensing activities, see *supra* notes 223-27 and accompanying text. Even if an owner of a trade secret is a “non-practicing entity,” such an entity can be said to hold a trade secret given its ability to derive “independent economic value” from licensing the secret invention. See UNIFORM TRADE SECRETS ACT § 1(4) (1985).

Perhaps, all of this suggests that, in order to effectuate the policy against “patent term extension” that may be said to date all the way back to the English Statute of Monopolies,⁴¹⁷ we ought to have a super-*Metallizing* rule—a rule that will bar a patent on any trade secret discovered by a patentee a year or more before an application for a patent.⁴¹⁸ I think, however, that such a rule would be hopelessly over-inclusive and punish too many good-faith attempts by inventors like Meduna to develop their inventions and understand their commercial potential, without revealing the secret to anyone, before deciding to opt into the patent system. The benefits of a hard-and-fast one-year rule against delayed patenting would not come without costs—costs to inventors, who would never be able to obtain a patent on the secret if they miss the one-year bar, and costs to society, which may suffer from the potentially permanent secrecy of a discovery that an inventor would have been willing to reveal in a patent if not for the rule of *Metallizing*⁴¹⁹ or its expansive, hypothetical super-*Metallizing* version.

In her well-known article, *Crystals and Mud in Property Law*, Carol Rose noted that courts often depart from precise, “crystalline” rules and “muddy up” the law when they seek to avoid forfeiture, which is “a loss disproportionate to the lapse.”⁴²⁰ Similar considerations motivate abandoning the *Metallizing* rule in favor of equitable approaches that preceded it.⁴²¹ While the one-year statutory bars are also crystalline rules, those rules—even the on-sale bar, as the preceding discussion of *Pfaff* sug-

417. See MARTIN J. ADELMAN ET AL., PATENT LAW PERSPECTIVES § 2.3[7][f], at 2-348 n.806 (2d ed. 1982) (discussing Statute of Monopolies).

418. By definition, a trade secret must have some commercial character since an invention must have “independent economic value” in order to be protected by trade secret law. UNIFORM TRADE SECRETS ACT § 1(4) (1985).

419. For a discussion of the Coca-Cola recipe as a possible example of a “permanent” trade secret, see *supra* note 316 and accompanying text. Such permanent secrecy is less likely to result when an inventor decides not to apply for a patent when he or she expects invalidity on the basis of the Section 102(b) on-sale bar, because a product actually embodying the invention is by definition sold to a third party, who may be able to glean the invention from the product. For a discussion of the apparent “public knowledge” aspect of the on-sale bar, see *supra* notes 392-400 and accompanying text.

420. Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577, 597-98 (1988).

421. Flexible totality of the circumstances tests do generate social costs. As noted by Rose, “[t]he chief criticism leveled against mud—particularly by scholars associated with law and economics—is that, all other things being equal, mud is inefficient: Mud rules make entitlements uncertain and thus increase the costs of trading and of resolving disputes at the same time that they discourage careful planning.” *Id.* at 609. Here, in addition to the rationale of avoiding forfeiture, the mud rule might encourage the socially beneficial activity of inventors evaluating the commercial value of the invention before opting into the patent system. For a discussion of how incentives to file early affect the quality of patent applications, see *supra* notes 347-51 and accompanying text.

gests⁴²²—are motivated in part by the critical goal of protecting the public domain.⁴²³ The fact that this rationale does not at all underlie the *Metallizing* bar tends to suggest that Learned Hand's strict punishment by forfeiture is less proportionate to the lapse than that of the Section 102(b) bars. Relatedly, as noted above, *Metallizing*'s exclusive focus on first-party activities hints at the rule's punitive character, which suggests in turn that considering the wrongdoer's state of mind is appropriate.⁴²⁴ Patent forfeiture cases preceding *Metallizing*⁴²⁵ did that, at least indirectly, by taking into account the length of delay⁴²⁶ and the prosecution laches doctrine, which was revived in the *Lemelson* cases,⁴²⁷ has reaffirmed the role of equity in handling delay of patenting.⁴²⁸ Post-*Lemelson*, there is no reason for the courts not to apply equitable forfeiture doctrines against trade secret own-

422. For a review of the on-sale bar test, see *supra* notes 379-400 and accompanying text.

423. For a discussion of how the on-sale bar may protect the public domain, see *supra* notes 392-400 and accompanying text. For a discussion explaining why the *Metallizing* rule is an anomaly, see *supra* notes 344-46 and accompanying text.

