

Fall 1995

Common Sense, Simplicity and Experimental Use Negation of the Public Use and on Sale Bars to Patentability, 29 J. Marshall L. Rev. 1 (1995)

William C. Rooklidge

Stephen C. Jensen

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ARTICLES

COMMON SENSE, SIMPLICITY AND EXPERIMENTAL USE NEGATION OF THE PUBLIC USE AND ON SALE BARS TO PATENTABILITY

WILLIAM C. ROOKLIDGE
STEPHEN C. JENSEN

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COMMON SENSE, SIMPLICITY AND EXPERIMENTAL USE NEGATION OF THE PUBLIC USE AND ON SALE BARS TO PATENTABILITY

WILLIAM C. ROOKLIDGE*
STEPHEN C. JENSEN**

INTRODUCTION

It was quite a compliment when Tennyson described the Duke of Wellington as "Rich in saving common-sense, And, as the greatest only are, In his simplicity sublime."¹ Common sense and simplicity are indeed virtues, both in man and in the law. Unfortunately, because of the entropy of the common law, common sense and simplicity are not always resting points for the law. Experimental use negation of the public use and on sale bars to patentability exemplifies the effect of the relentless entropy of the common law on common sense and simplicity.

The United States patent statute requires an inventor to file an application for a patent within one year after placing the invention in public use or on sale in the United States.² If the in-

* William C. Rooklidge is a director at Howard, Rice, Nemerovski, Canady, Falk & Rabkin in Newport Beach, California and a former judicial clerk to the Honorable Helen W. Nies, Circuit Judge of the United States Court of Appeals for the Federal Circuit. The authors would like to thank Professor R. Carl Moy for his invaluable assistance in preparing this paper and Chris Konkol and Patricia Thayer for their helpful comments.

** Stephen C. Jensen is a partner at Knobbe, Martens, Olson & Bear in Newport Beach, California.

1. Alfred Lord Tennyson, *Ode to the Death of the Duke of Wellington*, stanza 4, (1852), in A COLLECTION OF POEMS BY ALFRED TENNYSON 297-98 (Doubleday & Co. ed., 1972).

2. This requirement is embodied in 35 U.S.C. § 102(b) (1988) ("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"). Although these bars will likely survive any patent law revisions resulting from the presently-stalled patent harmonization process, they may be modified in some respects. See The Advisory Commission on Patent Law Reform, *A Report to the Secretary of Com.* 103-05 (1992) (urging application of the on sale bar only to completed sales). Furthermore, although some have assumed that the absolute language of Article 11(2)(b) of the Draft WIPO Harmonization Treaty ("prior art shall consist of everything which, before the filing date, or, where priority is claimed, the priority date of the application claiming the invention, has been made available to the public anywhere in the world") will preclude consideration of experimental use negation, *eg.* Intell. Prop. Law Ass'n of Chi., *IPLAC Position Paper for the Diplomatic Conference on the Harmonization of Patent Laws*, 4 (1993), the coexistence of experimental use negation with the similarly absolute

ventor delays filing for more than a year after a public use or on sale activity, the right to a United States patent is lost; that is, patentability is barred. This provision of the patent statute defines what are known as the public use and on sale bars to patentability.

Notwithstanding the absolute language of the patent statute pertaining to the public use and on sale bars, 170 years ago the courts created what appears to be an exception to their application. The experimental use exception to, or "negation" of, the public use and on sale bars is frequently encountered in both *ex parte* and *inter partes* matters in the Patent and Trademark Office and the federal district and appellate courts, and has developed a rich history and voluminous body of case law and commentary.³

In 1982, Congress delegated all appeals from the Patent and Trademark Office and from the district courts in patent cases to the new United States Court of Appeals for the Federal Circuit.⁴

language of the European Patent Convention suggests otherwise. See *Prout v. British Gas P.L.C.*, 1992 Fleet St. Rep. 351, 358-59.

3. The experimental use doctrine has been subject to much commentary. See generally Thomas J. Cione, *Patent Law's Experimental Use Doctrine: An Analysis of Court Decisions Including Cases of the United States Court Of Appeals for the Federal Circuit*, 25 IDEA 225 (1985) (arguing that the Federal Circuit "seems to be heading toward a more unified understanding of the [experimental use] doctrine"); Gerald T. Welch, *Patent Law's Ephemeral Experimental Use Doctrine: Judicial Lip Service To A Judicial Misnomer or the Experimental Stage Doctrine*, 11 U. TOLEDO L. REV. 865 (1980) (arguing that experimental use should apply to excuse any activity conducted while invention is in the "experimental stage"); Roger M. Fitzgerald, Comment, *Experimentation in Public Use of Inventions - An Analysis of Appellate Anemia*, 1960 U. ILL. L.F. 585 (arguing that experimental use is an "exception" to the bars rather than an "exclusion"); James S. Jorgenson, Note, *Environmentally Dependant Inventions and the "On Sale" and "Public Use" Bars of 102(b): A Proffered Solution to the Statutory Dichotomy*, 49 U. MIAMI L. REV. 185 (1994) (urging legislative revision of section 102(b) because of shortcomings in the experimental use doctrine); Jay D. Schainholz, Note, *The Validity of Patents After Market Testing: A New and Improved Experimental Use Doctrine?*, 85 COLUM. L. REV. 391 (1985) (arguing that market testing should be considered experimental use); Henry R. Veenstra, Note, *Patents - The Availability of the Experimental Use Exception as a Stay of the On Sale and Public Use Bar in 102(b) Depends in Part on the Intent of the Inventor*, 24 DRAKE L. REV. 718 (1975); Anne Marie Kaiser, *The United States Court of Appeals for the Federal Circuit and the Experimental Use Doctrine*, 16 NEW MATTER 1 (1991) (arguing that the Federal Circuit has brought "uniformity, clarity and certainty" to the application of the experimental use negation of the on sale and public use bars); Gale R. Peterson, *Experimental Use in the United States: An "Exception" to the One-Year Time Bar?*, 45 PAT. WORLD 16, 18 (1992) (arguing that the Federal Circuit "has left the bar and the trial bench with little more than a set of rather broad subjective factors and no focused analysis"); Note, *The Public Use Bar to Patentability: Two New Approaches to the Experimental Use Exception*, 52 MINN. L. REV. 851 (1968) (proposing use of "subtests" or "policy" approaches to experimental use, rather than what the author believed was the prevailing "stage of the invention" analysis).

4. 28 U.S.C. § 1295(a)(1), (a)(4) (1988).

The Federal Circuit soon came face-to-face with experimental use negation of the public use and on sale bars.

In *TP Laboratories, Inc. v. Professional Positioners, Inc.*,⁵ the Federal Circuit considered an allegation of public use of an orthodontal device for six years before the filing of the patent application. The court began by observing that “[t]he general purpose behind all the [§102(b)] bars is to require inventors to assert with due diligence their right to a patent through the prompt filing . . . of a patent application.”⁶ On the other hand, the court recognized that, “the public interest is also deemed to be served by allowing an inventor time to perfect his invention, by public testing, if desired.”⁷ The Federal Circuit observed that the Supreme Court’s opinion in *City of Elizabeth v. American Nicholson Pavement Co.*⁸ “is the starting place for analysis of any case involving experimental use,” and block-quoted an entire page from that opinion.⁹ After exploring the burden of proof related to experimental use,¹⁰ the Federal Circuit explained that experimental use is an integral part of the issue of whether there is a public use, which can only be resolved “upon consideration of the entire surrounding circumstances.”¹¹ The surrounding circumstances include: length of the test period, payment, secrecy, records, number of tests, identity of persons conducting the tests and length of test periods of other similar devices.¹²

Applying these principles to the six years of public use of the subject orthodontal devices, the Federal Circuit in *TP Laboratories* held that the uses were experimental.¹³ The inventor used the devices on only three patients, kept detailed progress records, made no extra charge for the devices and never sold them to other orthodontists.¹⁴

TP Laboratories established the substantive framework for all of the Federal Circuit’s experimental use cases, a framework taken straight from *City of Elizabeth*. Perhaps more importantly, however, *TP Laboratories* sowed four interrelated seeds of confusion in the experimental use analysis.

5. 724 F.2d 965 (Fed. Cir.), cert. denied, 469 U.S. 826 (1984).

6. *Id.* at 968 (quoting 2 DONALD S. CHISUM, PATENTS § 601 (1981 & Supp. 1983)).

7. *Id.* While not quite correct (experimental use negation gives the inventor the opportunity, not the time), this is the policy basis for experimental use negation of the on sale and public use bars. *Id.*

8. 97 U.S. 126 (1877).

9. *TP Lab.*, 742 F.2d at 970-71.

10. *Id.* at 971. See discussion *infra* Part II(C).

11. *Id.* at 971-72.

12. *Id.*

13. *Id.* at 973.

14. *Id.* at 972-73.

First, the Federal Circuit created the potential for confusion by the way in which it rejected the *TP Laboratories* district court's two-step experimental use "exception" analysis: "determine whether a public use occurred"; then, if a public use occurred, determine "whether the use was not a public use under the statute because it was experimental."¹⁵ The Federal Circuit pointed out that the Supreme Court had never treated experimental use as an *exception*, but rather as a factor *negating* the statutory bar. The Federal Circuit explained: "It is incorrect to ask: 'Was it public use?' and then, 'Was it experimental?' Rather, the court is faced with a single issue: Was it public use under § 102(b)?"¹⁶ This holding is unquestionably correct. Where the patentee raises the experimental use issue, that issue must be resolved before the activity could be considered a public use. But, as we will see, subsequent readers have interpreted this holding much more broadly, and that interpretation has led to confusion.

Second, the Federal Circuit created the potential for confusion when it held that the district court should have looked at all the evidence "put forth by both parties and should have decided whether the entirety of the evidence led to the conclusion that there had been 'public use.' . . . In other words, a decision on whether there has been a 'public use' can only be made upon consideration of the entire surrounding circumstances."¹⁷ Once again, this holding is correct. The two holdings might be viewed, however, as implying that the Federal Circuit eliminated experimental use as a separate inquiry, relegating experimental use to a mere evidentiary factor considered in determining whether a public use has occurred. Such an implication would be wrong.¹⁸

Third, the Federal Circuit created the potential for confusion by identifying the specific policies underlying the public use and on sale bars without identifying which policies underlie which components of the bars.¹⁹ While others have analyzed these policies at length,²⁰ the Federal Circuit has never paid them more than mere lip service. As we will see, the Federal Circuit's inattention to the policies has allowed confusion regarding the role of experimental use negation to creep into its opinions.²¹

Finally, the Federal Circuit created the potential for confu-

15. *Id.* at 968-69.

16. *Id.* at 971 (emphasis added).

17. *Id.* at 971-72.

18. See discussion *infra* Part II(C)(2).

19. *TP Lab.*, 724 F.2d at 968.

20. *Eg.*, Patrick J. Barrett, *New Guidelines for Applying the On Sale Bar to Patentability*, 24 STAN. L. REV. 730, 735 (1972); William C. Rooklidge, *The On Sale and Public Use Bars To Patentability: The Policies Reexamined*, 1 FED. CIR. B.J. 7, 10 (1991).

21. See discussion *infra* Part II(A).

sion with its analysis of the burden of proof. The district court in *TP Laboratories* ascribed to the patentee "a heavy burden of showing that the public use was bona fide experimentation."²² The Federal Circuit held that the patentee does not bear the burden of proof on the experimental use issue. The patent statute places the burden of proof (or, more accurately, the burden of persuasion) of patent invalidity on the proponent of invalidity.²³ Because the burden of proving patent invalidity remains at all times on the proponent of invalidity, the court reasoned, "it is incorrect to impose upon the patent owner . . . the burden of proving that a 'public use' was 'experimental.'"²⁴ This holding seems at first blush to be directly contrary to that of the Supreme Court in *Smith & Griggs Manufacturing Co. v. Sprague*,²⁵ that the proponent of experimental use need prove experimental use by "full, unequivocal and convincing" evidence.²⁶ The apparent conflict is exacerbated by the court's oblique treatment of *Smith & Griggs*: that the Federal Circuit did "not read *Smith & Griggs* . . . as contrary" to the Federal Circuit's holding and, even if it did, *Smith & Griggs* would not be "tenable in the face of the subsequently enabled statutory presumption."²⁷ Most commentators were unpersuaded by this explanation of the burden of persuasion versus burden of going forward. But the burden borne by the proponent of experimental use — whether it be burden of persuasion or burden of going forward — is not the entire issue. As explained in this article, that issue implicates a possibly more important issue, the standard of proof on the issue of experimental use, a point that in many cases could be outcome determinative.²⁸

In Part I, this article briefly reviews the history and case law on experimental use, focusing on the fifty years of pre 1877 history that have been ignored by commentators.²⁹ The article explains that the relationship between the development of experimental use negation and the statutory grace period, adopted as a two-year grace period in 1839 and reduced to one year in 1939,

22. *TP Lab.*, 724 F.2d at 969.

23. 35 U.S.C. § 282 (1988); *TP Lab.*, 724 F.2d at 971.

24. *TP Lab.*, 724 F.2d at 971.

25. 123 U.S. 249 (1887).

26. *Id.* at 260. See *infra* notes 79-86 and accompanying text.

27. *TP Lab.*, 724 F.2d at 971 n.3.

28. See discussion *infra* Parts II(C)(2)-(3).

29. Many commentators express the incorrect belief that the Supreme Court created experimental use negation in *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1877). *E.g.*, 1 DONALD S. CHISUM, PATENTS OV-7 (1994) ("*City of Elizabeth* . . . established the experimental use doctrine."); Edward G. Poplawski & Paul D. Tripodi, *The Impact of Over Ten Years of Federal Circuit Precedent on the "On Sale" and "Public Use" Bars to Patentability*, 19 NEW MATTER 1, 8 (1994).

identifies that the policy underlying experimental use negation is to give the inventor the opportunity to perfect or complete the invention, that is, to reduce the invention to practice. The paper then explains that the courts had developed from this policy a simple, common sense framework for applying experimental use negation of the public use and on sale bars to patentability, a framework summarized in two important Supreme Court cases.³⁰

In Part II, this article surveys the state of the modern law as applied by the United States Court of Appeals for the Federal Circuit. The article suggests that the Federal Circuit has lost sight of the policy underlying experimental use negation, has unduly complicated the application of experimental use negation, and has introduced some basic errors into its analysis. This paper concludes by proposing that the Federal Circuit correct these errors by returning to the law of experimental use set out with common sense and in sublime simplicity by the Supreme Court over 100 years ago.

I. THE ORIGINS AND DEVELOPMENT OF EXPERIMENTAL USE NEGATION OF THE PUBLIC USE AND ON SALE BARS

Although the United States borrowed much of its early patent law from England,³¹ experimental use negation of the public use and on sale bars is a distinctly American development.³² Like many legal developments, the courts were entirely responsible for the development of experimental use.

A. The Early Cases

American courts created experimental use negation in applying the Patent Act of 1793, which provided that knowledge or use

30. See discussion *infra* Parts I(B)-(C).

31. *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 18 (1829); 1 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS 15 (1890).

32. In 1823, Richard Godson assessed the English case law and observed:

Whether *experiments* made with a view to try the efficacy of an invention, or the full extent of a discovery, are a *using* within the meaning of the statute of James has not yet been decided. It would be very difficult to say how much a substance or machine might be used by way of experiment before the patent is obtained, without running a great risk of invalidating the grant.

RICHARD GODSON, A PRACTICAL TREATISE ON THE LAW OF PATENTS FOR INVENTIONS AND ON COPYRIGHT 64-65 (1823). He maintained this view in his second edition. RICHARD GODSON, A PRACTICAL TREATISE ON THE LAW OF PATENTS FOR INVENTIONS AND ON COPYRIGHT 51 (2d ed. 1851). The English cases had, by then, held that failed, secret, third-party experiments did not create a public use bar, *Cornish v. Keene*, 1 Webster's Pat. Cas. 501, 508, 512 (1835), and obliquely discussed in a jury charge open, experimental use by the inventor. *Elliott v. Ashton*, 1 Webster's Pat. Cas. 222, 224 (1840).

of the invention before the date of the patent application would bar the grant of a valid patent,³³ and the Patent Act of 1836, which provided that placing the invention in public use or on sale, with the consent or allowance of the inventor, would bar the grant of a valid patent and serve as a basis for invalidating a patent.³⁴ Under the literal language of both these statutes, any act placing the invention in the possession of the public before the filing of the patent application barred the grant of a valid patent. Despite the absolute nature of the literal language of these statutes, and in a sense because of it, the courts reasoned that the inventor's use of the invention in public for the purpose of testing the invention could not raise a bar to patentability. Because an inventor may need to test the invention before filing a patent application, the courts reasoned, the tests must not be the kind of use that constitutes a public use under the patent statute.

In 1824, Circuit Judge Thompson instructed the jury in *Morris v. Huntington*³⁵ that the public use bar of the 1793 statute

33. Act of Feb. 21, 1793, ch. 11, § 1, 1 Stat. 318-23 (authorizing the grant of a patent for "any new and useful art, machine, manufacture or composition of matter, . . . not known or used before the application"). The first patent statute, the 1790 Patent Act, had authorized the grant of a patent for "any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used." Act of Apr. 10, 1790, ch. 7, § 1, 1 Stat. 109-12.

34. Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117 (authorizing grant of patent for "any art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not . . . at the time of his application for a patent, in public use or on sale, with his consent or allowance") and *id.* at § 15 (authorizing the pleading of defenses to patent infringement, including that the invention "had been in public use, or on sale, with the consent and allowance of the patentee before his application for patent"). Under these provisions, an activity conducted before the application with the inventor's consent could bar a patent but an activity conducted before the application, without the inventor's consent, could not. The "consent or allowance" language was dropped in the 1870 Patent Act. Act of July 8, 1870, ch. 230, § 24, 16 Stat. 201.

In the 1836 Patent Act, Congress had created a device known as a "caveat," a document that the inventor could file in the Patent Office to provisionally lay claim to the invention before filing the patent application. In explaining how this caveat worked, the Senate Report accompanying the 1836 Patent Act discussed inventors' need for experiments:

The first conception of ingenuity, like the first suggestions of science, are theories which require something of experiment and practical exemplification to perfect. Mechanical inventions are at first necessarily crude and incomplete. Time is required to develop their imperfections and to make the improvements necessary to their adaption to practical uses. Inventors generally obtain patents before they venture upon those experiments which only can test their inventions. They are apprehensive of being forestalled in their discoveries, and see no other means of protecting themselves against piracy and fraud, than by securing patents at once.

S. REP. NO. 338, 24th Cong., 1st Sess. 19 (1836).

35. 17 F. Cas. 818, 819 (C.C.D.N.Y. 1824) (No. 9,831).

was not absolute:

No man is to be permitted to lie by for years, and then take out a patent. If he has been practicing his invention with a view of improving it, and thereby rendering it a greater benefit to the public before taking out a patent, that ought not to prejudice him. But it should always be a question submitted to the jury, what was the intent of the delay of the patent, and whether the allowing the invention to be used without a patent should not be considered an abandonment or present of it to the public.³⁶

Although this jury charge turned out to be dicta,³⁷ it was widely perceived as establishing experimental use negation of the public use bar.³⁸

Five years later, the Supreme Court considered experimental use arguments in *Pennock v. Dialogue*,³⁹ a case where the jury

36. *Id.* at 820.

37. The facts of *Morris* presented a question of novelty intertwined with a question of what has since become known as reissue practice. The inventor took out a patent and then six years later, obtained a reissue patent without surrendering the original patent. *Id.* at 818. After instructing the jury, Judge Thompson directed a verdict in favor of the defendants, invalidating the second patent on the ground that the first patent had not been surrendered. *Id.* at 819-20.

38. See, e.g., *Letter from the Secretary of State Transmitting a List of All Patents Granted by the United States, the Acts of Congress Relating Thereto, and the Decisions of Courts of the United States*, H.R. DOC. NO. 50, 21st Cong., 2d Sess. 19 (1831); WILLARD PHILLIPS, *THE LAW OF PATENTS FOR INVENTIONS* 187 (1837). The very next year, the Supreme Court Justice Story, sitting as circuit justice in *Mellus v. Silsbee*, charged the jury at length regarding the public use bar. 16 F. Cas. 1332, 1334 (C.C.D. Mass. 1825) (No. 9,404). He explained that a patent is not to be barred by an inventor's "licensing a few persons to use his invention to ascertain its utility." *Id.* This brief comment marked the first of Justice Story's four occasions to consider experimental use. See *infra* note 51. No other jurist would contribute as much to the law of experimental use until Judge (later Chief Judge) Helen Nies of the United States Court of Appeals for the Federal Circuit. See, e.g., *RCA Corp. v. Data Gen. Corp.*, 887 F.2d 1056 (Fed. Cir. 1989); *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984). Perhaps no other jurist has contributed as much to patent law as Justice Story. See Steven Lubar, *The Transformation of Antebellum Patent Law*, 32 *TECH. & CULTURE* 932, 939-40, 956 (1991) ("Story's [patent] decisions reflect the changes that law underwent as it struggled to uphold community interests at the same time that it sought to encourage inventors").

39. 27 U.S. (2 Pet.) 1 (1829). In the meantime, Justice Washington had rejected the application of experimental use to third-party activities in *Watson v. Bladen*. 29 F. Cas. 424 (C.C.E.D. Pa. 1826) (No. 17,277). Instructing the jury in a case involving a machine for making crackers, Justice Washington said:

It surely cannot be denied that the act of making crackers with [the machine] amounted to a using of it according to the common and accepted meaning of that phrase: and I am quite at a loss to imagine how this meaning can be varied by the particular motive which induced the inventor so to employ the machine. I can discover nothing in the patent act which will authorize the court to depart from the ordinary meaning of this expression, and to declare that a machine which is put into operation for the sole

had held the patent invalid because the patentee had sold some 13,000 feet of the claimed hose invention during the seven years before applying for the patent. On appeal, Daniel Webster⁴⁰ argued for the patentee that “the invention, being of such a nature that the use of it, for the purpose of trying its utility and bringing it to perfection, must necessarily be open and public,”⁴¹ and that the pre-application use by the patentee was not “voluntary abandonment, or negligence, or unreasonable delay in obtaining letters-patent, to destroy the right of the patentee.”⁴² Although recognizing the absolute language of the 1793 Patent Act, counsel for the accused infringer admitted that the inventor’s own knowledge and use would not be a bar “because every inventor must know his invention, and must use it to the extent of ascertaining its usefulness, before he applies for a patent.”⁴³ In delivering the opinion of the court, Justice Story addressed the experimental use issue:

What then is the true meaning of the words “*not known or used before the application?*” They cannot mean that the thing invented was not known or used before the application, by the inventor himself, for that would be to prohibit him from the only means of obtaining a patent. The use, as well as the knowledge of his invention, must be indispensable to enable him to ascertain its competency to the end proposed, as well as to perfect its component parts. The words then, to have any rational interpretation, must mean, not known or used by others, before the application.⁴⁴

purpose (if such be the case) of trying its practical utility, is not used within the meaning and intent of the sixth section of that act.

Id. at 425-26.

40. Daniel Webster, commonly considered the 19th Century’s leading advocate, tried and argued many patent cases, including *Keplinger v. DeYoung*, 23 U.S. (10 Wheat.) 358 (1825), *Grant v. Raymond*, 31 U.S. (6 Pet.) 218 (1832), *Wilson v. Rousseau*, 45 U.S. (4 How.) 646 (1846), *Wilson v. Turner*, 45 U.S. (4 How.) 712 (1846), *Wilson v. Simpson*, 50 U.S. (9 How.) 109 (1850), *Gayler v. Wilder*, 51 U.S. (10 How.) 477 (1850), and his last case, *Goodyear v. Day*, 10 F. Cas. 678 (C.C.D.N.J. 1852) (No. 5,569). See ARTHUR CANNON, *SPEECH OF THE HON. DANIEL WEBSTER IN THE GREAT INDIA RUBBER SUIT* (1852); 2 GEORGE T. CURTIS, *LIFE OF DANIEL WEBSTER* 591-92 (1930); 2 CLAUDE M. FUESS, *DANIEL WEBSTER* 319-21 (1930); Lubar, *supra* note 38, at 956-58. Webster had as “his beloved friend and counselor” Justice Story, Fuess, *supra*, at 149, and had as his biographer George Ticknor Curtis, the author of four editions of the preeminent pre-1890 patent law treatise. See CURTIS, *supra*, at 591-92.

41. *Pennock*, 27 U.S. at 4.

42. *Id.* at 6. Counsel for the defendant argued that the seven years of hose sales had been made “not to experiment with, in order to bring the invention to perfection; but for public use, as a thing already completed, and adapted to the purpose of arresting the ravages of fire.” *Id.* at 9. Per defendant’s counsel, the invention was used from 1811 to 1818 and “was never materially altered or improved. The thing patented in 1818 was precisely the thing invented, completed and used in 1811.” *Id.*

43. *Id.* at 12.

44. *Id.* at 18-19 (emphasis in original). Based on the facts of the case, the Su-

The court in *Pennock*, therefore, adopted experimental use negation of the public use bar as a matter of logic,⁴⁵ in defiance of the plain language of the 1793 Patent Act.⁴⁶

Four years later, the Supreme Court returned to the experimental use issue in *Shaw v. Cooper*.⁴⁷ The jury had entered a verdict in favor of the defendant on the ground that plaintiff's patent was invalidated by pre-application public use of the invention in France and Germany. On appeal, the plaintiff argued that the reason he delayed seeking the patent was that the invention

preme Court affirmed the Circuit Court's judgment that the patentee's sale of 13,000 feet of hose before filing the patent application constituted a barring public use. *Id.*

Phillips speculated that the cursory treatment of experimental use in *Pennock v. Dialogue* was due to the fact that the "doctrine here laid down as to the experiments, and the use of the invention for the purpose of perfecting it, is assumed and taken for granted, in so much that a formal statement of it is superfluous." PHILLIPS, *supra* note 38, at 187-88.

45. In *Treadwell v. Bladen*, Justice Washington cited *Morris v. Huntington* with approval and charged the jury that "the patent law would very nearly become a dead letter; as every inventor uses the machine he invents before he applies for a patent, with a view to satisfying himself whether it answers the purpose for which it was intended." 24 F. Cas. 144, 116-47 (C.C.E.D. Pa. 1827) (No. 14,154). Justice Washington's premise, and Justice Story's premise in *Pennock v. Dialogue*, is, of course, faulty because there is no requirement that an invention be shown to work for its intended purpose before filing a patent application, and there never has been such a requirement.

46. The next case to consider experimental use was *Whitney v. Emmett*, 29 F. Cas. 1074 (C.C.E.D. Pa. 1831) (No. 17,585). In that 1831 case, Supreme Court Justice Baldwin, sitting as circuit justice, charged the jury regarding infringement and validity of a patent for manufacturing glass knobs. He addressed the allegation of invalidity based on a prior public use as follows:

The time during which the thing patented had been known and used is not material, the criterion is its public, not its private or surreptitious use, but the use with the consent of the inventor express, or implied from circumstances. A patentee may take a reasonable time to make his specification, drawings, model, to try experiments on the effect and operation of his machinery, in order to know whether the thing patented can be produced in the mode specified; he may disclose his secret to those he may wish to consult, or call to his assistance any persons to aid him in making or using his machine, and preparations for procuring his patent. So if the machine is to operate publicly, as in steam boats, a public experiment may be made, or if the patentee is informed that others are using his invention, he may disclose it to them in order to give notice of what it consists, and caution them against its infringement. In either of these and like cases, a disclosure of the secret would not be such previous knowledge, or the use of the invention be such an use, as would impair the patent if taken out in a reasonable time after the discovery, the question of due diligence or negligence is for the jury on all the circumstances of the case.

Id. at 1077-78. Although Whitney's alleged public use was not recorded, the jury entered a verdict for the patentee in the amount of \$500. *Id.* at 1083.

47. 32 U.S. (7 Pet.) 292 (1833).

“was not so perfect as he wished to make it, before he introduced it to public use; and that he did make alterations in his invention, up to about the date of his patent, which some witnesses considered as improvements, and others did not.”⁴⁸ The Supreme Court quoted in full the experimental use passage from the jury instruction in *Morris v. Huntington*,⁴⁹ then went on to construe knowledge and use under the Patent Act of 1793:

The knowledge or use spoken of in the Act of 1793, could have referred to the public only, for the provision would be nugatory if it were applied to the inventor himself. He must, necessarily, have a perfect knowledge of the thing invented and its use, before he can describe it, as by law he is required to do, prefatory to the emanation of a patent.⁵⁰

These and other early cases firmly established experimental use negation of the 1793 and 1836 Patent Acts' public use and on sale bars.⁵¹ Most of these cases relied on the absolute nature of

48. *Id.* at 303.

49. See *supra* notes 35-36 and accompanying text for a discussion of *Morris*.

50. *Shaw*, 32 U.S. (7 Pet.) at 318. The Supreme Court later quoted this passage in *Kendall v. Winsor*, 62 U.S. (21 How.) 322, 330 (1858).

The *Shaw v. Cooper* court rejected the patentee's claims that he delayed filing his application to make his invention more perfect: "It seems, by this delay, he was not enabled, essentially, to vary or improve it. The plan is substantially the same as was carried into public use through the brother of the plaintiff, in England. Such an excuse, therefore, cannot avail the plaintiff." *Shaw*, 32 U.S. (7 Pet.) at 322. Accordingly, the Supreme Court affirmed the judgment of the Circuit Court that the patent was invalid on the ground of public use. *Id.*

51. Experimental use next arose in *Ryan v. Goodwin*, an infringement action involving "friction matches for the instantaneous production of light." 21 F. Cas. 110 (C.C.D. Mass. 1839) (No. 12,186). Justice Story, sitting as circuit justice, instructed the jury that "if the use be merely experimental, to ascertain the value or utility, or success of the invention, by putting it in practice, that is not such a use, as will deprive the inventor of his title." *Id.* at 111.

The next year, Justice Story addressed experimental use in *Wyeth v. Stone*, a bill in equity seeking an injunction against infringement of a patent on an ice cutting device. 30 F. Cas. 723 (C.C.D. Mass. 1840) (No. 18,107). Without identifying whether he was relying on the 1793 or 1836 patent statute, Justice Story rejected the defendant's contention that the patent was barred by public use: "If it was merely used occasionally by himself in trying experiments, or if he allowed only a temporary use thereof by a few persons, as an act of personal accommodation or neighborly kindness, for a short and limited period, that would not take away his right to a patent." *Id.* at 726.

Curtis adopted Justice Story's *Wyeth v. Stone* formulation of experimental use. GEORGE T. CURTIS, THE LAW OF PATENTS 46 (1849) ("if allowed for a short, or definite period, as an act of kindness, or as a means of continuing experiments and testing the utility of the invention it would not have had the effect of defeating the patent under the Act of 1836."); GEORGE T. CURTIS, THE LAW OF PATENTS 74 (2d ed. 1854) (same). The court in *Blackinton v. Douglass*, clarified that "a use in public unlimited in time, extent or object" will bar a patent "whatever the motive of the inventor in granting such unlimited indulgence to two or three friends." 3 Fed. Cas. 537, 539 (C.C.D.C. 1859) (No. 1,470).

the statutory language and the inventor's need to conduct pre-application experiments. The only way to reconcile the two was to interpret the statutory language not to apply to these pre-application experiments.

B. The 1839 Patent Act

The 1839 Patent Act modified the absolute language of the 1836 Patent Act's public use and on sale bars by adopting a two-year grace period in which the inventor and others could place the invention in public use or on sale without barring patentability: "no patent shall be held to be invalid by reason of such purchase, sale or use prior to the application for patent as aforesaid, except on proof . . . that such purchase, sale or prior use has been for more than two years prior to such application for patent."⁵² Long after the fact, the Supreme Court suggested that the purpose of the two-year grace period was to resolve an ambiguity in the 1836 Act regarding consented and unconsented uses.⁵³ Contemporary sources show, however, that the Court was mistaken.

Contemporary sources reveal that the two-year grace period resulted from three factors: the controversy raised by employed inventors over their difficulty in investing time, effort and money into their inventions; the ban on patenting inventions already placed in public use or on sale; and the creation of common law shop rights in the employers of these inventors.⁵⁴ Employed inventors, who often lacked the resources to develop their inven-

52. Act of Mar. 3, 1839, ch. 88, § 7, 5 Stat. 353-55.

53. *Andrews v. Hovey*, 123 U.S. 267, 274 (1887), *aff'd on rehearing*, 124 U.S. 694 (1888), stated:

The evident purpose of the section was to fix a period of limitation which should be certain, and require only a calculation of time, and should not depend upon the uncertain question of whether the applicant had consented to or allowed the sale or use. Its object was to require the inventor to see to it that he filed his application within two years from the completion of his invention, so as to cut off all question of the defeat of his patent by a use or sale of it by others more than two years prior to his application, and thus leave open only the question of priority of invention. The evident intention of Congress was to take away the right (which existed under the act of 1836) to obtain a patent after an invention had for a long period of time been in public use, without the consent or allowance of the inventor; it limited that period to two years, whether the inventor had or had not consented to or allowed the public use.

Id. Accord GEORGE T. CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS 48 (1849). However, the grace period did not resolve the ambiguity. See *Andrews*, 123 U.S. at 274. See also Note, *Changes in the Patent Laws*, 21 J. PAT. OFF. SOC'Y 703, 711-14 (1939).

