

***FESTO CORP. V. SHOKETSU KINZOKU KOGYO KABUSHIKI
CO.[†]: A FOG BETWEEN THE BARS***

*It would be difficult to exaggerate the significance of Festo to the United States patent system.**

I. INTRODUCTION

In *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*,¹ the United States Supreme Court seemingly rescued the doctrine of equivalents from the near fatal wounds inflicted by the Court of Appeals for the Federal Circuit.² By rejecting the Federal Circuit's complete bar approach, the Supreme Court sought to uphold precedent and restore the historic balance between the interests of patent owners and prospective competitors.³ The Court's holding, however, appears to be middle

[†] *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo V*], 535 U.S. 722 (2002).

^{*} Donald S. Chisum, *The Supreme Court's Festo Decision: Implications for Patent Claim Scope and Other Issues*, available at <http://web.lexis.com/xchange/practiceareas/patent/chisumfesto.pdf> (last visited January 31, 2003).

1. *Festo V*, 535 U.S. at 742.

2. See Benjamin Hsing, *Proof of Equivalence After Festo*, 725 PLI/PAT 115 (2002) ("In *Festo* . . . the Supreme Court reaffirmed the vitality of the doctrine of equivalents, stating that 'equivalents remain a firmly entrenched part of the settled rights protected by the patent.'"); Jay I. Alexander, *Cabining the Doctrine of Equivalents in Festo: A Historical Perspective on the Relationship Between the Doctrines of Equivalents and Prosecution History Estoppel*, 51 AM. U. L. REV. 553, 592 (2002) (indicating that Federal Courts Improvement Act of 1982 created the Court of Appeals for the Federal Circuit, granting it exclusive jurisdiction over patent appeals in order to promote "doctrinal stability" and to "reduce the widespread lack of uniformity and uncertainty of the legal doctrine" that then existed in the patent law); Federal Courts Improvement Act, Pub. L. No. 97-164, 96 Stat. 25 (1982) (combining the United States Court of Claims with the Court of Customs and Patent Appeals to create the Court of Appeals for the Federal Circuit); *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608 (1950) (indicating the doctrine of equivalents prevents an accused infringer from avoiding liability for infringement by changing only minor or insubstantial details of a claimed invention while retaining the invention's essential identity); BLACK'S LAW DICTIONARY 496 (7th ed. 1999) (defining the doctrine of equivalents as a judicially created theory for finding patent infringement when the accused process or product falls outside the literal scope of the patent claims).

3. See *Festo V*, 535 U.S. at 739 (stating "the doctrine of equivalents and the rule of prosecution history estoppel are settled law" and "[f]undamental alterations in these rules risk destroying the legitimate expectations of inventor in their property"); Alexander, *supra* note 2, at 598 (stating that the Supreme Court's *Warner-Jenkinson* decision "validated the balance between

ground, shrouded in a fog of unanswered questions, lying somewhere between the traditional flexible bar approach and the severe complete bar approach.⁴ It is unexplored territory, and as one commentator noted:

[T]he Supreme Court's reversal of the Federal Circuit in *Festo* did not restore the flexible bar used by the Federal Circuit in earlier cases. For the patent practitioner and inventor, the interplay between the doctrine of equivalents and doctrine of file wrapper estoppel will be decided through current and future patent litigation.⁵

This Note examines the interplay between the judicially-created patent law rules of prosecution history estoppel⁶ and the doctrine of

the interests of patent owners and his would-be competitors that the Federal Circuit had consistently implemented since *Hughes*," while the Federal Circuit's *Festo* decision "skewed the balance well to the side of the would-be competitors and against patent owners"); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. [Festo IV]*, 234 F.3d 558, 569 (Fed. Cir. 2000) (describing the "complete bar" approach or strict approach as dictating that prosecution history estoppel completely bars the application of the doctrine of equivalents to a claim element); *Id.* at 574 (indicating that the "flexible bar" approach allows application of the doctrine of equivalents and requires a determination of the exact subject matter surrendered by amendment).

4. See Lawrence B. Ebert, *Meet the New Festo: Same as the Old Festo?*, available at <http://www.nyipla.org/Bulletin/June2002.pdf> (last visited November 2, 2002). See also Kenneth R. Adamo, *Back to the Future: Festo, Equivalents and Presumptive Prosecution History Estoppel*, 716 PLI/PAT 147 (2002).

5. 3 JOHN GLADSTONE MILLS III ET AL., *PATENT LAW FUNDAMENTALS* § 18:49 n.118 (2d ed. 1991). It has been noted,

An early indication of the Federal Circuit's approach to the standard articulated by the U.S. Supreme Court will likely be found in its treatment of cases remanded to it for further consideration in light of *Festo*: *Accuscan, Inc. v. Xerox Corp.*, 18 Fed.Appx. 828 (Fed. Cir. 2001) (non-precedential), *cert. granted, decision vacated & remanded*, [535 U.S. 1109] (June 3, 2002) (mem.); *Creo Products Inc. v. Dainippon Screen, et al.*, 10 Fed.Appx. 921 (Fed. Cir. 2001) (non-precedential), *cert. granted, decision vacated & remanded*, 535 U.S. 1109, (June 3, 2002) (mem.); *Insituform Technologies v. Cat Contracting, et al.*, 99 F.3d 1098, 40 U.S.P.Q.2d 1602 (Fed. Cir. 1996), *cert. granted, decision vacated & remanded*, 535 U.S. 1108, (June 3, 2002) (mem.); *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 249 F.3d 1314, 58 U.S.P.Q.2d 1671 (Fed. Cir. 2001), *cert. granted, decision vacated & remanded*, 535 U.S. 1109, (June 3, 2002) (mem.); *Mycogen Plant Science, et al. v. Monsanto Co.*, 252 F.3d 1306, 58 U.S.P.Q.2d 1891 (Fed. Cir. 2001), *cert. granted, decision vacated & remanded*, 2002 WL 1159483 (June 3, 2002) (mem.); *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 238 F.3d 1341, 57 U.S.P.Q.2d 1553 (Fed.Cir. 2001), *cert. granted, decision vacated & remanded*, 535 U.S. 1108, (June 3, 2002) (mem.); *PTI Technologies, Inc. v. Pall Corp. Techn., Inc.*, 259 F.3d 1383, 59 U.S.P.Q.2d 1763 (Fed. Cir. 2001), *cert. granted, decision vacated & remanded*, 535 U.S. 1109, (June 3, 2002) (mem.); *Semitoool, Inc. v. Novellus Systems, Inc.*, 12 Fed.Appx. 918 (Fed. Cir. 2001) (non-precedential), *cert. granted, decision vacated & remanded*, 535 U.S. 1109, (June 3, 2002) (mem.); and, *Senior Technologies, Inc. v. R. F. Technologies, Inc.*, 13 Fed.Appx. 930 (Fed. Cir. 2001) (non-precedential), *cert. granted, decision vacated & remanded*, 535 U.S. 1108, (June 3, 2002) (mem.).

Id.

6. See *Festo IV*, 234 F.3d at 564 (quoting *Pharmacia & Upjohn Co. v. Myaln Pharms., Inc.*,

equivalents.⁷ Part II explores the development of these rules as well as their effects and underlying goals.⁸ Part II also discusses landmark Supreme Court decisions regarding the doctrine of equivalents and prosecution history estoppel and how the Federal Circuit has applied these rules.⁹ Part III discusses the United States Supreme Court decision in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*¹⁰

Finally, Part IV analyzes the *Festo* decision, explains that the decision will likely increase the cost and complexity of patent prosecution and litigation, and offers an alternate approach.¹¹

II. BACKGROUND

The U.S. Constitution grants Congress the power to award inventors exclusive rights to their inventions.¹² Acting under the constitutional grant of power, Congress developed the first Patent Act in

170 F.3d 1373, 1376-77 (Fed. Cir. 1999)) (indicating that prosecution history estoppel precludes a patentee from obtaining under the doctrine of equivalents coverage of subject matter that has been relinquished during prosecution of its patent application; BLACK'S LAW DICTIONARY 1237 (7th ed. 1999) (defining prosecution history estoppel as a doctrine that prevents a patent holder from invoking the doctrine of equivalents if the holder, during the application process, surrendered certain claims or interpretations of the invention).

7. See *infra* Parts II-IV.

8. See *infra* notes 12-39 and accompanying text.

9. See *infra* notes 40-76 and accompanying text. The landmark Supreme Court cases discussed are *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126 (1942) (holding that when patentee originally claimed the subject matter alleged to be infringed but then narrowed the claim in response to a rejection, he may not argue that the surrendered territory comprised an unforeseen equivalent); *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 (1950) (stating that the doctrine of equivalents is necessary to protect inventors from copyists who make unimportant and insubstantial changes to avoid literal infringement of the claim); and *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997) (holding that prosecution history estoppel may apply to amendments made for any "substantial reason related to patentability" and patentee has the burden of proving that an amendment was not made for such a reason).

10. See *infra* notes 77-118 and accompanying text.

11. See *infra* Part IV.

12. U.S. CONST. art. I, § 8, cl. 8. ("The Congress shall have the Power To . . . promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their Respective Writings and Discoveries"). One commentator noted that the Supreme Court has stated:

The clause is both a grant of power and a limitation. This qualified authority, unlike the power often exercised in the sixteenth and seventeenth centuries by the English Crown, is limited to the promotion of advances in the 'useful arts.' It was written against the backdrop of the practices—eventually curtailed by the Statute of Monopolies—of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose.

DONALD S. CHISUM, CHISUM ON PATENTS §2, n.1 (1998) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 5-6 (1966)).

1790¹³ and embodied patent law into United States Code Title 35 in 1952.¹⁴ Title 35 still serves as the basic structure for today's patent law and, even through the revisions, is similar in nature and serves the same basic purposes as the laws set forth at the end of the eighteenth century.¹⁵

By granting inventors' exclusive rights to their inventions, patent law aims to promote the public welfare by encouraging advancements in knowledge.¹⁶ Thus, the monopolistic rights given to inventors serve as an incentive to innovate.¹⁷ In exchange for those rights, the patent system requires the inventor to publicly disclose the invention.¹⁸ This

13. See Act of Apr. 10, 1790, ch. 7, 1 Stat. 109. The Act authorized patents for "any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used" and provided that the Secretary of State, the Secretary of War, and the Attorney General determined that the invention was "sufficiently useful and important." CHISUM, *supra* note 12, §2.

14. See *A Brief History of the Patent Law of the United States*, available at <http://www.ladas.com/Patents/USPatentHistory.html> (last visited October 9, 2002). See also CHISUM, *supra* note 12, §§ 2-6. Congress replaced the 1790 Act with the 1793 Act which "omitted the important determination and authorized patents for 'any useful art, machine, manufacture, or composition of matter, or any new and useful improvement [thereon], not known or used before the application.'" *Id.* at § 2 (quoting Act of Feb. 21, 1793, ch. 11, 1 Stat. 318). A major revision of the Patent Act in 1836 "created a Patent Office and a system of examination of patent applications for compliance with the requirement of novelty over the prior art." *Id.* at § 3 (referring to the Act of July 4, 1836, ch. 357, 5 Stat. 117). The 1870 Act replaced the 1836 Act but retained most of the 1836 Act's provisions and requirements. *Id.* (referring to the Act of July 8, 1870, ch. 230, 16 Stat. 198). The 1952 Act "rearranged existing statutory provisions and stated in statutory form matters previously recognized only in court decisions and Patent Office practice" and made several changes and additions, possibly the most significant of which was a statutory provision on nonobviousness. *Id.* at § 6.

15. See *Bonito Boats, Inc. v. Thunder Crafts Boats, Inc.*, 489 U.S. 141, 148 (1989) (stating that "[t]oday's patent statute is remarkably similar to the law as known to Jefferson in 1793"); CHISUM, *supra* note 12, § 2 (stating that the 1790 and 1793 patent statutes introduced fundamental concepts that remain features of United States patent law today). The four categories of statutory patentable subject matter expressed in 35 U.S.C. § 101 originated in the 1793 Act. *Id.* 35 U.S.C. § 101 states that "[w]hoever invents or discovers any new and useful *process, machine, manufacture, or composition of matter*, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. §101 (2002) (*emphasis added*). "In 1952, Congress replaced 'art' with 'process' in the four-category definition but emphasized that the term 'process' means process, art, or method." CHISUM, *supra* note 12, § 2 at n.4. Invalidity defenses are another example of an important feature of today's patent system that originated in the Eighteenth century statutes. *Id.* at § 2 (stating "[t]he 1790 and 1793 statutes authorized a patent owner to sue for infringement but allowed the accused infringer to defend by alleging and proving the patented invention lacked novelty or was insufficiently disclosed in the inventor's specification").

16. *Mazer v. Stein*, 347 U.S. 201, 219 (1954).

17. See Martin J. Adelman & Gary L. Francione, *The Doctrine of Equivalent in Patent Law: Questions that Pennwalt Did Not Answer*, 137 U. PA. L. REV. 673, 674 (1989) (stating that "[a] patent represents a constitutionally sanctioned, limited monopoly over an invention granted by the government to an inventor").

