

Did Learned Hand Get It Wrong?: The Questionable Patent Forfeiture Rule of
Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.

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Abstract

This article critiques the rule of *Metallizing Engineering*, a 1946 Second Circuit opinion penned by Judge Learned Hand, holding that one who competitively exploits 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. The article demonstrates that this patent forfeiture rule is based on a serious misreading of precedent and is not supported by the Patent Act. In addition, the outcome of *Metallizing* is inequitable given the facts of the case, which are gleaned from the district court opinion and analyzed in detail in the article. The article shows that, in spite of these problems, other appellate courts, including the Federal Circuit, have adopted the rule in seeming deference to Judge Hand and without serious analysis.

More importantly, Judge Hand’s stated policy rationales for the rule, encouragement of prompt disclosure of patentable inventions and prevention of a de facto extension of a patent monopoly term, are highly questionable in view of modern patent law scholarship. The article argues that the former rationale is weak due to failures in the disclosure function of patents, and that maintaining the *Metallizing* rule for reasons of encouraging disclosure may contribute to undesirable overpatenting. As for the “extension of monopoly” rationale, it is clear that trade secret protection that precedes patenting does not provide a patent owner with any kind of a legal monopoly. Hiding behind this rationale is Judge Hand’s desire to punish patentees for prior commercial exploitation of their secret inventions. Such punishment, the paper argues, is unwarranted given the modern understanding of the on-sale and public use statutory bars; the problem of delay of patenting is best dealt with by returning to the equitable roots of the patent forfeiture doctrine that *Metallizing* turned into a strict one-year bar. But worst of all, arguably the most important policy reason for the patent system—to provide an incentive for researchers to engage in inventive activity—is disserved by the *Metallizing* rule. The article thus calls for its overruling or abrogation.

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

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

I. INTRODUCTION

In his fifty-two years of service as a federal judge,¹ Learned Hand penned some of the most famous decisions in the history of intellectual property law. *Nichols v. Universal Pictures Co.*² in copyrights, *Bayer Co. v. United Drug Co.*³ in trademarks, and *Parke-Davis & Co. v. H.K. Mulford Co.*⁴ in patents are opinions that are both persuasive and analytically useful, influencing future courts for years to come. Judge Hand is rightly considered one of the greatest jurists in American history,⁵ and his intellectual property jurisprudence has been singled out as particularly perceptive and valuable to the development of the law.⁶ A rare exception to the universal praise Judge Hand has received is an article by Kenneth Port, who strongly criticized Hand’s trademark law decisions.⁷ 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.⁸ This article is about one such

¹ Charles Alan Wright, Book Review, *X. Lives in the Law: 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)).

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

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

⁴ 189 F. 95 (C.C.S.D.N.Y. 1911) (holding that natural extracts are patentable subject matter).

⁵ See John F. Hagemann, Book Review, *The Judge’s Judge*, 40 S.D. L. REV. 576, 576 (1995) (quoting Justice Benjamin Cardozo, who had Judge Learned Hand in mind when he said “[t]he greatest living American jurist isn’t on the Supreme Court.”)

⁶ Gerald Gunther, *Learned Hand: Outstanding Copyright Judge*, 41 J. COPYRIGHT SOC’Y USA 315 (1994); Oskar Liivak, *Rethinking the Concept of Exclusion in Patent 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 1, at 306-15)); Stephen H. Philbin, *Judge Learned Hand and the Law of Patents and Copyrights*, 60 HARV. L. REV. 394 (1947).

⁷ 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))).

⁸ See, e.g., *Reiner v. I. Leon Co.*, 285 F.2d 501 (2d Cir. 1960) (“secondary factors” and “combination patents” in non-obviousness jurisprudence) (cited in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 36 (1966) and *Panduit Corp. v.*

case, *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*⁹ 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.¹⁰

Although the case has been on the books for more than 65 years, the *Metallizing* rule, it appears,¹¹ 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, appear to have been embraced by the Supreme 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 inventors are to be treated

Dennison Mfg. Co., 810 F.2d 1561, 1575 (Fed. Cir. 1987)); *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946), *reh'g denied* 328 U.S. 881 (1946) (forfeiture of a patent via a commercial use of a secret invention before the 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. 95 (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)); *see also infra* note 13 (listing two of the three Supreme Court cases that cited *Metallizing*). *But see* Ass'n for Molecular Pathology v. USPTO, 702 F. Supp. 2d 181 (S.D.N.Y. 2010) (declining to follow *Parke-Davis* and invalidating patent claims to DNA containing breast cancer susceptibility genes), *appeal docketed*, No. 2010-1406 (Fed. Cir. June 22, 2010).

⁹ 153 F.2d 516.

¹⁰ *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 . . .”).

¹¹ My methodology for finding support for this statement involved keyciting the *Metallizing* case on Westlaw and examining briefly the references thus found. The case has been cited by 88 judicial opinions and 94 law review articles.

¹² 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); *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 the *Metallizing* decision, 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”). While these commentators criticize in passing Judge Hand's approach to statutory interpretation and the uncertainty that the *Metallizing* rule has engendered, respectively, neither attempts a comprehensive criticism of the rule.

¹³ *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68 (1998) (policy of promoting disclosure); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149-51 (1989) (policy against commercial exploitation). *But see infra* note 365 and accompanying text (arguing that the *Pfaff* Court did not approve the rule of *Metallizing*).

¹⁴ *See, e.g.*, MERGES & DUFFY, *supra* note 8, 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* 98 (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; *see also* 2 CHISUM ON PATENTS, § 6.02[5][b], at 6-62 (“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.”).

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 prior to the date of the application for patent in the United States.”¹⁶ Thus, even a cursory glance at § 102(b) reveals that *Metallizing* is inconsistent with the plain language of the Patent Act, 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; 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 was simply wrong.¹⁹ A clear reason for this departure from stare decisis is not to be found in Judge Hand’s opinion. *Metallizing* made no indication, as the Supreme Court had carefully done in overruling one 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

¹⁵ *Metallizing*, 153 F.2d at 518.

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

¹⁷ *Cf. id.* § 102(c) (2006) (“A person shall be entitled to a patent unless . . . *he has abandoned* the invention”) (emphasis added).

¹⁸ *See, e.g., Pfaff*, 525 U.S. at 68. While *Pfaff* deals with apparatus claims, the situation is more complicated for process claims, whose “sale” involves performance of the method for consideration or sale of a machine that can perform the steps of the process. *See In re Kollar*, 286 F.3d 1326, 1332-33 (Fed. Cir. 2002). Note, however, that the *Metallizing* rule applies to both process and apparatus claims, invalidating commercial exploitation of “secret machines” through sales of products made with their aid.

¹⁹ *Metallizing*, 153 F.2d at 518 (*overruling* *Peerless Roll Leaf Co. v. Griffin & Sons*, 29 F.2d 646 (2d Cir. 1928) (Hand, J.)).

then had has long since been exhausted.”²⁰ Nor did Judge Hand give anything like reasons for abandoning *stare decisis* articulated by the modern Supreme Court. He did not attempt to argue that the rule of *Peerless Roll Leaf* has become “unworkable,” “could be removed without serious inequity to those who have relied upon it,” or become “a doctrinal anachronism discounted by society,” or that *Peerless*’ “premises of fact have so far changed in the ensuing two decades as to render its central holding somehow irrelevant or unjustifiable.”²¹ While Judge Hand briefly discussed Congressional intent in his ruling,²² he relied heavily on a Supreme Court case that predated the relevant statute by several years.²³ To compound the mystery of *Metallizing*, the opinion had to distinguish another case decided some six short years earlier, where Judge Hand again wrote the opinion, which established the rule that commercially exploited third-party secret activities pose no threat to patenting under the statutory bars.²⁴ Finally, neither *Metallizing* nor the cases relying on it ever made it clear whether the bar to the patent right created in that case was really a public use bar or an on-sale bar within the meaning of what is now § 102(b), or some *tertium quid*—a non-statutory third species of a bar.²⁵ While Hand speaks of an inventor’s patent-defeating secret activities as a peculiar species of “public use,” the language of

²⁰ *United States v. Darby Lumber Co.*, 312 U.S. 100, 116 (1941) (*overruling* *Hammer v. Dagenhart*, 247 U.S. 251 (1918)).

²¹ *Planned Parenthood of S.E. 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.” (citing *Montejo v. Louisiana*, 129 S. Ct. 2079, 2088-89 (2009))).

²² *Metallizing*, 153 F.2d at 520.

²³ *Id.* at 518-20 (citing *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1 (1829)). The provision of the Patent Act analogous to the modern statutory bars of § 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. *Metallizing*, 153 F.2d at 520. For further discussion of the role of *Pennock* in the *Metallizing* decision, *see infra* notes 143-159, 356-358 and accompanying text.

²⁴ *See* *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940).

²⁵ Compare *Ubel*, *supra* note 12, at 416 n.48 (“the *Metallizing* decision is a non-statutory bar” which is not subject to the “in this country” limitation of § 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.”) (alternations in original) (footnotes omitted), and 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. 42, 48-49 (1968) (characterizing the *Metallizing* decision as applying the public use bar); *see also infra* Part II.D.2 (detailing the Federal Circuit’s inconsistent rationales in cases applying the *Metallizing* bar).

“competitive exploitation” implicates the policies of the on-sale bar.²⁶ 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,²⁷ though courts have been known to conflate the two bars.²⁸ 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 § 102(b), sets the critical date²⁹ at one year before the patent application. The precise nature of the relationship between *Metallizing* and the statute, however, has yet to be articulated.³⁰

Although the Supreme Court has never actually reviewed the *Metallizing* rule,³¹ other circuits have followed it readily.³² The Court of Appeals for the Federal Circuit, which has exclusive jurisdiction over patent appeals,³³ embraced the rule shortly after the court’s creation in

²⁶ *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.”) (footnotes omitted); Taub, *supra* note 25, at 1498.

²⁷ See *Continental Plastic Containers v. Owens Brockway Plastic Prods.*, 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.)).

²⁸ 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.”).

²⁹ “Critical date” is the date that is one year before the filing of the patent application. If the invention is placed in public use on sale before the critical date, the patent is invalid. See 35 U.S.C. § 102(b) (2006).

³⁰ 2 CHISUM ON PATENTS, *supra* note 14, § 6.02[5][c], at 6-71. One author described the distinction between first and third parties that courts have read into § 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, 364-65 n.131 (2005). Siegel noted 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.” *Id.* (emphasis in original).

³¹ See *infra* note 182 and accompanying text.

³² See *infra* Part II.D.

³³ 28 U.S.C. § 1295 (2006).

1982,³⁴ though its opinions arguably did little to clarify the doctrine.³⁵ 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,”³⁶ has been quoted with apparent approval by the Supreme Court,³⁷ courts of appeals,³⁸ district courts,³⁹ and patent law casebooks.⁴⁰ Indeed, the *Metallizing* rule appears to be as much a part of patent law as the Patent Act itself.⁴¹ 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 century⁴² and has been clearly affirmed by a 1950 Supreme Court decision,⁴³ has faced⁴⁴ and continues to face⁴⁵ severe criticism, though it ultimately survived a relatively recent Supreme Court challenge.⁴⁶ One wonders if the hagiography of Judge Learned Hand,⁴⁷ whose

³⁴ D.L. Auld Co. v. Chroma Graphics Corp., 714 F.2d 1144, 1147 (Fed. Cir. 1983) (“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.” (citing *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir. 1946)).

³⁵ Roderick M. Thompson, Eric W. Bass & Karen Kimmey, *The Section 102(b) Bar—Four Years After Pfaff v. Wells Electronics*, IP LITIGATOR (March/April 2003), available at http://www.fbm.com/docs/publications/7FA6A34C-0EA3-483E-B052-EE9D3A2DAC6A_document.pdf, manuscript at *11.

³⁶ *Metallizing*, 153 F.2d at 520.

³⁷ See *supra* note 13 and accompanying text.

³⁸ 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) (Friendly, J.); *Koehring Co. v. National Automatic Tool Co., Inc.*, 362 F.2d 100, 104 (7th Cir. 1966) (Swygert, J.). For a detailed discussion of the Federal Circuit’s *Metallizing* jurisprudence, see *infra* Part II.D.2.

³⁹ For a recent example, see *Minemyer v. B-Roc Representatives, Inc.*, 695 F. Supp. 2d 797, 806 (N.D. Ill. 2009).

⁴⁰ CRAIG ALLEN NARD, *THE LAW OF PATENTS* 287 (2008); see also MERGES & DUFFY, *supra* note 8, at 533-35.

⁴¹ NARD & WAGNER, *supra* note 14, at 91 (“The *Metallizing* principle is now well established.”) (citations omitted).

⁴² See *Winans v. Denmead*, 56 U.S. (15 How.) 330 (1853).

⁴³ See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605 (1950).

⁴⁴ See, e.g., Mark D. Janis, *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 the doctrine by lower-court judges).

⁴⁵ See, e.g., Joshua D. Sarnoff, *Abolishing the Doctrine of Equivalents and Claiming the Future After Festo*, 19 BERKELEY TECH. L.J. 1157, 1157 (“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.*, 339 U.S. 605 (1950), and extended to later-arising technological equivalents in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997), and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). The modern doctrine of equivalents lacks theoretical justification, imposes high costs on society, and likely impedes innovation.”).

⁴⁶ See *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997).

⁴⁷ See Port, *supra* note 7, at 221 n.2.

reputation is so strong that his name is frequently mentioned in “invocations” by judges who cite his opinions,⁴⁸ has something to do with the lack of criticism of the *Metallizing* rule.

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. It is difficult to say whether *Metallizing* was correct at the time it was decided. All I argue is that, today, the rule is contributing to certain persistent problems in the patent system.⁴⁹ 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 disclosure in patent law, provides ammunition for displacing the first pillar on which *Metallizing* rests.⁵⁰ 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.⁵¹

This article proceeds in four parts. Part II, which follows this Introduction, reviews the *Metallizing* case itself, noting that the Court of Appeals’ ruling is in considerable tension with the text of the Patent Act in force in 1946 and with precedents on patent forfeiture and abandonment.⁵² This Part finds 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 where courts invalidated patents by relying on *Metallizing*, and examines some representative cases where patents survived validity

⁴⁸ For a recent example, see *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1344 (Fed. Cir. 2007).