424. For an argument advocating that a patentee's willfulness or negligence in delaying filing of a patent application should be taken into consideration, see *supra* note 307 and accompanying text.

425. For an analysis of cases leading up to *Metallizing*, see *supra* notes 166-71, 383-85, and accompanying text. The PTO may also deny a patent on these grounds, with the caveat that equitable determinations might be difficult to conduct at the PTO (though the PTO does, in theory, have the ability to deny patents on the grounds of § 102(c) abandonment, which requires an equitable determination as part of the patentability analysis). Perhaps, the best route here is legislative action. For example, a new subsection can be added to Section 102 stating that delay of patenting of a commercialized secret invention for three years (for example) is *prima facie* evidence for forfeiture, which can be rebutted by the patentee by showing a good excuse for delay. Such a provision already exists in trademark law, which provides that "nonuse [of a trademark] for 3 consecutive years shall be *prima facie* evidence of abandonment." 15 U.S.C. § 1127 (2006). For an alternative legislative proposal for handling patents on previously commercialized secret inventions, see *supra* note 361 and accompanying text.

426. For a listing of cases considering the length of delay before an application was filed or acted upon, see *supra* note 169.

427. See *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found.*, 277 F.3d 1361, 1363 (Fed. Cir. 2002) (holding that "doctrine of laches may be applied to bar enforcement of patent claims that issued after an unreasonable and unexplained delay in prosecution even though the applicant complied with pertinent statutes and rules"); see also *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found.*, 422 F.3d 1378, 1385 (Fed. Cir. 2005) (affirming viability of prosecution laches defense but noting that "[t]he doctrine should be applied only in egregious cases of misuse of the statutory patent system").

428. However, disagreement as to whether, in the hands of the Federal Circuit, the doctrine is sufficiently flexible or vigorous to deter and punish abusive behavior by patentees continues:

[T]he majority narrowed the equitable doctrine of prosecution laches by requiring direct evidence of intervening rights, and thereby prevented the defendant from establishing the defense. As a matter of law and of policy, I submit that the court has committed a serious wrong.

The doctrine of prosecution laches is addressed in significant part to the harms improper prosecution imposes on the public.

ers who game the patent system, and if the Federal Circuit refuses to take the lead, a legislative solution creating a “presumption of forfeiture” after a set number of years of delay may be necessary.⁴²⁹ Notably, the equitable solution will sweep in a broader range of inventions than the rule of *Metalizing* as potential targets for invalidation or denial of patents on the basis of applicants’ strategic behavior. The presence and extent of commercial exploitation of the invention should be among the factors considered, along with the length of delay, reasons for delay, the subjective intent and good faith of the patentee or applicant, hardship to the patentee or applicant, and, if applicable, intervening rights⁴³⁰ of the accused infringer.⁴³¹

IV. THE AMERICA INVENTS ACT AND THE *METALLIZING* RULE

On September 16, 2011, President Obama signed into law the Leahy-Smith America Invents Act.⁴³² This bill amended the Patent Act in a number of significant respects. The best-known change is the transition to the first-to-file system,⁴³³ reflected in several amendments to Section 102. While the “old regime” will continue to remain relevant for many years to come,⁴³⁴ it is worth asking what, if any, effect the AIA has on the *Metalizing* rule. The short answer is that the jury is still out. One clue to Con-

Cancer Research Tech. Ltd. v. Barr Labs., Inc., 637 F.3d 1293, 1295 (Fed. Cir. 2011) (Prost, J., dissenting) (citing *Woodbridge v. United States*, 263 U.S. 50, 60 (1923)) (objecting to court’s denial of rehearing en banc).