18. 35 U.S.C. § 112 (2002). The first two paragraphs of 35 U.S.C. § 112 state:

disclosure not only specifically identifies the inventor's protected property, but it also notifies the public of the invention, thus inviting others to improve upon the concepts.¹⁹ The doctrine of equivalents and prosecution history estoppel emerged from this inherent balance between the interests of the inventor and the interests of the public.²⁰

A. Doctrine of Equivalents

A person may directly infringe a patent by "making, using, selling, or offering for sale" in the United States or "importing into the United States" the patented invention without the patent owner's permission.²¹ To infringe, the accused device must contain elements that are literally identical to each claimed element of the patented device.²² The doctrine of equivalents, however, can be used to find patent infringement even though the accused product falls outside of the literal claim of the patent.²³ Under the doctrine of equivalents, "a product or process that

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Id.

19. See *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950) (stating that disclosure of inventions is one of the primary purposes of the patent system); *McClain v. Ortmayer*, 141 U.S. 419, 424 (1891) (stating that requiring the patentee to particularly point out and distinctly claim his invention is "not only to secure to him all to which is entitled, but to apprise the public of what is still open to them"); *Bonito Boats*, 489 U.S. at 150-51 (stating "the federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and non-obvious advances in technology and design in return for the exclusive right to practice the invention for a period of years").

20. See *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 945 (Fed. Cir. 1987) (Bennett, J., dissenting in part) (1988):

On the one hand, there is the historic right of affording the public fair notice of what the patentee regards as his claimed invention in order to allow competitors to avoid actions which infringe that patent and to permit 'designing around' the patent. On the other hand, equally important to the statutory purpose of encouraging progress in the useful arts, is the policy of affording the patent owner complete and fair protection of what was invented.

Id. (internal citations omitted).

21. 35 U.S.C. §271(a) (2002). Section 271(a) of Title 35 reads "[e]xcept as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." *Id.*

22. See *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997).

23. See *Graver Tank*, 339 U.S. at 605.

does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.”²⁴ In this way, the doctrine protects the patent holder from copiers who “make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law.”²⁵ Therefore, the doctrine does not allow one to “practice a fraud on a patent.”²⁶

The doctrine’s underlying premise is that “the nature of language makes it impossible to capture the essence of a thing in a patent application.”²⁷ The Supreme Court in *Winans v. Denmead* first adopted what would become the doctrine of equivalents.²⁸ Since that time, the doctrine of equivalents has become an accepted aspect of the Supreme Court’s patent law jurisprudence and was recently reaffirmed by the Supreme Court.²⁹ The trade-off, however, for increasing the patent’s

24. *Warner-Jenkinson*, 520 U.S. at 21. From 1950 to 1997, the primary test for determining whether the accused device was “equivalent” to the patented device was the “function-way-result” test. MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW, § 15.2 (1998). Under this test, a product is equivalent “‘if it performs substantially the same function in substantially the same way to obtain the same result.’” *Graver Tank*, 339 U.S. at 608 (quoting *Sanitary Refrigerator Co. v. Winters*, 230 U.S. 30, 42 (1929)).

25. *Graver Tank*, 339 U.S. at 607. See *Festo V*, 535 U.S. at 733 (2002) (“The doctrine of equivalents allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes.”).

26. *Graver Tank*, 339 U.S. at 608.

27. *Festo V*, 535 U.S. at 731.

An invention exists most importantly as a tangible structure or a series of drawings. A verbal portrayal is usually an afterthought written to satisfy the requirements of patent law. This conversion of machine to words allows for unintended idea gaps which cannot be satisfactorily filled. Often the invention is novel and words do not exist to describe it. The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words, but words for things.

Id. (quoting *Autogiro Co. of America v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)).

28. See *Festo V*, 535 U.S. at 732 (citing *Winans v. Denmead*, 56 U.S. 330 (1853)). *Winans* designed and patented a coal-carrying railroad car in the shape of a cylinder with a conical base. *Winans*, 56 U.S. at 332. Due to this shape, the car had significant capacity and stability advantages over the traditional rectangular shaped railroad car. *Id.* The defendants built and used a railroad car that was octagonal with a pyramid base. *Id.* at 332, 333. The majority held that the patent claim covered “not only the precise form he had described, but all other forms which embody his invention.” *Id.* at 342. Four justices dissented, believing the claim should be literally applied so that competitors would know its boundaries. *Id.* at 347.

29. See *Warner-Jenkinson*, 520 U.S. at 28 (1997) (stating that if Congress chooses to, it can abolish the doctrine of equivalents but absent legislative action, the long history of the doctrine supports adherence to the idea that it does not conflict with the Patent Act). For further cases tracing that historical development of the doctrine of equivalents, see *Tilghman v. Proctor*, 125 U.S. 136 (1888); *McCormick v. Talcott*, 61 U.S. 402 (1857); *Evans v. Eaton*, 20 U.S. 356 (1822);

claim coverage to adequately protect the inventor's rights is increased uncertainty in the scope of the claim.³⁰ The increased uncertainty has made the courts wary of the doctrine of equivalents' reach,³¹ and they have developed limitations such as prosecution history estoppel to keep the doctrine in check.³²

B. Prosecution History Estoppel

"Prosecution history" or "file wrapper" refers to the documents filed by the inventor and examiner during the patent acquisition process that become the publicly available record of those proceedings before the United States Patent and Trademark Office (PTO).³³ When a patent applicant amends or cancels claims in response to a rejection by the

Odioren v. Winkley, 18 F. Cas. 581 (C.C. Mass. 1814).

30. See *Festo V.*, 535 U.S. at 732 (stating that the doctrine of equivalents renders the scope of patents less certain). See also Anthony Azure, Note, *Festo's Effect on After-Arising Technology and the Doctrine of Equivalents*, 76 WASH. L. REV. 1153, 1159 (2001) (stating that the doctrine of equivalents can blur the boundaries of defining what a patent protects).

31. See *Warner-Jenkinson*, 520 U.S. at 28-29 (stating "[w]e do, however, share the concern of the dissenters below that the doctrine of equivalents, as it has come to be applied since *Graver Tank*, has taken on a life of its own, unbounded by the patent claims. There can be no denying that the doctrine of equivalents, when applied broadly, conflicts with the definitional and public-notice functions of the statutory claiming requirement").

32. *Id.* at 30 (stating that prosecution history estoppel is a legal limitation on the doctrine of equivalents). One author states that:

[A]pplication of the Doctrine of Equivalents is restrained by three legal tenets that often play important roles in infringement cases. The first of these is the so-called "All Elements Rule": the requirement that each limitation of a claim must be expressed in the accused [device], either literally or equivalently, for the Doctrine to apply. . . . Next is the principle of prosecution history estoppel, which precludes a patentee from obtaining a claim construction before the court that would include subject matter surrendered at the Patent and Trademark Office during prosecution. . . . Last are the restraints place upon the Doctrine of Equivalents by the prior art itself. Sound patent policy dictates that patentees should not be able to obtain a construction of their claims that would reach technologies that have entered the public domain.

ADELMAN, *supra* note 24, § 15.3.

33. *Id.* One commentator noted that "[t]he phrase 'prosecution history estoppel' first appeared in a federal reporter in 1983, see *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362 (Fed. Cir. 1983)" and "[t]he phrase 'file wrapper estoppel' first appeared in a federal reporter in 1933, see *Kellogg Switchboard & Supply Co. v. Michigan Bell Tel. Co.*, 5 F. Supp. 118, 119 (E.D. Mich. 1933)." T. Whitley Chandler, *Prosecution History Estoppel, the Doctrine of Equivalents, and the Scope of Patents*, 13 HARV. J.L. & TECH. 465, 466 n.1 (2000). Similar to the doctrine of equivalents, prosecution history estoppel has its origins in the 19th century where the Supreme Court appeared to first apply the concept in *Leggett v. Avery*, 101 U.S. 256 (1879). See Thomas P. Riley, Note, *Prosecution History Estoppel: The Choice Between Public Interests and Inventor's Property Rights*, 36 VAL. U. L. REV. 239, 247 (2001) (stating that *Leggett v. Avery* appears to be where the doctrine of prosecution history estoppel established its "Supreme Court roots").

patent examiner, the “file wrapper” is evidence of the changes the applicant made to satisfy the PTO and obtain the patent.³⁴ Prosecution history estoppel forbids a patentee from obtaining, through the doctrine of equivalents, coverage of subject matter that was relinquished during patent prosecution.³⁵

In this way, prosecution history estoppel limits the doctrine of equivalents³⁶ and “ensures that [it] remains tied to its underlying purpose.”³⁷ In addition, prosecution history estoppel serves a notice function by providing a record that informs the public of the patent claim’s boundaries.³⁸ Prosecution history estoppel, however, does not necessarily apply in every instance where the applicant surrenders subject matter during prosecution.³⁹

C. Landmark Cases in the Application of Doctrine of Equivalents and Prosecution History Estoppel.

1. *Exhibit Supply Co. v. Ace Patents Corp.*⁴⁰

Exhibit Supply is described as the leading modern Supreme Court decision on file wrapper estoppel.⁴¹ Plaintiff, Ace Patents Corporation, owned a patent for a contact switch used in pinball games.⁴² During

34. See CHISUM, *supra* note 12, § 18.05

35. 3 MILLS, *supra* note 5, § 18:50 (quoting *Hoganas AB v. Dresser Industries, Inc.*, 9 F.3d 948, 951-52 (Fed. Cir. 1993)).

36. See *Autogiro Co. of America v. United States*, 384 F.2d 391, 400-01 (Ct. Cl. 1967) (stating that the doctrine of equivalents is subservient to file wrapper estoppel and may not include within its range anything that would vitiate limitations expressed before the Patent Office).

37. *Festo V*, 535 U.S. at 735.

38. See *Festo IV*, 234 F.3d at 564-65 (Fed. Cir. 2000) (stating “[t]he logic of prosecution history estoppel is that the patentee, during prosecution, has created a record that fairly notifies the public that the patentee has surrendered the right to claim particular matter as within the reach of the patent”). When faced with a rejection by the PTO, the patentee’s decision to forgo an appeal and submit an amended claim is taken as a concession that the invention as patented does not reach as far as the original claim. *Festo V*, 535 U.S. at 734.

39. See *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997) (holding that prosecution history estoppel may apply to amendments made for any “substantial reason related to patentability” and that the patentee has the burden of proving that an amendment was not made for such a reason). The Supreme Court affirmed the Federal Circuit interpretation that a “substantial reason related to patentability” includes any reason which relates to the statutory requirements for a patent. See *infra* note 104 and accompanying text.

40. *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126 (1942). The *Exhibit Supply* case consisted of three separate infringement suits by Ace Patents Corp. against Exhibit Supply Company, against Genco, Inc., and against Chicago Coin Machine Co. *Id.* at 127.

41. CHISUM, *supra* note 12, § 18.02[3].

42. *Exhibit Supply Co.*, 315 U.S. at 127 (indicating that plaintiff is suing for infringement of

patent prosecution, Ace Patents amended the application to avoid prior art⁴³ by replacing the phrase “carried by the table,” with the narrower description “embedded in the table.”⁴⁴ The Court ruled that this amendment resulted in prosecution history estoppel and thus barred plaintiff from invoking the doctrine of equivalents to show infringement of its patent.⁴⁵ The Court found that by striking the broader phrase and substituting “embedded in the table,” the applicant “recognized and emphasized the difference between the two phrases and proclaimed his abandonment of all that is embraced in that difference.”⁴⁶ One commentator noted “[t]he message of *Exhibit Supply* is that a court should not construe a narrow claim of a patent so as to render it equivalent in scope to a broader claim surrendered during the course of Patent Office proceedings on the application for a patent.”⁴⁷

2. *Graver Tank & Manufacturing v. Linde Air Products Co.*⁴⁸

The Supreme Court’s confirmation of the doctrine of equivalents in *Graver Tank*⁴⁹ has guided the application of the doctrine for most of the latter half of the twentieth century.⁵⁰ In *Graver Tank*, Linde Air

the Nelson Patent No. 2,109,678 for a “contact switch for ball rolling games”). The court described the invention as “a resilient switch or circuit closer, so disposed on the board of a game table as to serve as a target which, when struck by a freely rolling ball, will momentarily close an electrical circuit.” *Id.* at 128.

43. BLACK’S LAW DICTIONARY 106 (7th ed. 1999) (defining prior art as “[k]nowledge that is available, including what would be obvious from it, at a given time to a person of ordinary skill in an art; esp., the body of previously patented inventions that the patent office or court analyzes before granting or denying a patent to a comparable invention”).

44. *Exhibit Supply Co.*, 315 U.S. at 136. The examiner rejected the claim because “[i]t is old in the art to make an electrical contact by flexing a coil spring as shown by the art already cited in the case.” *Id.* at 133. The examiner believed that “[i]n order to distinguish over the references thereof, the applicant’s particular type of contact structure, comprising an extension to the coil spring adapted to engage an annular contact embedded in the table, must appear in the claims.” *Id.* In response, the applicant substituted the phrase “in said circuit and embedded in” for “carried by.” *Id.*

45. *Id.* at 137 (stating “[i]t follows that what the patentee, by a strict construction of the claims, has disclaimed – conductors which are carried by the table but not embedded in it – cannot now be regained by recourse to the doctrine of equivalents, which at most operates, by liberal construction, to secure to the inventor the full benefits, not disclaimed, of the claims allowed”).

46. *Exhibit Supply*, 315 U.S. at 136 (stating “[t]he applicant restricted his claim to those combinations in which the conductor means, though carried on the table, is also embedded in it”).

47. CHISUM, *supra* note 12, § 18.02[3].

48. *Graver Tank & Manufacturing v. Linde Air Products Co.*, 339 U.S. 605 (1950).