⁴⁹ See *infra* Part III.

⁵⁰ See *infra* Part III.A

⁵¹ See *infra* Part III.B. This part 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.

⁵² In contrast, the ruling of the District Court was faithful to both statute and precedent. See *infra* Part II.B.2.

challenges based on the *Metallizing* rule. Part III closely analyzes and critiques the 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 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. It 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 benefits and harms of competitive exploitation of secret inventions. In the course of this analysis, this Part shows that *Pfaff v. Wells*,⁵³ the Supreme Court’s leading on-sale bar case, did not endorse the *Metallizing* rule even though it quoted *Metallizing* with approval. It also explains that “patent term extension,” such as it is, may be salutary in some situations. Overall, Part III demonstrates that Judge Hand’s rationales do not support the rule he created in *Metallizing*. The Conclusion recapitulates the reasons that *Metallizing* was wrongly decided, notes that its methodology is inconsistent with the Supreme Court’s modern patent law jurisprudence, and calls for the *Metallizing* rule to be abrogated or overruled.⁵⁴

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

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

⁵³ 525 U.S. 55 (1998).

⁵⁴ The House version of the patent reform bill current as of this writing contains a provision that, according to some commentators, may abrogate the rule of *Metallizing*. See, e.g., Ted Sichelman, *Fixing the “First Inventor To File” One-Year Grace-Period Provision of the Patent Reform Bills*, PATENTLY-O (Apr. 12, 2011), <http://www.patentlyo.com/patent/2011/04/fixing-the-first-inventor-to-file-one-year-grace-period-provision-of-the-patent-reform-bills.html>. Even if the law is changed, however, the *Metallizing* rule would still apply to all the patents issued prior to the reform bill’s adoption, and should be overruled by a judicial decision for reasons discussed in the article. Sichelman favors the retention of the *Metallizing* rule by Congress, but, as the article makes clear, the author disagrees with Sichelman’s recommendation.

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 “metalizing.”⁵⁵ 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.⁵⁶ 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 conditioned in any way.⁵⁷ To solve this problem, prior inventors used “mechanical roughening or heating”⁵⁸ 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.⁵⁹ As Meduna noted in his patent, however, this approach “will not often yield a surface capable of bonding applied spray metal with a satisfactory degree of bond,”⁶⁰ especially for hardened metal surfaces. The other approach, heating, would sometimes warp the metal parts, ultimately making them unusable.⁶¹

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

⁵⁵ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (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.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Application of Spray Metal to Metal Surfaces*, U.S. Reissue Patent 22,397 (reissued Nov. 30, 1943), col. 1, l. 33. The patent-in-suit, a reissue, 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 (2d Cir. 1946).

⁵⁹ U.S. Reissue Patent 22,397, col. 1, l. 41.

⁶⁰ *Id.* col. 1, l. 43-45.

⁶¹ *Id.* col. 2, l. 8-28; *see also Metallizing*, 62 F. Supp. at 44.

electrode metal onto the surfaces.⁶² These “projections,” which significantly improved the ability of the spray metal to bond to the surface, 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 surfaces for spraying.⁶³ 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,”⁶⁴ he did not question the novelty of the application of the machine to the preparation of metal surfaces for metalizing.⁶⁵ 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.”⁶⁶

In district court proceedings, in addition to its attacks on the patent based on the inventor’s own activities, the defendant unsuccessfully challenged the validity of the patent on various theories of anticipation by other inventors and lack of “patentable invention,”⁶⁷ as well as claim indefiniteness.⁶⁸ Anticipation 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

⁶² U.S. Reissue Patent 22,397, col. 3, l. 8-20.

⁶³ *Id.* col. 5, l. 60 to col. 6, l. 31.

⁶⁴ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946).

⁶⁵ The district judge rejected the defendant’s challenges to the novelty and inventive quality of the patent 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, so the inventiveness analysis 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 inventiveness standards of *Cuno Eng’g Co. v. Automatic Devices Corp.*, 314 U.S. 84 (1941) (the “flash of genius” test abrogated by § 103) and relevant Second Circuit cases. *Metallizing*, 62 F. Supp. at 54. It is interesting to note that patents on improvements to the metalizing process still continue to be issued. *See, e.g.*, *Metallizing Process*, U.S. Patent No. 5,770,032 (filed Oct. 16, 1996, issued June 23, 1998).

⁶⁶ U.S. Reissue Patent 22,397, col. 8, l. 64-66; *see also id.* at col. 9, l. 10 to col. 11, l. 6. 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?*, available at <http://ssrn.com/abstract=1762793> (examining whether modern patent documents are useful to scientists).

⁶⁷ *See supra* note 65.

⁶⁸ *Metallizing*, 62 F. Supp. at 55.

inventor’s “public use.”⁶⁹ Thus, Judge Hand stated that “[t]he only question 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.”⁷⁰ 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.”⁷¹ 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.⁷²

B. District Court Proceedings

1. *The facts*

A much richer picture of the case emerges when one fully examines Judge Hincks’⁷³ 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 metalizing.”⁷⁴ After another mechanic told Meduna of problems with the metalizing process as currently practiced,⁷⁵ Meduna had a eureka moment: “he recalled the characteristic roughened surface of the 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

⁶⁹ *Metallizing*, 153 F. 2d at 517.

⁷⁰ *Id.*

⁷¹ *Id.* at 517-18.

⁷² See *infra* Part II.C.

⁷³ Judge Carroll C. Hincks, a Yale Law School graduate and a U.S. Army Captain, 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, he 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 United States District Court for the District of Connecticut for over five years, and as a district judge for a total of over 22 years. See Federal Judicial Center, Biography of Judge Carroll Clark Hincks, available at <http://www.fjc.gov/servlet/nGetInfo?jid=1052&cid=999&ctype=na&instate=na> (last visited Apr. 24, 2011).

⁷⁴ *Metallizing*, 62 F. Supp. at 46.

⁷⁵ *Id.*

be refurbished] might constitute a suitable bond for the sprayed metal.”⁷⁶ 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,”⁷⁷ Meduna then pondered what to do next. He “sought the advice of a friendly engineer who told him that the 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.”⁷⁸ 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[] metalizing 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.⁷⁹ In a finding of fact that helped establish both secret use and the absence of experimental use,⁸⁰ the district judge stated that “most of these jobs were done . . . for owners who were without knowledge as

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ The common-law experimental use “exception” can negate the finding of a public use or an on-sale bar, allowing the inventor to keep his or her patent rights. “If a use is judged experimental, then it is not a public use within the meaning of § 102(b). The experimental use doctrine also applies to inventions placed ‘on sale’ prior to the critical date” SCHECHTER & THOMAS, *supra* note 14, at 98. 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 the invention to perfection, or to ascertain whether it will answer the purpose intended.” *City of Elizabeth v. Am. Nicholson Pavement Co.*, 97 U.S. 126, 137 (1877) (cited in SCHECHTER & THOMAS, *supra* note 14, at 98). Under the modern doctrine, courts analyze the inventor’s actions through the prism of a multi-factor 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 the “(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.” (citing *EZ Dock v. Schafer Sys., Inc.*, 276 F.3d 1347, 1357 (Fed. Cir. 2002) (Linn, J., concurring)) (alterations in original)). As the District Court opinion suggests, Meduna failed to satisfy the requirements of the 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 the customers as a matter of course.

to the process to be used, and whose identity was never known to the inventor and whose identity he never sought to ascertain.”⁸¹ As he continued to offer the metalizing service with his newly discovered process, however, Meduna kept the possibility of patenting in mind.⁸² In fact, a representative of Kenyon Bearing & Auto Parts, a company that ultimately became the defendant in the litigation, offered Meduna “a contract whereby the inventor was to apply for a patent and give [Kenyon] an exclusive license thereunder.”⁸³ 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.”⁸⁴ 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 1942.⁸⁵ 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.”⁸⁶ A patent application was filed on August 6, 1942, shortly after the assignment.⁸⁷ The district judge had no doubt, and the Second Circuit did not dispute, that the inventor kept the process secret; it was a powerful process trade secret which, according to the judge, members of the public would never be able to deduce by reverse engineering:⁸⁸

⁸¹ *Metallizing*, 62 F. Supp. at 46.

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.* at 46-47.

⁸⁶ *Id.* at 47.

⁸⁷ *Id.*

⁸⁸ If the process could be deduced by reverse engineering, the defendants could have perhaps had a stronger “public use” invalidation argument articulated in the modern “non-informing public use” doctrine. See SCHECHTER & THOMAS, *supra* note 14, at 128-33. The doctrine holds 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). This non-informing public use can thus invalidate someone else’s patent on the same invention. In the leading case, *Dunlop Holdings Ltd. v. Ram Golf Corp.*, 524 F.2d 33 (7th Cir. 1975), the defendant, golfer Butch Wagner, made and sold golf balls made with a highly durable material called Surlyn, which was protected as a trade secret. Because the commercially available product actually contained the secret material, there was no abandonment, suppression, or concealment. The use was

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 have been deduced from inspection or physical tests upon specimens of the processed product in the hands of the public.*⁸⁹

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.”⁹⁰

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,⁹¹ 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 buyer whom Meduna had spurned, apparently began infringing the patent soon after it

“public” and therefore distinguishable from product-of-secret-invention cases like *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940), which held that there was no public use. See *Dunlop Holdings*, 524 F.2d at 35-36; see also *supra* note 24 and accompanying text. Although the first inventor was not trying to apply for a patent but tried instead to invalidate another’s patent, 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 noninforming character of the public use or sale.” *Dunlop Holdings*, 524 F.2d at 36 (citing *Egbert v. Lippmann*, 104 U.S. 333 (1881)). Of course, *Metallizing*, like *Gillman*, involved a fully non-public use because the commercially available product did not in any way embody the secret invention, so that no reverse engineering of this kind of a trade secret was possible. With Butch Wagner’s Surlyn, however, then-Judge Stevens acknowledged that at least a possibility of reverse engineering exists, making the use “public”: “[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.

⁸⁹ *Metallizing*, 62 F. Supp. at 46 (emphasis added).

⁹⁰ *Id.* at 56.

⁹¹ See *id.* at 58; see also *infra* note 128 and accompanying text.

was granted;⁹² if Meduna’s patent were valid, Kenyon would no doubt be subject to enhanced damages for willful infringement under today’s law.⁹³ Of course, we have no way of knowing what happened between Meduna and the representatives from Kenyon and Metallizing with whom he negotiated the assignment. It’s 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.⁹⁴ However, according to the record developed by the district court, only one customer complained about the quality of Meduna’s work, and Meduna performed the job again for that customer “at his own expense.”⁹⁵ The fact that the repair stations who sent the jobs Meduna’s way continued to do so for several months after he switched to the new process suggests that there weren’t too many other complaints.⁹⁶

2. *The District Court’s legal analysis*

a. Prior public use

⁹² 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). Unlike Judge Hand, Judge Hincks spelled the word “metallizing” with two “ls.”

⁹³ See 35 U.S.C. § 284 (2006); see also *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007) (en banc) (setting forth the legal standards for willful infringement).

⁹⁴ See *supra* notes 80-81 and accompanying text. As discussed above, both the District Court and the Court of Appeals assumed that experimental use would have negated the bar and rescued the validity of the patent.

⁹⁵ *Metallizing*, 62 F. Supp. at 46.

⁹⁶ *Id.* But see *id.* at 56 (suggesting that the absence of complaints from customers could be attributed to causes other than Meduna’s successful execution of his metalizing invention).

Judge Hincks’ analysis of whether the facts of the case warranted a finding of “public use” by Meduna was rather thorough and well-grounded in statute and precedent,⁹⁷ though at times he conceded that the legal issue before him was confusing and unsettled.⁹⁸ The distinction he attempted to capture⁹⁹ appeared to be roughly analogous to the distinction that modern courts have drawn between “secret use” and “non-informing public use” in analyzing priority issues under 35 U.S.C. § 102(g), with the former type of activity constituting “concealment” that destroys a prior inventor’s rights under the statute and the latter allowing the inventor to maintain a claim of priority over later inventions in an interference,¹⁰⁰ or at least to invalidate a later inventor’s patent.¹⁰¹ 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, since the use of an invention 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).¹⁰² 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.”¹⁰³ 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

⁹⁷ *Id.* at 57 (“If, as is well established (*Gillman v. Stern, supra*), 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.”).

⁹⁸ *Id.* at 56 (“[A] question relating to sales of the product of a process secretly practiced, is one of considerable difficulty.”).

⁹⁹ *Id.* at 56-58.

¹⁰⁰ *See supra* note 88. For a helpful analysis of “prior user” invalidation of patents under 35 U.S.C. § 102(g) and comparison with the public use bar under 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, 279-72 (2000). For another set of views on the doctrine, see Ami Patel, Note, *Advocating a Totality of the Circumstances Test To Analyze a Noninforming Use of an Invention*, 48 WAYNE L. REV. 1287 (2002). *See also infra* notes 187-192 and accompanying text.

¹⁰¹ *See supra* note 88.

¹⁰² Recall that, unlike the secret user in the *Dunlop Holdings* case discussed *supra* at note 88, who was a non-patenting infringement defendant trying to invalidate a later inventor’s patent, *Metallizing* was a patent-owning plaintiff trying to defend the validity of its own patent right.