429. For a suggested legislative change to Section 102, see *supra* note 425.

430. See *Cancer Research*, 637 F.2d at 1293-97 (Prost, J., dissenting from the denial of rehearing en banc).

431. The courts already undertake a somewhat similar “muddy” inquiry to determine, in an interference proceeding, whether the inventor was first to conceive of an invention but was second to reduce it to practice nevertheless acted with sufficient diligence to obtain priority over the inventor who was first to reduce to practice but second to conceive. Formally, this is not an equitable doctrine since the approach is mandated by statute. See 35 U.S.C. 102(g) (2006). The totality of the circumstances analysis that may be used under Section 102(g), however, is similar to the analysis that courts would need to undertake when deciding if a patent on an invention is barred by commercial exploitation under my proposal. For a discussion of inquiries under Section 102(g), see *supra* note 133 and accompanying text. Moreover, in her dissent from the denial of rehearing en banc in *Cancer Research*, Judge Prost suggested that the totality of the circumstances approach is appropriate for analyzing the prosecution laches defense, further demonstrating that “muddy” analyses have their place in patent law. *Cancer Research*, 637 F.2d at 1295 (Prost, J., dissenting from the denial of rehearing en banc).

432. Pub. L. No. 112-29, 125 Stat. 284 (2011).

433. Professor Paul Janicke argued that it would be more precise to call the new system “first to publicize” because the inventor’s own initial public disclosures of the invention’s subject matter within a year of the filing date do not count as prior art against that inventor under the new § 102(b)(1). See HAROLD C. WEGNER, *THE 2011 PATENT LAW: LAW AND PRACTICE* § 11, at 40 (2d ed. 2011), available at <http://www.grayonclaims.com/storage/PatentLaw2011secondedition.pdf>.

434. This is because patents with an effective filing date before March 16, 2013, will be governed under the “old” Section 102 (i.e., first-to-invent) per Section 3(n) of the AIA.

gress's view on the subject is that the 2005 version of the patent reform bill included language that would have explicitly abrogated *Metallizing*⁴³⁵—language that did not make it into the AIA. Instead of the relatively clear definition of “publicly known” in the 2005 draft legislation, which eliminated secret inventions from patent-invalidating prior art, the new Section 102(a)'s definition of prior art includes the somewhat opaque phrase “otherwise available to the public.” This change, it would seem, signals congressional intent to retain the rule.⁴³⁶ Nevertheless, it can be argued that a natural reading of “otherwise available to the public” still excludes secret inventions, and a floor statement by Senator Leahy, one of the AIA's co-sponsors, reveals that, at least in his thinking, the AIA was meant to abrogate *Metallizing*.⁴³⁷ Professors Robert Merges and John Duffy offer a number of reasons for why the former view (i.e., that *Metallizing* was not

435. See WEGNER, *supra* note 433, § 155, at 108-09. Wegner argues:

To redefine the scope of patent-defeating events formerly set forth under “public use,” that term was abolished in the 2005 legislation and replaced by the *alternative* of a *disclosure* (“was patented [or] described in a printed publication”) or “otherwise publicly known.” To make certain that “otherwise publicly known” could not be interpreted in the broad manner of a “public use,” there was an explicit definition provided in the 2005 legislation to make this point:

Thus, in Lamar Smith, H.R. 2795 (2005), under 35 USC § 102(b)(3)(A) “[s]ubject matter is publicly known for the purposes of subsection (a)(1) only when (i) it becomes reasonably and effectively accessible through its use, sale, or disclosure by other means; or (ii) it is embodied in or otherwise inherent in subject matter that has become reasonably and effectively accessible[.]”

Id. (alterations and emphases in original).

436. See *id.* at 109-10 (relying on changes in draft patent reform bills from 2005 to 2011 as indicators of congressional intent).