49. *Id.*

50. See ADELMAN, *supra* note 24, § 15.2; Richard L. Wynne, Jr., Warner-Jenkinson Co. v. Hilton Davis Chemical Co.: *How Can the Federal Circuit Control the Doctrine of Equivalents Following the Supreme Court’s Refusal to Set the Standard?*, 50 OKLA. L. REV. 425, 425-26 (1997) (stating that since 1950 the test from *Graver Tank* has been the primary analysis applied for

Products owned a patent claiming a welding flux composed essentially of alkaline earth metal silicates and calcium fluoride.⁵¹ Linde Air Products filed an infringement suit against a competitor for selling a similar welding flux made of a silicate that was not an alkaline earth metal.⁵²

Nevertheless, the majority found infringement⁵³ and noted that both prior art⁵⁴ and specialists in the field indicated that manganese silicate could be used in welding in the same manner as magnesium silicate.⁵⁵ The Court further noted that the record contained no evidence of

determining infringement under the doctrine of equivalents).

51. *Graver Tank*, 339 U.S. at 610. Linde Air Products owns the Jones Patent which claims an electric welding process and fluxes used in the process. *Id.* at 606. Specifically, Linde's product, Unionmelt Grade 20, uses calcium silicate and magnesium silicate as the alkaline earth metal silicates. *Id.* at 610.

52. *Id.* (indicating that the accused infringing composition, Lincolnweld 660, used a silicate of manganese which is not an alkaline earth metal). "In all other respects, the two compositions are alike. The mechanical methods in which these compositions are employed is similar. They are identical in operation and produce the same kind and quality of weld." *Id.*

53. *But see* Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 26 n.3 (1997) (noting that *Graver Tank* was decided over Justice Black's strong dissent). A commentator notes that Justice Black, in his dissent:

[E]ndorsed the majority's view that the doctrine of equivalents was intended to prevent "fraud" and "piracy," but argued that there was no such "malevolence" even alleged against the infringer. Further, the dissent expressed concern that the Court's liberal application of the doctrine of equivalents in circumstances that did not involve any wrongdoing by the putative infringer created potential dangers. Specifically, patentees could use the doctrine of equivalents to broaden a patent claim, treating that claim "like a nose of wax which may be turned and twisted in any direction." The dissent argued that Congress had provided two safeguards: patent claims must be specific, and the reissue process could be used to assist patentees who had failed to claim adequate scope of protection. In addition, the dissent noted that the district court had explicitly refused to go beyond the specification of the claimed invention, which had disclosed that manganese was an appropriate substitute for alkaline earth metals. While it was true that some of the original patent claims covered manganese silicate, these claims were found to be invalid because they were too broad. Finally, the dissent pointed out that the patent holder's failure to claim manganese was probably intentional, because the patent holder had reason to fear that such claims would have been denied in light of the use of manganese in prior expired art.

Adelman & Francione, *supra* note 17, at 702-03.

54. *Graver Tank*, 339 U.S. at 611 (stating that the Miller patent, No. 1,754,566, taught the use of manganese silicate in welding flux and the Armor Patent, No. 1,467,825, described manganese in a welding composition).

55. *Id.* at 610 (stating that chemists who were familiar with the two fluxes testified that manganese and magnesium were similar in many of their reactions); *But see* ADELMAN, *supra* note 24 (stating that one commentator noted that "manganese and magnesium are both metal and start with an 'm' and have at least three syllables, but otherwise are so different structurally that they are in different categories on the periodic table." (citing Harold C. Wegner, *Equitable Equivalents: Weighing the Equities to Determine Patent Infringement in Biotechnology and Other Emerging Technologies*, 18 RUTGERS COMPUTER & TECH. L.J. 1, 28-29 n.100 (1992))).

independent research or development on the part of the alleged infringer.⁵⁶ The majority then discussed some of the considerations to be used when applying the doctrine of equivalents.⁵⁷ In addition, the majority's opinion set forth the famous "function-way-result" test,⁵⁸ which stood as the exclusive standard for determining equivalency in the United States until 1995.⁵⁹

3. *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*⁶⁰

Warner-Jenkinson involved a patent for an ultrafiltration process for purifying dyes.⁶¹ During patent prosecution, Hilton Davis added the phrase "at a pH from approximately 6.0 to 9.0" to avoid prior art.⁶²

56. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 611 (1950).

57. *Id.* at 609. The Supreme Court stated:

What constitutes equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case. Equivalence, in the patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum. It does not require complete identity for every purpose and in every respect. In determining equivalents, things equal to the same thing may not be equal to each other and, by the same token, things for most purposes different may sometimes be equivalents. Consideration must be given to the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform. An important factor is whether the persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.

Id.

58. *Id.* at 608 (holding that a patentee may invoke [doctrine of equivalents] to proceed against the producer of a device if it performs substantially the same function in substantially the same way to obtain the same result).

59. See ADELMAN, *supra* note 24, at 900 (stating the tripartite test of *Graver Tank* stood as the exclusive United States standard of equivalency for nearly a half-century). *But see id.* stating that

[E]xperience did not refine [*Graver's* tripartite standard], but instead demonstrated that its extraordinary vagueness was of scant use in resolving actual infringement cases. Litigants places vastly different meanings upon the terms 'function,' 'way,' and 'result,' with patentees reading these terms broadly and accused infringers narrowly. Often this standard simply collapsed into a test of 'way': if the accused technology did not perform the same function to achieve the same result, it ordinarily would not be subject of a patent infringement suit at all. . . . This experience led to considerable unrest at the Federal Circuit, ultimately culminating in the court's *en banc Hilton Davis* opinion . . .

Id. In 1995, the Federal Circuit introduced the "insubstantial differences" test for equivalency. *Hilton Davis Chemical Co. v. Warner-Jenkinson*, 62 F.3d 1512, 1521-22 (Fed. Cir. 1995). This test looks beyond just function-way-result, and asks whether substantial differences exist between the accused process or device and the patented process or device. *Id.*

60. *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17 (1997).

61. *Id.* at 21. It is necessary to remove impurities from dyes. *Id.* Hilton Davis's process "filters impure dye through a porous membrane at certain pressures and pH levels." *Id.* at 21-22. *See id.* at 22 n.1 (defining and explaining pH).

62. *Id.* at 22. The "Booth" patent disclosed an ultrafiltration process which operated at a pH

Warner-Jenkinson subsequently developed an ultrafiltration process operating at a pH of 5.0.⁶³ In its opinion, the Supreme Court confirmed the doctrine of equivalents to be “good law” by rejecting Warner-Jenkinson’s argument that the doctrine is inconsistent with the 1952 revision of the Patent Act.⁶⁴ The Supreme Court, however, expressed concerns over the broad application of the doctrine of equivalents since *Graver Tank*.⁶⁵ Addressing this concern, the Court confirmed that prosecution history estoppel was still available to limit the doctrine of equivalents.⁶⁶ Yet, the Court would not go so far as to support Warner-Jenkinson’s argument that “the reason for an amendment during patent prosecution is irrelevant to any subsequent estoppel.”⁶⁷ The Court stated

of greater than 9.0. *Id.* Hilton Davis offered no explanation as to why the 6.0 pH limitation was added but denied Warner-Jenkinson’s contention that the process was not shown to work below a pH of 6.0 due to foaming problem. *Warner-Jenkinson*, 520 U.S. at 22 n.2.

63. *Id.* at 23. Warner-Jenkinson developed the 5.0 pH process in 1986 and did not learn of Hilton Davis patent until after commercial use of its 5.0 pH process. *Id.*

64. *See id.* at 28. Warner-Jenkinson argued:

(1) The doctrine of equivalents is inconsistent with the statutory requirement that a patentee specially “claim” the invention covered by the patent, § 112; (2) the doctrine circumvents the patent reissue process—designed to correct mistakes in drafting or the like—and avoids the express limitations on that process, §§ 251-252; (3) the doctrine is inconsistent with the primacy of the Patent and Trademark Office (PTO) in setting the scope of a patent through the patent prosecution process; and (4) the doctrine was implicitly rejected as a general matter by Congress’ specific and limited inclusion of the doctrine in one section regarding “means” claiming, § 112, ¶6.

Id. at 25-26. The Court noted that the first three arguments were made and rejected in *Graver Tank* regarding the 1870 Patent Act. *Id.* at 26. Court stated that the 1952 Act was not materially different than the 1870 Act concerning claiming, reissue, and the role of the PTO. *Warner-Jenkinson*, 520 U.S. at 25-26. In addition, the Court stated that, in the context of infringement, the Pre-1952 precedent survived the enactment of the 1952 Act. *Id.* Regarding Warner-Jenkinson’s fourth argument, the court stated that “§ 112, ¶6[,] was enacted as a targeted cure to a specific problem” and the reference to equivalents in the section “appears to be no more than a prophylactic against potential side effects of that cure . . .” *Id.* at 28. The court stated that Congress could have responded to the 1950 *Graver Tank* holding and legislated the doctrine of equivalents out of existence in the 1952 Act, but Congress did not. *Id.*

65. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 (1950). *See Warner-Jenkinson*, 520 U.S. at 28-29. The Court stated that:

[T]he doctrine of equivalents, as it has come to be applied since *Graver Tank*, has taken on a life of its own, unbounded by the patent claims. There can be no denying that the doctrine of equivalents, when applied broadly, conflicts with the definitional and public notice functions of the statutory claiming requirement.

Id.

66. *Id.* at 30 (stating “We can readily agree with petitioner that *Graver Tank* did not dispose of prosecution history estoppel as a legal limitation on the doctrine of equivalents”).

67. *Id.* at 30. The Court noted that prior Supreme Court cases have considered prosecution history estoppel with amendments made to avoid prior art. *Id.* However, the PTO may request a change to the claim language for reasons not related to prior art and thus not intended to limit equivalents. *Id.* at 32. Supreme Court precedent has “consistently applied prosecution history estoppel only where claims have been amended for a limited set of reasons.” *Id.* Since the PTO

that the better rule would allow the patent holder to demonstrate that an amendment was made for a purpose unrelated to patentability.⁶⁸ If, however, the patent holder is unable to establish such a purpose, the court should presume that prosecution history estoppel applies.⁶⁹ In its opinion, the Supreme Court did not define what constitutes a “reason related to patentability,” leaving it to the lower courts to interpret.⁷⁰ Since the Federal Circuit had not applied this new rule, the Supreme Court reversed the Federal Circuit’s decision and remanded the case for further proceedings.⁷¹

D. Federal Circuit’s Application of the Doctrines

The appropriate use of the doctrine of equivalents and prosecution history estoppel has been heavily debated over the years.⁷² The

may have relied upon a flexible rule of estoppel when deciding to ask for a change, such a substantial change to the law “could very well subvert the various balances the PTO sought to strike when issuing the numerous patents which have not yet expired and which would be affected by our decision.” *Id.* at 32 n.6.

68. See *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 33 (1997). Patent claims serve both a definitional and a notice function, which are best served by placing the burden on the patent holder to establish the reason an amendment was made during patent prosecution. *Id.*

69. *Id.* This rule “gives proper deference to the role of claims in defining invention and providing public notice, and to the primacy of the PTO in ensuring that the claims allowed cover the subject matter that is properly patentable in a proffered patent application.” *Id.* at 33-34.

70. *Festo V.*, 535 U.S. at 735 (stating that “[w]hile we made clear [in *Warner-Jenkinson*] that estoppel applies to amendments made for a ‘substantial reason related to patentability,’ we did not purport to define that term or to catalog every reason that might raise estoppel”) (internal citations omitted). See *id.* at 726 (stating that certiorari was granted, in part, to answer the question of whether estoppel applies to every amendment made to satisfy the requirements of the Patent Act).

71. *Warner-Jenkinson*, 520 U.S. at 41 (stating that Court of Appeals for the Federal Circuit did not consider all of the requirements related to prosecution history estoppel and the preservation of some meaning for each element in a claim).