¹⁰³ *Metallizing*, 62 F. Supp. at 57 (citing *Hall v. Macneale*, 107 U.S. 90 (1883) and *Egbert v. Lippmann*, 104 U.S. 333 (1881)).

public.¹⁰⁴ 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.”¹⁰⁵

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 v. National Aniline and Chemical Co.*,¹⁰⁶ complicated matters and made Hincks pause before deciding that *Gillman* and *Peerless* were dispositive of the *Metallizing* case on the public use issue.¹⁰⁷ 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.”¹⁰⁸ This statement was dicta, however, since 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.¹⁰⁹ Another Second Circuit precedent examined by Hincks,¹¹⁰ in which a process patent was

¹⁰⁴ See NARD & WAGNER, *supra* note 14, at 89-80; see also *supra* note 88 and accompanying text.

¹⁰⁵ *Metallizing*, 62 F. Supp. at 57 (citing *Gillman v. Stern*, 114 F.2d 28 (2d Cir. 1940) and *Peerless Roll Leaf Co. v. Griffin & Sons*, 29 F.2d 646 (2d Cir. 1928)).

¹⁰⁶ 26 F.2d 305 (2d Cir. 1928).

¹⁰⁷ See *supra* note 105 and accompanying text; cf. *supra* notes 19-24 and accompanying text.

¹⁰⁸ *Metallizing*, 62 F. Supp. at 56 (quoting *Grasselli*, 26 F.2d at 309).

¹⁰⁹ *Metallizing*, 62 F. Supp. at 56. Moreover, the language quoted at text accompanying *supra* note 108 says nothing of the distinction between secret activities by the inventor himself and those of third parties—a distinction that became all-important on appeal.

¹¹⁰ *Metallizing*, 62 F. Supp. at 57 (“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.’” (citing *Aerovox Corp. v. Polymet 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), *cert. denied*, 328 U.S. 840 (1946). It is interesting to note, however, that 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, as the text accompanying *infra* note 114 suggests.

invalidated on the basis of public use—in yet another opinion written by Judge Hand!—also turned squarely on the fact that both the product and the process were not kept sufficiently secret by the patentee.

With the authorities now canvassed and distilled, Judge Hincks was ready to decide 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 in 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,”¹¹¹ there is no public use. The use of the passive voice is notable—in the final analysis, Hincks relied heavily on *Gillman v. Stern*,¹¹² 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.¹¹³ 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.”¹¹⁴ 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; the defendant pled abandonment. Today’s version of the Patent Act mentions abandonment in two places: § 102(c) says that an “inventor shall be entitled to a patent . . . unless he has abandoned the invention,” and § 102(g) denies priority to those who “abandoned, suppressed, or concealed” an invention. At the time of the *Metallizing* decision, there existed

¹¹¹ *Metallizing*, 62 F. Supp. at 57.

¹¹² 114 F.2d 28 (2d Cir. 1940).

¹¹³ See *supra* note 97 and accompanying text.

¹¹⁴ *Metallizing*, 62 F. Supp. at 57.

only the equivalent of the modern § 102(c)—which, unlike § 102(b), explicitly calls out the inventor’s own activities by referring to the inventor as “he” rather than using the passive voice.¹¹⁵ More importantly, in contrast to the one-year bar of § 102(b), there is no specific time frame for § 102(c) abandonment—to warrant a finding of abandonment, the court must take into account the length of time during which the invention was set aside, 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.¹¹⁶ The doctrine around abandonment has generated some confusion since, in many cases invoking the defense of patent invalidity by abandonment, the inventor did not seek affirmatively to abandon patent rights but instead delayed filing for a patent by attempting to maintain the invention as a trade secret for as long as possible.¹¹⁷

The leading case dealing with the defense of abandonment, *Macbeth-Evans Glass Co. v. General Electric Co.*,¹¹⁸ 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.¹¹⁹ The *Macbeth* court invalidated the patent,¹²⁰ but it was unclear whether the court really thought the inventor abandoned the invention within the meaning of the statute.¹²¹ Indeed, an abandonment argument against an inventor who continues to develop and exploit an invention

¹¹⁵ See *supra* notes 16-17 and accompanying text.

¹¹⁶ As summarized in the MANUAL OF PATENTING EXAMINING PROCEDURE § 2134 (8th ed. Rev. 7, July 2008): “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) and *Ex Parte Dunne*, 20 U.S.P.Q. 2d 1479 (B.P.A.I. 1991)).

¹¹⁷ See generally Paut T. Meiklejohn, *Abandonment Under § 102(g) and Forfeiture*, 20 IDEA 227 (1979); Note, “Prior Public Use” As Embracing “Prior Secret Use”, 46 COLUM. L. REV. 477 (1946).

¹¹⁸ 246 F. 695 (6th Cir. 1917), *cert. denied*, 246 U.S. 659 (1918).

¹¹⁹ *Id.* at 697.

¹²⁰ *Id.* and 707.

¹²¹ *Id.* at 697-707; see also “Prior Public Use” As Embracing “Prior Secret Use”, *supra* note 117, at 481-82, 482 n.20.

at issue, all while jealously 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 of public policy, the court thought that it was simply unfair for an inventor to attempt keeping 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.¹²² Indeed, after a rather strained argument where the court suggested that election of trade secret protection over patent protection constitutes abandonment under the Patent Act,¹²³ the *Macbeth* court advanced what seemed to be alternative, non-statutory grounds for its decision based on language in the Supreme Court’s *Pennock* 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.¹²⁴

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*.¹²⁵ 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

¹²² See generally “Prior Public Use” As Embracing “Prior Secret Use”, *supra* note 117. Further confusion was sowed by *Woodbridge v. United States*, 263 U.S. 50 (1923), a Supreme Court case that cited *Macbeth* with approval. This case, which invalidated a patent which the inventor intentionally kept pending for several years before asking for it to be issued, originated the modern doctrine of prosecution laches—an equitable doctrine that punishes highly strategic use of the Patent Office by those who keep patents pending so as to spring the patent on competitors in just the right time. See SCHECHTER & THOMAS, *supra* note 14, at 270-73. As did the *Macbeth* court, *Woodbridge* sought to punish abusive behavior by patentees.

¹²³ *Macbeth*, 246 F. at 698-702.

¹²⁴ *Id.* at 702-03 (emphasis added) (referencing *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1 (1829)). 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 356-358 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. See *infra* Part II.C; *infra* note 398 and accompanying text. Thus, the author agrees with the policy of forfeiture through delay announced in *Pennock*, but disagrees with Judge Hand’s implementation of this policy through the one-year bar.

¹²⁵ *Metallizing*, 62 F. Supp. at 57 (analyzing the issue primarily in terms of statutory abandonment).

forego patent protection.”¹²⁶ 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.”¹²⁷ 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 him 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.¹²⁸

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*,¹²⁹ who asked the patent office to store his application files in secret until he decided that time was ripe to spring the patent on his competitors.¹³⁰ Since Meduna did

¹²⁶ *Id.* (citing *Peerless Roll Leaf Co. v. Griffin & Sons*, 29 F.2d 646, 649 (2d Cir. 1928)).

¹²⁷ *Metallizing*, 62 F. Supp. at 58.

¹²⁸ *Metallizing*, 62 F. Supp. at 58. Judge Hincks’ 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 under as described by 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 statute and discussed at *supra* note 88. *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) (unexplained five-year delay between reduction to practice and application for a patent practice is prima facie evidence of suppression or concealment); *Peeler v. Miller*, 535 F.2d 647, 656 (C.C.P.A. 1976) (“[M]ere delay, without more, is not sufficient to establish suppression or concealment.”). Of course, there are no strict one-year bars under § 102(g)(2); the reasonable diligence inquiry is highly fact-specific.

¹²⁹ 263 U.S. 50 (1923).

¹³⁰ *See supra* note 122.

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,¹³¹ 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.¹³² The defendant’s process infringed several of the valid claims of the patent-in-suit, and the plaintiff won its case at the district court level.¹³³

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.¹³⁴ The judges of the Second Circuit of the time issued numerous highly influential decisions;¹³⁵ some controversial rulings were left undisturbed by the Supreme Court¹³⁶ perhaps precisely because of the respect accorded to its illustrious judges.¹³⁷ *Metallizing* did not seem to have the makings of a case that would change

¹³¹ 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.” (quoting *Woodbridge v. United States*, 263 U.S. 50, 62 (1923) (internal quotations omitted) (quoting *Macbeth-Evans Glass Co. v. General Elec. Co.*, 246 F. 695, 706 (6th Cir. 1917), *cert. denied*, 246 U.S. 659 (1918))).

¹³² *Metallizing*, 62 F. Supp. at 54-55, 58.

¹³³ *Id.* at 58.

¹³⁴ MARVIN SCHICK, *LEARNED HAND’S COURT* 9-38 (1970).

¹³⁵ *Id.* at 369-71.

¹³⁶ See, e.g., *Perlman v. Feldmann*, 219 F.2d 173 (2d Cir. 1955), *cert. denied*, 349 U.S. 952 (1955) (holding that a controlling shareholder selling his stock must share the “control premium” with other shareholders); see Richard A. Booth, Symposium, *Derivative Suits and Pro Rata Recovery*, 61 GEO. WASH. L. REV. 1274, 1275 (1994) (“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 M. Chander, Essay, *Minorities, Shareholder and Otherwise*, 113 YALE L.J. 119, 131 (2003) (“*Perlman v. Feldmann* is a controversial case.”).

¹³⁷ See SCHICK, *supra* note 134, 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

the law, however. As discussed above, the Second Circuit’s “public use of secret inventions” cases—*Peerless Roll Leaf Co. v. Griffin & Sons*,¹³⁸ decided in 1928, and *Gillman v. Stern*,¹³⁹ 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, 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.”¹⁴⁰

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,¹⁴¹ *Macbeth*. As did *Metallizing*, these two decisions relied heavily on the language of the 1829 case of *Pennock v. Dialogue*.¹⁴² 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.¹⁴³ After concluding that this phrase must mean “known or used by the public,”¹⁴⁴ Justice

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.’” Proceedings of a Special Session of the United States Court of Appeals for the Second Circuit to Commemorate Fifty Years of Federal Judicial Services, by the Honorable Learned Hand, April 10, 1959, 264 F.2d at 23 (cited in SCHICK, *supra* note 134, at 331 n.2).

¹³⁸ 29 F.2d 646, 649 (2d Cir. 1928).

¹³⁹ 114 F.2d 28 (2d Cir. 1940).

¹⁴⁰ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, Petitioner’s Reply Brief, 1946 WL 50103, at *2 (quoting *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946)).

¹⁴¹ “[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.” *Metallizing*, 153 F.2d at 519.

¹⁴² 27 U.S. (2 Pet.) 1, 17-19 (1829).

¹⁴³ *Id.* at 17-19.

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.”¹⁴⁵ He thus rejected the plaintiff’s argument that the manufacture of an invention under the control of the inventors and its sale with their consent allowed them to maintain the right to patent the invention.¹⁴⁶

Judge Hand assumed that *Pennock*, like *Metallizing* itself, involved sales of a product of a secret process.¹⁴⁷ But this is by no means clear from the *Pennock* opinion, and “the thing invented” language strongly points to the contrary conclusion. Moreover, at least one nineteenth century Supreme Court case read *Pennock* as an example of patent invalidation due to something like non-informing public use¹⁴⁸ rather than 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.”¹⁴⁹ To be sure, 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 it¹⁵⁰ by changing the language of the Patent Act from “not known or used before the application” to “not known 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.”¹⁵¹ Nevertheless, the above

¹⁴⁴ *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.

¹⁴⁵ *Id.* at 23 (emphasis added).

¹⁴⁶ *Id.* at 12-14; see also Joseph N. Hosteny, *How Law Is Made*, INTELL. PROP. TODAY (June 2000), available at <http://www.hosteny.com/archive/hosteny%2006-00.pdf>, at *2.

¹⁴⁷ *Metallizing*, 153 F.2d at 518.

¹⁴⁸ See *supra* notes 88, 103-104 and accompanying text.

¹⁴⁹ *Bates v. Coe*, 98 U.S. 31, 46 (1878) (emphasis added) (citing *Pennock*, 27 U.S. at 16, and three other cases).

¹⁵⁰ See Taub, *supra* note 25, 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.’” (citing *Pennock*, 27 U.S. at 23)).

¹⁵¹ Patent Act of 1836, Ch. 357, 5 Stat. 117, Sec. 6 (repealed 1870). The Act was further amended in 1839 to give the inventor a “grace period,” which was initially two years. Patent Act of 1839, Ch. 88, 5 Stat. 353-355, Sec. 7 (current version at 35 U.S.C. § 102(b) (2006)); see also *supra* note 23 and accompanying text.

discussion,¹⁵² as well as the nature of the invention at issue in *Pennock*,¹⁵³ 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 admitted that the bar to patentability he created was non-statutory.¹⁵⁴

What we are left with, then, is the “equitable forfeiture” language of *Pennock*, which is strictly speaking dicta, but persuasive dicta nonetheless as it convinced the *Woodbridge* Court to invalidate a patent on the “prosecution laches” theory.¹⁵⁵ 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.”¹⁵⁶ While it emphasized the role of the patent system in promoting disclosure, the dicta unmistakably focused on punishing strategic behavior by the inventor who engaged in willful delay of patenting. In the statement of the facts, it is 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;¹⁵⁷ the inventors’ licensee sold “about *thirteen thousand feet of hose*,

¹⁵² See *supra* notes 147-149 and accompanying text.

¹⁵³ See *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, Petitioner’s Reply Brief, 1946 WL 50103, at *2-3 (“Respondent says that the question presented here is an old question ‘decided according to the highest precedents’ (p. 4). It finds support for that assertion in *Pennock v. Dialogue*, 2 Peters 1, *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* (our brief, pp. 25-6).”) (emphasis added).

¹⁵⁴ “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.” *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946). The debate over the question of whether the *Metallizing* bar is statutory or non-statutory continues, however. See *supra* note 25 and accompanying text.

¹⁵⁵ See *supra* notes 122-124 and accompanying text.

¹⁵⁶ *Pennock*, 27 U.S. at 19.