437. See 157 CONG. REC. S1496 (daily ed. Mar. 9, 2011) (statement of Sen. Patrick Leahy) (“One of the implications of the point we are making is that subsection 102(a) was drafted in part to do away with precedent under current law that private offers for sale or private uses or secret processes practiced in the United States that result in a product or service that is then made public may be deemed patent-defeating prior art. That will no longer be the case. In effect, the new paragraph 102(a)(1) imposes an overarching requirement for availability to the public, that is a public disclosure, which will limit paragraph 102(a)(1) prior art to subject matter meeting the public accessibility standard that is well-settled in current law, especially case law of the Federal Circuit.”). The import of this statement can be discounted for two reasons, however. One is that the statement was made after the Senate voted on the bill. See WEGNER, *supra* note 433, §§ 234-35, at 127-29 (describing these statements as “*faux* legislative history”). Another has to do with Senator Leahy's seemingly inaccurate characterization of Federal Circuit case law: while public accessibility is required for third-party prior art to invalidate a patent, no such requirement is imposed on the inventor's own activities under *Metallizing*, which the Federal Circuit has adopted. See *supra* notes 190-99 and accompanying text. Cutting against this second argument is the phrase “do away with precedent under current law,” which suggests that Senator Leahy sought for the AIA to make the public accessibility standard uniform for first- and third-party activities.

abrogated) is the better view;⁴³⁸ for example, they argue that Senator Leahy's statement may be discounted because it was made during a colloquy devoted primarily to another issue—what kinds of disclosures by the inventor qualify for the one-year grace period under the new Section 102(b)(1).⁴³⁹ The two issues are related, however: if the *Metallizing* bar continues in force, a question arises whether commercial exploitation of a secret invention is a “disclosure” within the meaning of Section 102(b)(1), in which case the one-year grace period applies, or whether it is not a “disclosure,” in which case the bar would appear to cause a forfeiture of the patent if the exploitation precedes the effective filing date even by a day. It remains for the Federal Circuit to answer these questions: “Ultimately, there will be a judicial clarification whether secret commercialization remains a bar to patentability.”⁴⁴⁰

Other changes to the Patent Act brought about by the AIA—the first-to-file provision itself⁴⁴¹ and the availability of prior user rights⁴⁴²—will likely have a profound impact on the issue underlying *Metallizing*—the decision between patent and trade secret protection. On the one hand, the fear of losing the race to the PTO without the backstop of being able to prove prior invention might encourage some to opt into the patent system more readily,⁴⁴³ though recent studies suggest that there might not be that much effect from this change because the filing date is already effectively treated as the invention date for the majority of patents.⁴⁴⁴ On the other hand, prior user rights appear to encourage trade secrecy; while the owner of a trade secret may still end up facing the patenting of the same invention by a subsequent inventor, he or she now has a new defense

438. See WEGNER, *supra* note 433, § 157, at 111-12 (describing a presentation by Merges and Duffy, who listed reasons why new statute did not make radical changes).

439. See *id.* (same); see also *supra* note 437 (providing other reasons why Senator Leahy's floor statement can be discounted).

440. *Id.* at 110. For further discussion of the possible effects of the AIA on the *Metallizing* bar, see Paul Morgan, *The Ambiguity in Section 102(a)(1) of the Leahy-Smith America Invents Act*, 2011 PATENTLY-O PAT. L.J. 29, available at <http://www.patentlyo.com/files/morgan.2011.aiaambiguities.pdf>.

441. AIA, Pub. L. No. 112-29, § 3(b)(1), 125 Stat. 284, 293 (2011) (to be codified at 35 U.S.C. § 102(a)(1)) (stating that “[a] person shall be entitled to a patent unless . . . the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public *before the effective filing date of the claimed invention*” (emphasis added)). This provision will apply to all patents with an effective filing date on or after March 16, 2013.

442. 35 U.S.C.A. § 273(a),(b) (West 2011). For a further discussion of the prior commercial use defense, see *supra* note 291 and accompanying text.

443. For a discussion of the risks involved in delaying filing patent applications, see *supra* note 320 and accompanying text.