72. See, e.g., Martin J. Adelman & Gary L. Francione, *The Doctrine of Equivalents in Patent Law: Questions that Pennwalt Did Not Answer*, 137 U. PA. L. REV. 673 (1989); Alexander, *supra* note 2, at 553; Ted Apple, *Enablement Estoppel: Should Prosecution History Estoppel Arise when Claims are Amended to Overcome Enablement Rejections?*, 13 SANTA CLARA COMPUTER & HIGH TECH. L.J. 107 (1997); Glenn K. Beaton, *File Wrapper Estoppel and the Federal Circuit*, 68 DENV. U. L. REV. 283 (1991); T. Whitley Chandler, *Prosecution History Estoppel, the Doctrine of Equivalents, and the Scope of Patents*, 13 HARV. J.L. & TECH. 465 (2000); Donald S. Chisum, *The Scope of Protection for Patents After the Supreme Court’s Warner-Jenkinson Decision: The Fair Protection-Certainty Conundrum*, 14 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1 (1998); Peter Corcoran, *The Scope of Claim Amendments, Prosecution History Estoppel, and the Doctrine of Equivalents After Festo VI*, 9 TEX. INTELL. PROP. L.J. 159 (2001); Paul C. Craane, *At the Boundaries of Law and Equity: The Court of Appeals for the Federal Circuit and the Doctrine of Equivalents*, 13 N. ILL. U. L. REV. 105 (1992); Kurt F. James, Comment, *Patent Claims and Prosecution History Estoppel in the Federal Circuit*, 53 MO. L. REV. 497 (1988); Thomas P. Riley, *Prosecution History Estoppel: The Choice Between Public Interests and Inventor’s Property Rights*, 36 VAL. U. L. REV. 239 (2001); John W. Schlicher, *The Law, History, and Policy of Prosecution*

existence of a variety of opinions on the proper application of the doctrines is evidenced by the Federal Circuit's *en banc Festo* decision which noted "two divergent lines of authority concerning the proper scope of equivalents for claims subject to estoppel."⁷³ One commentator remarked that "most Federal Circuit panel decisions from 1984 to 1997 followed the flexible approach, which had been initiated in 1983 by the *Hughes Aircraft* decision."⁷⁴ In contrast to the flexible approach, *Kinzenbaw v. Deere & Co.*⁷⁵ has been noted as establishing a line of

History Estoppel in Patent Actions in the U.S. Supreme Court—Implications for Festo (Part I), 84 J. PAT. & TRADEMARK OFF. SOC'Y 581 (2002); Richard L. Wynne, Jr., *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.: How Can the Federal Circuit Control the Doctrine of Equivalents Following the Supreme Court's Refusal to Set the Standard?*, 50 OKLA. L. REV. 425 (1997); Christina Y. Lai, Note, *A Dysfunctional Formalism: How Modern Courts are Undermining the Doctrine of Equivalents*, 44 UCLA L. REV. 2031 (1997); Paul J. Otterstedt, Note, *Unwrapping File Wrapper Estoppel in the Federal Circuit: A New Economic Policy Approach*, 67 ST. JOHN'S L. REV. 405 (1993); Note, *Doctrine of Equivalents Revalued*, 19 GEO. WASH. L. REV. 491 (1951); Note, *To Bar or Not to Bar: Prosecution History Estoppel After Warner-Jenkinson*, 111 HARV. L. REV. 2330 (1998).

73. *Festo IV*, 234 F. 3d at 571-74 (characterizing and supporting with commentator notes, the decisions in *Hughes Aircraft Co. v. United States*, 717 F.2d 1351 (Fed. Cir. 1983) and *Kinzenbaw v. Deere & Co.*, 741 F.2d 383 (Fed.Cir. 1984), as developing a flexible bar and complete bar line of cases, respectively). *But see Festo IV*, 234 F.3d at 610 (Michels, J., dissenting) (objecting to the characterization of *Kinzenbaw* as establishing a divergent line of authority) (quoting Douglas A. Strawbridge et al., Area Summary, *Patent Law Developments in the United States Court of Appeals for the Federal Circuit During 1986*, 36 AM. U.L. REV. 861, 887 (1987)). For Justice Michels, the "line" which consists of only two cases (*Kinzenbaw* and *Prodyne Enterprises v. Julie Pomerantz*, 743 F.2d 1581 (1984)) does not advocate the complete bar approach—the cases "simply stand for the rule that courts will not undertake speculative inquiry into whether a claim amendment was necessary." *Festo IV*, 234 F.3d at 610 (quoting *Kinzenbaw*, 741 F.2d at 389 and *Prodyne*, 743 F.2d at 1583). Furthermore, Justice Michels believed that in both cases, the court did not substitute a complete bar for the flexible approach; the court simply looked at the scope of the subject matter surrendered and found that the surrender covered the accused subject matter. *Id.*

74. CHISUM, *supra* note 12, § 18.05[3][b][i]. *See also id.* at § 18.05[3][b][ii] (stating "[t]he germinal decision for the flexible approach was *Hughes Aircraft Co. v. United States*, 717 F.2d 1351 (Fed. Cir. 1983), in which the court rejected the view that any amendment of claims created a file wrapper estoppel and limited the patentee to consideration of literal infringement alone. The court rejected the view of some courts that "virtually any amendment of the claims creates a 'file wrapper estoppel' effective to bar all resort to the doctrine of equivalents, and to confine patentee 'strictly to the letter of the limited claims granted'"). For Federal Circuit court cases following the flexible approach since *Hughes*, see e.g., *Hughes Aircraft Co. v. United States*, 140 F.3d 1470 (Fed. Cir. 1998); *Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449 (Fed. Cir. 1998); *Modine Mfg. Co. v. U.S. Int'l Trade Comm'n.*, 75 F.3d 1545 (Fed. Cir. 1996); *Dixie USA, Inc. v. Infab Corp.*, 927 F.2d 584 (Fed. Cir. 1991); *Black & Decker Inc. v. Hoover Serv. Ctr.*, 886 F.2d 1285 (Fed. Cir. 1989); *Envtl. Instruments, Inc. v. Sutron Corp.*, 877 F.2d 1561 (Fed. Cir. 1989); *LaBounty Mfg., Inc. v. U.S. Int'l Trade Comm'n.*, 867 F.2d 1572 (Fed. Cir. 1989); *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978 (Fed. Cir. 1989). For explanation of flexible bar approach and complete or strict bar approach, see *supra* note 3.

75. *Kinzenbaw v. Deere & Co.* 741 F.2d 383 (Fed. Cir. 1984).

authority in support of a strict approach to estoppel.⁷⁶ In *Kinzenbaw*, the Federal Circuit held that estoppel barred application of the doctrine of equivalents as the court declined “to undertake a speculative inquiry whether, if . . . [the inventor] had made only that narrowing limitation in his claim, the examiner nevertheless would have allowed it.”⁷⁷

III. STATEMENT OF CASE

A. Statement of the Facts

Festo Corporation held two patents, the Stoll patent⁷⁸ and the Carroll patent,⁷⁹ that claim devices described as magnetically coupled rodless cylinders.⁸⁰ During the initial prosecution hearing, the patent examiner rejected the application under 35 U.S.C. §112.⁸¹ Festo

76. *Festo IV*, 234 F.3d at 573 (citing *CHISUM*, *supra* note 12, § 18.05[3][b]) (noting that Professor Chisum observed that *Kinzenbaw* established a line that followed the strict approach).

77. *Id.* (citing *Kinzenbaw v. Deere & Co.*, 741 F.2d 383, 389 (Fed. Cir. 1984)).

78. *See* U.S. Patent No. 4,354,125 (issued October 12, 1982) *available at* <http://patft.uspto.gov/netahtml/srchnum.htm>. The Stoll patent was filed as the U.S. counterpart of a German patent application. *Festo IV*, 234 F.3d at 582. Stoll filed the U.S. patent application on May 28, 1980 and the patent was issued on October 12, 1982. *Id.* at 579.

79. *See* U.S. Patent No. 3,779,401 (issued December 18, 1973) *available at* <http://patft.uspto.gov>. Application of the Carroll patent was filed on February 17, 1972 and the patent was issued on December 18, 1973. *Festo IV*, 234 F.3d at 580.

80. *Id.* at 579. This device consists of a cylindrical tube, a piston located on the inside of the tube and a sleeve fitted around the outside of the tube. *See id.* Fluid pressure is used to move the piston along the inside of the tube. *Id.* Magnets are mounted on the piston and the outer sleeve so that the sleeve follows the movement of the piston due to the magnetic attraction between the magnets. *Id.* In this way, the sleeve can be used to move other objects that themselves are physically attached or coupled to the sleeve. *Id.* “The device has many industrial uses and has been employed in machinery as diverse as sewing equipment and the Thunder Mountain ride at Disney World.” *Festo V*, 535 U.S. at 728.

81. *Festo IV*, 234 F.3d at 583. 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention
A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

amended the application by more specifically describing the location of the piston's sealing rings and by adding the limitation that the sleeve was to be made of a magnetizable material.⁸² The examiner accepted the amended claims.⁸³

Festo requested reexamination of the Carroll patent on March 18, 1988 due to a possible prior reference not disclosed during initial prosecution of the patent.⁸⁴ During reexamination, Festo amended the

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claims in relation to which it is being construed.

An element in a claim for a combination may be expressed as a means or a step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112 (2002). The patent examiner rejected all 12 patent claims "under 35 U.S.C. § 112, ¶ 1, because the 'exact method of operation is unclear. Is [the] device a true motor or magnetic clutch?'" *Festo IV*, 234 F.3d at 583; see 35 U.S.C. § 112 (2002). In addition, the examiner rejected claims 4-12 "under 35 U.S.C. § 112, ¶ 2, because they were 'improperly multiply dependent.'" 35 U.S.C. § 112 (2002).

82. *Festo IV*, 234 F.3d at 583. Festo cancelled claims 4 and 8 and amended claim 1. *Id.* In the amendment, Festo replaced the phrase "'sealing means at each end' of the piston with 'first sealing rings located axially outside said guide rings.'" *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co [Festo III]*, 172 F.3d 1361, 1379 (Fed. Cir. 1999). In addition, Festo "replaced the phrase 'hollow cylindrical assembly' . . . with the phrase 'a cylindrical sleeve made of a magnetizable material and encircles said tube.'" *Id.* In the amended application, Festo also cited two German patents (No. 2,737,924 and No. 1,982,379) but argued that the device in the amended application was distinguished over the two German patents as "it is clear that neither of these two references discloses the use of structure preventing the interference by impurities located inside the tube and on the outside of the tube while the arrangement is moved along the tube." *Festo IV*, 234 F.3d at 583.

83. *Id.*

84. *Id.* at 584. The Patent Act specifically allows for reexamination of a patent. See 35 U.S.C. §§ 301-18 (2002). One court stated:

The reexamination statute's purpose is to correct errors made by the government, to remedy defective governmental (not private) action, and if need be to remove patent that never should have been granted. . . . A defectively examined and therefore erroneously granted patent must yield to the reasonable Congressional purpose of facilitating the correction of governmental mistakes.

Patlex Corp. v. Mossinghoff, 758 F.2d 594, 604, *aff'd on reh'g*, 771 F.2d 480 (Fed. Cir. 1985). Benefits of reexamination include resolving validity disputes more quickly and less expensively than litigation, providing courts with the benefit of the PTO's expertise concerning prior art not originally part of the record, and strengthening the confidence in the validity of patents whose validity may be clouded due to the existence of possibly pertinent prior art that was not previously considered by the PTO. *Id.* at 602. Festo disclosed German Patent No. 1,982,379 as the possible prior reference not previously considered. *Festo IV*, 234 F.3d at 584. Festo stated that the PTO

patent claim to “more clearly and specifically define the device,” including specifying a pair of sealing rings on the piston.⁸⁵ The examiner found that the amended patent was distinguished from the prior art, and approved it.⁸⁶

Shoketsu Kinzoku Kogyo Kabushiki Co. (hereinafter SMC) entered the market with a similar device.⁸⁷ SMC’s device differed from Festo’s in that it used an outer sleeve made of a non-magnetic aluminum alloy, and instead of the four ring combination (a guide ring and seal ring at each end of the piston) utilized in Festo’s device, it used a three ring combination (a guide ring at each end but a seal ring at only one end).⁸⁸

B. Procedural History

Festo brought suit in the United States District Court of Massachusetts claiming patent infringement under the doctrine of equivalents.⁸⁹ The District Court granted Festo’s motion for summary judgment concerning infringement of the Carroll Patent, and the jury found that the SMC device infringed the Stoll patent.⁹⁰ On appeal, the Federal Circuit affirmed the District Court’s findings and rejected SMC’s contention that prosecution history estoppel should bar recovery.⁹¹ The Supreme Court granted certiorari, but vacated and remanded in light of its decision in *Warner-Jenkinson*.⁹²

“may find the German patent, in combination with the other references which were cited during prosecution of the Carroll patent[,] . . . to disclose several of the primary structural features of the device defined by Claim 1.” *Id.*

85. *Id.* Festo canceled claim 1, amended claims 3 and 5, and added claim 9 which recited “a pair of resilient sealing rings situated near opposite axial ends of the central mounting member and engaging the cylinder to effect a fluid-tight seal therewith.” *Id.*

86. *Id.* The examiner stated claims 3, 4, 5, 6, and 9 are deemed allowable over the prior art of record, including German Patent No. 1,982,379, because “the prior art does not teach or render obvious the claimed combination which includes the plurality of magnets, end members, and cushion members in the claimed relationship.” *Id.*

87. *Festo IV*, 234 F.3d at 582.

88. *Id.* In contrast to the SMC device, the Stoll patent specifically claims a sleeve made from a magnetizable material and both the Stoll and Carroll patents claim a pair of sealing rings. *See supra* notes 132 and 165.

89. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo I*], No. 88-1814-PBS (D.Mass. Feb. 3, 1994).

90. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo II*], 72 F.3d 857, 861-62 (Fed. Cir. 1995) (stating the district court noted that SMC did not offer any evidence to refute the assertion that its single sealing ring performed substantially the same function, in substantially the same way, with the same result as the two pair of sealing rings on the Festo device).

91. *Id.* at 868. The Federal Circuit stated that it was an not error of law for the trial judge to hold that Festo was not estopped to argue equivalence between the SMC aluminum sleeve and its magnetizable sleeve. *Id.* at 864.