54. Lubar, *supra* note 38, at 948-49 (quoting Petition of Thomas Baldwin, Feb. 1, 1833, N.A., Patents, H.R. 25A-G14.1; Petition of George Grey, June 2, 1836, N.A., Patents, HR 25A-G14.1).

tions, that allowed their employers to use their inventions before filing their patent applications found their employers vested with a shop right to use the invention and their own ability to patent the invention precluded by their employer's use or sale of the invention.⁵⁵ Congress addressed these problems in the 1839 Patent Act by granting inventors a two-year grace period and by granting to their employers and others prior user rights.⁵⁶ Giving inventors time to experiment appears to have been one of the reasons for adoption of the two-year grace period.⁵⁷

Regardless of its purpose, the 1839 Patent Act's adoption of the two-year grace period eliminated the logical basis for creation of experimental use negation by giving the inventor two years in which to test the invention before filing a patent application. As a result, considerable doubt arose regarding whether experimental use negation of the public use and on sale bars survived the adoption of the two-year grace period. For example, in *Adams v. Edwards*,⁵⁸ Justice Woodbury, sitting as circuit justice, charged the jury regarding public use and referred to experimental use: "[t]he law has come in, and given two-year's use and sale to the inventor, without being barred so as to prevent experiments and trials of machines, to improve them."⁵⁹ In Justice Woodbury's view, Congress provided the two-year grace period to allow experimental use.⁶⁰ The implication is that Congress replaced experimental

55. *Id.* at 949.

56. Section 7 of the 1839 Patent Act gave "every person or corporation who has . . . purchased or constructed any newly invented machine . . . prior to the application by the inventor . . . for a patent" the right to use and sell the machine "without liability therefor to the inventor." Act of Mar. 3, 1839, ch. 88, § 7, 5 Stat. 353-55. These prior user rights quickly became the most controversial aspect of the patent laws. Lubar, *supra* note 38, at 949.

57. *Patent Laws - A Citizen of Pennsylvania - Amend.*, H.R. Doc. No. 521, 23d Cong., 1st Sess. 1-4 (1834) (urging Congress to institute a five-year grace period to help inventors afford "the labor and expense of trying experiments"). See also Petition of George Grey, June 2, 1836, N.A., Patents, H.R. 25A-G14.1 (seeking renewal of patent and complaining of the "great variety of experiments which he had to make to bring the invention to maturity" and that "it was very difficult for me to see how a man could apply for a patent without knowing the subject of the invention or discovery himself and frequently it requires the joint labor of practical Mechanics and Artisans to bring them to maturity," thereby "it became an impossibility to see how inventions could be kept from the knowledge of the public.").

58. 1 F. Cas. 112 (C.C.D. Mass. 1848) (No. 53).

59. *Id.* at 117.

60. Although no issue of experimental use was involved in *Blandy v. Griffith*, Circuit Justice Swayne did not leave much room for it in his interpretation of the 1839 Patent Act:

The [1839 Patent Act] is inflexible as to the time when the patent is to be applied for, with reference to the prior use and sale of the invention. The neglect to apply within two years after such sale or use is inevitably fatal. Whenever this fact appears, the patent falls. Whatever the circumstance, the courts have no dispensing power.

use negation with a two-year grace period. Curtis also hinted that the two-year grace period adopted in 1839 may have eliminated the doctrine of experimental use.⁶¹

Most courts, however, ignored the potential effect of the 1839 Act's adoption of a two-year grace period and continued to apply experimental use negation of the public use and on sale bars to activities conducted more than two years before the application.⁶² They did so with good reason. Particularly in instances

3 F. Cas. 675, 682 (C.C.S.D. Ohio 1869) (No. 1,529).

61. On one hand, Curtis emphatically stated that "where the patentee alone makes the thing for the purposes of experiment and completion, without selling it to be used by others, the term 'public use' is not applicable." GEORGE T. CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS 404 (3d ed. 1867). Likewise he stated that:

[w]here a party practices his invention himself, for the purposes of experimental completion, before he takes out a patent, the inference that he intends to surrender his invention to the public does not arise; and, consequently, a dedication cannot be proved by evidence that shows only experimental practice by the inventor, whether in public or in private.

Id. at 408. On the other hand, Curtis explained experimental use in view of the two-year grace period as follows: "In this country, under the provisions of the Act of 1839, this doctrine, *if applicable at all*, could or need only be applied to such profitable experiments as take place more than two years before the application for letters-patent." *Id.* at 411 (emphasis added). Curtis carried the identical text over into his fourth edition. GEORGE T. CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS 517-20 (4th ed. 1878).

62. *E.g.*, *Agawam Woolen Co. v. Jordan*, 74 U.S. (7 Wall.) 583, 607-08 (1868) (holding "mere forbearance to apply for a patent during the progress of experiments, and until the party has perfected his invention and tested its value by actual practice, affords no just grounds" to bar the patent); *Henry v. Francetown Soap-Stone Co.*, 2 F. 78, 81 (C.C.D.N.H. 1880) (stating "whether use or sale, that particular transaction must be experimental, or it is within the forfeiture of the statute"); *Birdsall v. McDonald*, 3 F. Cas. 441, 443 (C.C.N.D. Ohio 1874) (No. 1,434) ("Public use in good faith for experimental purposes and for a reasonable period, even before the beginning of the two years of limitation, cannot affect the rights of the inventor."); *Locomotive Engine Safety Truck Co. v. Penn. R. Co.*, 15 F. Cas. 776, 780 (E.D. Pa. 1874) (No. 8,453) (stating "the mere forbearance to apply for a patent, during the progress of experiments, and until the party has perfected his invention, and tested its value by actual practice, affords no just grounds for presuming an abandonment."); *rev'd on other grounds*, 110 U.S. 490 (1884); *Jones v. Sewall*, 13 F. Cas. 1017, 1027 (C.C.D. Me. 1873) (No. 7,495) (stating "if the use is merely experimental, to ascertain the value, utility, or success of the invention by putting it in practice, that is not such a sale or use as will deprive the inventor of his title."); *rev'd*, 91 U.S. 171 (1875); *M'Millin v. Barclay*, 16 F. Cas. 302, 305 (C.C.-W.D. Pa. 1871) (No. 8,902) ("It remains, then, to inquire whether the use by the patentee of his invention, more than two years before his application for a patent, was only a trial of it to test its efficiency, or ascertain its defects, and was, therefore, merely experimental."); *American Hide & Mach. Co. v. American Tool & Mach. Co.*, 1 F. Cas. 647, 652 (C.C.D. Mass. 1870) (No. 302) (rejecting patentee's contention "that, although these machines may have embodied the devices described in both these patents, the machines which were put on sale and in public use were not perfect machines; that perfection had not been attained; and that they were put on sale in a crude and unfinished condition, for experiment"); *Sand-*

where durability is an important aspect of the invention, the need for experiments may extend well beyond two years. In just such a case, the Supreme Court was to soon resolve any doubt about the continuing vitality of experimental use.

C. *City of Elizabeth v. American Nicholson Pavement Co.*

In *City of Elizabeth v. American Nicholson Pavement Co.*,⁶³ American Nicholson Pavement Company sued the City of Elizabeth, New Jersey for infringement of a patent on a wooden block pavement. The City asserted, among other things, that the inventor had abandoned the invention by publicly using a seventy-five foot section of the pavement on a private toll road for six years before he applied for his patent.⁶⁴ The purpose of the invention was to provide a pavement that was "comparatively permanent and durable, . . . [and] provide[d] against the slipping of the horses' feet, against noise, against unequal wear, and against rot and consequent sinking away from below."⁶⁵ The Court found it important that the inventor constructed the road at his own expense, and that the toll collector testified that the inventor would come, on almost a daily basis, to inspect the portion of the road he constructed, tapping it with his cane, examining it and asking him what the wagon drivers thought of it.⁶⁶ After six years of monitoring the results of the use of the pavement for its intended

ers v. Logan, 21 F. Cas. 321, 324 (C.C.W.D. Pa. 1861) (No. 12,295) ("The allegation that these machines were made and incorporated into so many mills all over the country for the purposes of experiment, is too absurd to be entertained for a moment"); Seeley v. Bean, 21 F. Cas. 1011, 1013-14 (C.C.D.C. 1861) (No. 12,629) (rejecting assertion of experimental sales "after the machine had been completed and put on sale for public use in the shop, on account of the purchaser himself, and not as a neighborly act on account of the inventors, without profit, without limit of time or restraint as to public or private use"); Lovering v. Dutcher, 15 F. Cas. 1001, 1002 (C.C.D.C. 1861) (No. 8,553) (rejecting experimental use where activities more than two years before application were conducted after the invention was "perfect"); Bell v. Daniels, 3 F. Cas. 96, 99 (C.C.S.D. Ohio 1858) (No. 1,247) ("if the jury find that the invention was used by others, or even by one person, with the consent or allowance of the inventor publicly, and for more than two years before the application for a patent, or if they find that it was publicly used for a long period by the inventor himself, not in the way of experiment, but for gain, in either case the patent is void"); Pitts v. Hall, 19 F. Cas. 754, 756-57 (C.C.N.D.N.Y. 1851) (No. 11,192) (instructing jury to reject alleged experimental use "if the machine was complete when it was constructed . . . , and if the patentee put it into public use, or put it in operation publicly, deriving profit from it, and having no view of further improvements or of ascertaining its defects"); Winans v. Schenectady & T.R. Co., 30 F. Cas. 277, 285 (C.C.N.D.N.Y. 1851) (No. 17,865) ("The law allows the inventor a reasonable time to perfect his invention by experiments").

63. 97 U.S. 126 (1877).

64. *Id.* at 129.

65. *Id.* at 127.

66. *Id.* at 133.

purpose, and after making no changes to his invention, the inventor became convinced that his paving system worked as a useful and durable road and he filed a patent application.⁶⁷

Before addressing whether the inventor's activities were experimental, the Court outlined seven principles of experimental use:

1. Although the nature of the pavement invention was such that it could not be experimented upon satisfactorily except on a highway, which is always public, even if a device is of a nature that it may be experimented on in private, its experimental use in public will still not create a bar,⁶⁸
2. An inventor need not alter the invention as a result of the activity for that activity to be experimental;⁶⁹
3. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether the invention will work for its intended purpose;⁷⁰
4. The inventor does not have to build and use an embodiment of the invention in his own shop or on his own premises for the activity to be experimental;⁷¹
5. That the public may incidentally derive a benefit from the activity does not deprive the activity of its experimental nature;⁷²
6. A use pursued with a *bona fide* intent of testing the qualities of the machine is not a public use within the meaning of the statute, and so long as the inventor neither voluntarily allows others to make and use his invention, nor sells it for general use, he keeps the invention under his control, and does not lose his title to a patent;⁷³ and
7. To be experimental, an activity must be conducted "under the surveillance of the inventor."⁷⁴

Applying these principles, the Supreme Court held that the

67. *Id.* at 136.

68. *Elizabeth*, 97 U.S. at 134-35.

69. *Id.* at 135. This principle is directly contrary to the reason that the Supreme Court rejected the assertion of experimental use in *Shaw v. Cooper*, that the inventor made no changes to the invention as a result of the alleged experiments. See *supra* note 50.

70. *Elizabeth*, 97 U.S. at 135.

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.* at 135.

public testing did not place the invention in public use, observing that "it is the interest of the public, as well as [the inventor], that the invention should be perfect and properly tested, before a patent is granted for it."⁷⁵ The Court held that the inventor did not abandon his invention because he had not profited by the use of the pavement and because he was engaged in bona fide experimentation to perfect his invention and to ascertain whether it would work as intended.⁷⁶ The Court held that mere use of the pavement in public did not necessarily establish that the invention had been placed in public use.⁷⁷ The Court reasoned that "[t]he use of an invention by the inventor himself, or of any person under his direction, by way of experiment, and in order to bring the invention to perfection, has never been regarded as [a public use]."⁷⁸

D. *Smith & Griggs Manufacturing Co. v. Sprague*

The Supreme Court returned to the experimental use issue in 1887 in *Smith & Griggs Manufacturing Co. v. Sprague*.⁷⁹ In that case, the patentee had made and sold more than seven million shoe buckles using machinery containing improvements for which he later sought and obtained a patent. After making those sales over a four-year period, the patentee made several minor changes in portions of the machinery separate from the claimed invention, then filed the patent application.⁸⁰ The manufacture of the buckles was, per Justice Matthews, "a public use in the sense of the statute,"⁸¹ but was held by the Circuit Court not to be "a public use within the prohibition of the statute so as to defeat the patent because that use was experimental only, of an imperfect machine."⁸²

The court in *Smith & Griggs* identified two simple rules regarding experimental use. First, to be considered experimental, the activity must be conducted "substantially for purposes of experiment."⁸³ That is, that the patentee makes an incidental prof-

75. *Id.* at 137.

76. *Id.* at 136.

77. *Id.*

78. *Id.* at 134.

79. 123 U.S. 249 (1887).

80. *Id.* at 253-55.

81. That use of the machinery was "by the [patentee] in the regular conduct of his business by workmen employed by him in its operation, and in view of such part of the public as chose to resort to his establishment, either for the purpose of selling material for the manufacture or of purchasing its product." *Id.* at 254.

82. *Id.*

83. The Court noted:

A use by the inventor, for the purpose of testing the machine, in order by experiment to devise additional means for perfecting the success of its oper-

it does not change the experimental nature of the activity. Second, where a prima facie case of public use has been established by clear and convincing evidence, "the proof on the part of the patentee . . . should be full, unequivocal, and convincing."⁸⁴ Applying these rules, the Court reversed the experimental use determination because the patentee's testimony was "indefinite and vague," because the manufacture of the buckles was not substantially for experimental purpose⁸⁵ and because the changes made to the machinery — the only asserted basis for the experimentation — were to portions separate from the claimed invention.⁸⁶

E. The 1939 Patent Act

In the 1939 Patent Act, Congress shortened the two-year grace period to one year.⁸⁷ In the legislative history, Congress explained that the purpose of the grace period was to allow the inventor time to "make up his mind whether or not to file an application for patent."⁸⁸ And Congress also recognized that experimentation could end before the grace period begins.⁸⁹ Thus,

ation, is admissible; and where, as incident to such use, the product of its operation is disposed of by sale, such profit from its use does not change its character; but where the use is mainly for the purposes of trade and profit, and the experiment is merely incidental to that, the principal and not the incident must give character to the use. The thing implied as excepted out of the prohibition of the statute is a use which may be properly characterized as substantially for purposes of experiment.

Id. at 256.

84. *Smith*, 123 U.S. at 264.

85. The Court noted:

The proof falls far short of establishing that the main purpose in view, in the use of the machine by the patentee, prior to his application, was to perfect its mechanism and improve its operation. On the contrary, it seems to us that it shows that the real purpose in the use was to conduct the business of the manufacture, the improvement and perfection of the machine being merely incidental and subsidiary.

Id. at 266.

86. *Id.* at 255-56.

87. Act of Aug. 5, 1939, ch. 450, § 1, 53 Stat. 1212.

88. Both the Senate and House reports observed:

In 1839, when the period of 2 years was first adopted, it may have been a proper length of time for an inventor to make up his mind whether or not to file an application for patent. Under present conditions 2 years appears unduly long and operates as a handicap to industry. Reduction of the period would serve to bring the date of patenting closer to the time when the invention is made.

S. REP. NO. 876, 76th Cong., 1st Sess. 1 (1939); H.R. REP. NO. 961, 76th Cong., 1st Sess. 1 (1939).

89. Both the Senate and the House reports observed:

The present patent law . . . specifies that any person who has made an invention not known or used by others before his invention was made may obtain a patent, but, nevertheless, a patent cannot be obtained if the inven-

by 1939, Congress and the courts had recognized very different purposes for the grace period (to allow an inventor time to decide whether to apply for a patent) and for experimental use negation of the public use and on sale bars (to allow the inventor an opportunity "to bring the invention to perfection"). Congress and the courts had also recognized that experimental use negation operated entirely independent of the grace period.

The law of experimental use negation summarized in *City of Elizabeth* and *Smith & Griggs* was applied by the courts for over 100 years with little alteration.⁹⁰ The law began to change in a meaningful way, however, soon after the creation of the United States Court of Appeals for the Federal Circuit in 1982. The Federal Circuit adopted as precedent the cases of the Supreme Court, the Court of Customs and Patent Appeals and the Court of Claims,⁹¹ all of which had precedential experimental use cases.⁹² Although the Federal Circuit expressed serious misgivings about the law of public use and on sale bars in general,⁹³ it

tion . . . was in public use or on sale in this country, more than 2 years prior to his application. *The law thus permits an inventor, after his invention is fully completed, to make the invention known to the public for a period of 2 years before filing his application for patent.*

Id. (emphasis added).

90. The Supreme Court considered experimental use in four other cases: *Electric Storage Battery Co. v. Shimadzu*, 307 U.S. 5, 20 (1939) (stating in dicta that "a mere experimental use is not the public use defined by the Act"); *Root v. Third Ave R. Co.*, 146 U.S. 210, 223 (1892) (stating in dicta that "if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine, and ascertain whether it will answer the purpose intended, and make such alterations and improvements as experience demonstrates to be necessary, it will still be a mere experimental use, and not a public use, within the meaning of the statute"); *Beedle v. Bennett*, 122 U.S. 71, 77 (1887) (holding that use of well drills was experimental despite initial success because of need to test invention in different geological settings); and *Manning v. Cape Ann Isinglass & Glue Co.*, 108 U.S. 462, 465 (1883) (holding that use of a process for making gelatin from fish bladders was not experimental because the inventor made no changes to the process after four years of unrestricted pre-application use by third parties).