444. See generally Dennis D. Crouch, *Is Novelty Obsolete? Chronicling the Irrelevance of the Invention Date in U.S. Patent Law*, 16 MICH. TELECOMM. & TECH. L. REV. 53 (2009) (providing overview of timing issues when filing for patent applications); Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299 (2003) (analyzing disputes arising over first-to-invent).

against infringement of the patent based on prior commercial use of the invention.⁴⁴⁵

An intriguing section in the AIA suggests that the reform bill's drafters were concerned with encouraging too much secrecy.⁴⁴⁶ Entitled "Report on Prior User Rights," this section requires the PTO Director to report to the Senate and House Judiciary Committees his "findings and recommendations . . . on the operation of prior user rights in selected countries in the industrialized world."⁴⁴⁷ One objective of the report is "[a]n analysis of legal and constitutional issues, if any, that arise from placing trade secret law in patent law."⁴⁴⁸ Odd wording aside, one of the issues that this provision appears to get at is possible preemption of state trade secret law by federal patent law, which is a question that *Kewanee Oil Co. v. Bicron Corp.*⁴⁴⁹ grappled with nearly forty years ago. That opinion surmised that most of those who come up with patentable inventions will indeed go on to obtain a patent rather than aim for trade secret protection,⁴⁵⁰ and that assumption helped the Court to conclude that there is

445. For a discussion of the defense, including the requirement of proof by clear and convincing evidence, see *supra* note 291 and accompanying text.

446. See AIA § 3(m). For a brief discussion of this report, see *infra* note 448.

447. *Id.* § 3(m)(1).

448. *Id.* § 3(m)(1)(E). The PTO recently issued the required report on the legal issues raised by the commercial prior use defense. Perhaps not surprisingly, the PTO did not find any grave constitutional concerns with the defense. See U.S. PATENT AND TRADEMARK OFFICE, REPORT ON THE PRIOR USER RIGHTS DEFENSE (2012), available at http://www.uspto.gov/aia_implementation/20120113-pur_report.pdf.

449. 416 U.S. 470 (1974). The main theory of preemption advanced in *Kewanee* was "partial" conflict preemption, with the Court examining and ultimately rejecting the argument that the Supremacy Clause bars trade secret law protection for inventions that meet patentability requirements. *Id.* at 491-92. In general, a state law may be invalidated under the doctrine of conflict preemption when it is not possible to comply with both federal and state laws, or when state law presents an obstacle to the achievement of Congress's discernible objectives. See *Gade v. Nat'l Solid Wastes Mgmt. Ass'n*, 505 U.S. 88, 98 (1992) (discussing conflict preemption). The latter, "obstacle" branch of conflict preemption was largely at issue in *Kewanee*. See *Kewanee*, 416 U.S. at 474. The Court held that state law protection of patentable inventions through trade secrecy does not present an obstacle to the objectives of federal patent law, and is therefore not preempted. *Id.* at 493.

450. See *id.* at 490 ("The possibility that an inventor who believes his invention meets the standards of patentability will sit back, rely on trade secret law, and after one year of use forfeit any right to patent protection is remote indeed." (citation omitted)). Of course, this language presupposes the existence of the *Metallizing* rule, which gives inventors a year to decide between patent and trade secret protection from the time of first commercialization. For an interesting argument regarding how the effective elimination of the best mode requirement in Section 15 of the AIA (codified at 35 U.S.C. § 282(3), which abolished absence of "the best mode contemplated by the inventor of carrying out his invention," required by 35 U.S.C. § 112, as a litigation challenge to patent validity) may facilitate concurrent patent and trade secret protection for the same invention, see Brian J. Love & Christopher B. Seaman, *Best Mode Trade Secrets*, 15 YALE J.L. & TECH. (forthcoming 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2056115.

not enough “competition” or conflict between federal patent law and state trade secret laws so as to create a preemption problem. Prior user rights certainly re-calibrate the *Kewanee* analysis in favor of the trade secret option, but *Kewanee* offers other rationales for why state law trade secrecy regimes do not undermine the objectives of federal patent law: One is that potential harms from greater secrecy might be mitigated by independent discoveries, which Chief Justice Burger, the author of the opinion, thought to be quite pervasive.⁴⁵¹ The other is that trade secret law, in its own way, contributes to the constitutional mandate of encouraging technological process: “Trade secret law promotes the sharing of knowledge, and the efficient operation of industry; it permits the individual inventor to reap the rewards of his labor by contracting with a company large enough to develop and exploit it.”⁴⁵²