92. *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 33 (1997). For the

On remand, the Federal Circuit affirmed summary judgment of infringement of the Carroll patent holding that Festo was not barred by prosecution history estoppel from applying the doctrine of equivalents to the sealing rings.⁹³ However, the Federal Circuit vacated the judgment of infringement of the Stoll patent and remanded the issue for redetermination.⁹⁴ SMC petitioned the Federal Circuit for a rehearing *en banc*⁹⁵ which the Federal Circuit granted, thus vacating the earlier judgment.⁹⁶ The *en banc* court concluded that prosecution history

Supreme Court's grant of certiorari, see *Shoketsu Kinzoku Kogyo Kabushiki Co. v. Festo Corp.*, 520 U.S. 1111 (1997). The sequence of events (grant, vacate and remand) followed by the Supreme Court is called a GVR and occurs when:

[I]ntervening developments, or recent developments that we have reason to believe the court below did not fully consider, reveal a reasonable probability that the decision below rests upon a premise that the lower court would reject if given the opportunity for further consideration, and where it appears that such a redetermination may determine the ultimate outcome of the litigation. . . .

Festo III, 172 F.3d at 1365 (quoting *Lawrence v. Chater*, 516 U.S. 163, 167 (1996)).

93. See *Festo III*, 172 F.3d at 1374. The Federal Circuit noted that Festo's amendment which added the sealing rings to the patent claim was made voluntarily and was not in response to a relevant rejection by the examiner. *Id.* The court further noted that the sealing rings were not at issue or argued during reexamination and were not stated as a reason for granting reexamination. *Id.* SMC's argument that any claim limitation added by amendment automatically raises estoppel is not supported by the Supreme Court's holding in *Warner-Jenkinson*. *Id.* "[A] voluntary amendment, not accompanied by argument or representations relevant to patentability, does not necessarily generate an estoppel, any more than do claims as originally filed." *Id.*

94. *Id.* at 1381. Accompanying its amendment, Festo cited two German patents and argued its device was distinguished over them. See *supra* note 82. Festo's argument referred to the wiping function of the sealing rings and thus raises a question of whether the amendment was made for reasons related to patentability. *Festo III*, 172 F.3d at 1380.

95. BLACK'S LAW DICTIONARY 546 (7th ed. 1999) (defining *en banc* (or *in banc*) as "with all judges present and participating; in full court").

96. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 187 F.3d 1381 (Fed. Cir. 1999). The order for rehearing noted the following five questions to be addressed in the briefs:

1. For purposes of determining whether an amendment to a claim creates prosecution history estoppel, is "a substantial reason related to patentability," limited to those amendments made to overcome prior art under § 102 and § 103, or does "patentability" mean any reason affecting the issuance of a patent?
2. Under *Warner-Jenkinson*, should a "voluntary" claim amendment—one *not* required by the examiner or made in response to a rejection by an examiner for a stated reason—create prosecution history estoppel?
3. If a claim amendment creates prosecution history estoppel, under *Warner-Jenkinson* what range of equivalents, if any, is available under the doctrine of equivalents for claim element so amended?
4. When "no explanation [for a claim amendment] is established," thus invoking the presumption of prosecution history estoppel under *Warner-Jenkinson*, what range of equivalents, if any, is available under the doctrine of equivalents for the claim elements so amended?
5. Would a judgment of infringement in this case violate *Warner-Jenkinson's* requirement that the application of the doctrine of equivalents "is not allowed such broad

estoppel barred Festo from using the doctrine of equivalents.⁹⁷ Therefore, SMC's device did not infringe Festo's patents.⁹⁸ In doing so, the Federal Circuit held "a 'substantial reason related to patentability' is not limited to overcoming or avoiding prior art, but instead includes *any* reason which relates to the statutory requirements for a patent."⁹⁹ Furthermore, the court endorsed the strict approach by holding that when an amendment creates prosecution history estoppel with regard to a claim element there is *no range of equivalents available* for the amended claim element.¹⁰⁰ The majority's holdings sparked six Federal Circuit judges to write separate opinions.¹⁰¹

play as to eliminate [an] element in its entirety[.]" In other words, would such a judgment of infringement, post *Warner-Jenkinson*, violate the "all elements" rule? *Id.* at 1381-82. (internal citations omitted).

97. *Festo IV*, 234 F.3d at 591 (stating that Festo did not establish explanations for the amendments unrelated to patentability and that the amendments, therefore, gave rise to prosecution history estoppel.)

98. *Id.*

99. *Id.* at 566. Though *Warner-Jenkinson* focused on amendments made to overcome prior art, there are numerous other statutory requirements that must be met before a patent can be issued and which can render a patent invalid. *Id.* The patent must satisfy the requirements of novelty, (35 U.S.C. § 102), nonobviousness, (35 U.S.C. § 103), utility and patentable subject matter, (35 U.S.C. § 101), description, enablement, and best mode, (35 U.S.C. § 112), ¶1, and the claims must set forth the subject matter the applicant regards as his invention and must particularly point out and distinctly define the invention, (35 U.S.C. § 112, ¶2). *Id.* The majority believed that the functions of prosecution history estoppel cannot be fully served if the doctrine is limited only to amendments made to overcome prior art, but the majority does not elaborate its reasoning. *Id.* at 567. The majority believed the question of available scope of equivalents was not answered in *Warner-Jenkinson* but not inconsistent with its holdings. *Id.*

100. *Festo IV*, 234 F.3d at 569. The majority believed that the issue "of the scope of equivalents available when prosecution history applies to a claim element has not been directly addressed by the Supreme Court, at least in circumstances where the claim was amended for a known patentability reason." *Id.* The majority stated that *Warner-Jenkinson* focused on unexplained amendments. *Id.* In the majority's view, the flexible bar approach was unworkable and "pose[d] a direct obstacle to the realization of important objectives" such as preserving the notice function, giving effect to a narrowing amendment's operation as a disclaimer of subject matter, and promoting certainty. *Id.* at 575. In contrast, the majority believed the complete bar would enforce the disclaimer effect, would best serve the notice and definitional function of claims, and would eliminate the public's need to speculate as to the subject matter surrendered by an amendment. *Id.* at 575-76. In the majority's view, the increased certainty of the complete bar would stimulate investment and design-arounds because risk of infringement will be easier to determine. *Id.* at 577.

101. See *Festo IV*, 234 F.3d at 591-93 (Plager, J., concurring) (describing the complete bar as the "second best solution to an unsatisfactory situation" and arguing that the better solution would be "to declare the doctrine of equivalents . . . to have its roots firmly in equity, and to acknowledge that when and in what circumstances it applies is a question of equitable law, for which judges bear the responsibility"); *Id.* at 595-98 (Lourie, J., concurring) (stating that the complete bar is in the best interest of patent law and rejecting the various arguments of the flexible bar proponents); *Id.* at 598 (Michel, J., concurring-in-part, dissenting-in-part) (disagreeing with the complete bar approach because it directly contradicts a U.S. Supreme Court holding, it undermines the legal standards the

C. *The U.S. Supreme Court Decision*

The Supreme Court granted *certiorari* and considered two questions.¹⁰² The first question addressed the types of amendments that could lead to prosecution history estoppel.¹⁰³ The Court reiterated its *Warner-Jenkinson* holding that although estoppel does not arise in every instance when an application is amended, it does apply after an amendment is made for a “substantial reason related to patentability.”¹⁰⁴ The Court went on to affirm the Federal Circuit’s holding that “an amendment made for a substantial reason related to patentability” included narrowing amendments made to satisfy any requirement of the Patent Act.¹⁰⁵ In the Court’s view, “a patentee who narrows a claim as a

Supreme Court articulated in seven other cases, it effectively strips most patentees of their rights to asset infringement under the doctrine of equivalents, and it creates easy exploitation for would-be copyists); *Id.* at 619 (Rader, J., concurring-in-part and dissenting-in-part) (arguing that the complete bar defeats the doctrine of equivalents ability to accommodate after-arising technology; a result not anticipated nor justified by the majority’s reasons for implementing the complete bar); *Id.* at 620 (Linn, J., concurring-in-part, dissenting-in-part) (arguing that the complete bar “increases the cost and complexity of patent prosecution[,] . . . places greater emphasis on literary skill than on an inventor’s ingenuity, gives unscrupulous copyists a free ride, and changes the rules under which prosecution strategies were formulated for thousands of extant patents no longer subject to correction”); *Id.* at 630-42 (Newman, J., concurring-in-part and dissenting-in-part) (arguing that the complete bar conflicts with the Supreme Court *Warner-Jenkinson* decision and inappropriately disrupts the “balance between inventors and imitators”). Two additional holdings of the majority in *Festo IV* were (i) Voluntary amendments are treated the same as other amendments and thus can give rise to prosecution history estoppel, see *id.* at 568, and (ii) no range of equivalents is available for the amended claim element when no explanation for a claim amendment is established. *Id.* at 578. The fifth question asking whether a judgment of infringement in this case would violate the all-elements rule was briefed but the court did not believe an answer was required to resolve the controversy. *Id.*

102. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo V*], 535 U.S. 722, 726 (2002). See Patrick J. Flinn, *Whither Festo?*, 669 PLI/PAT 323, 341 (2001) (indicating that not all of the holdings from Federal Circuit are implicated by *certiorari*). “The order granting the writ of *certiorari* does not specify the issues to be addressed; it merely granted *Festo*’s petition.” *Id.* *Festo*’s petition identified only two issues. *Id.*

103. *Festo V*, 535 U.S. at 735. *Festo Corp.* argued that prosecution history estoppel should only arise when the amendments are made with the intention to narrow the subject matter of the patented invention, for example, when avoiding prior art. *Id.* *Festo Corp.* further argued that prosecution history should not occur when the amendments are made to comply with form requirements, for instance, when complying with 35 U.S.C. § 112. *Id.* See generally *supra* note 81 (quoting 35 U.S.C. § 112 (2002)).

104. *Festo V*, 535 U.S. at 735. The Supreme Court acknowledged that in *Warner-Jenkinson*, the Court did not define “substantial reason related to patentability” or list every reason that may give rise to prosecution history estoppel. *Id.* (quoting *Warner-Jenkinson v. Davis*, 520 U.S. 17, 33 (1997)). The Court also stated “that even if the amendment’s purpose were unrelated to patentability, the court might consider whether it was the kind of reason that nonetheless might require resort to the estoppel doctrine.” *Id.*, 535 U.S. at 735.

105. *Id.* The Supreme Court acknowledged that prosecution history estoppel has most often been discussed “in the context of amendments made to avoid prior art” but did not believe that

condition for obtaining a patent disavows his claim to the broader subject matter, whether the amendment was made to avoid prior art or to comply with §112.”¹⁰⁶

The second question before the Court concerned whether estoppel bars “the inventor from asserting infringement against *any* equivalent to the narrowed element,” or whether some equivalents may still be infringed.¹⁰⁷ On this question, the Court rejected the Federal Circuit’s complete bar approach,¹⁰⁸ stating that a complete bar is inconsistent with the purpose of applying estoppel.¹⁰⁹ An amendment establishes an inference that the patent “does not extend as far as the original claim,” but the linguistic challenges of describing an invention still exist after the amendment.¹¹⁰

The Supreme Court also noted that precedent supports the flexible bar approach and the approach is respectful of the PTO’s practice.¹¹¹

amendments made for other reasons would not give rise to estoppel as well. *Id.*

106. *Id.* at 736-37. The Supreme Court stated

Estoppel arises when an amendment is made to secure the patent and the amendment narrows the patent’s scope. If a §112 amendment is truly cosmetic, when it would not narrow the patent’s scope or raise an estoppel. On the other hand, if a §112 amendment is necessary and narrows the patent’s scope – even if only for the purpose of better description – estoppel may apply. . . . We must regard the patentee as having conceded an inability to claim broader subject matter or at least as having abandoned his right to appeal a rejection. In either case estoppel may apply.

Id.

107. *Festo V.*, 535 U.S. at 737 (emphasis added).

108. *Id.* The Federal Circuit had decided, based on their experience, that the traditional flexible bar approach was unworkable because it results in excessive uncertainty and burdens legitimate innovation. *Id.*

109. *Id.* In the Court’s view, the purpose of applying estoppel is “to hold inventors to the representations made during the application process and to the inferences that may be reasonably drawn from the amendment.” *Id.* at 737-38. Application of prosecution history estoppel requires an examination of the subject matter surrendered. *Id.* Avoiding this inquiry by establishing a bright line rule such as the complete bar is inconsistent with this purpose. *Id.*

110. *Festo V.*, 535 U.S. at 738. The court stated that even though the amended claim is deemed to not extend as far as the original:

[I]t does not follow, however, that the amended claim becomes so perfect in its description that no one could devise an equivalent. After amendment, as before, language remains an imperfect fit for invention. The narrowing amendment may demonstrate what the claim is not; but it may still fail to capture precisely what the claim is. . . . The amendment does not show that the inventor suddenly had more foresight in the drafting of claims than an inventor whose application was granted without amendments having been submitted. It shows only that he was familiar with the broader text and with the difference between the two. As a result there is no more reason for holding the patentee to the literal terms of amended claim than there is for abolishing the doctrine of equivalents altogether and holding every patentee to the literal terms of the patent.

Id.