¹⁵⁷ *Id.* at 9.

constructed according to the invention of the patentees”¹⁵⁸ before Pennock and his partner decided to opt into the patent system.¹⁵⁹

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.¹⁶⁰ Ignoring the equitable spirit of the *Pennock*, *Macbeth*, and *Woodbridge* decisions, which implicitly endorsed 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) and relatively small earnings from sales, though not trivial for the 1940s (a little over \$1,100)¹⁶¹ made from the date that the invention was “ready for patenting” until the date of the patent application.¹⁶² The interesting fact that Meduna first considered assigning his rights to Kenyon, which was to become the defendant in the infringement action, was also omitted from the appellate opinion;¹⁶³ 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

¹⁵⁸ *Id.* at 1 (emphasis in original).

¹⁵⁹ Justice Clifford, who wrote the opinion in *Bates v. Coe* that in turn referenced *Pennock*, discussed at *supra* note 149, 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.” *Jones v. Sewall*, 13 F. Cas. 1017, 1029 (C.C. Me. 1873) (No. 7,495), *rev’d on other grounds*, 91 U.S. 171 (1875) (cited in *Woodbridge v. United States*, 263 U.S. 50, 62 (1923) and *Macbeth-Evans Glass Co. v. General Elec. Co.*, 246 F. 695, 706 (6th Cir. 1917), *cert. denied*, 246 U.S. 659 (1918)) (alteration in *Macbeth*). 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 that “[i]nventors 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 stand for the proposition that abusive or strategic behavior by the patentee can work a forfeiture of a patent. But Justice Clifford’s views make it clear that such forfeiture is not favored.

¹⁶⁰ *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.”).

¹⁶¹ See *supra* notes 78-86 and accompanying text.

¹⁶² *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946).

¹⁶³ See *supra* notes 83-84, 92-93 and accompanying text.

not have been as long.¹⁶⁴ Instead, Judge Hand read in the forfeiture principles of *Pennock*, *Macbeth*, and *Woodbridge*, which were aimed at preventing bad-faith “competitive exploitation of [inventor’s] machine of his process . . . regardless of how little the public may have learned about the invention,”¹⁶⁵ into a statute that specified precisely that an inventor loses his or her right to a patent one year after the invention is placed in “public use or on sale,”¹⁶⁶ whether by the inventor or by a third party.

Metallizing’s arguments for certiorari picked up on many of the inconsistencies in Judge Hand’s opinion, though the argument would have perhaps been stronger if the petitioner clearly distinguished the facts of *Metallizing* from those of the equitable forfeiture cases cited by Hand. Nevertheless, the argument in *Metallizing*’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 what is now § 102(b): “Congress . . . has seen fit to cover the matter of secret use under the abandonment 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.”¹⁶⁷ The petition also noted that Judge Hand’s apparent shoehorning of Meduna’s invention into the “public use” provision is 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,

¹⁶⁴ *Cf.* *Woodbridge v. United States*, 263 U.S. 50, 62 (1923) (patent forfeited because applicant asked the PTO to keep his application secretly pending for several years); *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1 (1829) (loss of patent right by application of the novelty statute then in force to the patentee’s activities, with the Court criticizing the patentee in dicta for making commercial use of the invention for seven years); *Macbeth-Evans Glass Co. v. General Elec. Co.*, 246 F. 695, 706 (6th Cir. 1917), *cert. denied*, 246 U.S. 659 (1918) (patent forfeited because the patentee kept the process secret without intention to patent for nearly ten years, and was spurred to apply for a patent only when an employee misappropriated the secret).

¹⁶⁵ *Metallizing*, 153 F.2d at 520.

¹⁶⁶ 35 U.S.C. § 102(b) (2006).

¹⁶⁷ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, Petitioner’s Reply Brief, 1946 WL 50103, at *5 (citing *Macbeth*, 246 F. 695 at 702).

they can do so.”¹⁶⁸ 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 inventor 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.”¹⁶⁹ 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.”¹⁷⁰ 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. *Metallizing*: The Aftermath and Influence

1. *Regional circuits*

Subsequent decisions adopted *Metallizing* without much challenge or analysis, often invoking Judge Hand by name seemingly as if to say that if he so held, the case must be right.¹⁷¹ This is quite surprising. The last major amendment to the Patent Act, which was passed in 1952, introduced the judge-made doctrine of obviousness as a distinct requirement of patentability, added § 102(g), and made some other significant substantive and procedural changes,¹⁷² but did not modify the statutory bars. Perhaps, this omission could be understood to mean that Congress

¹⁶⁸ Reply Brief at *5, n.* (quoting 1 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 320, at 434 (1890) and citing Elec. Storage Battery Co. v. Shimadzu, 307 U.S. 5, 20 (1939)).

¹⁶⁹ Reply Brief at *4-5 (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 § 102(b). See *supra* notes 148-149 and accompanying text; see also Egbert v. Lippmann, 104 U.S. 333 (1881) (a man’s giving a corset to his girlfriend to wear was found sufficient to constitute public use).

¹⁷⁰ Reply Brief at *4; see also *supra* note 154 and accompanying text; Ubel, *supra* note 12, at 422.

¹⁷¹ See also *supra* note 48 and accompanying text.

¹⁷² 1952 Patent Act, Pub. L. No. 82-593, 1952 U.S.C.C.A.N (66 Stat. 792) 753.

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' failure to codify *Metallizing* meant for the rule, and perhaps more importantly, did not even attempt to reexamine 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 little of value to what Judge Hand said in the cited decision. We are in accord with what he stated.¹⁷³

The three-page *U.S. Chemical* 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,¹⁷⁴ Chief Judge Biggs of the Third Circuit read the *Metallizing* case as applying to "prior use or sale,"¹⁷⁵ thereby potentially expanding the reach of the doctrine. Also, the *U.S. Chemical* case said flatly that commercial exploitation of a secret invention falls within "the purview of the statute,"¹⁷⁶ though the *Metallizing* case could more plausibly be read as creating a non-statutory bar to a patent right that simply borrows the one-year term from § 102(b).¹⁷⁷ Be that as it may, several other circuits also cited *Metallizing* with approval and appeared, for the most part, to view the case as an interpretation or a creative application of the statutory bars.¹⁷⁸ The Ninth Circuit, for example, opined that the *Metallizing* rule effectuated "the purpose of 102(b)"¹⁷⁹ and stated the prevailing law as follows: "Where a process patent is involved and there is a sale of a product of the

¹⁷³ *U.S. Chemical Corp. v. Plastic Glass Corp.* 243 F.2d 892, 894 (3d Cir. 1957), *cert. denied*, 335 U.S. 836 (1957) (Biggs, C.J.).

¹⁷⁴ *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946).

¹⁷⁵ *U.S. Chemical*, 243 F.2d at 894.

¹⁷⁶ *Id.*

¹⁷⁷ See *supra* notes 25, 153, 170 and accompanying text.

¹⁷⁸ See 2 CHISUM ON PATENTS, *supra* note 14, § 6.02[5]b, at 6-62 n.60 (collecting cases).

¹⁷⁹ *Tool Research & Eng'g Corp. v. Honcor Corp.*, 367 F.2d 449, 454 (9th Cir. 1967), *cert. denied*, 387 U.S. 919 (1967), *reh'g denied*, 389 U.S. 893 (1967).

process, such is a public use of the process if the product sold discloses the process, or even if it does not.”¹⁸⁰ The court then invalidated the method patent at issue under § 102(b).¹⁸¹ The

Supreme Court continued to stay out of the fray, refusing to grant certiorari in the *U.S. Chemical* and *Tool Research* cases.¹⁸²

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,¹⁸³ 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. . . . The 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

¹⁸⁰ *Id.* at 454. A later 9th Circuit opinion explained the confusion surrounding on-sale and public use applications of *Metallizing* as follows: “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) (citing *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 517 (2d Cir. 1946)) (some citations omitted).

¹⁸¹ *Tool Research*, 367 F.2d at 1292.

¹⁸² See 2 CHISUM ON PATENTS, *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) and *Egbert v. Lippmann*, 104 U.S. 33 (1881)).

¹⁸³ In its very first decision, *South Corp. v. United States*, 690 F.2d 1368 (1982), 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 (2010).

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.¹⁸⁴

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 by the rationale of preventing a patentee from “[circumventing] the policy animating”¹⁸⁵ the statute. This phrase does not make it clear if the court was relying on Congressional intent, general public policy, both of those considerations, or perhaps some other authority like *Pennock v. Dialogue*,¹⁸⁶ which preceded the modern version of § 102(b). The Federal Circuit’s language did hark back to the equitable and policy-focused origins of *Metallizing*, but the *Auld* court did not question whether the importation of the strict statutory one-year bar into the non-statutory patent forfeiture doctrine is 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.*¹⁸⁷ *Gore* reaffirmed the principle of *Gillman v. Stern*¹⁸⁸ and is often cited for the proposition that U.S. patent law does not recognize prior user rights.¹⁸⁹ The opinion, which held that third-party sale 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

¹⁸⁴ D.L. Auld Co. v. Chroma Graphics Corp., 714 F.2d 1144, 1147 (Fed. Cir. 1983) (citing *Metallizing*, 153 F.2d 516) (emphases added).

¹⁸⁵ *Auld*, 714 F.2d at 1147.

¹⁸⁶ 27 U.S. (2 Pet.) 1 (1829).

¹⁸⁷ 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

¹⁸⁸ 114 F.2d 28 (2d Cir. 1940).

¹⁸⁹ See, e.g., SCHECHTER & THOMAS, *supra* note 14, at 134; Barney, *supra* note 100, at 522; Kyla Harriel, Note, *Prior User Rights in a First-To-Invent System: Why Not?*, 36 IDEA 543, 562, 566 (1996); Leslie Hill, *Prior User Defense: The Road to Hell Is Paved with Good and Bad Intentions*, 10 FED. CIRCUIT B.J. 513, 522 (2001); Ubel, *supra* note 12, at 427-31.

year later.”¹⁹⁰ 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.”¹⁹¹ 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 the ability of judges to rely on reason alone.¹⁹² To be sure, the *Metallizing-Auld-Gore* line of cases pays homage to the statute by borrowing its one-year bar in the first-party cases, but significantly rewrites its language by according different treatment to activities of inventors and third parties. Policy reasons aside, the absence of clear authority for this rule¹⁹³ alone suggests that it may be in need for reexamination.

b. *Kinzenbaw*

Federal Circuit cases following *Auld* and *Gore* did little to clarify the rationales for the *Metallizing* doctrine,¹⁹⁴ but subsequent opinions did provide some examples of factual scenarios where the *Metallizing* bar would or would not apply. *Kinzenbaw v. Deere & Co.*,¹⁹⁵ 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.¹⁹⁶ This odd case also confirmed that *Metallizing* could apply to all sorts of secret inventions that are commercially exploited, since the patent-in-

¹⁹⁰ 721 F.2d at 1550.

¹⁹¹ *Id.*

¹⁹² See Siegel, *supra* note 30, at 364-65 n.131 (attempting to justify this distinction as a form of “policy polymorphism”).

¹⁹³ This issue was noted by a leading commentator: “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.” 2 CHISUM ON PATENTS, *supra* note 14, § 6.02[5][c], at 6-71.

¹⁹⁴ See Thompson, Bass & Kimmey, *supra* note 35, at *11.

¹⁹⁵ 741 F.2d 383 (Fed. Cir. 1984).

¹⁹⁶ See *infra* notes 203-205 and accompanying text.

suit was directed to a machine rather than to a process.¹⁹⁷ The offending activity at issue was as follows: Deere & Company “made . . . available”¹⁹⁸ (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.”¹⁹⁹ Strangely, in oral argument, the plaintiff “disavowed any claim that such use was experimental”²⁰⁰ 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, since the use, even if secret, invalidated the patent under *Metallizing*.²⁰¹ The court reasoned that the farmers were “agents” of the inventor, and that “[i]n using the machines to test them for Deere, the farmers served Deere’s commercial purposes.”²⁰²

The Federal Circuit never made 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,²⁰³ the court could not rely on the on-sale bar of § 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, which the farmers used to plant a total 40,000 acres in the course of two planting seasons.²⁰⁴ But if the farmers were really “agents,” they owed the profits derived from such agricultural output to

¹⁹⁷ *Kinzenbaw*, 741 F.2d at 385.

¹⁹⁸ *Id.* at 390.

¹⁹⁹ *Id.*

²⁰⁰ *Id.* at 390-91.

²⁰¹ *Id.* at 390. In the court’s words, Deere applied for a patent on the planters on “July 30, 1975, three years after Deere began using the invention” by lending planters to farmers. *Id.*

²⁰² *Id.* at 391.

²⁰³ *Id.* at 390.

²⁰⁴ *Id.*

Deere under the laws of agency,²⁰⁵ with Deere being the ultimate beneficiary of the sales as the principal. This scenario, where the eventual patentee collects a profit from 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 an 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, 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”²⁰⁶ if conducted before the critical date.²⁰⁷ The court summarized the settled law with the phrase “a commercial use is a public use even if it is kept secret,”²⁰⁸ citing *Metallizing*, *Auld*, *Chisum on Patents*, and invoking *Judge Hand* by

²⁰⁵ See, e.g., RESTATEMENT (SECOND) OF AGENCY § 403 (“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.”).

²⁰⁶ *Kinzenbaw*, 741 F.2d at 390 (emphasis added).

²⁰⁷ 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), *cert. denied*, 328 U.S. 840 (1946).

Nevertheless, the facts of *Metallizing* involved sales rather than building commercial goodwill in a general sense.