91. *South Corp. v. United States*, 690 F.2d 1368, 1370-71 (Fed. Cir. 1982).

92. The Court of Claims had considered experimental use in three cases: *Gould, Inc. v. United States*, 579 F.2d 571 (Ct. Cl. 1978); *Ushakoff v. United States*, 327 F.2d 669 (Ct. Cl. 1964); and *Binckley v. United States*, 83 Ct. Cl. 444 (1936). The Court of Customs and Patent Appeals had considered experimental use in four cases: *In re Theis*, 610 F.2d 786 (C.C.P.A. 1979); *In re Dybel*, 524 F.2d 1393 (C.C.P.A. 1975); *In re Blaisdell*, 242 F.2d 779 (C.C.P.A. 1957); and *In re Jossierand*, 188 F.2d 486 (C.C.P.A. 1951).

93. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 5 F.3d 1477, 1482-88 (Fed. Cir. 1993) (Rader, J., dissenting) (describing Federal Circuit on sale bar opinions as a "bewildering and blinding blizzard of instructions," identifying at least three tests used by the Federal Circuit and collecting negative commentary); *TP Lab. v. Professional Positioners, Inc.*, 724 F.2d 965, 968 (Fed. Cir.) ("Decisions under [the public use and on sale bars] are marked by confusion and inconsistency."), *cert. denied*, 469 U.S. 826 (1984); Pauline Newman, *The Federal Circuit — A Reminis-*

wholeheartedly accepted the law of experimental use — or at least it professed to do so.

II. THE LAW OF EXPERIMENTAL USE NEGATION OF THE PUBLIC USE AND ON SALE BARS

This portion of the paper considers first the nature of experimental use negation as it currently exists under the precedent of the Federal Circuit. In doing so, it reviews the factors relevant to experimental use. Finally, it considers the details of proving experimental use.

A. *The Nature of Experimental Use*

To further the public interest, the law allows inventors the opportunity⁹⁴ to “perfect” or “complete” their inventions, that is, to reduce their inventions to practice,⁹⁵ before applying for a patent.⁹⁶ An inventor’s activities which are undertaken to reduce the invention to practice are referred to as “experimental use” and are not subject to the on sale or public use bars to patentability.

cence, 14 GEO. MASON L. REV. 513, 527 (1992) (“I believe there is room for rethinking the policy aspects of several areas of patent law. I would include . . . the on-sale bar”).

94. The policy is not to give the inventor *time* to reduce the invention to practice. The only time period granted in the one-year grace period, which has nothing to do with experimental use. The confusion between giving the inventor the opportunity to reduce the invention to practice (experimental use) and giving the inventor time to determine whether the invention is worth filing a patent (the one year grace period) reaches its zenith in the “experimental stage” theory, that “A public use under § 102(b) does not start the one year period until the invention has left the experimental stage.” *Allied Colloids v. American Cyanimid Co.*, No. 93-1407, slip op. at 8 (Fed. Cir. Sept. 1, 1995). See generally Welch, *supra* note 3.

95. “Perfection” and “completion” are synonyms for the stage of an invention marked by the event of reduction to practice. See *American Hide Mach. Co. v. American Tool & Machine Co.*, 1 F. Cas. 647, 652 (C.C.D. Mass. 1870) (No. 302); William C. Rooklidge & W. Gerard von Hoffmann, *Reduction to Practice, Experimental Use and the On Sale and Public Use Bars to Patentability*, 63 ST. JOHN’S L. REV. 1, 7-11 (1988).

96. Experimental use negation does not apply to the printed publication bar of 35 U.S.C. § 102(b). *In re Baxter Travenol Lab.*, 952 F.2d 388, 391 (Fed. Cir. 1991) (stating under the printed publication bar of Section 102(b), “[t]he fact that [the author’s] system was experimental is irrelevant”); *In re Hassler*, 347 F.2d 911, 914 (C.C.P.A. 1965) (holding patentability barred by newspaper article describing experimental version of tobacco curing device); *Binckley v. United States*, 83 Ct. Cl. 444, 473 (Fed. Cir. 1936) (“What the courts have said upon this subject [experimental use] bears upon the question of public use, and does not apply to a case where the court is seeking to find whether an alleged improvement has been discovered in a printed publication” (quoting *Thacher v. Falmouth*, 235 F. 151, 158 (D. Maine 1916))). *Accord Pickering v. Holman*, 459 F.2d 403, 407 (9th Cir. 1972) (holding patent invalid based on publication describing experimental embodiment even though public use and on sale bars were negated by experimental use).

Experimental use is said to “negate”⁹⁷ the on sale and public use bars.

In cataloging the policies underlying the public use and on sale bars, the Federal Circuit in *TP Laboratories* identified two policies operating in favor of the inventor: “the public interest is also deemed to be served by allowing an inventor time to perfect his invention, by public testing, if desired, and prepare a patent application.”⁹⁸ Of course, the policy allowing an inventor the opportunity to perfect the invention is the policy underlying experimental use negation.⁹⁹ Preparation of a patent application, and consideration of whether to even file an application, are the reasons for the one-year grace period.¹⁰⁰ But the Federal Circuit has confused these very policies in at least two different ways.

First, in *In re Hamilton*,¹⁰¹ the court suggested that “[t]he experimental use doctrine operates in the inventor’s favor to allow the inventor to refine his invention or to assess its value relative to the time and expense of prosecuting a patent application.” Suffice it to say that the court was simply wrong in making this statement. Activities undertaken before the one-year grace period to assess the value of the invention relative to the time and expense of filing a patent application are not experimental. The relative expense and time of prosecuting a patent application is irrelevant to experimental use and its underlying policy.

Second, in a line of cases stretching from the 1985 *King Instrument* case¹⁰² to the 1994 *Tone Brothers* case,¹⁰³ the Federal

97. The longstanding debate over whether experimental use is an “exception” or “negation” of the bar, see Fitz-Gerald, *supra* note 3, at 586-88, was resolved in *TP Laboratories*: experimental use is a negation of the bars, not an exception. *TP Lab. v. Professional Positioners, Inc.*, 724 F.2d 965, 971 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984). However, the Federal Circuit has referred to experimental use as an “exception” both before and after *TP Laboratories*. See *In re Smith*, 714 F.2d 1127, 1133, 1135-37 (Fed. Cir. 1983); *In re Brigance*, 792 F.2d 1103, 1109 (Fed. Cir. 1986).

98. *TP Lab.*, 724 F.2d at 968.

99. See *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 137 (1877) (stating “it is in the interest of the public, as well as [the inventor], that the invention should be perfect and properly tested before a patent is granted for it”).

100. See *supra* notes 84-86 and accompanying text; *General Electric Co. v. United States*, 654 F.2d 55, 61 (Ct. Cl. 1981) (stating there is “a reasonable amount of time following sales activity (set by statute as one year) to determine whether a patent is a worthwhile investment”); *Gould, Inc. v. United States*, 579 F.2d 571, 580 (Ct. Cl. 1978) (stating the grace period gives the inventor time to prepare and file the patent application); *Barrett*, *supra* note 20, at 735; *Rooklidge*, *supra* note 20, at 15-17.

101. 882 F.2d 1576 (Fed. Cir. 1989).

102. *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986).

103. *Tone Bros., Inc. v. Sysco Corp.*, 28 F.3d 1192, 1198 (Fed. Cir. 1994), *cert. denied*, 115 S. Ct. 1356 (1995).

Circuit listed the policies underlying the section 102(b) bars without including the policy underlying experimental use.¹⁰⁴ The Federal Circuit's omission of the policy underlying experimental use renders its *Tone Brothers* statement that whether "there was experimentation occurring is relevant to the question of whether the activities of the inventor was at odds with any of the four policies underlying the public use bar"¹⁰⁵ a non-sequitur. Of course, an activity that would create a public use bar but for its experimental character would still be "at odds with" the policy discouraging the removal from the public domain of inventions that the public reasonably has come to believe are freely available.¹⁰⁶ Likewise, an activity that would create an on sale bar but for its experimental character would still be "at odds with" the policy prohibiting the inventor from commercially exploiting the invention for a period greater than the statutorily prescribed time.¹⁰⁷ As a result, whether an activity is experimental has nothing whatsoever to do with whether the activity violates any of the other policies underlying the bars.

Whether an activity was experimental may be determined by merely identifying whether the purpose of the activity was primarily to complete or perfect the invention, that is, to reduce the invention to practice. Granted, this determination can only be made by considering a number of factual circumstances surrounding the activity, and many of these same circumstances are involved in determining whether a *prima facie* case has been estab-

104. Commentators have blindly repeated this policy list, omitting any reference to the policy underlying experimental use. See Thomas K. Landry, *Certainty & 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, 1163-64 (1994) (citing *UMC Elec. Co. v. United States*, 816 F.2d 647, 652 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1025 (1988)).

105. *Id.*

106. *Allied Colloids*, slip op. at 5 ("Thus the public use bar of § 102(b) requires that (1) the invention was used in public and (2) the use was not primarily experimental in purpose"); Rooklidge, *supra* note 20, at 17-21. The Federal Circuit was simply wrong in *Manville Sales Corp. v. Paramount Systems, Inc.*, when it stated that the patentee "did nothing to lead the public to believe its iris arm invention was in 'the public domain.'" 917 F.2d 544, 550 (Fed. Cir. 1990). Despite that "the invention was mounted atop a 150-foot tall pole in a rest area still closed to the public, making it *very unlikely* that the public would even see the new design," the public still had the possibility of access to an embodiment of the invention before the critical date. *Id.* See also *Perkins v. Nashua Card & Glazed Paper Co.*, 2 F. 451, 452 (C.C.D.N.H. 1880) (stating "when the public have had means of knowledge they have had knowledge of the invention" and "[i]f a pier had been placed in the bed of a river or a pipe underground, it is conclusively presumed to be known to all men"). Only if the inventor has taken steps to conceal the invention, would the use avoid violating the policy against detrimental public reliance. Rooklidge, *supra* note 20, at 19.

107. Rooklidge, *supra* note 20, at 22-28.

lished, that is whether the other policies are implicated. But the overlap in factors does not mean that there is no separate experimental use inquiry or policy; there is, and there always has been.

1. An Activity Is Experimental If Undertaken to Reduce the Invention to Practice

To qualify as an experimental use, an activity must be undertaken for the purpose of “perfecting” or “completing” the invention, that is, reducing the invention to practice. Reduction to practice requires that an embodiment meeting all the limitations of the patent claim be constructed, and that the invention be shown to be suitable for its intended purpose.¹⁰⁸ An activity undertaken either to create an embodiment of the invention or show that the invention is suitable for its intended purpose may qualify as an experimental use.¹⁰⁹

2. Activities Undertaken After Reduction to Practice Cannot Be Experimental

Because an experimental activity is defined as that undertaken to reduce the invention to practice, an activity occurring after reduction to practice cannot be an experimental use.¹¹⁰ Therefore, experimental use ends upon reduction to practice.¹¹¹

108. *UMC Elec. Co. v. United States*, 816 F.2d 647, 652 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1025 (1988). Testing is not always required to show reduction to practice, but when it is, the embodiment must actually work for its intended purpose. *Scott v. Finney*, 34 F.3d 1058, 1061-64 (Fed. Cir. 1994). Reduction to practice could be broken down further into four requirements: (1) the invention was embodied in a physical or tangible form; (2) the physical embodiment relied on as a reduction to practice meets every limitation of the claim; (3) the reduction to practice demonstrated the practicability or utility of the invention to those of ordinary skill in the art; and (4) the reduction to practice was appreciated by the inventor at the time it was made. *Rooklidge & von Hoffmann*, *supra* note 95, at 8.

109. *See City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 125, 134-35 (1877).

110. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 5 F.3d 1477, 1480 (Fed. Cir. 1993); *RCA Corp. v. Data Gen. Corp.*, 887 F.2d 1056, 1061 (Fed. Cir. 1989); *Gould, Inc. v. United States*, 579 F.2d 571, 572 (Ct. Cl. 1978); *Rooklidge & von Hoffmann*, *supra* note 95, at 31. Some authors have criticized the Federal Circuit's holding in *RCA* that experimental use ends upon reduction to practice. *See, e.g.*, CHISUM, *supra* note 6, at § 6.02[7][i] at 6-102 (“The better and prevailing view is that experimental use can indeed continue even after the invention has been completed and reduced to practice as that term is used in patent law.”); JOHN W. SCHLICHER, *PATENT LAW: LEGAL & ECONOMIC PRINCIPLES* § 6.05[7] (1992); David W. Carstens & Craig A. Nard, *Conception and the “On Sale” Bar*, 34 WM. & MARY L. REV. 393, 425-26 (1993); Larsen E. Whipsnade & J. Cheever Loophole, *Responsible Advocacy and Responsible Opinions at the Federal Circuit*, 35 J.L. & TECH. 331, 340 (1995).

111. *See Arthur S. Rose et al., Should Experimental Use End Upon Reduction To Practice?: Two Divergent Views*, 15 NEW MATTER 1, 1 (1990).

3. *The Absence of Reduction to Practice Does Not Render An Activity Experimental*

In the student note that served as the blueprint for the Federal Circuit's on sale bar analysis, the author recognized that "an inventor needs an opportunity to develop his ideas," and mistakenly drew the conclusion that an invention must be fully completed, that is, reduced to practice, before any selling activity could create a bar.¹¹² But in adopting the policy-based analysis urged by the student note, the Federal Circuit's predecessor court, the Court of Claims, ignored this assumption,¹¹³ and the Federal Circuit later rejected it in *UMC Electronics Co. v. United States*.¹¹⁴

The mere fact that the invention has not been reduced to practice at the time of the activity will not negate application of the on sale and public use bars if the activity is motivated more than incidentally by a desire other than to reduce the invention to practice.¹¹⁵ Such activities do not further the policy of allowing the inventor time to reduce his invention to practice.

4. *An Experimental Activity Need Not Be Devoid Of Commercial Intent*

To qualify as an experimental use, an activity must be undertaken "substantially for purposes of experiment."¹¹⁶ That is, an experimental activity is one whose primary purpose is experimentation.¹¹⁷ Any commercial exploitation must be "merely inciden-

112. Barrett, *supra* note 20, at 735. The influence of this student note on the Federal Circuit's public use and on sale bar analysis is considered in Rooklidge, *supra* note 20; and Landry, *supra* note 104.

113. General Elec. Co. v. United States, 654 F.2d 55, 61 (Ct. Cl. 1981) (en banc) (per curiam).

114. 816 F.2d 647 (Fed. Cir. 1987) (rejecting the proposition that application of the on sale bar requires that the invention be reduced to practice); *see also* Rooklidge & von Hoffmann, *supra* note 95, at 3.

115. Lyman v. Maypole, 19 F. 735, 736-37 (C.C.N.D. Ill. 1884) (stating "when an inventor puts his incomplete or experimental device upon the market and sells it, as a manufacturer, more than two years before he applies for his patent, he gives to the public the device in the condition or stage of development in which he sells it."); Rooklidge & von Hoffmann, *supra* note 95, at 43. *But see* Shatterproof Glass Corp. v. Libbey-Owens Ford Co., 758 F.2d 613, 622-23 (Fed. Cir. 1985) (suggesting that an invention cannot be placed on sale until it is "functional" or "sufficiently tested to demonstrate that it will work for its intended purpose").

116. Smith & Griggs Mfg. Co. v. Sprague, 123 U.S. 249, 256 (1887); Sinskey v. Pharmacia Ophthalmics, Inc., 982 F.2d 494, 498 (Fed. Cir. 1992), *cert. denied*, 113 S. Ct. 2346 (1993); Baker Oil Tools, Inc. v. Geo Vann, Inc., 828 F.2d 1558, 1564 (Fed. Cir. 1987).

117. Manville Sales Corp. v. Paramount Systems, Inc., 917 F.2d 544, 550 (Fed. Cir. 1990). *See* U.S. Envtl. Prods., Inc. v. Westall, 911 F.2d 713, 716 (Fed. Cir.

tal."¹¹⁸

Because commercial intent underlies virtually every contact between an investor and a customer, mere customer contact does not convert an activity into a barring activity.¹¹⁹ Likewise, that the activity leads to commercial success does not convert an activity into a barring activity.¹²⁰

Market testing — that is, attempting to gauge consumer demand for the invention — does not negate the on sale or public use bars.¹²¹ The purpose of market testing is commercial exploitation, not experimentation.¹²² Similarly, evaluation of an invention to determine suitability for a customer's application does not qualify as experimental use.¹²³ Market testing and customer evaluations are said to be "a trader's, and not an inventor's experiment."¹²⁴

The extent of commercial exploitation is critical in determining whether activities conducted as part of clinical trials or other regulatory testing negate an on sale or public use bar.¹²⁵ For ex-

1990) (collecting cases); *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 906 (Fed. Cir. 1988); *Baker Oil*, 828 F.2d at 1563-64; *In re Smith*, 714 F.2d 1127, 1134-35 (Fed. Cir. 1983).