111. *Id.* The Supreme Court has “consistently applied the doctrine [of prosecution history

The Supreme Court believed that the Federal Circuit, in implementing the complete bar, was not mindful of the effect of disrupting settled rules of law.¹¹² In addition, the Court pointed out that in *Warner-Jenkinson*, the Petitioner argued for a bright line test (essentially a complete bar) but the Court rejected it as being too disruptive to the established rights of active patent holders.¹¹³ The Court proceeded to reaffirm the rebuttable presumption holding from its *Warner-Jenkinson* decision.¹¹⁴

In addition to reaffirming *Warner-Jenkinson*, the Court added the new presumption that the patentee bears the burden of showing that an amendment does not surrender the particular equivalent in question.¹¹⁵ The Court reasoned that when patentees amend claims, they are aware that prosecution history will be used to interpret claims and may result in subject matter being surrendered.¹¹⁶ The Court, however, emphasized

estoppel] in a flexible way, not a rigid one.” *Id.* The court considers “what equivalents were surrendered during the prosecution of the patent, rather than imposing a complete bar that resorts to the very literalism the equivalents rule is designed to over come.” *Id.*

112. *Id.* at 739 (2002). The Supreme Court chided the Federal Circuit by indicating they “ignored the guidance of *Warner-Jenkinson*, which instructed that courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community.” *Festo V*, 535 U.S. at 739. In the Court’s view “[t]he doctrine of equivalents and the rule of prosecution history estoppel are settled law” and “the responsibility for changing them rests with Congress.” *Id.* The Court further warned that “[f]undamental alterations in these rules risk destroying the legitimate expectations of inventors in their property.” *Id.*

113. *Id.* The Supreme Court rejected the bright-line test stating “[t]o change so substantially the rules of the game now could very well subvert the various balances the PTO sought to strike when issuing the numerous patents which have not yet expired and which would be affected by our decision.” *Id.* (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 32 n.6 (1997)). The court also noted Justice Ginsburg’s concurring opinion in *Warner*: “The new presumption, if applied woodenly, might in some instances unfairly discount the expectation of patentee who had no notice at the time of patent prosecution that such a presumption would apply.” *Festo V*, 535 U.S. at 739 (quoting *Warner-Jenkinson*, 520 U.S. at 41 (Ginsburg, J., concurring)). In addition, the Court noted that inventors may have chosen to appeal a rejection by the PTO rather than amend the claim had they known they were conceding equivalents. *Id.*

114. *Id.* (stating its decision in *Warner-Jenkinson* “struck the appropriate balance by placing the burden on the patentee to show that amendment was not for purposes of patentability”). *Id.* The Court indicated that the holding does not mandate a complete bar; it is limited to the circumstance where “no explanation is established.” *Id.* at 740. The Court continued, however, holding that “when the court is unable to determine the purpose underlying a narrowing amendment . . . the court should presume that the patentee surrendered all subject matter between the broader and narrower language.” *Id.*

115. *Festo V*, 535 U.S. at 740 (noting that the source for this approach was the *Amicus Curiae* Brief submitted by the United States). *Id.* (citing Brief for the United States as *Amicus Curiae* Supporting Vacatur and Remand, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 2001 WL 1025650 (2001) (No. 00-1543)). The Court stated that “[t]he patentee, as the author of the claim language, may be expected to draft claims encompassing readily known equivalents” and the “patentee’s decision to narrow his claims through amendment may be presumed to be a general disclaimer of the territory between the original claim and the amended claim.” *Id.*

116. *See id.* at 741 (stating that the presumption “reflects the fact that the interpretation of the

that the presumption is rebuttable, indicating that to overcome the presumption that estoppel applies, “the patentee must show that at the time of the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent.”¹¹⁷ The Court also identifies when it would not be reasonable to presume that the amendment surrenders a particular equivalent.¹¹⁸ Specifically, the Court stated:

There are some cases, however, where the amendment cannot reasonably be viewed as surrendering a particular equivalent. The equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. In those cases the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence.¹¹⁹

Based on those holdings, the Supreme Court unanimously vacated the Federal Circuit decision and remanded the case for further proceedings.¹²⁰

IV. ANALYSIS

The Supreme Court in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*¹²¹ created a new landscape for the future application of the doctrine of equivalents and prosecution history

patent must begin with its literal claims, and the prosecution history is relevant to construing those claims).

117. *Id.*

118. *Id.*

119. *Id.* at 740-41. The Court uses the phrase “[t]here are some cases, however, where . . .” when referring to how to rebut the presumption which does not explicitly indicate that there may be additional ways to do so. *Festo V*, 535 U.S. at 740. Other commentators use various terminology to refer to “these cases.” *Id.* See John M. Benassi & Kurt M. Kjelland, *Still Not the Same as it Ever Was . . . Proving Infringement After the Supreme Court’s Festo Decision*, 721 PLI/PAT 253, 261 (2002) (“potential hooks”); Alan J. Ross, *Foreseeability and the Doctrine of Equivalents: The Supreme Court Changes the Rules Again*, (article on file with author) (stating “types of equivalents that will likely be found to be available” and “patentee must show”).

120. *Festo V*, 535 U.S. at 741-42. Festo Corp. conceded that the amendments were made for reasons related to § 112, thus, were made for a “reason related to patentability” and therefore, prosecution history estoppel applies. See *id.* at 741. However, the question of whether Festo Corp. can rebut the presumption that prosecution history estoppel bars the particular equivalents in questions is not evident on the record and must be determined by further proceedings. *Id.* at 741-42.

121. *Festo V*, 535 U.S. 722 (2002).

estoppel.¹²² The Court's opinion reaffirmed the importance of the doctrine of equivalents, emphasized the need for stability in the law, and reiterated that "language is an imperfect fit for invention," while acknowledging the difficulty in balancing the goals of protection for innovators and notice to the public.¹²³ The Court rejected the Federal Circuit's ill-advised approach to create more certainty but chose not to return to the traditional flexible bar rule.¹²⁴ Instead, the Court drafted a new approach, a rebuttable presumption approach, that itself is filled with uncertainty and bound to increase the complexity and cost of patent prosecution and litigation in the future.¹²⁵

A. *Rejecting the Complete Bar Approach*

From the onset, the response by commentators to the Federal Circuit's severe approach had, for the most part, been harsh.¹²⁶

122. See *Festo V*, *supra* notes 102-10 (holding that any narrowing amendments made to satisfy any requirement of the Patent Act will implicate prosecution history estoppel, rejecting the complete bar approach, and creating the new rebuttable presumption). See e.g., *Leading Cases – Patent Act*, 116 HARV. L. REV. 402, 408 (2002) (stating that "the particular presumption that the court adopted in [*Festo V*] alters the estoppel inquiry in a manner certain to transform doctrine of equivalents analysis"); Edward R. Reimes & Jeffrey G. Homrig, 'Festo' Established New Legal Framework, *San Francisco Daily Journal* (October 9, 2002) (indicating that by rejecting the complete bar but choosing to not revert back to the flexible approach, the Supreme Court has created a "new framework: for evaluating the reach of prosecution history estoppel"); R. Polk Wagner, *Reconsidering Estoppel: Patent Administration and the Failure of Festo*, 151 U. PA. L. REV. 159, 161 (2002) (indicating that the *Festo V* decision will have "enormous implications" on modern patent administration).

123. See *supra* Part III C.

124. See *Festo V*, 535 U.S. at 738 (disagreeing with the Federal Circuit's decision to adopt the complete bar); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo IV*], 234 F.3d 558, 577 (Fed. Cir. 2000) (explaining the complete bar provides greater certainty regarding patent scope); GLADSTONE, *supra* note 5, at § 18:49 n.118 (indicating the Supreme Court did not return to the flexible approach).

125. See *infra* notes 159-65 and accompanying text.

126. See e.g., Anthony H. Azure, Note, *Festo's Effect on After-Arising Technology and the Doctrine of Equivalents*, 76 WASH. L. REV. 1153, 1183 (2001) (stating that the Federal Circuit's complete bar runs contrary to both *Warner-Jenkinson* and to the policy that pioneering inventions should be rewarded with broad claim coverage, as well as prejudicing patents in the unpredictable arts); Faith S. Fillman, *Doctrine of Equivalents: Is Festo the Right Decision for the Biomedical Industry?* 33 ST. MARY'S L.J. 493, 542 (2002) (stating that the complete bar approach is damaging to the goals of the patent system and the protection provided inventors); Raymond M. Galasso & Elana H. Gloetzner, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.: What Will the Future Hold for Patentees?* 77 U. DET. MERCY L. REV. 591, 601 (2000) (concluding that the doctrine of equivalents should only be limited by prosecution history estoppel in cases where an amendment was made to a claim to overcome prior art and in such cases the range of equivalent available would only be limited by that prior art); Jonathan M. Harris, *Festo Has Decimated the Doctrine of Equivalents*, 65 TEX. B.J. 58, 59 (2002) (arguing that the complete bar may have increased predictability but also dismantled the doctrine of equivalents and undercut the value of

Likewise, after the Supreme Court granted *certiorari*, concern over the Federal Circuit's ruling sparked a number of organizations, corporations, universities and individuals to file *amicus curiae* briefs urging reversal of the Federal Circuit's decision.¹²⁷ The depth and breadth of arguments against the complete bar rule strongly suggest that the Supreme Court was correct in rejecting the Federal Circuit's approach, which upset the careful balance between the policy goals of the patent system.¹²⁸ The complete bar rule made the scope of equivalents more certain,¹²⁹ but in doing so, it undermined the established rights of current patent holders and significantly weakened the protection that patents offer.¹³⁰

much patented technology); Jacob S. Wharton, *Festo and the Complete Bar: What's Left of the Doctrine of Equivalents?* 20 ST. LOUIS U. PUB. L. REV. 281, 291 (2001) (arguing that the complete bar was unnecessary and alternatives such as equitable application of the doctrine or a rebuttable presumption rule are better alternatives).

127. See Diane Elderkin, *What Amici Curiae Are Saying About Festo*, available at http://www.woodcock.com/documents_u/10fK6xK2tO7tE8dF3bG0sH2vO6wD8o.html (last visited February 1, 2003) (noting the majority of the *amicus curiae* briefs filed either supported the petitioners, were in favor of vacatur and remand, or supported neither party). The Intellectual Property Creators and Society of Amateur Scientists argued that the Federal Circuit's *Festo* decision shifted the costs of product development resulting in a decrease in scientific and technological innovation. *Id.* 3M and various other major companies argued that:

[T]he complete bar rule, by altering established economic incentives in a manner that favors derivative "improvements" at the expense of major advances that require significant investments of time and money will inevitably deter investment in the research and development that leads to many major advances, as well as to the numerous "spillover" benefits that such efforts spawn.

Id. A group of leading universities and various non-profit institutions with a focus on research argued that the *Festo* ruling will reduce their licensing income. *Id.* A number of briefs argued that Federal Circuit's ruling should not be applied retroactively. *Id.* The German pharmaceutical company, Asta Medica, argued that "the *Festo* decision is inconsistent with the United States' enunciated goal of global patent harmonization." *Id.*

128. See Glen P. Belvis, *An Analysis of the En Banc Decision in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. and the Doctrine of Equivalents*, 11 FED. CIR. B.J. 59, 60 (2001-2002) (stating that one policy of the patent system is "providing public notice as to what infringes by requiring clear and distinct claims," while the other policy focuses on the need to protect the patent holder from infringers looking to avoid liability "by merely playing semantic games" or by making insubstantial changes). Mr. Belvis further noted "one thing is clear: In *Festo* the public notice function of claims has won out over the desire to protect an inventor from infringers and unscrupulous copyists." *Id.* at 97.

129. See Ross, *supra* note 119 (noting that the complete bar had "the effect of making patent coverage far more predictable [since] there was no longer any need to analyze what the patentee had surrendered as a result of an amendment or cancellation," thus "it was much easier for a Judge to determine when equivalents were available, or not available").

130. See Matthew J. Conigliaro et al., *Foreseeability in Patent Law*, 16 BERKELEY TECH. L.J. 1045, 1062 (2001) (asserting that "[i]ndisputably, the absolute bar promotes the notice function of patents" and "equally clear, however, that the absolute bar substantially compromise patent's protective function"); Azure, *supra* note 124, at 1174-75 (arguing that the strict approach to prosecution history estoppel eliminate the protection the doctrine of equivalents offers against after-arising technology, which is the primary purpose of the doctrine); Benassi & Kjelland, *supra* note

B. *Unresolved Questions*

The Supreme Court's rejection of the Federal Circuit's complete bar rule has been viewed by many as a triumph for the patent system.¹³¹ Some commentators have, however, taken a far less enthusiastic view of the Supreme Court's new rebuttable presumption rule.¹³² Of concern is that the Court's approach appears to be a new, never before used creation¹³³ for which the Court provides scant guidance on its proper application.¹³⁴ As a result, a substantial number of unanswered

117, at 293 (indicating that the Supreme Court was concerned that the Federal Circuit dramatically changed the legitimate expectations of inventors which considerably outweighed the added certainty provided by the complete bar approach).

131. See Lawrence B. Ebert, *Supreme Court Festo; Equivalents Still Limited*, INTELL. PROP. TODAY, July, 2002, at 10. (indicating that the popular press believe the Supreme Court's *Festo* decision to be a victory for inventors over copyists); See e.g. Ron Cahill, *Festo Restores Right Economic Incentives, U.S. Supreme Court Affirms Worth of Existing Patent, Companies*, 168 N.J.L.J. 1225 (2002) (stating that the Supreme Court decision "restore[d] the right economic incentives," and will encourage competitors to invest in creating innovative advances in technology rather than making insubstantial changes to patented technology in order to avoid infringement); Jennifer Miller, *Festo: Blessing to Patent Holders or Thorn in Their Sides?*, 2002 DUKE L. & TECH. REV. 17, 18 (2002) (indicating that one commentator believed that *Festo* "reaffirmed a central tenet of patent law and restored the inherent value of more than a million patents (citing Raymond Van Dyke and Steven Pederson, *Decision of Note Festo: The Supreme Court Preserves the Value of Patents, but Increases the Risk of Litigation*, THE INTELL. PROP. STRATEGIST, June 2002, at 1)); Sue Ann Mota, *The Doctrine of Equivalents and Prosecution History Estoppel: The Supreme Court Supports Flexibility Over Certainty in Patent Cases in Festo v. SMC*, 9 RICH. J.L. & TECH. 1, 20 (2002) (concluding that the Supreme Court struck the appropriate balance between innovation and certainty in *Festo*).