²⁰⁸ *Kinzenbaw*, 741 F.2d at 390.

name. Under its expansive reading of *Metallizing*²⁰⁹ (again, activities at issue were not sales but “uses” apparently directed toward fostering goodwill among “customers”²¹⁰), the court invalidated the patent.²¹¹ In a final twist of irony, the court wrote definitively that “102(b) barred the issuance of the patent,”²¹² rejecting *Auld*’s non-statutory forfeiture theory of *Metallizing*.²¹³ For those keeping score at home, the use of the planters was not “public” but secret, as the court stipulated.²¹⁴ There was no “sale” or even an “offer for sale” in the conventional sense of those terms.²¹⁵ And yet § 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’être* of commercial entities is “to gain a competitive advantage” and “realize a commercial gain.”²¹⁶ Therefore, any pre-critical date activities in the ordinary course of business that somehow 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*²¹⁷ dealt generally with the question of whether a

²⁰⁹ To this end, Professor Chisum noted that the “appropriate approach” for what “constitutes ‘commercial exploitation’ within the 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).” 2 CHISUM ON PATENTS, *supra* note 14, § 6.02[5]b, at 6-62 n.60 (citing Wells & Riggins, *supra* note 25). The *Kinzenbaw* court did not follow this approach, however. As mentioned above, the *agricultural products* (presumably, grain) made with the aid of the secret planter were clearly 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 thought that *Metallizing* applied because, “[i]n using the machines to test them for Deere, the farmers served Deere’s commercial purposes.” The “commercial purpose” test is unhinged from the doctrines surrounding the public use and on-sale provisions.

²¹⁰ *Kinzenbaw*, 741 F.2d at 390.

²¹¹ *Id.*

²¹² *Id.* at 391.

²¹³ See *supra* notes 184-186 and accompanying text.

²¹⁴ 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*. *Kinzenbaw*, 741 F.2d at 390.

²¹⁵ See *supra* notes 205-206 and accompanying text.

²¹⁶ *Kinzenbaw*, 741 F.2d at 390.

²¹⁷ 286 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 (2004).

license agreement 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 § 102(b) because the process has not been carried out or performed as a result of the transaction.”²¹⁸ 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.”²¹⁹ Presumably, though its precise holding interpreted the on-sale bar of § 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.²²⁰ *Kollar* did not specifically mention the messy *Kinzenbaw* case, whose broad reading of *Metallizing* is in significant tension with *Kollar* given the latter case’s focus on sales instead of “competitive exploitation.”²²¹ Three years after *Kollar*, in *Invitrogen Corp. v. Biocrest Manufacturing, L.P.*,²²² 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.²²³ The district court held the patent invalid under § 102(b) because “Invitrogen had used the claimed process in its own laboratories [before the critical date] to further other

²¹⁸ *Kollar*, 286 F.3d at 1332.

²¹⁹ *Id.* at 1333 (citing *D.L. Auld Co. v. Chroma Graphics Corp.*, 714 F.2d 1144, 1147-48 (Fed. Cir. 1983) and *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983)).

²²⁰ See Thompson, *supra* note 217, at 36

²²¹ *Id.*

²²² 424 F.3d 1374 (Fed. Cir. 2005).

²²³ *Id.* at 1377-78.

projects beyond development of the claimed process and to acquire a commercial advantage.”²²⁴

In other words, Invitrogen used the improved cells “in other projects within the company,” which generated “commercial benefits” for “Invitrogen’s general business of widespread research.”²²⁵

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.”²²⁶ The Federal Circuit agreed with the plaintiff and held that the patent was not invalid.²²⁷ The court approvingly cited *Metallizing* for the proposition that “there are instances in which a secret or confidential use of an invention will . . . give rise to the public use bar,”²²⁸ but distinguished the case at issue because Invitrogen used the cells only “internally to develop future products that were never sold.”²²⁹

In a footnote, the court dealt with *Kizenbaw*’s broad “commercial gain” language.²³⁰ Though the *Kinzenbaw* said that whether the farmers’ use was public or secret did not matter, and proceeded on the assumption that the use was secret,²³¹ 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.’”²³² 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),²³³ 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

²²⁴ *Id.* at 1380 (internal quotations omitted).

²²⁵ *Id.*

²²⁶ *Id.* (internal quotations omitted).

²²⁷ *Id.*

²²⁸ *Id.* at 1382 (citing *Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 250 (2d Cir. 1946)).

²²⁹ *Invitrogen*, 424 F.3d at 1383.

²³⁰ *Id.* at 1381 n.*.

²³¹ See *supra* notes 208-214 and accompanying text.

²³² *Invitrogen*, 424 F.3d at 1381 n.*.

²³³ See *supra* note 204 and accompanying text.

public.”²³⁴ 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” through Deere’s lending of planting machines to its potential customers. Of course, that was not the reasoning of *Kinzenbaw* itself.

Be that as it may, *Invitrogen* did not overrule *Kinzenbaw*, though the latter case’s “commercial gain” language appears now to be limited to some type of a concrete monetary gain 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 *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”²³⁵ explained the result in *Invitrogen*. The court relied partly on *Kinzenbaw*, however, to rule that a triable issue of 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.”²³⁶ 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).”²³⁷ The *Trading Techs.* scenario is unusual because no sale of a product of a secret invention is involved, as the

²³⁴ See 424 F.3d at 1381-82 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, TP Labs, Inc. v. Professional Positioners, Inc.*, which addressed the *Metallizing* principle in dicta, lamented with admirable honesty that “[d]ecisions under [the on-sale bar] provision and comparable provisions in earlier statutes are marked by confusion and inconsistency.” 724 F.2d 965, 968 (Fed. Cir. 1984).

²³⁵ *Trading Techs. Intern., Inc. v. eSpeed, Inc.* 507 F. Supp. 2d 883, 893 (N.D. Ill. 2007) (case involving a software invention for improving stock market analysis).

²³⁶ *Id.* The court then made the following cryptic statement, conflating the competing principles of *Kinzenbaw* and *Invitrogen*: “If defendants succeed in proving that [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 [plaintiff’s] invention need not have been disclosed to the public in order to be commercially exploited, [plaintiff’s] exclusively private use of the invention would not abrogate the public use bar.” *Id.* In the spirit of *Metallizing*, 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).

²³⁷ *Id.*

invention makes money for the trader quite literally by helping him or her become more successful in the market;²³⁸ one wonders if the court would have felt the same way if the inventor was actually losing money on the stock market with the software.²³⁹ The courts have yet to address this tantalizing issue directly, though the *Trading Techs.* court suggested in dicta that evidence of the inventor’s monetary loss was probative of patent-defeating commercial exploitation.²⁴⁰ It is thus clear that, even in the wake of *Invitrogen*, the *Metallizing* rule lives on.²⁴¹

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 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

²³⁸ 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 (internal quotations omitted).

²³⁹ A plausible case can be made that such use is “competitive exploitation” since it is made with the intention of achieving 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. The District Court did note in dicta that, even though the inventor experienced monetary losses with his market-analysis invention, the use was still commercial. *See* *Trading Techs. Intern., Inc. v. eSpeed, Inc.* 581 F. Supp. 2d 915, 916-17 (N.D. Ill. 2008), *aff’d*, 595 F.3d 1340 (Fed. Cir. 2010) (“[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”).

²⁴⁰ *See supra* note 239.

²⁴¹ *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).

of the court.²⁴² Since, for Judge Hand, policy objectives were apparently strong enough to override the statute by importing first-party secret inventions into the statutory bars of § 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.²⁴³ 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.”²⁴⁴ 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.²⁴⁵ 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.²⁴⁶ The Supreme Court has highlighted disclosure as an important reason for the existence of the patent system,²⁴⁷ and several patent theorists have commented positively on the role of the patent system in promoting technological progress by disseminating information.²⁴⁸ In addition, an important function of a patent is to disclose the existence of a claim of ownership of an

²⁴² Ubel, *supra* note 12, at 422-23.

²⁴³ See *supra* note 13 and accompanying text.

²⁴⁴ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946).

²⁴⁵ See Orin S. Kerr, *Rethinking Patent Law in the Administrative State*, 42 WM. & MARY L. REV. 127, 133-37, 182-83 (2000); A. Samuel Oddi, *Un-Unified Economic Theories of Patents—The Not-Quite-Holy Grail*, 71 NOTRE DAME L. REV. 267, 274 (1996).

²⁴⁶ 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, 320-323 (2009), and references therein.

²⁴⁷ See *supra* note 13 and accompanying text.

²⁴⁸ See, e.g., Fromer, *supra* note 246, 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. 805, 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.”) (citing several papers)). See generally Ouellette, *supra* note 66.

invention to the public, particularly to the patentee’s competitors who might wish to design around the patent.²⁴⁹

In the last several years, however, commentators have begun to question whether patent disclosures actually provide significant informational benefits to the public,²⁵⁰ both in terms of teaching those skilled in the art to practice the invention²⁵¹ and in terms of providing notice of a claim of ownership over the invention.²⁵² Mark Lemley argued that “the Federal Circuit has permitted a number of vague general disclosures that don’t in fact communicate very much to anyone, and patent lawyers often have incentives to write those vague disclosures.”²⁵³ 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.²⁵⁴ The reasons for ignoring patents are complex: in addition to the problem of relatively unhelpful disclosures, which plague the high-tech industry in particular,²⁵⁵ 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 patent,²⁵⁶ leading to possible trebling of monetary damages.²⁵⁷ The notice-of-

²⁴⁹ See *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 945-46 (Fed. Cir. 1987) (en banc) (Bennett, J., dissenting in part).

²⁵⁰ Timothy R. Holbrook, *Possession in Patent Law*, 59 S.M.U. L. REV. 123, 146 (2006); Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 21; Note, *The Disclosure Function of the Patent System (or Lack Thereof)*, 118 HARV. L. REV. 2007, 2015 (2005). Critiques of the importance of disclosure in the patent system are not limited to recent commentators, however. See, e.g., Alfred E. Kahn, *The Role of Patents*, in COMPETITION, CARTELS AND THEIR REGULATION 308, 317 (John P. Miller ed., 1962) (cited in *Merges*, *supra* note 248, at 809 n.10); JOHN W. SCHLICHER, PATENT LAW: LEGAL AND ECONOMIC PRINCIPLES § 1.04[3], at 1-26 (2001) (the quid pro quo rationale is a “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 183, at 872-73 (discussing court decisions that approached patent claims as contracts between the patentee and the government, implying strong influence of the quid pro quo rationale on judges).

²⁵¹ See, e.g., Fromer, *supra* note 246; Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621 (2010)

²⁵² See generally Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743 (2009); see also Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 529 (2010) (discussing “the public notice function of [patent] claims”).

²⁵³ Mark A. Lemley, *The Myth of the Sole Inventor*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1856610, manuscript at *49.

²⁵⁴ Lemley, *supra* note 250, at 21-22.

²⁵⁵ *Id.*

²⁵⁶ See *id.* 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.”).

²⁵⁷ 35 U.S.C. § 284 (2006).

ownership function of patent disclosure has fared no better, as the academic literature makes clear.²⁵⁸ Even when inventors are willing to risk willfulness and decide to read a patent, they might have great trouble figuring out whether the claims cover their products, as meaning and scope of patent claims can often be difficult to determine²⁵⁹ until an infringement suit has been filed and the case has reached the claim construction stage.²⁶⁰ Yet another problem with the disclosure rationale is that relevant patents can sometimes be very difficult to find with currently available search techniques,²⁶¹ so that even those who seek to read patent literature might never come across patents that would be useful to them.

Moreover, researchers appear to consider patents generally unhelpful as sources of technical information,²⁶² turning instead to the more familiar peer-reviewed publications,²⁶³ or perhaps even to “product manuals or products embodying the patents”²⁶⁴ when they are available. To remedy the problem of patent disclosures that lack useful examples, are ridden with jargon, and are generally inaccessible to scientists, Sean Seymore proposed reforming the enablement requirement of the Patent Act²⁶⁵ so that disclosures associated with patents would be more useful to the scientific community.²⁶⁶ But even if those reforms are adopted—certainly not

²⁵⁸ 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).

²⁵⁹ See Burk & Lemley, *supra* note 252, 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.”) (citation omitted).

²⁶⁰ See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

²⁶¹ Alan Devlin, *The Misunderstood Function of Disclosure in Patent Law*, 23 HARV. J.L. & TECH. 401, 403 (2010); Herbert Hovenkamp, Response, *Notice and Patent Remedies*, 88 TEX. L. REV. SEE ALSO 221, 225 (2011).

²⁶² Lemley, *supra* note 250, at 22 (“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 66, manuscript at *25-41 (finding that researchers do glean some useful information from patents).

²⁶³ See Seymore, *supra* note 251, 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.”) (footnotes omitted).

²⁶⁴ See Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 378 (2010).

²⁶⁵ See 35 U.S.C. § 112 ¶ 1 (2006).

²⁶⁶ See generally Seymore, *supra* note 263; see also Fromer, *supra* note 246. Also, as I have noted elsewhere, there is some tension between the enablement requirement of patent law scientific norms of reproducibility and verifiability. See Dmitry

a guarantee since implementing the proposals will likely require legislative action—the problems of willfulness²⁶⁷ and difficulties of finding the right patents²⁶⁸ 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 the quid pro quo may be “an illusion” since patents tend to claim much more than they actually disclose.²⁶⁹

Of course, by hypothesis the information in a secret invention falling under the rule of *Metallizing* cannot be gleaned from its commercial products. Also, it is assumed that the invention cannot be learned from other sources like peer-reviewed publications, which would defeat trade secret rights in the invention as a legal matter²⁷⁰ and defeat the patent rights as well on the theory of anticipation by prior art.²⁷¹ Given the total secrecy shrouding such inventions, isn't some disclosure via a patent, imperfect though it may be, better for the public than no disclosure at all? The answer, suggested in a recent paper by Alan Devlin, starts with the realization that the value of patent disclosure must always be balanced against the effect of mandated disclosure on incentives to engage in inventive activities.²⁷² Indeed, Devlin argued forcefully for the proposition that disclosure is distinctly subordinate to the role of the patent

Karshedt, *Limits on Hard-To-Reproduce Inventions: Process Elements and Biotechnology's Compliance with the Enablement Requirement*, 3 HASTINGS SCI. & TECH. L.J. 109, 109-117 (2011).