118. *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071 (Fed. Cir. 1992); *Manville Sales*, 917 F.2d at 550; *Pennwalt Corp. v. Akzona, Inc.*, 740 F.2d 1573, 1581 (Fed. Cir. 1984) (stating "primary motive . . . was . . . commercial"); *Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 839 (Fed. Cir. 1984) (stating that "commercial exploitation is merely incidental to the primary purpose of experimentation") (quoting *In re Theis*, 610 F.2d 786, 793 (C.C.P.A. 1979)); *In re Dybel*, 524 F.2d 1393, 1399 n.5 (C.C.P.A. 1975) (stating "experimental use may involve incidental income"). See *U.S. Envtl.*, 911 F.2d at 716; *Baker Oil*, 828 F.2d at 1563-64. As the Federal Circuit explained in *Allied Colloids*, "Commercial purposes underlies virtually every contact between inventor and potential customer. When testing an invention entails customer contact, that does not convert an otherwise experimental purpose into a public use." Slip op. at 6.

119. *Allied Colloids*, slip op. at 6.

120. *Id.* at 9.

121. *In re Smith*, 714 F.2d 1127, 1135 (Fed. Cir. 1983) (stating that testing was geared toward marketing and only incidentally toward technological development where the dominant purpose was to determine whether potential consumers would buy the product and how much they would pay for it); *In re Josserand*, 188 F.2d 486, 491-94 (C.C.P.A. 1951) ("The experimentation in this regard was indulged to see if public patronage could be attracted — not for the purpose of testing the structure"). Schainholz, *supra* note 3 (arguing that the prohibition against pre-critical date market testing is too strict).

122. *In re Smith*, 714 F.2d at 1135.

123. *LaBounty*, 958 F.2d at 1074 (holding that "testing" of a device to determine suitability for a customer's particular (unclaimed) need is not experimental use"); *In re Theis*, 610 F.2d 786, 792-93 (C.C.P.A. 1979) (holding that a sale was not experimental because "six month evaluation" notation on invoices "was for the benefit of the customer, who would want to know if the system suited his purposes").

124. *In re Theis*, 610 F.2d at 793 (citing *Smith & Davis Mfg. Co. v. Mellon*, 58 F.705, 707 (8th Cir. 1893)).

125. See generally Eric M. Lee, *Public Use and On Sale Issues Arising from Clin-*

ample, although the *TP Laboratories* inventor used his claimed tooth positioning orthodontic appliance on three patients more than one year before filing his patent application, charged two of the patients for the services and made no changes to the invention as a result of the uses, the Federal Circuit held that these three uses were not a public use.¹²⁶ The Federal Circuit focused on the fact that the inventor retained control over the tooth positioners through his relationship with his patients and kept meticulous records on the patients' progress. Because the inventor did not offer to sell any of the tooth positioners to other orthodontists and charged his patients only for his services in installing the appliances, any commercial benefit from use of the particular claimed appliances was merely incidental to the primary purpose of testing the invention to determine whether it worked for its intended purpose.¹²⁷

On the other hand, in *Paragon Podiatry*, the Federal Circuit held that the sale of more than 300 orthotic devices before the critical date constituted an on sale bar.¹²⁸ The court viewed the number of orthotic devices sold as much less significant than the fact that the sales were made in an ordinary commercial environment, outside the control of the inventor.¹²⁹ Accordingly, the primary purpose of the sales was commercial, not experimental.¹³⁰

Similarly, in *Pennwalt Corp. v. Akzona Inc.*,¹³¹ the Federal Circuit held that sale before the critical date of an embodiment of the invention under a temporary permit issued by the Environmental Protection Agency did constitute an on sale bar. In *Pennwalt*, the accused infringer sold the claimed aqueous suspension for an insecticide to some customers before the critical date. The EPA regulations under which the permit was issued restricted the temporary permit to use in experimental programs. Although he supplied the suspension that was sold, the inventor had no control over the subject sales, which were primarily for commercial purposes.¹³² Because the goal of the activity was com-

ical Testing of Medical Devices, 75 J. PAT. & TRADEMARK OFF. SOC'Y 364 (1993).

126. 724 F.2d 965 (Fed. Cir. 1984).

127. *Id.* at 972-73.

128. *Paragon Podiatry Lab., Inc. v. KLM Lab., Inc.*, 984 F.2d 1182, 1185 (Fed. Cir. 1993)

129. *Id.* at 1187-88.

130. Likewise, the Federal Circuit held in *Sinskey v. Pharmacia Ophthalmics, Inc.*, that the inventor's sale and implantation of a few intraocular lenses before the critical date was not experimental principally because the inventor testified that after the first implantation, no testing was necessary to demonstrate that the invention would work for its intended purpose. 982 F.2d 494, 502 (Fed. Cir. 1992)

131. 740 F.2d 1573 (Fed. Cir. 1984).

132. The Federal Circuit observed:

Pennwalt's primary motive in seeking an EPA temporary permit was for the commercial purpose of recovering developmental expenses and testing the

mercialization and market testing, the Federal Circuit held that the invention had been placed on sale.¹³³

Conducting an activity as part of clinical trials or other regulatory testing does not establish that the activity was experimental use. In order for experimental use to negate an on sale or public use bar, the inventor must conduct the activity primarily for the purpose of experiment. In other words, the inventor's primary purpose must have been to show that the invention was suitable for its intended purpose.

B. *The Factors Relevant to Experimental Use*

As Justice Cardozo recognized, the majority of cases "turn not upon the rule of law, but upon its application to the facts."¹³⁴ Similarly, the Federal Circuit has often said that the determination of whether an activity is experimental is based on "the totality of the circumstances."¹³⁵ The Federal Circuit's use of the totality of the circumstances "rule" in this regard has often been criticized.¹³⁶ But by reviewing the circumstances in light of the precedential experimental use cases, whether a particular activity is experimental is often clear. In Justice Cardozo's words, the majority of these cases "could not, with semblance of reason, be decided in any way but one."¹³⁷

The circumstances relevant to experimental use include: whether payment was accepted;¹³⁸ whether public testing was necessary;¹³⁹ whether the length of the test period was appropri-

market. Manufacturing data collected under the temporary permit were used by Pennwalt to set a sales prices and a gross margin goal for sales of its suspension.

Id. at 1581

133. *Id.*

134. BENJAMIN CARDOZO, *THE NATURE OF JUDICIAL PROCESS* 163 (1921).

135. *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 549 (Fed. Cir. 1990); *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 716 (Fed. Cir. 1990); *In re Brigance*, 792 F.2d 1103, 1107-08 (Fed. Cir. 1986).

136. See, e.g., Jorgenson, *supra* note 3; Landry, *supra* note 104; R. Carl Moy, *Jurisprudential Implications of the Federal Circuit's Decisions Regarding the On-Sale Bar*, address at ABA/ALI Advanced Course of Study, "Patent Law and Litigation" 3 (Dec. 4, 1992) (describing the totality of the circumstances approach as "the legal-reasoning equivalent of a Ouija Board").

137. CARDOZO, *supra* note 134, at 164.

138. *E.g. Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 906 (Fed. Cir. 1988).

139. *Manville Sales*, 917 F.2d at 551 (holding use of luminary assembly on 150-foot tall outdoor lighting pole experimental); *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1563-64 (Fed. Cir. 1986) (holding use of gravel packer in oil and gas wells experimental); *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 972 (Fed. Cir.) (holding use of orthodontia device in mouths of patients experimental), *cert. denied*, 469 U.S. 826 (1984).

ate;¹⁴⁰ whether progress records were kept;¹⁴¹ whether the inventor can introduce objective evidence of experimental intent;¹⁴² whether the alleged experimental activities were aimed at claimed features of the device;¹⁴³ and whether the inventor retained control over the activity.¹⁴⁴ This list is not necessarily exhaustive, and the Federal Circuit does not require the lower tribunal to review each factor.¹⁴⁵

1. Public Testing Does Not Preclude A Finding of Experimental Use

The fact that an invention was tested in an area open to the public is not dispositive of the experimental use issue.¹⁴⁶ Non-secret use is not ipso facto "public use" activity.¹⁴⁷ That is, a use in public is not necessarily a public use.¹⁴⁸

The inherent nature of certain inventions mandates that the testing be performed in an area open to the public.¹⁴⁹ For exam-

140. *Grain Processing*, 840 F.2d at 906 (holding activity experimental where "the testing period was short"); *Baker Oil*, 828 F.2d at 1564 (holding of non-experimental use reversed where testing period was six months).

141. *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071-74 (Fed. Cir. 1992) (stating no experimental use where no progress records kept); *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990) (stating no experimental use where no progress records kept).

142. *LaBounty*, 958 F.2d at 1072 (holding offers and uses non-experimental because of "the absence of any objective evidence that such use was experimental"); *U.S. Envtl.*, 911 F.2d at 717 ("The subjective belief of inventors or customers, however, must be weighed against objective evidence which indicates otherwise").

143. *In re Brigance*, 792 F.2d 1103, 1109 (Fed. Cir. 1986); *In re Smith*, 714 F.2d 1127, 1135-36 (Fed. Cir. 1983); *In re Theis*, 610 F.2d 786, 793 (Fed. Cir. 1979).

144. *U.S. Envtl.*, 911 F.2d at 717-18 (stating "lack of control over the operation of the beds is strong evidence of commercial purpose"); *In re Hamilton*, 882 F.2d 1576, 1580 (Fed. Cir. 1989) (stating that "for an assertion of experimental use to have merit, it must be clear that the inventor kept control over his invention in the course of its testing"); *Baker Oil*, 828 F.2d at 1564 (continued control by the inventor of the invention while in the hands of the purchaser); *Hycor Corp. v. Schlueter Co.*, 740 F.2d 1529, 1535 (Fed. Cir. 1984); *In re Smith*, 714 F.2d at 1137 (stating there is no experimental use where tests are conducted by consumers "in their own homes without legal restriction").

145. *Brigance*, 792 F.2d at 1108; *Ricon Corp. v. Adaptive Driving Systems, Inc.*, No. 86-1352 (Fed. Cir. June 26, 1987) (unpublished) ("In none of our section 102(b) cases have we created a list of incantations which the district court must utter to ward off reversal on appeal. Certain circumstances may render any one or all of the factors listed in our cases irrelevant in applying section 102(b).").

146. *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 972 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984).

147. *Id.*

148. *City of Elizabeth v. American Nicholson Pavement, Co.*, 97 U.S. 126, 134-35 (1877).

149. *See, e.g., id.* (finding that pavement cannot be experimented upon satisfactorily except on a public highway); *Allied Colloids*, slip op. at 7 (on-site testing of

ple, in *Manville Sales Corp. v. Paramount Systems*,¹⁵⁰ the Federal Circuit held that a use in public was experimental because it was necessary for the inventor to determine whether the invention, an outdoor light, could operate in the environment for which it was designed, a Wyoming winter.¹⁵¹

In order to ascertain whether an invention will work for its intended purpose, the law recognizes that testing may encompass or even require disclosure to the public, without barring the inventor's access to the patent system.¹⁵² The extent of the public testing relates to the nature of the invention.¹⁵³

2. *The Length of the Test Period and the Number of Tests Should Correspond to the Nature of the Invention*

The length of the test period and the number of tests performed are also relevant in determining whether the use was experimental.¹⁵⁴ The length of the testing period should relate to the amount of time necessary to test the invention adequately,¹⁵⁵ and the number of tests performed should correspond to the level necessary to verify that the invention is operable for its intended purpose.¹⁵⁶

The mere fact that the number of sales, offers or uses is limited may be relevant to determining whether the scope of the testing was appropriate, but only where other evidence indicates that the purpose of the activities was experimental.¹⁵⁷ The limited extent of the activity does not alone negate the bars.¹⁵⁸ Indeed, even a single sale, offer or use may invalidate a patent under the on sale or public use bars.¹⁵⁹

fresh sewage was needed).

150. 917 F.2d 544, 550 (Fed. Cir. 1990).

151. Likewise, in *Grain Processing*, the court held that testing by third party manufacturers was an experimental use because it was necessary to determine the interaction between the inventor's food product and other manufacturers' products. 840 F.2d 902, 906 (Fed. Cir. 1988).

152. *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1563 (Fed. Cir. 1987).

153. *Id.* at 1564.

154. See, e.g., *Grain Processing*, 840 F.2d at 906; *Baker Oil*, 828 F.2d at 1564; *In re Brigance*, 792 F.2d 1103, 1108 (Fed. Cir. 1986); *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 971-72 (Fed. Cir.), cert. denied, 469 U.S. 826 (1984).

155. *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 135 (1877). See *Manville Sales Corp. v. Paramount Sys. Inc.*, 917 F.2d 544, 551 (Fed. Cir. 1990).

156. *Brigance*, 792 F.2d at 1108; *TP Lab.*, 724 F.2d at 972.

157. *Paragon Podiatry Lab., Inc. v. KLM Lab., Inc.*, 984 F.2d 1182, 1188 (Fed. Cir. 1993).

158. *Id.*

159. *Id.*; *A.B. Chance Co. v. RTE Corp.*, 854 F.2d 1307, 1311 (Fed. Cir. 1988).

3. Progress Records May Evidence Experimental Use

In determining whether the use of the invention was experimental, the court will also consider whether records of the test procedures and results were kept.¹⁶⁰ Progress records serve as persuasive evidence of an inventor's experimental relationship with a customer, despite a sale of the invention.¹⁶¹ On the other hand, the lack of written progress records will usually be considered as circumstantial evidence of a non-experimental purpose.¹⁶²

4. The Inventor's Later-Expressed Subjective Intent Is of Little Value

The inventor's subjective intent to experiment, if expressed for the first time after institution of litigation, is generally of little value in determining whether an activity was experimental.¹⁶³ When sales are made in an ordinary commercial environment, placing the goods outside the inventor's control, an inventor's secretly-held subjective intent to "experiment," even if true, is unavailing without objective evidence to support the contention.¹⁶⁴

This is not to say that the inventor's intent is irrelevant. The Federal Circuit in *Paragon Podiatry, Inc. v. KLM Laboratories, Inc.*¹⁶⁵ confused the role of the inventor's intent in affirming a summary judgment of invalidity under the on sale bar. The *Paragon Podiatry* holding should have been simple: the inventor's declaration of his experimental intent is insufficient to create a *genuine* issue of material fact in the face of overwhelming objective evidence that the 300 pre-critical date sales were made for a commercial purpose. Instead, the Court reasoned that the

160. See, e.g., *Allied Colloids*, slip op. at 9; *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071 (Fed. Cir. 1992); *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990); *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1564 (Fed. Cir. 1987); *Brigance*, 792 F.2d at 1108; *TP Lab.*, 724 F.2d at 972; *In re Dybel*, 524 F.2d 1393, 1401 (C.C.P.A. 1975).

161. *LaBounty*, 958 F.2d at 1071.

162. *U.S. Envtl.*, 911 F.2d at 717.

163. *LaBounty*, 958 F.2d at 1071-72 (stating that "an inventor's intent is immaterial when objective evidence points otherwise") (quoting *Harrington Mfg. Co. v. Powell Mfg. Co.*, 815 F.2d 1478, 1481 n.3 (Fed. Cir. 1986)); see also *Brigance*, 792 F.2d at 1108; *TP Lab.*, 724 F.2d at 972; *In re Smith*, 714 F.2d 1127, 1135 (Fed. Cir. 1983). But see *Moxness Prods. v. Xomed*, 891 F.2d 890, 891-92 (Fed. Cir. 1989) (overturning grant of JNOV and remanding for new trial where testimony of co-inventors conflicted over similar issue).

164. *LaBounty*, 958 F.2d at 1072; *Brigance*, 792 F.2d at 1108.

165. 984 F.2d 1182 (Fed. Cir. 1993).

inventor's intent was not a "material" fact.¹⁶⁶ Given that the primary inquiry regarding experimental use negation is the *purpose* of the activity, however, intent is not only material, it is controlling.

5. *Whether Payment Was Accepted for the Activity May Indicate Commercial, Not Experimental, Intent*

The absence of any payment suggests that the activity was conducted for the benefit of the inventor.¹⁶⁷ Payment for an embodiment of the invention may indicate commercial exploitation, but the mere fact that payment was made does not preclude a finding that the sale was experimental.¹⁶⁸ A court will examine the circumstances surrounding the payment to determine whether the primary purpose of the transaction was experimental.¹⁶⁹ A sale made because the purchaser was participating in experimental testing may further the policy of allowing the inventor the opportunity to reduce the invention to practice.¹⁷⁰

The amount of the payment made for an embodiment of the invention may indicate the purpose behind the transaction.¹⁷¹ A sale for full price may affect a court's decision to view the payment as a barring sale rather than as an experimental use.¹⁷² Reimbursement to the inventor for only the cost of the embodiment does not, however, necessarily indicate experimental use.¹⁷³ Although losing money on an activity may evidence experimental purpose, it may just as well suggest a losing business proposition.¹⁷⁴

166. *Id.* at 1188.

167. *Allied Colloids*, slip op. at 9.

168. *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1564 (Fed. Cir. 1987) (concluding that payment does not constitute a per se bar under § 102(b)); *TP Lab.*, 724 F.2d at 972.