132. See e.g., Miller, *supra* note 131, at 24 (indicating that the Supreme Court's *Festo* decision altered the application of prosecution history estoppel by making it more frequent and the application of the doctrine of equivalents by making it less difficult which has both helped and hurt an innovator's ability to attain a patent and protect it against infringement); Wagner, *supra* note 122 (arguing that prosecution history estoppel needs reform and the Supreme Court's decision was profoundly disappointing in that it ignored the opportunity to do so); Joseph Yang & Roxana H. Yang, *Prosecution History Estoppel After the Festo's—Treacherous Shoals, Safe Harbors & Muddy Waters*, 725 PLL/PAT 9 (2002) (indicating that the Supreme Court's addition of the unforeseeability test has significantly muddied the water of the current state of law regarding prosecution history estoppel).

133. See Lawrence B. Ebert, *It's a Strange, Strange World*, INTELL. PROP. TODAY, October 2002, at 46 (indicating that the tests enunciated by the Court bear no citation to previous legal authority and appear to have never been used). See also *supra* note 115 (indicating that the source of the rebuttable presumption was the amicus curiae brief from the United States); Brief for the United States as Amicus Curiae Supporting Vacatur and Remand, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 2001 WL 1025650 (2001) (No. 00-1543) (arguing that prosecution history estoppel should not bar the doctrine of equivalents if the court finds that the equivalent is an innovation that was not known to persons of ordinary skill in the art at the time the applicant amended the claim or if it was not possible for one of ordinary skill in the art to draft a claim amendment that literally encompassed the equivalent while disclaiming the surrendered subject matter).

134. See Ebert, *supra* note 133 (stating that the Supreme Court provided no footnotes as to the

questions make it difficult to understand Festo's true impact.¹³⁵

Since the Federal Circuit's complete bar approach and the Court's new rule differs only in the ability to rebut the presumption, the main question concerns the difficulty in doing so.¹³⁶ Some commentators

origins of the three situations it articulated); Lawrence B. Ebert, *Litera Scripta Manet?*, INTELL. PROP. TODAY, August 2002, at n.2 (indicating a commentator noted that the Court provided no guidance on how to conduct the "tangential" inquiry); Paul Devinsky & Keith E. George, *U.S. Supreme Court Vacates Federal Circuit Festo Decision*, available at <http://www.mwe.com/news/ots0502d.htm> (last visited September 9, 2002) (indicating the Court provided no guidance as to what might qualify as a "tangential relationship").

135. See Reimes & Homrig, *supra* note 122 (indicating that some of the main practical considerations raised by the *Festo* decision include: From what vantage point will the *Festo* analysis be performed? Must the technology or the claim language be foreseeable? What is the proper time-frame for the analysis? Will extrinsic evidence be used and how? How will the "tangential relation" principle be applied?). One commentator stated:

But questions remain. What exactly, does "foreseeability" or "inability to draft a claim" mean? Do the terms "foreseeable" and "readily known" mean the same thing? Will these issues be decided according to an objective or subjective standard? Will these issues of foreseeability and ready knowledge be decided by a judge as a matter of law, or a jury as a question of fact? What will be the role of expert testimony in the litigation of these questions? How will the Federal Circuit review these determinations when they are made by district courts? How will the *Festo* presumptions apply, if at all, to assertedly narrowing arguments made to the PTO in the course of obtaining a patent? The answers to these and similar questions await continued development by the United States Court of Appeal for the Federal Circuit.

Scott W. Burt & Gregory A. Castanias, *The Supreme Court's Decision in Festo Corp.: An Important New Development Regarding the Scope of Patent Protection*, 10 METRO. CORP. COUNS. (July 2002). Answers to some questions can already be found in some recent Federal Circuit cases. Devinsky & George, *supra* note 134 (noting that an answer to the question "what kind of amendments are narrowing?" can be found in recent Federal Circuit cases which hold that an amendment can be narrowing when amending an original claim (citing *Pall Corp. v. PTI Technologies Inc.*, 259 F.3d 1383 (Fed. Cir. 2001)), when including limitations for a dependent claim in an independent claim (citing *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 238 F.3d 1341 (Fed. Cir. 2001)), and when submitting a new, narrower claim (citing *Mycogen Plant Science Inc. v. Monsanto Co.*, *on reh'g*, 261 F.3d 1345 (Fed. Cir. 2001)). However, not all questions will have answers so quickly. Steven J. Rizzi & Christopher E. Loh, *Proving Infringement After Festo*, 669 PLI/PAT 461 (2001) (stating that the impact of the *Festo* decision on infringement litigation and patent prosecution will not likely be fully appreciated for years to come as the district courts and Federal Circuit attempt to implement the Court's guidance). *But see* Steven Anderson, *Festo, Finally: Doctrine of Equivalents Withstands Test, with Concessions*, 12 CORP. LEGAL TIMES 62 (suggesting a clearer landscape regarding application of *Festo* will emerge by year's end since a backlog of doctrine of equivalents cases that been on hold, awaiting the Supreme Court's ruling, will resume immediately).

136. Compare *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo I*], 535 U.S. 722, 741 (2002) (stating "[w]hen the patentee has chosen to narrow a claim . . . the territory surrendered is not an equivalent of the territory claimed"), with *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo II*], 234 F.3d 558, 569 (Fed. Cir. 1999) (holding when an amendment creates prosecution history estoppel with regard to a claim element there is no range of equivalents available for the amended claim element). See Ebert, *supra* note 131 (stating "[t]he effective difference between the Supreme Court holding and the Federal Circuit holding resides in the identity of these 'some cases' and the ease by which the patentee can establish that the presence of

believe that successfully rebutting the presumption will not be easy; thus making the new test, in effect, identical to the complete bar rule.¹³⁷ In light of the Federal Circuit's apparent distaste for the doctrine of equivalents,¹³⁸ another important question involves whether determining if the presumption has successfully been rebutted will be treated as a question of fact or one of law.¹³⁹ In *Warner-Jenkinson*, the Court's

one of these 'cases'").

137. See e.g., Rizzi & Loh, *supra* note 135, at 477 (noting that some commentators doubt that patentees will be able to overcome the presumption that prosecution history estoppel bars the doctrine of equivalent and thus believe the Court's reversal of the complete bar is merely cosmetic); Burt & Castanias, *supra* note 135, at 10 (indicating that it is not at all clear that the replacement of the complete bar with the rebuttable presumption will change the result in the main run of cases); Young, *infra* note 138 (quoting Gregory Castanias from the firm of Jones, Day, Reavis and Pogue as warning that the Supreme Court merely "tweaked" the Federal Circuit's complete bar approach); Ebert, *supra* note 4 (suggesting that patentees will have difficulty in rebutting the presumption that equivalents were not surrendered). Noting the language in the Supreme Court's opinion, "this presumption is not, then, just the complete bar by another name," one commentator states "[i]f it were clear that the Supreme Court's decision were a major change from the *en banc* Federal Circuit decision, such text would not have been needed." *Id.* The Court's language, "or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question," is a catch-all that will "likely not be helpful [in rebutting the presumption], because the Court did not articulate a standard. Thus, such arguments may rarely, if ever, overcome the presumption, and may serve only as a final plea for a desperate patentee." Benassi & Kjelland, *supra* note 117, at 263. "Patentees will be hard-pressed under *Festo* to argue that one of ordinary skill in the art – a person presumed, under settled law, to have knowledge of all technologies pertinent to the invention – could not have foreseen the use of an existing technology to practice their invention." *Leading Cases – Patent Act*, *supra* note 122.

138. See Gary Young, *High Court Buttresses Patent Rule, Reversal Gives Boost to 'Doctrine of Equivalents'*, NAT'L L.J., June 3, 2002, at A11 (quoting Professor John Duffy of William and Mary School of Law as arguing that the Federal Circuit has general antipathy toward the doctrine of equivalents and because the Supreme Court did not specify whether foreseeability was a judge or jury question, the Federal Circuit may exploit this ambiguity to attack the doctrine of equivalents); Belvis, *supra* note 128, at 98 (noting that the trend in the Federal Circuit over the last few years has been to consistently narrow and rein in the doctrine of equivalents). Regarding implementation of the Supreme Court's rebuttable presumption, one commentator stated:

[It] is now in the hands of what has become an increasingly unreceptive Federal Circuit to patentees—a court that some commentators have characterized as doing everything in its power to narrow patent claims and limit recoveries. Indeed, the Federal circuit may still implement in effect, if not in name, a complete bar by simply setting the thresholds so high that patentees will be unable to overcome the presumptions, except in rare cases.

Benassi & Kjelland, *supra* note 117 at 262.

139. See Donald S. Chisum, *The Supreme Court's Festo Decision: Implications for Patent Claim Scope and Other Issues*, at 19, available at <http://web.lexis.com/xchange/practiceareas/patent/chisumfesto.pdf> (last visited January 31, 2003) (indicating that the United States Supreme Court, in *Festo V*, does not directly say anything about whether it is a question of fact or a question of law whether a patentee has successfully rebutted the presumption). The Court only stated that "[o]n the record before us, we cannot say petitioner has rebutted the presumptions that estoppel applies and that the equivalents at issue have been surrendered" and these matters "should be determined in the first instance by further proceedings in the Court of Appeals or the District Court." *Festo V*, 535 U.S. at 741-42.

guidance concerning reviewing jury verdicts based on the doctrine of equivalent suggests that courts will treat the determination as a question of law.¹⁴⁰ This would be consistent with the Federal Circuit's approach to treating prosecution history estoppel as a matter of law.¹⁴¹ Therefore, the Federal Circuit could echo Bernard Witkin's famous quote, "on a clear day, you can foresee forever," by taking a broad view of foreseeability.¹⁴² A broad view could result in patentees' inability to claim *any* equivalents, or, at most, only equivalents in a rapidly developing field.¹⁴³

The *amicus curiae* brief from the Institute of Electrical and Electronics Engineers has been suggested as the source for the Court's

140. See Ross, *supra* note 119 (proposing that the Supreme Court's *Warner-Jenkinson* decision suggests that determining foreseeability of equivalents will be a judicial determination made at pretrial); Chisum, *supra* note 139, at 19 stating:

The Federal Circuit will likely continue to treat prosecution history estoppel as a question of law just as it so treats the construction of patent claim language. Thus, it will expect that parties to create a record in the district court. Likely also, district courts will hold hearings on estoppel as part of, or in addition to, the *Markman* hearings held on claim construction. The Federal Circuit will then review the district court's decision de novo.

Id. In footnote 8 of its *Warner-Jenkinson* decision, the Supreme Court stated:

Of course, the various legal limitations on the application of the doctrine of equivalents are to be determined by the court, either on a pretrial motion for partial summary judgment or on a motion for judgment as a matter of law at the close of evidence and after the jury verdict . . . Thus, under the particular facts of a case, if prosecution history estoppel would apply or if a theory of equivalence would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court, as there would be no further *material* issue for the jury to resolve.

Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 39 n.8 (1997) (internal citation omitted).

141. See Chisum, *supra* note 139, at 18 (stating "the Federal Circuit has consistently held that prosecution history estoppel is a purely legal issue, resolvable by summary judgment, and reviewable on appeal de novo (that is without deference to the trial court's decision)").

142. See *Sturgeon v. Curnutt*, 34 Cal.Rptr.2d 498, 501 (1994).

143. See Benassi, *supra* note 117, at 262 stating:

If the Federal Circuit takes a broad view of an equivalent's foreseeability, as it did in defining "reasons related to patentability," then it is likely that an unforeseeable equivalent will be rare, and may only apply to an "after-arising equivalent" to a truly pioneering invention. And under this scenario, the patentee will be in the horns of a dilemma, because if the alleged equivalent was "unforeseeable," then there is a substantial risk that the equivalent may not meet the function/way/result test.

Id. Graver's tripartite test requires that an alleged equivalent perform substantially the same function in substantially the same way to obtain the same result. See *Graver Tank*, *supra* note 56. Thus an alleged equivalent that functions in an unforeseeable way, may not satisfy this test. Benassi, *supra* note 117, at 262. After-arising technology refers to equivalents that were not known when the patent was issued. Azure, *supra* note 30, at 1163. Pioneer inventions refer to endeavors in a new field and are often infringed by after-arising technology. *Id.* Thus pioneer inventions rely on the doctrine of equivalents for protection, as do inventions in unpredictable arts. *Id.*

use of foreseeability.¹⁴⁴ The brief, however, proposed a ‘foreseeable bar’ that focused on the foreseeability of the *effect* of an amendment, which differs somewhat from the foreseeable equivalent test specified in *Festo*.¹⁴⁵ A discussion of foreseeability that is closer to the *Festo* test can be found in two recent Federal Circuit opinions.¹⁴⁶

While the patent profession was waiting for the Supreme Court to rule in *Festo*, foreseeability of equivalents were discussed in two concurring opinions in the Federal Circuit case *Johnson & Johnston Assocs., Inc. v. R.E. Service Co.*¹⁴⁷ Judge Rader, joined by Chief Judge Mayer, argued that the doctrine of equivalents should not be applied to capture *any* foreseeable equivalent.¹⁴⁸ He further argued that the Federal

144. See Brief of the Institute of Electrical and Electronics Engineers—United States of America as Amicus Curiae in Support of Neither Party, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 2001 WL 1025309 (2001) (No. 00-1543) (arguing that the doctrine of equivalents should not be barred by prosecution history estoppel unless the limiting effect of the amended language with respect to the accused device would have been foreseeable at the time of the amendment); Ebert, *supra* note 133, at 46 n.3 (“Given that the IEEE test is about foreseeability of the effect of the amendment and the Supreme Court test, as written, and as construed by district courts, is about the foreseeability of the proposed equivalent, it might seem that the U.S. Supreme Court did not adopt the proposed IEEE test.”). See also Conigliaro, *supra* note 130 (reiterating the same position taken in the amicus curiae brief for the Institute of Electrical and Electronics Engineers).