²⁶⁷ See *supra* note 256. Seymore argues, however, that willful infringement will not be as strong of a deterrent to reading patents after *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007), which made it more difficult to prove willfulness. Seymore, *supra* note 263, at 625. Ouellette's empirical work suggests that researchers' worries about willful infringement are “extremely minor.” Ouellette, *supra* note 66, manuscript at 390-40. However, the percentage of industry as opposed to academic researchers in her study is very small, suggesting perhaps that academics don't fear infringement suits in general. See *id.* at 64. Another recent empirical paper found that willfulness findings did not significantly diminish after *Seagate*. See Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After In re Seagate: An Empirical Study*, forthcoming IOWA L.R., available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1751831, manuscript at *1.

²⁶⁸ See *supra* note 261 and accompanying text.

²⁶⁹ Tun-Jen Chiang, *The Levels of Abstraction Problem in Patent Law*, forthcoming 105 NW. U. L. REV. _ (2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1434465, manuscript at *6. For Chiang's own proposal for making disclosure more commensurate with claim scope, see Tun-Jen Chiang, *The Patentee's Contribution*, work in progress on file with author.

²⁷⁰ 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).

²⁷¹ See 35 U.S.C. § 102(a) (2006).

²⁷² Devlin, *supra* note 261, at 404; see also SCHLICHER, *supra* note 250, at § 1.04[3], at 1-26.

system in providing an incentive to invent.²⁷³ Inventors, the argument continued, most logically choose to opt for the patent system in cases where inventions tend to be “self-revealing,”²⁷⁴ such as the paradigmatic example of the paper clip.²⁷⁵ Without patent protection, the paper clip invention would be an easily appropriable “public good,”²⁷⁶ with others easily able to free-ride on the research efforts of the first inventor after figuring out how the paper clips works simply upon visual inspection of a commercial embodiment. For inventions that are more readily “concealable,”²⁷⁷ such as the secret machines and processes governed by the rule of *Metallizing*, the Patent Act’s disclosure requirements²⁷⁸ place a significant cost on the researcher, who is understandably averse to revealing the details of such inventions to the world.²⁷⁹

Applying Devlin’s arguments to *Metallizing*-type inventions, it becomes clear that the researcher in this scenario faces 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 risk the patenting of the invention by a third party that would turn the original inventor into an infringer,²⁸⁰ or at least risk losing the trade secret right if the invention becomes generally known.²⁸¹ This state of affairs might chill the development and commercial

²⁷³ *Id.* at 425 (“[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.”).

²⁷⁴ *Id.* at 426.

²⁷⁵ Mark A. Lemley, *The Surprising Virtues of Treating Trade Secrets as IP Rights*, 61 STAN. L. REV. 311, 338-39 (2008); see also Katherine J. Strandburg, *What Does the Public Get? Experimental Use and the Patent Bargain*, 2004 WISC. L. REV. 81, 104-07.

²⁷⁶ Devlin, *supra* note 261, at 442.

²⁷⁷ *Id.* at 417.

²⁷⁸ See 35 U.S.C. § 112 (2006).

²⁷⁹ Devlin, *supra* note 261, at 420.

²⁸⁰ See *supra* note 82; see also *infra* note 298.

²⁸¹ *Id.* (“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.”). Devlin ultimately concludes that inventors of concealable inventions seek patent protection because their reverse engineering is possible, justifying the Patent Act’s disclosure requirements. *Id.* at 421-22. But by hypothesis, however, reverse engineering of *Metallizing*-type inventions is not possible, leaving independent discovery as the only fear of the inventor subject to the rule of *Metallizing*.”)

application of concealable inventions, and Devlin comes to the interesting conclusion that, to incentivize such inventions, we might in theory be better off with patents that do not require an enabling disclosure.²⁸² To put it in a concrete context, it is possible that the *Metallizing* rule, which essentially forces 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 obtain, for example, if the inventor contemplating the development of a secret process or machine whose commercial products it plans to sell would prefer taking more than one year before deciding whether to opt for trade secret rather than patent protection.

Of course, this is not the way the law stands right now, and the *Metallizing* rule forces inventors to make the tough trade secret/patent choice²⁸³ within a year of first commercialization. But how would additional time result in a greater ex ante incentive to invent? As an initial matter, it seems intuitive that, the more time the inventor has to make the trade secret/patent choice, the more likely he or she is to figure out correctly which of the two methods of intellectual property protection is more advantageous.²⁸⁴ The ability to choose can be viewed as a “call option”; in economic terms, the longer the term during which an option can be exercised,

²⁸² *Id.* at 419-20.

²⁸³ 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 (2002).

²⁸⁴ 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 it is finally patented. 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 foregone if intervening discoveries will make the invention at issue anticipated or obvious. (Indeed, this is a major risk that an inventor takes by delaying patenting. See *infra* notes 298, 321 and accompanying text; see *infra* notes 306-310 and accompanying text for an explanation how more robust trade secret protection can be salutary for society because of concomitant avoidance of monopoly.) More importantly, if one accepts Devlin's (and Judge Newman's, see *infra* note 294 and accompanying text) proposition that the incentive to invent is more important than disclosure as a justification for the patent system, perhaps the harm of delayed disclosure is offset by the benefit of increased ex ante incentive to invent facilitated by the rule that gives inventors more time to decide. This position is buttressed by problems with patent disclosures. See *supra* notes 242-269 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); see also *id.* at 490-91 (“Nor does society 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.”).

the greater its value.²⁸⁵ 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, which would overall increase the incentive to invent.²⁸⁶ To be sure, 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. One has to guard against “submarine patenting”²⁸⁷ and other strategic abuses of the patent system, like those that led the *Macbeth* court to correctly invalidate the patent it considered.²⁸⁸ Indeed, the doctrine of prosecution laches, which protects accused infringers who have relied on the absence of patents in a certain technology space,²⁸⁹ is a subset of common-law “equitable forfeiture” of a patent authorized by the *Pennock* dicta.²⁹⁰ But the inquiry into whether the patentee has acted in bad faith is of necessity case-specific,²⁹¹ and Judge Hand’s strict, faux-legislative one-year rule 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 patent a secret invention.²⁹²

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

²⁸⁵ See *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> (“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.”) (last visited May 1, 2011).

²⁸⁶ Cf. Christopher A. Cotropia, *The Folly of Early Filing in Patent Law*, 65 HASTINGS L.J. 61, 108-113 (2009) (analyzing patents as call options).

²⁸⁷ *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found.*, 277 F.3d 1361, 61 U.S.P.Q.2d 1515 (Fed. Cir. 2002), cert. denied, 537 U.S. 825 (2002); 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 (1997).

²⁸⁸ See *supra* notes 118-124 and accompanying text.

²⁸⁹ See *supra* note 122.

²⁹⁰ See *supra* note 154-166 and accompanying text.

²⁹¹ See *infra* note 398 and accompanying text for a proposed rule that would replace the purely case-specific analysis in cases like *Woodbridge* and *Macbeth*. The rule might simplify patent validity determinations in court and would likely be more easily administrable by the USPTO than the common-law equitable forfeiture inquiry.

²⁹² To be sure, such concealment might be difficult to detect, though this whole area of law deals with secret inventions and concealment can be a problem under the one-year rule as well. One expects, however, that vigorous discovery practice will enable ferreting out 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.

not, to my knowledge, been answered. Perhaps the strict one-year bar is the right rule from the point of view of costs and benefits, though limited value of patent disclosures makes this highly doubtful.²⁹³ Be that as it may, given that the one-year rule has the flavor of a legislative determination, the fatal flaw of the opinion is that it is completely devoid of the discussion of the incentive 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 an important en banc opinion: “The 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.”²⁹⁴ Unfortunately, like the *Metallizing* opinion itself, the Federal Circuit’s *Metallizing* rule jurisprudence does not engage in the necessary balancing.²⁹⁵

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 “fails” the one-year bar and thereafter comes to see an attorney about a patent—perhaps not such an unlikely scenario—will be told that he or she can never get the patent under the *Metallizing* rule, and will keep the invention a secret in perpetuity. Thus, like the famed Coca-Cola formula, the invention might never see the light of day,²⁹⁶ and the public will never get its benefit unless someone independently discovers the machine or process at issue.

²⁹³ See *supra* notes 250-269 and accompanying text.

²⁹⁴ *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985) (en banc).

²⁹⁵ See *supra* Part II.D.2.

²⁹⁶ Perhaps the Coca-Cola formula is no longer secret. See MARK PENDERGAST, FOR GOD, COUNTRY AND COCA-COLA:

2. *The problem of overpatenting*

Even if the system worked as Judge Hand had intended and inventors of secret processes or machines promptly filed patent applications within a year of their first commercial application, this very 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, Chris Cotropia argued that inventors often lack market information that that might enable them to appraise the value of their inventions.²⁹⁷ In the climate of uncertainty associated with early filing and the fear of forfeiting the patent right or being preempted by another inventor,²⁹⁸ inventors often “err on the side of filing.”²⁹⁹ This practice overwhelms the PTO with patent applications, leads to too many patents of dubious quality, and creates a situation where many patented inventions are underdeveloped.³⁰⁰ 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.”³⁰¹ 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.³⁰² And while one argument for prompt patenting is that inventions are sooner

THE DEFINITIVE HISTORY OF THE GREAT AMERICAN SOFT DRINK AND THE COMPANY THAT MAKES IT 456 (2000) (claiming to reproduce the original Coca-Cola recipe).

²⁹⁷ See Cotropia, *supra* note 286, at 93-95.

²⁹⁸ *Id.* 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.” (footnotes omitted)); see also *supra* notes 280-281 and accompanying text.

²⁹⁹ *Id.*

³⁰⁰ See generally Michael Abramowicz, *The Danger of Underdeveloped Patent Prospects*, 92 CORNELL L. REV. 1065 (2007).

³⁰¹ See Cotropia, *supra* note 286, at 122. 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 the “patent thicket” problem).

³⁰² Sichleman, *supra* note 264, at 383.

returned to the public domain,³⁰³ Cotropia’s catalogue of problems with the consequences of the “file early, file often”³⁰⁴ mentality suggests that the harms of prompt disclosure might outweigh its benefits.

Consistent with Cotropia’s intuitions, and with those of Devlin,³⁰⁵ Jonas Anderson observed in a recent paper that robust trade secret protection can give inventors better incentives to create relative to the patent system for inventions that are difficult to reverse engineer.³⁰⁶ He argued that intellectual property law should encourage secrecy in some scenarios and called for a reversal of some doctrines against secrecy.³⁰⁷ Echoing Cotropia’s conclusions, Anderson went on to argue one increased benefit of trade secrecy relative to patenting, in addition to the incentives it creates for the trade secret owner,³⁰⁸ is “increased competition for innovative ideas”³⁰⁹ enabled by a reduced volume of patenting.

Cotropia’s solution to the problem of early filing focused on improving what he viewed as overly permissive disclosure rules, and he proposed a requirement of actual reduction to practice for patenting.³¹⁰ However, the rules that affirmatively promote early filing also clearly contribute to the problem of overpatenting. The question, again, is whether such rules do more

³⁰³ See John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 440 (2004). See generally Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

³⁰⁴ Cotropia, *supra* note 286, at 101.

³⁰⁵ See *supra* notes 272-279 and accompanying text.

³⁰⁶ See generally J. Jonas Anderson, *Secret Inventions*, forthcoming 25 BERKELEY TECH. L.J. _ (2011), manuscript on file with author.

³⁰⁷ *Id.*, manuscript at *39 (“[P]olicy makers ought to be more concerned with encouraging the use of secrecy, rather than discouraging it.”); cf. *supra* notes 279-281 and accompanying text.

³⁰⁸ The notion that the chief purpose behind trade secret law, like that of patent law, is to create incentives to invent is now well established. 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 a approval on a 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” (quoting *Wexler v. Greenberg*, 160 A.2d 430, 434-435 (Pa. 1960))); Gregory A. Sidak, *Trade Secrets and Involuntary Exchange*, unpublished manuscript, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=577244, manuscript at *10 (“[T]he majority of American jurisdictions now agree on the core principles of trade secret law, including the *ex ante* view of innovation.”).

³⁰⁹ Anderson, *supra* note 306, at *24 (citing Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 908 (1988)); see also *infra* notes 326-342 and accompanying text.

³¹⁰ *Id.* at 122.

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 public use and on-sale bars.³¹¹ While they have not escaped criticism, the statutory bars do serve a very important purpose: by displaying a product embodying an invention publicly³¹² 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. Since subsequent patenting has the highly undesirable effect of withdrawing the invention from the public domain,³¹³ the bright-line one-year rule makes sense in situations where the invention is actually disclosed to the public.³¹⁴ Third parties will know that, if an invention was, say, exhibited publicly at a trade show³¹⁵ and no patent application was ever filed,³¹⁶ they are free to practice the invention that they have learned from the display.³¹⁷ In contrast, again by hypothesis, a sale of a commercial product of 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.³¹⁸ It is curious, indeed, that in many countries the policy of preventing the patenting of publicly

³¹¹ 35 U.S.C. § 102(b) (2006).

³¹² The meaning of “public” in this context, to be sure, is “theoretically accessible to the public.” See *Egbert v. Lippmann*, 104 U.S. 333 (1881); see also SCHECHTER & THOMAS, *supra* note 14, at 89; *supra* note 167 and accompanying text.

³¹³ 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.” (footnotes omitted)).

³¹⁴ 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 § 102(a) in this situation. See *Motionless Keyboard Co. v. Microsoft Corp.*, 486 F.3d 1376 (2007); 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. INTEL. PROP. REV. 1, 11 (2002); see also *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1030 (1987).

³¹⁵ See, e.g., *Plumtree Software, Inc. v. Datamize, LLC*, 475 F.3d 1152 (Fed. Cir. 2006).

³¹⁶ Because patent applications are usually not published until 18 months after the invention, however, third parties will not know of whether the application was filed within a year of the public use or sale.

³¹⁷ Unless, of course, an earlier inventor owns a patent on the same invention.