169. For example, the Federal Circuit has held that a conditional sale, subject to the invention's satisfactory performance, was experimental where the patentee treated the device sold as an experiment. *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 550 (Fed. Cir. 1990). Similarly, the Court of Claims has held sales experimental because the profit motive "was merely incidental to the overriding experimental purpose." *Ushakoff v. United States*, 327 F.2d 669, 672 (Ct. Cl. 1964).

170. See *UMC Elec. Co. v. United States*, 816 F.2d 647, 657 (Fed. Cir. 1987) (dictum); *Great N. Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 165 (Fed. Cir. 1986).

171. *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 906 (Fed. Cir. 1988); *Baker Oil*, 828 F.2d at 1564. See also *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1074 (Fed. Cir. 1992).

172. *In re Theis*, 610 F.2d 786, 793 (C.C.P.A. 1979).

173. *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990). *But see Ushakoff*, 327 F.2d at 672.

174. See *Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 840 (Fed. Cir. 1984).

A money-back guarantee will not necessarily establish an experimental relationship between the parties.¹⁷⁵ A money-back guarantee is a typical commercial sales provision and may indicate an ordinary commercial-type transaction, rather than an experimental use.¹⁷⁶

6. *Changes Resulting from the Activity May Suggest an Experimental Purpose*

To be experimental, an activity need not result in changes to the invention.¹⁷⁷ Conversely, where the activity results in failure and necessitates change in the design of the invention, the activity may well be assumed to be experimental.¹⁷⁸ But this argument usually fails, including the first time it was raised in a precedential opinion, the Supreme Court's 1887 opinion in *Smith & Griggs Manufacturing Co. v. Sprague*.¹⁷⁹ There, the trial court had held the uses experimental where, after the uses, the inventor had made changes to the machine that "enabled the inventor to take the final step between partial and complete success."¹⁸⁰ The Supreme Court rejected this holding because the changes were not part of the claimed invention,¹⁸¹ but the Court's dicta gave proponents of experimental use some encouragement.¹⁸²

Of course, changes to the claimed invention made by the inventor, after, and as a result of, the activity do not conclusively establish that the activity was motivated by an experimental purpose.¹⁸³ In *In re Theis*,¹⁸⁴ the Court of Custom and Patent Appeals rejected the "changes" argument, at least in part,¹⁸⁵ on curious reasoning: because the problems encountered "were solvable by routine debugging, setup and installation adjustments" and were in fact "solved without the need to change any of the major functional blocks of the system."¹⁸⁶ The court's focus on the *quality* of the changes — that they did not require "an inventor's skills, but rather the skills of a competent techni-

175. See *LaBounty*, 958 F.2d at 1074.

176. *Id.*

177. *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 135 (1877).

178. See *Great N. Corp.*, 782 F.2d at 165 (noting that the pre-critical date uses were all failures).

179. 123 U.S. 249, 255 (1887).

180. *Id.*

181. *Id.* at 255-56.

182. *Id.* at 255 ("We think this view might be correct.").

183. *In re Theis*, 610 F.2d 786, 793 (C.C.P.A. 1979)

184. *Id.*

185. The primary reason for rejecting the argument was that the changes were to other than the claimed invention. *Id.* at 792-93.

186. *Id.*

cian¹⁸⁷ — seems misplaced. Absent hindsight, the inventor's tinkering with the invention during the activity is circumstantial evidence of experimental intent.¹⁸⁸ Changes to the claimed invention resulting from the activity, regardless of their nature, should be circumstantial evidence of experimental purpose.

7. *An Activity Directed to Something Other Than the Claimed Invention Cannot Be Experimental*

An attempt to perfect something other than the claimed invention in a device that embodies the invention will not qualify as an experimental use because the activity was not undertaken to reduce the invention to practice.¹⁸⁹ Reduction to practice means reduction to practice of the *claimed invention*.¹⁹⁰ Experimentation directed to a portion of the machine or a system other than the claimed invention will not negate as experimental commercialization or use of a machine or system incorporating the claimed invention.¹⁹¹ For this same reason, testing of a device to determine suitability for a customer's particular (unclaimed) needs is not experimental.¹⁹² Likewise, testing of an "unclaimed element"¹⁹³ of a combination invention will not negate the bar.¹⁹⁴

Design patents should be subject to experimental use negation of the public use and on sale bars as long as the experimentation relates to reducing the claimed invention to practice. In a design patent, the claimed invention is the ornamental design shown in the patent drawing.¹⁹⁵ Unlike the invention of a utility

187. *Id.*

188. *Cf. City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 133 (1877) (holding that an inventor examining a pavement invention almost daily, tapping it with his cane and inquiring about it, constituted experimental use).

189. *See, e.g., Smith & Griggs Mfg., Co. v. Sprague*, 123 U.S. 249, 255-56 (1887); *RCA Corp. v. Data Gen. Corp.*, 887 F.2d 1056, 1061 (1989) (collecting Federal Circuit cases); *In re Brigrance*, 792 F.2d 1103, 1109 (Fed. Cir. 1986); *In re Smith*, 714 F.2d 1103, 1135-36 (Fed. Cir. 1983).

190. *UMC Elec. Co. v. United States*, 816 F.2d 647, 656 (Fed. Cir. 1987).

191. *Smith & Griggs*, 123 U.S. at 255-56; *RCA*, 887 F.2d at 1061-62; *Brigrance*, 792 F.2d at 1109.

192. *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1074 (Fed. Cir. 1992); *In re Theis*, 610 F.2d 786, 792-93 (C.C.P.A. 1979).

193. Of course, the Federal Circuit is using sloppy language when it refers to an "unclaimed element." Inventions, not elements, are claimed. *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1274 (Fed. Cir. 1992). ("It cannot be said — though it often is, incorrectly, by the uninitiated — that a part of a claim is 'claimed' subject matter."). Also, the court should heed its own advice to focus on claim limitations, not elements. *Perkin-Elmer Corp. v. Westinghouse Electric Corp.*, 822 F.2d 1528, 1533 n.9 (Fed. Cir. 1987).

194. *In re Smith*, 714 F.2d 1127, 1135-36 (Fed. Cir. 1983). This holding of *In re Smith*, that tests of fragrance strength were of an "unclaimed element," is surprising because one element of the carpet deodorizer invention was "a volatile odorous agent." *Id.* at 1129.

195. *In re Mann*, 861 F.2d 1581, 1582 (Fed. Cir. 1988) ("The claim [of a design

patent, the invention of a design patent is reduced to practice when the design is embodied in an article.¹⁹⁶ Thus, experimental use of an invention of a design patent should be limited to activities leading to the production of an article embodying the design. For example, an inventor may need to turn to someone else to produce the first article embodying the invention. But, once that article is produced, the invention would be reduced to practice, and no further activities should be characterized as experimental use.

In an opinion that is only five paragraphs long, the Federal Circuit in *In re Mann*¹⁹⁷ considered whether display of an ornamental table at a trade show could constitute experimental use of the design embodied in the table. The court rejected the experimental use assertion, holding that “[o]btaining the reactions of people to a design — whether or not they like it — is not ‘experimentation’ in that sense.”¹⁹⁸ This holding is unassailable.

But the *Mann* court did not stop there. Instead, it went on to explain that “[t]he only use possible for an ornamental design is its embodiment, exhibition, and observation.”¹⁹⁹ Per the court, “[w]e see no way in which an ornamental design for an article of manufacture can be subject to the ‘experimental use’ exception applicable in the case of functioning machines, manufactures, or processes.”²⁰⁰ This dicta overlooks, of course, activities in the production of the first article embodying the claimed design.

One district court soon questioned the sweeping dicta of *Mann*, suggesting that an activity involving the invention of a design patent could be experimental where the activity was directed to determining whether the claimed design was suitable for its intended purpose and that purpose involved the appearance of the article embodying the claimed design.²⁰¹ This suggestion was in-

patent] is limited to what is shown in the application drawings.”); 37 C.F.R. § 1.153(a) (1995) (“The claim shall be in formal terms to the ornamental design for the article . . . as shown, or as shown and described.”).

196. *Fitzgerald v. Arbib*, 268 F.2d 763, 765-66 (C.C.P.A. 1956); *Dietrich v. Leaf*, 87 F.2d 226, 229 (C.C.P.A. 1937).

197. 861 F.2d 1581 (Fed. Cir. 1988).

198. *Id.*

199. *Id.*

200. *Id.*

201. In *IKO Chicago Inc. v. Certain Teed Corp.*, 29 U.S.P.Q.2d 1953 (N.D. Ill. 1993), the patentee had installed asphalt composition shingles on an employee’s home to determine whether the shingle roof looked like a shake roof when installed. The district court denied summary judgment on the public use bar arising from that activity on the basis that the use could have been experimental. The district court asserted that installing the shingles could qualify as experimental in that the inventor needed to install the shingles to determine whether they would work for their intended purpose: resembling a shake roof when installed: “This testing was not done to see whether consumers liked the appearance of the roof

correct. The court failed to appreciate that reduction to practice of the invention of a design patent does not require that the claimed invention be shown to work for its intended purpose. The Federal Circuit revisited its *Mann* dicta in *Tone Brothers, Inc. v. Sysco Corp.*²⁰² In rejecting the *Mann* dicta, however, the court made the situation worse.

The district court in *Tone Brothers*²⁰³ felt bound by the *Mann* dicta, characterizing that dicta as an indication of how the Federal Circuit intended to treat design cases in the future and as an express direction to district courts.²⁰⁴ The district court invalidated a design patent for "the ornamental design for a jar or similar article."²⁰⁵ The Federal Circuit reversed the district court in *Tone Brothers* and renounced its *Mann* dicta.²⁰⁶

The Federal Circuit accepted the district court's finding that the public display of the jar was for the purpose of evaluating the "functional" features of the jar's ornamental design.²⁰⁷ But the *Tone Brothers* court distinguished its *Mann* decision and explicitly held that "experimentation directed to the functional features of a product also containing an ornamental design may negate what otherwise would be considered a public use within the meaning of section 102(b)."²⁰⁸ Characterizing the activity as undertaken for "determining whether the design's functional aspects have any adverse effect on users of the structure embodying the design,"²⁰⁹ the court determined that the activity could well have

but to determine whether the design accomplished its intended purpose of simulating the depth and dimensionality of more expensive roofing materials." *Id.* at 1955. Although *IKO Chicago* suggested that the *Mann* dicta was perhaps overbroad, it rode roughshod over the distinction between the claimed invention (the shingle) and the thing whose appearance was tested (the roof). See *Keystone Retaining Wall Systems, Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1450-51 (Fed. Cir. 1994) (distinguishing between the infringement analysis of a design patent on a retaining wall block and such analysis of entire wall).

202. 28 F.3d 1192 (Fed. Cir. 1994), *cert. denied*, 115 S. Ct. 1356 (1995).

203. *Tone Bros., Inc. v. Sysco Corp.*, 23 U.S.P.Q.2d (BNA) 1184 (S.D. Iowa 1992).

204. *Id.* at 1188.

205. *Id.*

206. *Tone Bros.*, 28 F.3d at 1200.

207. *Id.* at 1199. First, the Federal Circuit noted that "the display of the design . . . appears to have been for the purpose of evaluating the effect of the functional features of the design on the typical functioning of a spice container." *Id.* Then, the court observed that "it appears that the showing was for the purpose of testing the functional features of the design." *Id.* The testing consisted of giving the jars to students and asking them "how the containers felt when shaking out their contents." *Id.*

208. *Tone Bros.*, 28 F.3d at 1200. Lest the reader miss the holding, the court repeated "As a matter of law, experimentation directed to functional features of a product to which an ornamental design relates may negate what otherwise would be a public use within the meaning of section 102(b)." *Id.*

209. *Id.* at 1199.

been experimental:

Patentable designs may embody functional features. Such appears to be the case here. Thus, . . . we do not think applicable to this case the settled law on utility patents that experimentation performed with respect to non-claimed features of a device cannot negate the effect of activities that would otherwise bar patentability under section 102(b).²¹⁰

By this statement, the Federal Circuit most likely meant that the *Tone Brothers* activity, unlike the *Mann* activity, somehow related to the claimed invention.²¹¹ In other words, the tests were conducted on features of the claimed ornamental design, albeit functional attributes of those ornamental features. But the *Tone Brothers* activity — display of a jar “directed toward determining whether the design’s functional aspects have any adverse effect on the typical functioning of a spice container”²¹² — could not have been conducted for the purpose of reducing the claimed invention of the ornamental jar design to practice. That invention had already been reduced to practice. Therefore, the opportunity for experimental use was lost.²¹³

210. *Id.* at 1199 n.5 (citations omitted).

211. *Tone Bros.*, 28 F.3d at 1199 n.5. This passage could also be read as implying that only utility patents are subject to the principle that experimental use must be performed with respect to the claimed invention. This reading is somewhat unlikely, however, because the Federal Circuit identified no reason why this principle should be confined to utility patents. Congress and the Patent and Trademark Office have been reluctant to treat design patents differently from utility patents. 35 U.S.C. § 171 (1995) (“The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.”); 37 C.F.R. § 1.151 (1995) (“The rules relating to applications for other inventions or discoveries are also applicable to applications for patents for designs except as otherwise provided.”). Moreover, the Federal Circuit said that the rule did not apply to “this case,” not design patents in general. *Tone Bros.*, F.3d at 1199-1200.

212. *Id.* at 1199.

213. The Federal Circuit focused on a distinction between the *Tone Brothers* activity and the *Mann* activity which suggests that the Court does not quite understand the policies underlying the bars. The court relied on the commercial nature of the *Mann* activity: “The display of the design in *Mann*, unlike the display in the present case, appears to have been for a purpose directly contrary to the public use bar policy of preventing an extension of the patent term through pre-application commercial exploitation.” *Id.* But the policy against pre-application commercialization underlies the on sale bar, not the public use bar. Rooklidge, *supra* note 20, at 22-28. The policy underlying the public use bar is the policy against detrimental public reliance. *Id.* at 17-21. This policy was clearly violated by the *Tone Brothers* activity; the pre-critical date use of an article embodying the claimed design by third parties under no obligation of secrecy. See, e.g., *Manning v. Cape Ann Isinglass & Glue Co.*, 108 U.S. 462, 465 (1883); *Egbert v. Lippmann*, 104 U.S. 333, 336 (1881). See also *Faulkner v. Baldwin Piano & Organ Co.*, 561 F.2d 677, 682 (7th Cir. 1977) (holding that patent was invalid under public use bar for trade show display); *Construction Specialties, Inc. v. Arden Architectural Specialties, Inc.*, 20 U.S.P.Q.2d 1874, 1878 (D. Minn. 1991) (holding that patent was invalid under pub-

The Federal Circuit needs to revisit application of experimental use negation to activities involving embodiments of inventions claimed in design patents. In particular, the court needs to recognize that activities conducted after the claimed design has been embodied in an article cannot be conducted for the purpose of reducing the claimed invention to practice. Accordingly, those activities cannot give rise to experimental use negation.²¹⁴

8. *At Least in the Case of A Sale, the Purchaser May Need to Know That the Activity Is Experimental*

The Federal Circuit has suggested that the customer, at least in the case of a sale or offer to sell, must be made aware of the experimental nature of the activity.²¹⁵ The inventor's failure to communicate experimental purpose to any of the purchasers or prospective purchasers of a device embodying the invention may be fatal to a claim of experimental use.²¹⁶ At the very least, it is circumstantial evidence that the purpose of the activity was not primarily experimental.

9. *Secrecy of the Activity Suggests That It Is Experimental*

If a person other than the inventor uses the invention to conduct the alleged experiments, the court may also consider whether the user was obligated to maintain secrecy.²¹⁷ A customer's agreement to use a device secretly may be introduced as evidence to show an inventor's experimental purpose despite a sale of the invention.²¹⁸

lic use bar for trade show display); *Whistler Corp. v. Dynascan Corp.*, 12 U.S.P.Q.2d 1647, 1650 (N.D. Ill. 1989) (holding that patent was invalid under public use bar for trade show display); Michael D. Kaminski & Lawrence M. Sung, *The Legal Significance of Trade Show Activity Under United States Patent Law*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 445, 460-65 (1994) (reviewing cases).

214. See *supra* Part II(A)(1)(a).

215. *Paragon Podiatry Lab., Inc. v. KLM Labs., Inc.*, 984 F.2d 1182, 1186 (Fed. Cir. 1993). The court noted, "Further, we have held that the assertion of experimental sales, at a minimum, requires that customers must be made aware of the experimentation." *Id.* See also *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1072 (Fed. Cir. 1992); *In re Dybel*, 524 F.2d 1393, 1401 (C.C.P.A. 1975). The Federal Circuit has not, however, adopted the Ninth Circuit's rule that requires an express provision in the contract of sale representing that the sale is made primarily for an experimental purpose. MELVIN L. HALPERN, DISCUSSION OF JURISDICTION AND HIGHLIGHTED CASES IN THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT: A HISTORY 1982-1990 221, 241 (1991).