Time will tell if a court will find whether prior user rights encourage so much secrecy as to create a constitutional conflict between federal patent law and state trade secret law. Adoption of prior user rights in the AIA, however, does suggest that Congress believes that trade secrets continue to play a robust role in our intellectual property system. Congress

Note, however, that best mode still remains a requirement of patentability under 35 U.S.C. § 112.

451. See *Kewanee*, 416 U.S. at 490 (positing likelihood of independent discovery); see also *supra* notes 358-59 and accompanying text (same).

452. *Id.* at 493; see also Lemley, *supra* note 285, at 341-48 (discussing benefits reaped by holding trade secrets). Some scholars view trade secrets as suspect intellectual property rights because they are inimical to the presumed goal of disclosing scientific information. See, e.g., Edwin C. Hettinger, *Justifying Intellectual Property*, 18 PHIL. & PUB. AFFAIRS 31, 49 (1989). This view, however, reflects a narrow focus on the disclosure rationale for intellectual property rights to the exclusion of an adequate consideration of the incentive-to-invent rationale, which underlies both trade secrets and patents. As formulated by a student at a University of California Hastings College of the Law seminar where I presented this Article,

[T]o promote progress we grant monopoly-like rights, and then to assuage our discomfort with monopoly we require disclosure, ostensibly to benefit the public, but more practically to alert the public as to the boundaries of another’s rights. So disclosure is really only made necessary as a response to the grant of exclusive rights, not as an ex ante goal.

For an explanation of why the disclosure function of the patent system should be viewed as subordinate to the incentive-to-invent function, see *supra* notes 282-90, 298, 311-14, and accompanying text. For similar reasons, the argument that the *Metallizing* bar is constitutionally mandated because repealing it would “retard” scientific progress by encouraging suppression of inventions is also off the mark. See, e.g., Ron D. Katznelson, *America Invents Act’s Repeal of the Secret Commercial Use Bar Is Constitutionally Infirm* 2 (June 1, 2011) (unpublished manuscript), available at <http://works.bepress.com/rkatznelson/66>. Katznelson also makes the argument that repealing the *Metallizing* bar would violate the “limited times” clause of Article I, Section 8 of the Constitution; however, the Supreme Court’s expansive view of the clause in its copyright cases suggests that “extending” the length of the patent term for a few additional years via trade secrecy does not present a grave constitutional difficulty. See generally *Golan v. Holder*, 132 S. Ct. 873 (2012); *Eldred v. Ashcroft*, 537 U.S. 186 (2003); see also WEGNER, *supra* note 433, § 158, at 112-14 (addressing merits of “limited times” argument and concluding that it is unlikely to succeed in view of holdings of Supreme Court’s copyright cases).

may not have repudiated *Metallizing*, but it has taken a cautious step toward embracing trade secrecy.

V. CONCLUSION

The patent forfeiture rule of *Metallizing* is unsupported by precedent or statute, and is inequitable on the actual facts of the case. An inventor sought in good faith to obtain a patent and moved toward that goal as quickly as possible under the circumstances, yet the Second Circuit invalidated the patent by creating a strict, extra-statutory one-year bar. The disclosure and extension-of-monopoly rationales for the rule are questionable, and all the more so because perhaps the most important policy rationale for the existence of the patent system—to provide incentives to invest and engage in inventive activities—might not be well served by the *Metallizing* rule. In addition, the rule likely contributes to over-patenting, which can in turn lead to patent thickets that stifle competition. Other appellate courts, including the Federal Circuit, adopted the rule without serious analysis, perhaps in deference to Judge Hand. While the Supreme Court cited the *Metallizing* case in three separate opinions,⁴⁵³ it has never endorsed its forfeiture rule. Moreover, the Supreme Court in recent patent cases has hewed closely to the language of the Patent Act and accepted rules that seemingly diverged from the patent statutes only as long as they have been supported by long-standing Supreme Court precedent.⁴⁵⁴ There are no such precedents for the *Metallizing* rule—*Pennock v. Dialogue* and *Woodbridge v. United States* are clearly distinguishable from *Metallizing* on their facts, and *Bates v. Coe* speaks directly against the rule by focusing on truly public uses as patent-invalidating activities. The Sixth Circuit's influential *Macbeth* decision likewise does not support *Metallizing*, if for no other reason than its warning (in language approved in *Woodbridge*) that patent forfeiture is never favored and should be reserved for