³¹⁸ 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 305-310 and accompanying text; see also *supra* note 284.

available inventions is so strong that they adhere to the absolute novelty rule,³¹⁹ forgoing the one-year grace period afforded to inventors who file for U.S patents. But no country has anything like our *Metallizing* rule.³²⁰

So as it stands, the *Metallizing* rule contributes to early patenting and imposes costs on inventors, while providing little in the way of corresponding benefit if one accepts the argument that patent disclosure fails to deliver enough information to the public to make up for these harms. Of course, as Cotropia and others have noted, many legal and practical forces combine to encourage early patenting.³²¹ If the Federal Circuit or the Supreme Court overturns the *Metallizing* rule, or 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. After all, inventors 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.³²² This is precisely what Meduna was doing when he was filling his orders for refurbished machine parts—that, and trying to make a living.³²³ For Meduna, and perhaps for many other small inventors, good-faith efforts to learn the market for the invention and obtain funding to apply for a patent and commercialize it 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 § 102(b) bars, they withdraw nothing from the

³¹⁹ See NARD, THE LAW OF PATENTS, *supra* note 40, at 319 (discussing the “absolute novelty” rule of the European Patent Convention).

³²⁰ Sharon R. Barner & Harold C. Wegner, *Second Generation Chinese Patent Sophistication: Lessons from Chint v. Schneider*, FOLEY & LARDNER PUBLS. (2007), available at <http://www.ipeg.eu/blog/wp-content/uploads/second-generation-chinese-patent-sophistication-lessons-from-chint-vs-schneider2.pdf>, at *5 n.8 (“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*.”).

³²¹ For example, the later one attempts to patent something, the more prior art there is out there that might anticipate the claims to the invention. See Cotropia, *supra* note 286, at 78-79. See generally Sichelman, *supra* note 264.

³²² Such inventors, to borrow Cotropia’s words, may need patents to “clear commercialization space.” Cotropia, *supra* note 286, at 114.

³²³ See *supra* notes 78-87 and accompanying text.

public domain by patenting? Instead, why not give them 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 the patent to simply extract rents” by actual or threatened litigation, “as opposed to clear commercialization space.”³²⁴ 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. Of course, the concept of “trolls” was not known in 1946.³²⁵ Perhaps, a judge in 2011 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 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,” since the owner of a non-informing trade secret³²⁶ has, up to that point, proceeded at the risk of being sued for infringement if another person were to patent

³²⁴ Cotropia, *supra* note 286, at 114.

³²⁵ In contrast, a bigger concern in 1946 was that patentees maintained “monopolies,” as Part III.B will further explore. *See, e.g.,* *Mercoird Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661 (1944). The focus of public opprobrium has shifted today, with “trolls” held by many 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), *aff’d in part, rev’d in part*, 253 F.3d 34 (D.C. Cir. 2001) (per curiam) (en banc), *cert. denied*, 534 U.S. 952 (2001). Even if one views the *Metallizing* case from the point of view of anti-monopoly mores of the first half of the twentieth century, Meduna was not exactly Rockefeller, and Metallizing Engineering Company was no Standard Oil.

³²⁶ It is safely assumed that a secret invention within the meaning of *Metallizing* meets the legal definition of a trade secret. *See supra* note 270. UNIFORM TRADE SECRETS ACT § 1(4) (1985).

the same invention.³²⁷ To be sure, the owner of a trade secret often has powerful remedies against a departing employee³²⁸ or a competitor who found a creative approach to gathering information about its production knowhow.³²⁹ Nevertheless, as discussed extensively above, the trade secret “monopoly” can be extinguished by reverse engineering and independent invention,³³⁰ by appearance of information in the public domain that makes the secret “generally known” or “readily ascertainable,” as well as by the trade secret owner’s own failure to take reasonable precautions in protecting the secret.³³¹ These scenarios are not all that unlikely; indeed, given that near-simultaneous independent inventions of significant technologies are quite common,³³² 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.³³³ While such discoveries will not always extinguish the trade secret, since more than one company can own rights to the same technology without it becoming “generally known” within the meaning of trade secret law,³³⁴ the first inventor will lose both trade secret and patent rights if the latter researcher publishes or patents the invention. This is a harsh penalty for an attempt to delay

³²⁷ See *supra* note 298 and accompanying text; see also *supra* note 280 and accompanying text.

³²⁸ See, e.g., *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262 (7th Cir. 1995).

³²⁹ See, e.g., *E.I. du Pont de Nemours & Co v. Christopher*, 431 F.2d 1012 (5th Cir. 1970).

³³⁰ See *supra* note 281 and accompanying text.

³³¹ UNIFORM TRADE SECRETS ACT § 1(4) (1985).

³³² Lemley, *supra* note 253, at *1 (“[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.”).

³³³ The *Kewanee* Court, for one, was optimistic in its belief that independent inventions 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) (citations and footnotes omitted); see also Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 39 (2007) (“‘[D]uplicate innovation’ . . . may lead to improvements better than the first secret.”).

³³⁴ 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.” (citations omitted)).

patent monopoly,³³⁵ 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.³³⁶

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 converting the secret through conduct that rises to the level of misappropriation.³³⁷ And if the misappropriator’s conduct has caused the trade secret to become publicly available, the owner cannot get an injunction against its further dissemination.³³⁸ Even though the owner of the trade secret might get monetary relief from the misappropriator in such a scenario, the intellectual property right of the trade secret has simply ceased to exist through wrongful public dissemination.³³⁹ In sum, even though trade secrets have clearly come to be recognized a species of a property right,³⁴⁰ and, as such, offer significant benefits to their owners,³⁴¹ they are a weak property right at best.³⁴² And even though, by

³³⁵ If the problem is better characterized as “delay” rather than “extension” of the patent term, the right solution would 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 15, rather than 20, years from the application date. It is as if the patentee is allowed to choose how to split the 20-year term between patent and trade secret protection. The author thanks Professor Lemley for proposing this legislative solution to the problems posed by *Metallizing*. For another legislative-type solution to patent delay, see *infra* note 398.
³³⁶ So what of inventions that do not easily get discovered independently? 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 his or her monopoly. 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 might let such inventors 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. A better view, and one that I take, is that such strategic use of the patent system is not acceptable 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 equitable case-by-case analysis or through a new rule that creates a presumption of forfeiture after a certain number of years of delay of patenting. See *supra* note 291; *infra* note 398. But see Karl F. Jorda, *Patent and Trade Secret Complimentariness: 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.”).

³³⁷ *Id.* § 1(2), 2, 3.

³³⁸ See, e.g., *DVD Copy Control Assn., Inc. v. Bunner*, 75 P.3d 1 (Cal. 2003).

³³⁹ *Id.* at 10.

³⁴⁰ See, e.g., *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001-04 (1984)

³⁴¹ See generally Lemley, *supra* note 275.

³⁴² See *Bridgestone Americas Holding, Inc. v. Mayberry*, 878 N.E.2d 189, 192 n.2 (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); Nuno Pires de Carvalho, *The Theorem of the Social Value of Patented Inventions and the Happiness Machine Patent Syndrome—*

keeping an invention secret, the inventor delays disclosure,³⁴³ the public still receives some benefit of the invention by being able to purchase a commercial product made possible with the aid of the secret invention.³⁴⁴

The *Metallizing* court spoke of owners of secret inventions as having “practical monopoly by means of secrecy,”³⁴⁵ 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 in any event.³⁴⁶ In addition, Judge Hand entertained no charge that Meduna’s assignee had ever behaved monopolistically within the meaning of the antitrust laws, on a theory of “misuse” of an intellectual property right or otherwise.³⁴⁷ There is a reason why Judge Hand cited no patent misuse or indeed any antitrust cases in his opinion. Although the Supreme Court has shown a great deal of interest in the intersection of antitrust and intellectual property laws in the years preceding the *Metallizing*

Why Society Lets Fundamental Patents To Be Intensely Attacked, in REV. ELETR. DO IBPI 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.”).

³⁴³ Cf. *supra* note 284.

³⁴⁴ 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.” (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 Wagner, thereby making reverse engineering at least possible, *see supra* note 88, the “benefit of the invention” language appears to sweep in fully secret inventions whose products are placed in the stream of commerce. *But see Dunlop Holdings*, 524 F.2d at 37 (distinguishing *Gillman v. Stern* 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”). *See also Jorda*, *supra* note 336, at 6-7 (arguing that “trade secrets are not secret only in a limited legal sense and the term ‘trade secret’ is a constricted term of art” because trade secret confer benefits upon the 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).

³⁴⁵ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946).

³⁴⁶ Compare RESTATEMENT (FIRST) OF TORTS § 757 (1938) (trade secret misappropriation liability attaches for wrongful disclosure or use *but not wrongful acquisition* of a trade secret), with UNIFORM TRADE SECRETS ACT § 1(2) (1985) (wrongful *acquisition* of a trade secret falls within a definition of “misappropriation”). To be sure, 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 275, at 319-29.

³⁴⁷ *See Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661 (1944); *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942).

decision,³⁴⁸ none, to my knowledge, ever spoke of a misuse of a trade secret.³⁴⁹ The plaintiff was charged with trying to extend its monopoly³⁵⁰ even though, before the grant of the patent, it had neither legal monopoly over the process of metalizing, nor a commercial monopoly in the field of refurbishing machine parts that the antitrust laws would have covered.

2. Policy against commercial exploitation is weaker for secret inventions relative to inventions actually placed on sale in true on-sale bar cases

Some commentators have argued that, antitrust law aside, what Judge Hand was really concerned about was consumer welfare in another sense. For example, consumers who get used 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 patentability independently 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.³⁵¹ Echoing Judge Hand’s “extension of monopoly” language, an influential commentary on the policies behind statutory bars justified the on-sale bar as follows: “An inventor would certainly have the best of two worlds if he could commercially exploit his

³⁴⁸ See *supra* note 347.

³⁴⁹ JULIAN O. VON KALINOWSKI ET AL., ANTITRUST AND TRADE REGULATION § 75.04 (2d ed. rel. 57, 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, MARK D. JANIS & MARK A. LEMLEY, 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 (Rochelle C. Dreyfuss & Katherine J. Strandburg eds., 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1765244, manuscript at *9-38; Katarzyna A. Czapracka, *Antitrust and Trade Secrets: The U.S. and the E.U. Approach*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 207 (2008).

³⁵⁰ To be sure, the issue here might be more accurately characterized as “delay” of patent monopoly. See *supra* note 335 for an analysis and a possible solution of the specific problem of delay of patent monopoly.

³⁵¹ Barrett, *supra* note 313, at 734.

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.”³⁵²

This “non-antitrust monopoly” concept dates back to *Pennock v. Dialogue*,³⁵³ which of course predated the country’s first antitrust statute by many years,³⁵⁴ and for that matter predated the development of modern secret law as well.³⁵⁵ The operative quote from *Pennock*, however, clearly captures both the disclosure and monopoly rationales that Judge Hand used to create 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 secure the exclusive right, he should be allowed to take out a patent, and thus exclude the public from any farther 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.³⁵⁶

Of course, Judge Hand had to selectively omit the phrase “for a long period of years” because he sought to reach the result of a bright-line one-year bar rather than engage in a case-specific equitable forfeiture determination,³⁵⁷ quoting *Pennock* as saying only that “[i]f 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”³⁵⁸ Even if one buys the argument that, by delaying patenting, the trade secret owner

³⁵² *Id.*

³⁵³ 27 U.S. (2 Pet.) 1 (1829).

³⁵⁴ The Sherman Antitrust Act became law in 1890. *See* Sherman Act, July 2, 1890, ch. 647, 26 Stat. 209.

³⁵⁵ Cases containing the beginnings of modern trade secret cases appear in 1860s. *See, e.g.,* Peabody v. Norfolk, 98 Mass. 452 (1868) (cited in Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CALIF. L. REV. 241, 252-53 (1998)). It is sometimes argued, *see* First, *supra* note 349, manuscript at *10, that the “first reported trade secrets case” is *Vikery 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* Bone, *supra*, at 252. But even the 1837 *Vikery* case post-dated *Pennock*.

³⁵⁶ *Pennock*, 27 U.S. at 19 (emphasis added).

³⁵⁷ *See supra* note 154-166 and accompanying text.

³⁵⁸ *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 518 (2d Cir. 1946), *cert. denied*, 328 U.S. 840 (1946) (quoting *Pennock*, 27 U.S. at 19) (first ellipsis in original).

commercially exploits the invention to the detriment of consumers, the full quotation from *Pennock* suggests that the Court’s concern was limited to those who kept their invention secret for a long time and perhaps even meant to limit the forfeiture policy to those who affirmatively intended to conceal it as for long as possible.

Putting my ongoing quibbles with Judge Hand’s reasoning in *Metallizing* to one side, the policy against commercial exploitation has remained a powerful justification for the statutory bars, which of course have a strict one-year limit written into them.³⁵⁹ In an important case, the Federal Circuit articulated the view that policy justifications are the lens through which the bars of § 102(b) should be viewed:

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.’³⁶⁰

The 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”³⁶¹ as the guideposts for understanding the statutory bars. Although the Supreme Court case of *Pfaff v. Wells*³⁶² repudiated the “totality of the circumstances” test for applying the on-sale bar mentioned in *Manville*,³⁶³ it continued to rely on the policies behind § 102(b) in formulating the new, yet familiar, “ready for patenting” test:

³⁵⁹ See generally Barrett, *supra* note 313.

³⁶⁰ *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 549-550 (Fed. Cir. 1990) (quoting *Envirotech Corp. v. Westech Eng’g, Inc.*, 904 F.2d 1571, 1574 (Fed. Cir. 1990)).

³⁶¹ *Manville*, 917 F.2d at 550 (quoting *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir.1985), *cert. denied*, 475 U.S. 1016 (1986)).

³⁶² 525 U.S. 55 (1998).