216. *Paragon Podiatry*, 984 F.2d at 1186; *LaBounty*, 958 F.2d at 1072; *Dybel*, 524 F.2d at 1401.

217. See, e.g., *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1564 (Fed. Cir. 1987); *In re Brigrance*, 792 F.2d 1103, 1108 (Fed. Cir. 1986); *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 972 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984).

218. *LaBounty*, 958 F.2d at 1071; see also *Manville Sales Corp. v. Paramount*

10. *An Experimental Activity Must Be Conducted By the Inventor or By One Under His Direction*

The fact that the inventor is not the person conducting the experiments will not be dispositive of the experimental use issue. In order to invoke experimental use negation of the bars, however, the activity must have been performed by the inventor or one "under his direction."²¹⁹ "In other words, the inventor must keep the invention under his own control."²²⁰ An inventor's lack of control over the testing is strong evidence of commercial purpose, rather than experimental use.²²¹

The Federal Circuit has rejected an assertion of experimental use when neither the inventor nor his assignee or employer were involved in the alleged experiments by their customers.²²² This result makes sense because the policy of allowing the inventor the opportunity to reduce the invention to practice is not furthered by activities of one other than the inventor or one under his direction.²²³

Control, however, is a matter of degree. A court may hold that an inventor without testing facilities maintained control if he submits a sample to a third party for testing and receives a report of the test results.²²⁴ But these instances have been carefully limited to those where the tests were necessary to establish the utility of the invention.²²⁵

Sys., Inc., 917 F.2d 544, 550 (Fed. Cir. 1990).

219. For example, in *Milliken Research Corp. v. Dan River*, the Federal Circuit rejected the patentee's argument that distribution of samples of the invention was for experimental purposes. 739 F.2d 587, 599 (Fed. Cir. 1984). The court stated that the activity could not have been experimental because the invention was out of the hands of the inventor and any testing was not "under his direction." *Id.* See also *Smith & Griggs Mfg. Co. v. Sprague*, 123 U.S. 249, 257 (1887); *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 134 (1877). Cf. *supra* notes 217-18 and accompanying text.

220. *City of Elizabeth*, 97 U.S. at 136; see also *Paragon Podiatry*, 984 F.2d at 1187; *In re Hamilton*, 882 F.2d 1576, 1580 (Fed. Cir. 1989).

221. *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990) (stating that the patentee's lack of control over the activity "is strong evidence of commercial purpose"). See also *LaBounty*, 958 F.2d at 1071; *Baker Oil*, 828 F.2d at 1564; *Brigance*, 792 F.2d at 1108; *Smith*, 714 F.2d at 1135.

222. *Hamilton*, 882 F.2d at 1581.

223. See *General Elec.*, 654 F.2d at 62 & n.11; 1 MARTIN J. ADELMAN, *PATENT LAW PERSPECTIVES* § 2.3[7.-6] (2d ed. 1990); Charles F. Pigott, *The Concepts of Public Use and Sale*, 49 J. PAT. OFF. SOC'Y 399, 419 (1967).

224. See *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 906 (Fed. Cir. 1988); *Armco, Inc. v. Cyclops Corp.*, 791 F.2d 147, 150-51 (Fed. Cir. 1986); *Veenstra*, *supra* note 3, at 855-56.

225. See *Grain Processing*, 840 F.2d at 906; *Armco*, 791 F.2d at 150-51.

11. *An Activity of A Third Party Unrelated to the Inventor Cannot Be Experimental*

It seems apparent that an inventor may not avoid application of a bar based on an *unrelated* third party's activity on the ground that the third party's purpose was experimental.²²⁶ Nor is there any reason to label activity by a third party whom the inventor has placed in possession of the invention as experimental.²²⁷

C. *Proving Experimental Use*

Perhaps the biggest change wrought by the Federal Circuit in the law of experimental use involves how experimental use is proven, including: the burden of proof or persuasion, the burden of going forward, the standard of proof and the fact/law nature of experimental use. Often an overlooked factor, the burden of proof or persuasion can have important consequences.²²⁸ The standard of proof can have a great effect at trial, and the fact/law nature of

226. *Eg.*, *Magnetics, Inc. v. Arnold Eng'g Co.*, 438 F.2d 72, 74 (7th Cir. 1971) (stating experimental use cannot negate public use bar based on activities of two unrelated third parties); *Bourne v. Jones*, 207 F.2d 173, 173 (5th Cir. 1953), *adopting* 114 F. Supp. 413, 419 (S.D. Fla. 1951) ("Experimental use was not meant to enable an inventor to profit by experimental efforts of others not within his control or direction."), *cert. denied*, 346 U.S. 897 (1953); *Atlas Chem. Indus. v. Moraine Prods.*, 350 F. Supp. 353, 355 (E.D. Mich. 1972) (stating experimental use by unrelated third party cannot negate on sale or public use bar), *aff'd in relevant part, rev'd on other grounds*, 509 F.2d 1 (6th Cir. 1974); 2 ANTHONY W. DELLER, *DELLER'S WALKER ON PATENTS* 695 (2d ed. 1964); *MANUAL OF PATENT EXAMINING PROCEDURE* § 2121 (1989). *Contra* *Watson v. Allen*, 254 F.2d 342, 347 (D.C. Cir. 1958) (holding third party experimental use negated bar).

227. In *Creative Mfg. v. Unik*, the Federal Circuit held that sales made to a close friend can raise the on-sale bar. 13 U.S.P.Q.2d (BNA) 1064, 1065 (Fed. Cir. 1989) (nonprecedential). Such sales violate the policy against preapplication commercialization. *Id.* The mere fact that the sales were made to a close friend does not necessarily render them experimental. *Id.* There is no "close friend negation" of the on-sale bar. *Id.* See *supra* note 51 and accompanying text.

228. RICHARD H. GASKINS, *BURDENS OF PROOF IN MODERN DISCOURSE* 3 (1992) ("The burden of proof is a ubiquitous device whose wider influence on litigation has been curiously ignored by legal commentators"). Gaskins observes that once the distinction between the burden of going forward and the burden of proof (risk of non-persuasion) is made, "the burden of proof concept fades into the footnotes." *Id.* at 21. He also points out the important, often determinative, nature of the burden of proof:

Where persuasion requires the jury to build complex inferences, influenced as much by group psychology as by inductive reasoning, the risk of non-persuasion becomes a heavy burden indeed. The honorable path for a zealous seeker of favorable legal results is to try to shift that burden to the adversary whenever possible. That way your client wins, unless the opposing party can somehow make an affirmative case for a different version of the facts.

Id. at 26-27.

the question determines the standard of review, which can have a great effect on appeal.

1. *The Burden of Going Forward with Proof of Experimental Use*

The proponent of experimental use bears the burden of going forward with clear and convincing evidence of an experimental purpose underlying the activity. As the Federal Circuit held in *Hycor Corp. v. Schlueter Co.*²²⁹ "Once a prima facie case of public use before the critical date has been made, the patent owner must come forward with clear and convincing evidence to counter that showing."²³⁰

2. *The "Burden of Proof of Experimental Use"*

In *Smith & Griggs*, the Supreme Court placed the burden of proof (or "risk of nonpersuasion")²³¹ squarely on the proponent of experimental use, in that case the patentee:

In considering the evidence as to the alleged prior use . . . , which if established, will have the effect of invalidating the patent, and where the defense is met only by the allegation that the use was not a public use in the sense of the statute, because it was for the purpose of perfecting an incomplete invention by tests and experiments, the proof, on the part of the patentee, the period covering the use having been clearly established, should be full, unequivocal and convincing.²³²

The Court of Customs and Patent Appeals interpreted this passage as placing the burden of proof on the patent applicant as well.²³³

But the Federal Circuit revised this interpretation in *In re Smith*: "[w]here, as here, the inventor made the allegedly public use, he has the *burden of going forward* with convincing evidence that the public use activities fall within the experimental use

229. 740 F.2d 1529, 1535 (Fed. Cir. 1984).

230. *Id.* The cases involving the burden of going forward and burden of proof on experimental use are collected in Douglas W. Wyatt, *The Burden of Proof Regarding "Experimental Use" in Connection With a Potential "On Sale" or "Public Use" Statutory Bar to Patentability Under 35 U.S.C. Section 102(b)*, in PRACTICING LAW INSTITUTE, CURRENT DEVELOPMENTS IN PATENT LAW (1985).

231. Federal Rule of Evidence 301 refers to the burden of proof as "the risk of nonpersuasion" and points out that burden "remains throughout trial upon the party on whom it was originally cast." FED. R. EVID. 301.

232. 123 U.S. 249, 264 (1887).

233. *In re Dybel*, 524 F.2d 1393, 1400 (C.C.P.A. 1975) ("The Court also held that, once public use or sale before the critical date has been established, the burden is on the patentee to prove that such use was experimental by full, unequivocal, and convincing proof"). See also *In re Jossierand*, 188 F.2d 486, 491 (C.C.P.A. 1951) (placing burden on patent applicant).

exception."²³⁴ In *TP Laboratories*, the Federal Circuit confirmed that the burden of going forward, and not the ultimate burden of persuasion or proof, rests on the proponent of experimental use.²³⁵ In *TP Laboratories*, the district court had invalidated the patent because the patentee had not carried the "heavy burden of showing that the public use was bona fide experimentation."²³⁶ The *TP Laboratories* panel observed that 35 U.S.C. § 282 permanently places the burden of proof of facts necessary to a conclusion of invalidity on the party attacking the patent's validity,²³⁷ and that there are not two separate issues (was it public use and was it experimental) but one (was it public use under section 102(b)?) and then concluded: "Under this analysis, it is incorrect to impose on the patent owner . . . the burden of proving that a 'public use' was 'experimental.'"²³⁸ The *TP Laboratories* panel went on to explain its holding:

This does not mean, of course, that the challenger has the burden of proving that the use is not experimental. Nor does it mean that the patent owner is relieved of explanation. It means that if a *prima facie* case is made of public use, the patent owner must be able to point to or must come forward with convincing evidence to counter that showing.²³⁹

By its analysis of presumption of validity, burden of proof, standard of proof, exception and negation, the *TP Laboratories* panel apparently meant that the proponent of invalidity bears the burden to establish facts supporting the conclusion of the on sale or public use bar by clear and convincing evidence, as well as the burden of going forward with evidence of facts establishing a *prima facie* case of the on sale or public use bar. If the proponent of experimental use so desires, it can rebut that case by going forward with evidence that the activity was experimental.²⁴⁰

234. *In re Smith*, 714 F.2d 1127, 1135 (Fed. Cir. 1983) (emphasis added).

235. *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 971 (Fed.Cir.), *cert. denied*, 469 U.S. 826 (1984).

236. *Id.* at 969-70.

237. *Id.* This is but an application of Rule 301 of the Federal Rules of Evidence. See *supra* note 231 for the text of Rule 301.

238. *TP Lab.*, 724 F.2d at 971. By the same reasoning, because the patentee bears the burden of proving infringement, an accused infringer would not bear the burden of proving affirmative defenses. However, the accused infringer does bear that burden.

239. *Id.* In *St. Mary's Honor Center v. Hicks*, the Supreme Court explained that "although the . . . presumption [created by the *prima facie* case] shifts the burden of production to the defendant, [t]he ultimate burden of persuading the trier of fact . . . remains at all times with the plaintiff." 113 S. Ct. 2742, 2747 (1993) (quoting *Texas Dept. of Community Affairs v. Burdine*, 450 U.S. 248, 253 (1981)). If the defendant carries its burden of production, the Court explained, "the presumption raised by the *prima facie* case is rebutted . . . and drops from the case." *Id.* The plaintiff retains the ultimate burden of persuading the trier of fact. *Id.* at 2747-48.

240. Whether the proponent of experimental use has the burden of proof on that

Once the proponent of experimental use has done so, per the *TP Laboratories* panel, "the court should [look] at all of the evidence put forth by both parties and [decide] whether the entirety of the evidence led to the conclusion that there [has] been a 'public use.'"²⁴¹ Under the *TP Laboratories* analysis, the clear and convincing standard of proof for experimental use seems to evaporate and the burden of proof or persuasion is borne by the accused infringer or the Patent and Trademark Office.

Not only does the burden of proof of experimental use seem to evaporate, but the entire experimental use issue may have evaporated along with it, swallowed up into the totality of the circumstances and the conclusion of the bar itself. In *Harrington Manufacturing Co. v. Powell Manufacturing Co.*,²⁴² the Federal Circuit interpreted *TP Laboratories* as eliminating the experimental use inquiry as an inquiry separate from the public use bar.²⁴³

TP Laboratories generated a relatively large amount of commentary, very little of which was positive.²⁴⁴ One reason for the negative reaction was the *TP Laboratories* panel's treatment of the Supreme Court's *Smith & Griggs* holding.²⁴⁵ In a footnote, *TP Laboratories* distinguished *Smith & Griggs* as predating the 1952 Patent Act, apparently contending that the Supreme Court's holding was overruled by the codification of the presumption of validity.²⁴⁶ The *TP Laboratories* court did not address the prece-

issue has long been subject to debate. Compare *Austin Mach. Co. v. Buckeye Traction Ditcher Co.*, 13 F.2d 697, 700 (6th Cir. 1926) ("we see no reason why the legal burden of proof should shift"), cert. denied, 273 U.S. 747 (1927) with *Aerovox Corp. v. Polymet Mfg. Corp.*, 67 F.2d 860, 861 (2d Cir. 1933) (rejecting *Austin* and accepting *Smith & Griggs* as "authoritative").

241. *TP Lab.*, 724 F.2d at 971.

242. 815 F.2d 1478 (Fed. Cir. 1986).

243. *Id.* at 1481 n.2 (interpreting *TP Lab.* as holding that "there was no experimental use exception *per se*," but "that the court must look to the totality of the circumstances to determine whether there has been a public use within the meanings of § 102(b)").

244. See ADELMAN, *supra* note 223, at § 2.3[7.-3] (stating *TP Lab.* "has undone 100 years of relatively well-settled jurisprudence in an area already fraught with uncertainty"); CHISUM, *supra* note 6, § 6.02[8] at 6-160 n.15 ("The court's basis for this holding is questionable."); ROBERT L. HARMON, PATENTS AND THE FEDERAL CIRCUIT 83-84 (3d ed. 1994) (interpreting *TP Lab.* as injecting "a note of uncertainty" into the law that the patentee bears the burden of proving experimental use); Herbert H. Mintz & Richard B. Racine, *Anticipation And Obviousness In The Federal Circuit*, 13 AIPLA Q.J. 195, 201 (1985) (interpreting *TP Lab.* as conflicting with other Federal Circuit case law).

245. *TP Lab.* 724 F.2d at 971 n.3. See CHISUM, *supra* note 6, at § 6.02[8] at 6-160 n.15.

246. *TP Lab.*, 724 F.2d at 971 n.3. As Professor Chisum points out, the 1952 enactment of the presumption of validity in § 282 "was generally thought to have codified prior law." CHISUM, *supra* note 6, at § 6.02[8] at 6-160 n.15.

dent from the Court of Customs and Patent Appeals which is binding.²⁴⁷ Nor did the court address the fact that the presumption of validity long predated the 1952 patent statute.²⁴⁸

According to the commentators, the *TP Laboratories* panel also failed to appreciate that experimental purpose is not just one more fact to throw into the "totality of circumstances" to be considered.²⁴⁹ Rather, it is a separate inquiry that is in the nature of an affirmative defense. That is, an allegation of experimental use avoids or "negates," rather than rebuts, the assertion that the invention was offered, sold or used in public more than one year before the patent application was filed. One may argue that placing the burden of proof of experimental use on the patentee or applicant is entirely consistent with the general rule that the plaintiff has the burden of proof as to the elements of its cause of action, while the defendant has the burden of establishing affirmative defenses.²⁵⁰ As the proponent of the "affirmative defense" of experimental use, the patentee or applicant should be required to prove experimental use. This would implement the general rule that the burden of proof or persuasion as to a fact or issue generally rests on the party asserting it.²⁵¹

Another reason for imposing the burden of proof of experimental use on the patentee or applicant would be that, in most cases, that party has in its possession the facts regarding the use, offer or sale. Except in rare cases, the patentee or applicant will always have at least as much access to the information as the alleged infringer or the Patent Examiner.²⁵² That a matter lies peculiarly within the knowledge of a party suggests that party should have the burden of proof.²⁵³

247. See *supra* note 227 and accompanying text. The court may have ignored these cases because the issue was not disputed. See *National Cable Television Assoc., Inc. v. American Cinema Editors, Inc.*, 937 F.2d 1572, 1581 (Fed. Cir. 1991) ("When an issue is not argued or is ignored in a decision, such decision is not precedent to be followed in a subsequent case in which the issue arises").

248. See D. Journeaux, *Public Use in Private, or Vice Versa*, 23 J. PAT. OFF. SOC'Y 514, 516-17 (1941).

249. See *supra* note 244. Regardless of how heavy the evidence of a use in public or a sale or offer to sell weighs, it cannot outweigh (or even be weighed against) evidence of experimental purpose, which can be viewed as mixing apples and oranges.