453. See, e.g., *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 484 n.13 (1974) (citing *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)). For the other instances where the Supreme Court cited *Metallizing*, see *supra* note 13.

454. See, e.g., *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (holding that abstract ideas, laws of nature, and physical phenomena are unpatentable based on reasoning and holdings of Supreme Court opinions dating back to nineteenth century). The Court also reasoned that the statutory text justified the three “exceptions” in any event:

The Court's precedents provide three specific exceptions to § 101's broad patent-eligibility principles: “laws of nature, physical phenomena, and abstract ideas.” While these exceptions are not required by the statutory text, *they are consistent with the notion that a patentable process must be “new and useful.”* And, in any case, these exceptions have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years.

Id. (emphases added) (citation omitted). The Court's textualist approach to patent law has been questioned. See, e.g., Jonathan R. Siegel, *Naïve Textualism in Patent Law*, 76 BROOK. L. REV. 1019, 1020-23 (2011) (criticizing Supreme Court's strict reliance on statutory language of Patent Act).

those cases where the patentee has behaved strategically or abusively. In addition, the textualist orientation of the current Court seems to militate against the “policy polymorphism” of distinguishing first and third parties in a statute that, in its plain language, makes no such distinction.⁴⁵⁵ It appears that the *Metallizing* rule, whose justification and scope courts and commentators are still trying to understand,⁴⁵⁶ has remained on the books for as long as it did partly out of respect for a great judge. But should we always defer to Judge Learned Hand? Perhaps not. In the biting words of Judge Alex Kozinski, Judge Hand “was very knowledgeable about everything except how the world works.”⁴⁵⁷ Indeed, it was Judge Carroll Hincks, the trial judge in *Metallizing*, who understood the small inventor’s position and allowed his assignee’s patent to stand.⁴⁵⁸

455. For a discussion of the inconsistencies between the Section 102(b)’s language and its applications, see *supra* notes 15-18, 249-50, and accompanying text. See generally Siegel, *supra* note 454.

456. See, e.g., *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1380 (Fed. Cir. 2005) (attempting to divine limits of *Metallizing* rule); Ubel, *supra* note 12, at 416 n.48 (asserting that “the *Metallizing* decision is a non-statutory bar” which is not subject to “an ‘in this country’ restriction” of Section 102(b)).

457. See Walter Olson, *June 25 Roundup*, OVERLAWYERED (June 25, 2010), <http://overlawyered.com/2010/06/june-25-roundup-2/>.

458. It is perhaps worth noting that Judge Hand’s views of patent law toward the end of his career reflected suspicion of, if not outright hostility to, patent rights. In testimony on patent reform that he gave to the Senate Subcommittee on Patents, Trademarks, and Copyrights in 1955, Judge Hand first reaffirmed that the Committee sought to “consider [patent law] anew from the bottom up.” With that charge, Judge Hand proceeded to give his advice for patent reform. He “suggest[ed] to an incredulous patent bar” that he would “make patents like copyrights. [He felt] that a man is entitled to what he contributed . . . and unless [others] used what he did, he could not stop it.”

Liivak, *supra* note 7, at 1646-47 (alterations in original) (footnotes omitted) (quoting *American Patent System: Hearings Before the Subcomm. on Patents, Trademarks, and Copyrights of the S. Comm. on the Judiciary*, 84th Cong. 111, 114, 117 (1956) (testimony of Judge Learned Hand); BENJAMIN KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 44 (1967)).