³⁶³ 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, Student Note, *Eliminating the Totality of the Circumstances Test for the Public Use Bar Under Section 102(b) of the Patent Act*, 77 CHL.-KENT L. REV. 1359, 1361 (2002).

the Court quoted *Metallizing* for the proposition that “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.”³⁶⁴

But the *Pfaff* Court was careful to note 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 engineering designs for which the patentee accepted the invalidating purchase order “contained all the elements of the invention claimed in the [patent-in-suit].”³⁶⁵ In contrast, in *Metallizing*, the invention at issue was one step removed from the sale, as the sales transactions involved products enabled by the invention and not 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 bar. Moreover, it seemed important to the *Pfaff* Court that the engineering designs actually communicated the nature of the invention to the prospective buyers: “the second condition of the on-sale bar [the condition being ‘ready for patenting’] is satisfied because the drawings Pfaff sent to the manufacturer before the critical date *fully disclosed the invention*.”³⁶⁶ While other case law suggests that such disclosure is not required to trigger the on-sale bar,³⁶⁷ it would appear that under the first prong of the *Pfaff* test, which requires “a commercial offer for sale,”³⁶⁸ both the buyer and the seller must at least contemplate the subject matter of the invention being sold in order for the “meeting of the minds”³⁶⁹ required to form a contract to be possible.³⁷⁰ The *Metallizing* bar ventures far beyond the confines of the

³⁶⁴ *Pfaff*, 525 U.S. at 68 (quoting *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)).

³⁶⁵ *Pfaff*, 525 U.S. at 68.

³⁶⁶ *Id.* (emphasis added).

³⁶⁷ See 2 CHISUM ON PATENTS, *supra* note 14, § 6.02[6][c], at 6-79 (“‘Public’ in Section 102(b) modifies ‘use’ and not ‘on sale.’”) (collecting cases).

³⁶⁸ *Pfaff*, 525 U.S. at 67.

³⁶⁹ See RESTATEMENT (SECOND) OF CONTRACTS § 17 cmt. c (1981).

³⁷⁰ 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).

Pfaff test, requiring forfeiture of a patent on a secret process or machine of which the buyer is not even aware.³⁷¹

It appears, then, that the *Metallizing* rule takes the policy against commercial exploitation a bit too far. As discussed above, all the internally operated inventions of a for-profit entity are designed to increase its competitive position in some way;³⁷² 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 since not all “commercial exploitations” are the same, and treating all internal uses, even ones greatly attenuated from actual sales, equally for the purpose of the patentability bar makes very little sense.³⁷³ The statutory requirement that “*the invention*” be placed “on sale,”³⁷⁴ elaborated by the judicial “all-elements” gloss,³⁷⁵ reflects a legislative determination of the reach of the policy.³⁷⁶ The *Metallizing* rule upsets this balance and captures an indeterminate range of inventions beyond the purview of § 102(b),³⁷⁷ undermining the certainty that the *Pfaff* rule was meant to provide³⁷⁸ and punishing commercializing inventors.³⁷⁹

3. Patent term “extension” may be salutary in some situations

Moreover, this punitive policy is questionable in any event. First, as already argued, it is difficult to see how the patent provides an “additional” term of protection on top of the time that an invention was protected as a trade secret; the two kinds of property rights are so different that

³⁷¹ The Federal Circuit refined the *Pfaff* on-sale bar test for the unique situation of sales of method claims. See *supra* note 18 and accompanying text.

³⁷² See *supra* note 216 and accompanying text.

³⁷³ See *supra* Parts II.D.2.b, II.E.

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

³⁷⁵ See *supra* note 365 and accompanying text.

³⁷⁶ To be sure, the *Pfaff* two-part test has at times been challenging to apply. See generally Holbrook, *supra* note 370.

³⁷⁷ See *supra* Parts II.D.2.b; *supra* notes 235-241 and accompanying text.

³⁷⁸ See Holbrook, *supra* note 370, at 38.

³⁷⁹ See *supra* notes 322-325 and accompanying text.

there is no reasonable argument for any kind of “tacking” between them.³⁸⁰ Second, recent work by Benjamin Roin explained that society may sometimes benefit from “modulation” of the length of the patent term.³⁸¹ Roin pointed to a strange result that patents on drugs that are the hardest to develop, and for which Food and Drug Administration approval takes a long time, effectively receive relatively shorter terms of protection during the commercial life of the drug than “easier” drugs.³⁸² Because of the legal and practical reasons described above,³⁸³ drug manufacturers tend to follow the early patenting route, and by the time the developmental and regulatory delays are cleared and the drug goes on the market, there may not be much time left in the patent term to recoup the manufacturer’s R&D investment.³⁸⁴

Roin suggested that this mismatch between the resources needed to develop “ambitious” drugs and the short effective term of patent protection that such drugs often receive may lead to the undesirable result of underinvestment into drugs that might benefit society the most.³⁸⁵ Roin’s proposal for solving this problem is to provide variable patent length for different kinds of drugs, since currently available patent term extensions that account for regulatory delay may not result in a patent term long enough to justify R&D investments into cures for certain diseases.³⁸⁶ But what of the patentee’s own “modulation” of the patent term by first opting for

³⁸⁰ See *supra* notes 326-348 and accompanying text.

³⁸¹ See Benjamin Roin, *Drug Patent Length* (Feb. 19, 2010), available at http://www.law.stanford.edu/display/images/dynamic/events_media/Benjamin%20Roin%20-%20Drug%20Patent%20Length.pdf, manuscript at *3.

³⁸² *Id.* at *4.

³⁸³ See *supra* notes 280-281, 321 and accompanying text.

³⁸⁴ Roin, *supra* note 381, at *19-28. This scenario, however, does not obtain in other industries. In the software industry, for example, the patent term is arguably too long and gives patentees a windfall for the amount of R&D that field generally requires. See Allen Clark Zoracki, Comment, *When Is an Algorithm Invented? The Need for a New Paradigm for Evaluating an Algorithm for Intellectual Property Protection*, 15 ALB. L.J. SCI. & TECH. 579, 594-95 (2005) (explaining why a 20-year term is too long for software patents). Thus, under equitable considerations, courts should be much less tolerant of attempts to “extend” the patent term in fields where this is unnecessary to get an adequate return on investment.

³⁸⁵ Roin, *supra* note 381, at *48-53. By “ambitious” drugs, I mean those drugs that Roin argued might be used to treat fairly refractory diseases, and might therefore take relatively longer than other drugs to get FDA approval.

³⁸⁶ *Id.* at *53-72.

trade secrecy? In the pharmaceutical context, it might be tough for manufacturers to “extend”³⁸⁷ the patent term through trade secret protection because molecular structures of drug candidates inevitably become revealed to external researchers conducting various phases of clinical trials,³⁸⁸ human trial institutional review boards³⁸⁹ and FDA’s advisory committees,³⁹⁰ and even to the public via Freedom of Information Act requests.³⁹¹ As Rebecca Eisenberg argued,³⁹² the “patent term mismatch” in the pharmaceutical context might be better solved through regulatory exclusivity provisions rather than through changes in the Patent Act. Given how difficult how it is to keep the structures of molecules secret through the regulatory process, trade secret law is unlikely to help fix the mismatch for this industry.

But one can easily imagine other R&D-intensive industries where it might be salutary, under the incentive-to-invent rationale, to allow the patentee to “extend” the patent term through later patenting of a secret invention from which it has derived a commercial benefit.³⁹³ The longer the “term,” the more of its investment such a patentee can recoup. As argued earlier, one must keep in mind that the patentee is in no way getting a “free lunch” here because a trade secret owner proceeds at a substantial risk of his or her invention being independently discovered, made public, and perhaps even patented by others in scenarios when the first

³⁸⁷ Of course, for reasons stated above, trade secret protection is not patent term extension. *See supra* notes 326-342 and accompanying text.

³⁸⁸ *See generally* 21 C.F.R. § 312 (2009).

³⁸⁹ *See generally* 21 C.F.R. § 56 (2009).

³⁹⁰ *See generally* 21 C.F.R. § 14 (2009).

³⁹¹ *See, e.g.* Public Citizen Health Research Group v. Food and Drug Admin., 704 F.2d 1280 (D.C. Cir. 1983). Moreover, the *Metallizing* bar will likely not apply in the pharmaceutical context in any event since the researchers would not be selling any products of secret inventions during the clinical trial stages. *See* Invitrogen Corp. v. Biocrest Mfg., L.P., 424 F.3d 1374, 1380 (Fed. Cir. 2005); *see also supra* Part II.D.

³⁹² *See generally* Rebecca Eisenberg, *Patents and Regulatory Exclusivity*, unpublished manuscript, available at <http://www.law.harvard.edu/programs/petrie-flom/workshop/pdf/eisenberg.pdf>.

³⁹³ One example of such an industry is cleantech. A startup company the author consults for, which seeks to convert methane into higher hydrocarbons with the aid of new chemical catalysts, is a good example. The field is extremely R&D-intensive, and it is possible to keep both the catalyst compositions and the processes for using them secret within the meaning of *Metallizing*, since catalysts are separated away from the hydrocarbon products and only the products of catalysis go on sale. Unlike the software industry, for which the 20-year term is arguably too short, some inventions in the cleantech industry might be more “deserving” of a longer patent term if a court is to take an equitable approach to the delay of patenting. *See supra* note 384; *see also infra* note 398 and accompanying text.

inventor is adjudged to have abandoned, suppressed, or concealed the invention.³⁹⁴ It has often been said that the policy rationales behind the statutory bars in effect define the bars;³⁹⁵ but because the “commercial exploitation” rationale is not without its weaknesses, it makes sense to limit the statutory bars to the actual language of the statute³⁹⁶ until Congress says otherwise.³⁹⁷ At the very least, the judge-made bar against the patenting of secret inventions should not be a strict one-year bar; as argued before, if the patentee behaves strategically or abusively, the courts always have the option of invalidating the patent on the equitable rationales of *Pennock* or *Macbeth*.³⁹⁸

IV. CONCLUSION

The patent forfeiture rule of *Metallizing* is unsupported by precedent or statute, and is inequitable on the actual facts of the case. The policy rationales for the rule are questionable, and all the more so because perhaps the most important policy reason for the existence patent system—to provide an incentive to engage in inventive activity—might not be well-served by the *Metallizing* rule. In addition, the rule encourages overpatenting, which can contribute to the patent thicket that stifles competition. Other appellate courts, including the Federal Circuit, have adopted the rule in seeming deference to Judge Hand and without serious analysis. While the

³⁹⁴ See *supra* note 88.

³⁹⁵ See *supra* notes 360-361 and accompanying text.

³⁹⁶ See *supra* notes 14-18 and accompanying text.

³⁹⁷ I am firmly convinced that, if courts don’t get to it first, Congress should abrogate the *Metallizing* bar for reasons discussed *supra* in Part III.A—namely, because it contributes to overpatenting and discourages otherwise valuable trade secret protection. And if the Supreme Court’s patent law guidance is to be taken seriously, the rule is unsupported by *Pfaff* and is against the spirit of *Pennock* because it is can produce inequitable results. *But see* Sichelman, *supra* note 55.

³⁹⁸ See *supra* notes 160-165, 356-358 and accompanying text. USPTO may also deny a patent on these grounds, with the caveat that “equitable” determinations might be difficult to conduct at the PTO (though presumably the PTO can deny patents on the grounds of § 102(c) abandonment). Perhaps, the best route here is legislative action. For example, a new subsection can be added to § 102 stating that delay of patenting of a commercialized secret invention for three years (for example) is prima facie evidence for equitable forfeiture, which can be rebutted by the patentee with a good excuse for delay. Something like this already exists in trademark law, which provides that “nonuse of a trademark for three consecutive years shall be prima facie evidence of abandonment.” 17 U.S.C. § 1127. *Cf. supra* note 335 for an alternative legislative proposal for handing patents on previously commercialized secret inventions.

Supreme Court cited the *Metallizing* case in three separate cases,³⁹⁹ it has never endorsed the rule. Moreover, the Supreme Court in recent patent cases has hewed closely to the language of the Patent Act and accepted judge-made modifications to the patent statutes only as long as they have been supported by long-standing Supreme Court precedent.⁴⁰⁰ 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. The influential Sixth Circuit *Macbeth* decision likewise does not support *Metallizing*, if for no other reason that it warned (in language approved in *Woodbridge*) that patent forfeiture is never favored, and should be reserved for 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.⁴⁰¹ It appears that the *Metallizing* rule, whose justification and scope courts and commentators are still trying to understand,⁴⁰² has remained on the books for as long as it did because of respect for a great judge. But should we defer to Judge Learned Hand? Perhaps not. In the biting words of Judge Kozinski, Judge Hand “was very knowledgeable about everything except how the world works.”⁴⁰³ Indeed, it was Judge Carroll Hincks, the trial

³⁹⁹ See *supra* note 13; see also *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)).

⁴⁰⁰ See, e.g., *Bilski v. Kappos*, 130 S. Ct. 3218 (2010) (holding that abstract ideas, laws of nature, and physical phenomena are unpatentable on the reasoning of Supreme Court opinions dating back to the nineteenth century and because statutory text justifies the three exceptions). “*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.* at 3225 (emphases added) (citing *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) and *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 174-175 (1853)).

⁴⁰¹ See *supra* note 192 and accompanying text.

⁴⁰² See e.g., *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1380 (Fed. Cir. 2005) (attempting to divine the limits of the *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 the “in this country” limitation of § 102(b)).

⁴⁰³ See OVERLAWYERED, <http://overlawyered.com/2010/06/june-25-roundup-2/>.

judge in *Metallizing*, who understood the small inventor’s position and allowed his patent to stand.⁴⁰⁴

⁴⁰⁴ It is perhaps worth noting that Judge Hand’s views of patent law toward the end of his career reflected suspicion 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 6, at 1646-47 (quoting *The American Patent System: Hearings Before the Subcomm. on Patents, Trademarks, and Copyrights of the S. Comm. on the Judiciary*, 84th Cong. (1956) (testimony of Judge Learned Hand), at 111, 114, 117 and BENJAMIN KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 44 (1967)).