250. 31A C.J.S. *Evidence* § 104(b) (1964). A corollary to this rule is that a party asserting the affirmative of a proposition should have the burden of proving that proposition. *Mashpee Tribe v. New Seabury Corp.*, 592 F.2d 575, 589 (1st Cir.), *cert. denied*, 444 U.S. 866 (1979).

251. GASKINS, *supra* note 228, at 23 ("Traditional legal commentary has been comfortable placing burdens on the party seeking the law's intervention"); 31A C.J.S. *Evidence* § 104(a) (1964).

252. This is so because the patentee or applicant cannot rely on the experimental activities of the alleged infringer to establish experimental use. See *supra* notes 225-26 and accompanying text.

253. *Lindahl v. Office of Personnel Management*, 776 F.2d 276, 280 (Fed. Cir.

All that having been said, however, these arguments overlook that the Supreme Court has applied a burden of proof analysis identical to that of *TP Laboratories*. For example, in *St. Mary's Honor Center v. Hicks*,²⁵⁴ the Court explained the burden of proof associated with Section 703(a)(1) of Title VII of the Civil Rights Act of 1964, which prohibits employment discrimination because of race. To prevail under this section, the plaintiff "must first establish, by a preponderance of the evidence, a 'prima facie' case of racial discrimination."²⁵⁵ The prima facie case requires that the employee be a minority, be qualified, suffer an adverse employment action and that the benefit denied go to a non-minority.²⁵⁶ Establishment of the prima facie case creates a presumption that the employer unlawfully discriminated against the employee, a presumption that shifts the burden of producing evidence to rebut the prima facie case to the employer.²⁵⁷ Although the burden of production shifts to the employer, the burden of proof remains on the employee. If the employer carries its burden of production, the presumption created by the prima facie case disappears.²⁵⁸ At this point, the trier of fact must decide, based on all the facts and circumstances, whether the employee has been the victim of discrimination.

The *St. Mary's Honor Center* analysis is identical to that used in *TP Laboratories*. Even though the "rebuttal" (action taken for legitimate nondiscriminatory reasons) to the prima facie case (qualified minority subjected to adverse employment action which benefitted a non-minority) avoids, rather than directly rebuts, the elements of the prima facie case, the proponent of the prima facie case has the only burden of proof. Although the Supreme Court's holding in *St. Mary's Honor Center* supports the *TP Laboratories* analysis, patent law precedent and common sense suggest that the burden of proof on experimental use should be placed on the proponent of experimental use.

3. The Standard of Proof of Experimental Use

The public use bar has long been known as "the last refuge of the desperate infringer."²⁵⁹ Surely then, experimental use negation of the public use and on sale bars is the last refuge of the desperate patentee. That is so because experience, in the form of reported decisions, shows that an assertion of experimental use is

1985); 31A C.J.S. *Evidence* §§ 104(a), 113 (1964).

254. 113 S. Ct. 2742 (1993).

255. *Id.* at 2747.

256. *Id.*

257. *Id.*

258. *Id.*

259. Charles W. Rivise, *Public Use*, 11 J. PAT. OFF. SOC'Y 348, 354 (1929).

highly improbable and rarely successful.

Perhaps because of the highly improbable nature of the assertion, in *Smith & Griggs Manufacturing Co. v. Sprague*,²⁶⁰ the Supreme Court identified the standard of proof borne by the proponent of experimental use as requiring evidence "full, unequivocal, and convincing."²⁶¹ In later cases, many courts, including the Supreme Court,²⁶² followed *Smith & Griggs* in applying the "full, unequivocal, and convincing" standard of proof to the inherently improbable assertion of experimental use.

Although *Smith & Griggs* employed the "full, unequivocal, and convincing" standard in *inter partes* litigation between a patentee and an alleged infringer, the Federal Circuit's predecessor court, the Court of Customs and Patent Appeals,²⁶³ applied that same standard to proof of experimental use in the *ex parte* proceedings of the Patent and Trademark Office. The Federal Circuit itself followed these cases in applying the "full, unequivocal, and convincing" standard in reviewing decisions from the Patent and Trademark Office.²⁶⁴ Although the Federal Circuit and its predecessor court applied variations of this standard,²⁶⁵ these variations all referred to the same standard of proof, what is referred to in modern parlance as the "clear and convincing" standard.

All these *ex parte* cases relied either on *Smith & Griggs* or the Court of Customs and Patent Appeal's decision in *In re Josserand*,²⁶⁶ to support application of the clear and convincing standard (or a variation) in the *ex parte* context. Of course, *Smith & Griggs* was an *inter partes* case, where the patentee had to prove facts underlying the public use or on sale bar by clear and convincing evidence.²⁶⁷ *Josserand* merely held that experimental use must be shown "affirmatively."²⁶⁸ Application of the *inter*

260. 123 U.S. 249 (1887).

261. *Id.* at 265. This explication of the standard of proof was a holding; the *Smith & Griggs* Court rejected the assertion of experimental use because the "testimony of the patentee seems to be vague and indefinite." *Id.*

262. *Root v. Third Ave. R.R.*, 146 U.S. 210, 226 (1892).

263. *In re Theis*, 610 F.2d 786, 792 (C.C.P.A. 1979); *In re Dybel*, 524 F.2d 1393, 1400 (C.C.P.A. 1975).

264. *In re Smith*, 714 F.2d 1127, 1135 (Fed. Cir. 1983).

265. *Id.* at 1135 ("Where as here, the inventor made the allegedly public use, he has the burden of going forward with convincing evidence that the public use activities fall within the experimental use exception" and "Since the appellants have failed to prove by clear and convincing evidence that the St. Louis test falls within the experimental use exception"); *In re Blaisdell*, 242 F.2d 779, 784 (C.C.P.A. 1957) ("The inventor bears a heavy burden of establishing by affirmative and convincing proof that the alleged public use or sale was . . . experimentation").

266. 188 F.2d 486 (C.C.P.A. 1951).

267. *E.g. Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 549 (Fed. Cir.); *Buildex*, 849 F.2d at 1463.

268. 188 F.2d 486, 491 (C.C.P.A. 1951).

partes clear and convincing standard of proof to *ex parte* proceedings in the Patent and Trademark Office, where all other determinations are made under the preponderance of the evidence standard,²⁶⁹ appears to have been done without much reason, or even thought.

But, after *TP Laboratories*, the standard of proof issue may well be moot. In that case, the Federal Circuit explained that the patentee or applicant does not have a burden of proof on experimental use. Standards of proof usually go hand in hand with burdens of proof. In eliminating the separate burden of proof on experimental use, *TP Laboratories* may have eliminated the clear and convincing standard of proof as well. The Federal Circuit has yet to address this issue in a way that sheds any light on whether the clear and convincing standard of proof still exists.²⁷⁰

Both precedent and common sense suggest that the clear and convincing standard should be applied in *inter partes* cases. On the other hand, there seems to be no good reason, save some poorly reasoned precedent, for applying the clear and convincing standard in *ex parte* cases.

4. Experimental Use As Fact or Law

The Federal Circuit has held that experimental use is a factual issue.²⁷¹ This holding is important because it dictates that the trier of fact must decide experimental use at the trial level and is reviewed under the clearly erroneous or substantial evidence standards of review at the appellate level. By way of contrast, a legal conclusion may be decided by the court — not the jury — at the trial level and is reviewed for mere error at the appellate level.

Like the standard of proof of experimental use, however, experimental use may have changed from fact to law as a result of *TP Laboratories*. If, as the *TP Laboratories* court held, there are

269. *In re Epstein*, 32 F.3d 1559, 1564 (Fed. Cir. 1994); *In re Caveney*, 761 F.2d at 674.

270. In *Harrington Manufacturing Co. v. Powell Manufacturing Co.*, 815 F.2d 1478, 1482 n.5 (Fed. Cir. 1986), the Federal Circuit dodged the issue in a footnote, but suggested that application of a clear and convincing standard of proof to experimental use in the *inter partes* context would be improper. Harmon recognizes that the continued existence of the clear and convincing standard of proof on experimental use is an open question. HARMON, *supra* note 244, at 83 n.191.

271. *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1565 (Fed. Cir. 1987). Likewise, the earliest circuit court decisions, *Whitney v. Emmett*, 29 F. Cas. 1074, 1077-78 (C.C.E.D. Pa. 1831) (No. 17,585) and *Morris v. Huntington*, 17 F. Cas. 818, 819 (C.C.D.N.Y. 1824) (No. 9,831), held that experimental use is a question for the jury. Additionally, the Ninth Circuit repeatedly held that experimental use is a question of fact. *E.g.*, *Micro-Magnetic Indus., Inc. v. Advanced Automatic Sales Co.*, 488 F.2d 771, 773 (9th Cir. 1973) (collecting cases).

not two separate issues (was it public use? and was it experimental?) but one (was it public use under section 102(b)?), the experimental use issue may have been merged into the legal conclusion of public use or on sale bar. On the other hand, the issue of whether the intent of the activity was primarily experimental is a distinct issue, one that partakes of the kind of historical determination that is usually labeled a finding of fact.²⁷²

In a recent opinion, one Federal Circuit panel bent over backwards to avoid the factual/legal nature of experimental use. Without so much as a nod to the precedential holding that experimental use is a question of fact, the panel labelled experimental use "fact driven," but implied that it is an "ultimate legal question."²⁷³ This vagueness may have been motivated by experimental use being the alleged genuine issue of material fact on review of a district court's grant of summary judgment, rather than the court's reluctance to confront the changing nature of the experimental use issue from fact to law resulting from *TP Laboratories*.

Just like the standard of proof, the question of the factual/legal nature of experimental use will have to await further word from the Federal Circuit. But precedent and common sense suggest a clear answer: experimental use is a question of fact.

CONCLUSION

The policy in favor of allowing the inventor the opportunity to reduce the invention to practice is furthered by an activity performed by the inventor or one substantially under his direction to show that the invention would be suitable for its intended purpose. Accordingly, such activities, labelled experimental use, would not create an on sale or public use bar to patentability.

The determination of whether the purpose of an offer, sale or use was experimental is necessarily fact intensive. The Federal Circuit has identified an extensive list of factors to help in that task. By identifying these factors and focusing the inquiry on the purpose of the activity, the court has closely tracked the law set forth by the Supreme Court over 100 years ago.

In other areas, however, the Federal Circuit has strayed far and wide from the law envisioned by the Supreme Court. Important areas of the law of experimental use are in need of clarification. In particular, the Federal Circuit needs to resolve inconsistencies in its precedent regarding the policy underlying experi-

272. Indeed, the very first experimental use case, *Morris*, held that experimental use is a question for the jury. 17 F. Cas. at 819.

273. *Paragon Podiatry, Lab., Inc. v. KLM Lab., Inc.*, 984 F.2d 1182, 1186 (Fed. Cir. 1993).

mental use itself, the factual/legal nature of experimental use, the standard and burden of proof of experimental use and the relationship between an inventor's intent and the purpose underlying the allegedly experimental activity. Furthermore, the Federal Circuit needs to totally rethink its application of, and sharply limit its approach to, applying experimental use to design patents.

The Federal Circuit should reject the heresy that the policy underlying experimental use is to allow the inventor time to assess the value of the invention or to decide whether to expend the time and expense to file a patent application. The policy underlying experimental use is to allow the inventor the opportunity to reduce the invention to practice that is, to build, or have built, an embodiment and, if necessary, to test, or have tested, that embodiment to demonstrate that the invention will work for its intended purpose. As a result, the purpose of the activity allegedly subject to the bar is the focus of the experimental use inquiry, an inquiry separate from the *prima facie* case of either the public use or on sale bars.

As a question of the purpose for which the allegedly barring activity was conducted, experimental use is an issue of fact, and it has been considered an issue of fact since the doctrine was created in 1824. As the Supreme Court held in 1887, the proponent of experimental use should have the burden of proving experimental use — perhaps the last refuge of the desperate patentee — by clear and convincing evidence.

The nine principles of experimental use identified by the Supreme Court in *City of Elizabeth* and *Smith & Griggs* provide the basis for repairing the damage done to experimental negation of the public use and on sale bars by the entropy of the Federal Circuit's case law. Only by returning to the law as it stood over 100 years ago and by keeping an eye on the policy underlying experimental use could the Federal Circuit return the law in this area to a state of common sense and reasonable, if not sublime, simplicity.

APPENDIX

PRECEDENTIAL EXPERIMENTAL USE CASES

- Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 7 L. Ed. 327 (1829).
- Shaw v. Cooper*, 32 U.S. (7 Pet.) 292, 8 L. Ed. 689 (1833).
- Agawam Woolen Co. v. Jordan*, 74 U.S. (7 Wall.) 583, 19 L. Ed. 177 (1869).
- City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 24 L. Ed. 1000 (1877).
- Manning v. Cape Ann Isinglass & Glue Co.*, 108 U.S. 462, 2 S. Ct. 860, 27 L. Ed. 793 (1883).
- Beedle v. Bennett*, 122 U.S. 71, 7 S. Ct. 1090, 30 L. Ed. 1074 (1887).
- Smith & Griggs Mfg. Co. v. Sprague*, 123 U.S. 249, 8 S. Ct. 122, 31 L. Ed. 141 (1887).
- Root v. Third Avenue R.R.*, 146 U.S. 210, 13 S. Ct. 100, 36 L. Ed. 946 (1892).
- Binckley v. United States*, 83 Ct. Cl. 444 (Ct. Cl. 1936).
- Electric Storage Battery Co. v. Shimadzu*, 307 U.S. 5, 59 S. Ct. 675, 83 L. Ed. 1071 (1939).
- In re Josserand*, 188 F.2d 486, 89 U.S.P.Q. 371 (C.C.P.A. 1951).
- In re Blaisdell*, 242 F.2d 779, 113 U.S.P.Q. 289 (C.C.P.A. 1957).
- Ushakoff v. United States*, 327 F.2d 669, 140 U.S.P.Q. 341 (Ct. Cl. 1964).
- In re Dybel*, 524 F.2d 1393, 187 U.S.P.Q. 593 (C.C.P.A. 1975).
- Gould, Inc. v. United States*, 579 F.2d 571, 198 U.S.P.Q. 156 (Ct. Cl. 1978).
- In re Theis*, 610 F.2d 786, 204 U.S.P.Q. 188 (C.C.P.A. 1979).
- In re Smith*, 714 F.2d 1127, 218 U.S.P.Q. 976 (Fed. Cir. 1983).

TP Laboratories, Inc. v. Professional Positioners, Inc., 724 F.2d 965, 220 U.S.P.Q. 577 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984).

Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd., 731 F.2d 831, 221 U.S.P.Q. 561 (Fed. Cir. 1984).

Preemption Devices, Inc. v. Minnesota Mining & Mfg. Co., 732 F.2d 903, 221 U.S.P.Q. 841 (Fed. Cir. 1984).

Stearns v. Beckman Instruments, Inc., 737 F.2d 1565, 222 U.S.P.Q. 457 (Fed. Cir. 1984).

Milliken Research Corp. v. Dan River, Inc., 739 F.2d 587, 222 U.S.P.Q. 571 (Fed. Cir. 1984).

Hycor Corp. v. Schlueter Co., 740 F.2d 1529, 222 U.S.P.Q. 553 (Fed. Cir. 1984).

Pennwalt Corp. v. Akzona, Inc., 740 F.2d 1573, 222 U.S.P.Q. 833 (Fed. Cir. 1984).

Kinzenbaw v. Deere & Co., 741 F.2d 383, 222 U.S.P.Q. 929 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1004 (1985).

Western Marine Elec., Inc. v. Furuno Elec. Co., Ltd., 764 F.2d 840, 226 U.S.P.Q. 334 (Fed. Cir. 1985).

Reactive Metals & Alloys Corp. v. ESM, Inc., 769 F.2d 1578, 226 U.S.P.Q. 821 (Fed. Cir. 1985).

Great N. Corp. v. Davis Core & Pad Co., 782 F.2d 159, 228 U.S.P.Q. 356 (Fed. Cir. 1986).

Armco, Inc. v. Cyclops Corp., 791 F.2d 147, 229 U.S.P.Q. 721 (Fed. Cir. 1986).

In re Brigrance, 792 F.2d 1103, 229 U.S.P.Q. 988 (Fed. Cir. 1986).

Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986).

Harrington Mfg. Co. v. Powell Mfg. Co., 815 F.2d 1478, 2 U.S.P.Q.2d 1364 (Fed. Cir. 1986).

Baker Oil Tools, Inc. v. Geo Vann, Inc., 828 F.2d 1558, 4 U.S.P.Q.2d 1210 (Fed. Cir. 1987).

Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988).

In re Mann, 861 F.2d 1581, 8 U.S.P.Q.2d 2030 (Fed. Cir. 1988).

In re Hamilton, 882 F.2d 1576, 11 U.S.P.Q.2d 1890 (Fed. Cir. 1989).

RCA Corp. v. Data Gen. Corp., 887 F.2d 1056, 12 U.S.P.Q.2d 1449 (Fed. Cir. 1989).

Moxness Prods., Inc. v. Xomed, Inc., 891 F.2d 890, 13 U.S.P.Q.2d 1169 (Fed. Cir. 1989).

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