145. Ebert, *supra* note 133, at n.6 (noting that the ‘foreseeable bar’ in the Supreme Court’s opinion focuses on whether or not the element related to the amendment was an unforeseeable equivalent, the bar in the Institute of IEEE brief focuses on the foreseeability of the effect of the amendment, and the bar as articulated by John W. Steadmen, a VP of IEEE, focuses on the infringing device as a whole and its foreseeability at the time of application).

146. *Johnson & Johnston Assocs. Inc. v. R.E. Service Co.*, 285 F.3d 1046 (Fed. Cir 2002); *Sage Prods. Inc. v. Devon Indus., Inc.*, 126 F.3d 1420 (Fed. Cir 1997).

147. *Johnson & Johnston*, 285 F.3d at 1046 (Fed. Cir 2002). *Johnson & Johnston* involved a patent that relates to the manufacture of printed circuit boards. *Id.* at 1048. The invention addressed the problem of damaging or contaminating, by handling, the thin sheets of copper foil used in the production of the circuit boards. *Id.* at 1049. The patent specification called for use of a substrate made, preferably, of aluminum but other metals such as stainless steel could be used as well. *Id.* at 1050. The patent claim, however, mentioned only aluminum. *Id.* R. E. Service Co. subsequently employed an identical process except they used a steel substrate instead of aluminum. *Id.* *Johnson & Johnston* sued for infringement under the doctrine of equivalents. *Id.* The Federal Circuit held that *Johnson & Johnston* could not claim equivalents because it disclosed the steel structure in the patent but did not claim it; thus, that structure was deemed to be dedicated to the public. *Id.* at 1055.

148. *Id.* at 1056 (Rader, J., concurring). Judge Rader stated “the doctrine of equivalents does not capture subject matter that the patent drafter reasonably could have foreseen during the application process and included in the claims.” *Id.* This rule would “help reconcile the preeminent notice function of patent claims with the protective function of the doctrine of equivalents.” *Id.* The principle would “enhance[] the notice function of claims by making them the sole definition of invention scope in all foreseeable circumstance” as well as “protect[ing] patentees against copyists who employ insubstantial variations to expropriate the claimed invention in some unforeseeable circumstance. *Id.*

Circuit had previously held as much in *Sage Products Inc. v. Devon Industries, Inc.*¹⁴⁹ The discussion of foreseeability in *Festo* was limited to the context of narrowing amendments which produce prosecution history estoppel; however, Judge Rader and Chief Judge Mayer's view expands the limiting effect of foreseeability to all applications of the doctrine of equivalents.¹⁵⁰

Commenting on Judge Rader's opinion, Judge Lourie, in his concurring opinion, argued that the concept of using foreseeability to limit the application of the doctrine of equivalents creates conflicts with conventional patent law ideas and adds additional complexity to an already complex area of the law.¹⁵¹ Commentators on the Supreme

149. *Id.* at 1057 (citing *Sage Prods. Inc. v. Devon Indus., Inc.*, 126 F.3d 1420 (Fed. Cir 1997)). In *Sage Products*, the parties cross-sued for infringement of each others patents relating to containers for disposing of hazardous medical waste such as hypodermic needles. *Sage Prods.*, 126 F.3d at 1422. The Federal Circuit affirmed the holding that neither party infringed, either literally or under the doctrine of equivalents. *Id.* at 1421. In Judge Rader's view, the court in *Sage* "barred application of the doctrine of equivalents 'for this foreseeable alteration of the claim structure.'" *Johnson & Johnston*, 285 F.3d at 1058. In addition, the *Sage* court noted that unforeseeable subject matter may include "subject matter arising from a 'subsequent change in the state of the art such as later developed technology' . . . or subject matter cloaked by the 'subtlety of language or complexity of the technology.'" *Id.* (quoting *Sage Prods.*, 126 F.3d at 1425). Noting that the foreseeability rule may increase costs, the *Sage* court stated:

This court recognizes that such reasoning places a premium on forethought in patent drafting. Indeed this premium may lead to higher costs of patent prosecution. However, the alternative rule—allowing broad play for the doctrine of equivalents to encompass foreseeable variations, not just of a claim element, but of a patent claim also leads to higher costs. Society at large would bear these latter costs in the form of virtual foreclosure of competitive activity within the penumbra of each issued patent claim. Because the doctrine of equivalents blurs the line of demarcation between infringing and non-infringing activity, it creates a zone of uncertainty, into which competitors tread only at their peril . . . Given a choice of imposing the higher costs of careful prosecution on patentees, or imposing the costs of foreclosed business activity on the public at large, this court believes the costs are properly imposed on the group best positioned to determine whether or not a particular invention warrants investment at a higher level, that is the patentees.

Sage Prods., 126 F.3d at 1425 (internal citation omitted). *But see Leading Cases – Patent Act*, *supra* note 122, at 411 (suggesting that the Federal Circuit has retreated from its holding in *Sage*, preferring to cite it for the general proposition that the public is entitled to rely on clear structural claim limitations).

150. *Compare Festo V*, 535 U.S. at 741 (holding that "the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalents" if "the equivalent is unforeseeable at the time of the application") with *Johnson & Johnston*, 285 F.3d at 1056 (Rader, J., concurring) (arguing that "the doctrine of equivalents does not capture subject matter that the patent drafter reasonably could have foreseen during the application process and included in the claims").

151. *Id.* at 1063 (Lourie, J., concurring). Judge Lourie disagreed that foreseeability would simplify equivalence issues. *Id.* The determination of what one skilled in the art would foresee would likely involve the introduction of expert evidence. *Id.* In addition, Judge Lourie believed that foreseeability is similar to the obviousness test that is already a part of patent law. *Id.*

Court's use of foreseeability in *Festo* have indicated similar concerns. As Judge Lourie aptly stated in his concurrence:

It seems counterintuitive for a patentee to have to assert that an accused device was [unforeseeable] or for the accused to have to assert that it was [foreseeable]. A patentee seeking to establish equivalence wants to show that the accused is merely making a minor variation of his invention, a [foreseeable] one, not a[n] [unforeseeable] improvement. One accused of infringement wants to show that he has made an important advance, not that he is a copier, and that his device was [foreseeable] over the patented invention¹⁵²

Though Judge Rader's opinion that the Federal Circuit's holding in *Sage Products* is settled law is likely not accurate; when taken together with *Johnson & Johnston*, they show the Federal Circuit's desire to limit use of the doctrine of equivalents.¹⁵³

Another unanswered question from the Court's decision concerns the stage at which the foreseeability of an equivalent should be tested.¹⁵⁴ In separate sections of the opinion, the Court mentions both "at the time of the amendment" and "at the time of the application."¹⁵⁵ Commentators disagree about the most appropriate time to apply the foreseeability test.¹⁵⁶ The timeframe is important since an unforeseeable

152. *Id.* See also *Festo V*, 535 U.S. at 722. See also Alan J. Ross, *supra* note 140 (stating the arguments that the parties in litigation will have to make are counterintuitive); Benassi & Kjelland, *supra* note 119, at 295 (stating "[s]omewhat counterintuitive, the more trivial the modification, the more likely it will be judged 'foreseeable,' the more likely that the presumption will not be rebutted, and prosecution history estoppel will apply").

153. See *supra* note 149. If *Sage Products* were settled law, then the Supreme Court in *Festo* would not have had to indicate that unforeseeable equivalents could rebut the presumption since the doctrine of equivalents would not apply to foreseeable equivalents in the first place. See *supra* note 150.

154. See Chisum, *supra* note 139, at 13 (stating that there is ambiguity in the Court's language for it mentions both "time of amendment" and time of application").

155. Compare *Festo V*, 535 U.S. at 738 (stating "there is no reason why a narrowing amendment should be deemed to relinquish equivalents unforeseeable at the time of the amendment . . .") (emphasis added), with *id.* at 740 (stating "[t]he equivalent may have been unforeseeable at the time of the application") (emphasis added).

156. See Yang, *supra* note 132, at 34 (holding that foreseeability is to be tested at the time of amendment); Steven J. Rizzi & Jessica L. Banger, *Litigating Infringement Under the Doctrine of Equivalents After Festo*, 721 PLI/PAT 345, 365-66 (2002) (stating that "[g]iven that the estoppel arises from the act of amending the claims, logically this is the proper time frame for the foreseeability inquiry"). But see Chisum, *supra* note 139, at 13 stating:

A "time of application" rule, that is, the effective filing date, would be consistent with the basic patent law principles. Generally, a patent application "speaks" as of its filing date. A patent applicant cannot add "new matter" by amendment. New matter may be added by filing of a continuation-in-part application, but any claims dependent on the new matter will not be entitled to the benefit of the new filing date, Federal Circuit case

equivalent at the time of application can become foreseeable before an amendment.¹⁵⁷ Testing foreseeability at the time of amendment requires the patentee to keep a diligent eye on developing technology, and it may not be consistent with the Court's emphasis on a drafter's ability to choose his or her own words.¹⁵⁸

C. Implications of the New Rule

The implications of the *Festo* decision on the cost and complexity of patent law and practice is not favorable for the patentee.¹⁵⁹ As with the complete bar approach, patentees have incentives to avoid amendments and, in addition, now have the burden of including every foreseeable equivalent in the patent application.¹⁶⁰ As a result, the cost

law indicates that the date of construing claims language is presumed to be the filing date.

Id. (citing *Schering Corp. v. Amgen Inc.*, 222 F.3d 1347 (Fed. Cir. 2000)).

157. See *Chisum*, *supra* note 139, at 13 stating:

There could well be a major difference between what was "foreseeable" on the application date and on the amendment date. An application may have been filed, for example, on July 1, 1999, and the amendment entered years later, for example, on July 1, 2002. Often more will be "foreseeable" at the later date because of progress in the technology and the marketplace.

Id.; *Yang*, *supra* note 132, at 34 (indicating a time of amendment test could result in a patentee losing equivalent coverage inappropriately if a competitor initiates some publicly discoverable activity after the patentee's filing date, but prior to when the patentee amendment date); *Rizzi & Banger*, *supra* note 156, at 365 (suggesting that applying the foreseeability test at the time of amendment imposes a heavy burden and may require submission of extrinsic evidence to prove unforeseeability under some objective standard); *Ross*, *supra* note 140 (stating that time between filing the application and when the patent prosecutor would respond to the first office action could be as long as six months which for a quickly evolving technology could result in significant changes).

158. See *Festo V.*, 535 U.S. at 722 (placing the burden on the patentee, as "author of the claim language," to draft claims covering "readily known equivalents"); *Miller*, *supra* note 131, at 22, stating:

The requirement of unforeseeability at the time of amendment raises an interesting question. When a patentee is making an amendment to a claim for whatever reason, he or she is limited to the language in the specification. What does he or she do then if an equivalent invention was not foreseeable at the time the specification was drafted, and thus the language for incorporating it is not present in the specification, but it has since become foreseeable? Is it really accurate for the Supreme Court to say that "the patentee, as author of the claim language, may be expected to draft claims encompassing readily known equivalents" when patentees do not actually have the whole of the English language at their disposal?

Id.

159. See *Festo V.*, 535 U.S. at 722; see *Rizzi & Banger*, *supra* note 156, at 369 (stating that the precautions practitioners will take in light of *Festo* "will most likely result in longer patent applications with more claims, and more protracted proceedings before the PTO, thus increasing the cost of obtaining patents").

160. See *Rizzi & Banger*, *supra* note 156, at 368 (stating that following the Federal Circuit's

to the patentee will increase as patent lawyers must consider drafting narrow claims, drafting longer claims to cover all foreseeable equivalents, and spending more time researching the technology and fine tuning language.¹⁶¹

In addition, to avoid amendments that raise prosecution history estoppel, patentees will likely appeal more rejections.¹⁶² The likely adjustments that patent practitioners make will place additional work on an already overburdened United States Patent & Trademark Office.¹⁶³ Additionally, the court system will likely see an increase in litigation as practitioners test the new *Festo* rules—seeking an understanding of how courts will apply them.¹⁶⁴ Finally, during litigation, the inquiries into whether the patentee has rebutted the presumption will likely be complex and fact-intensive and include the submission of extrinsic

Festo decision, “patent prosecutors resorted to drafting narrow claims so as to avoid amending them during prosecution and risking a complete bar” and in addition are now required to “include claims covering every embodiment and variant of the invention disclosed in the application”).

161. See Miller, *supra* note 131, at 19 stating:

Patent attorneys have the new burden of drafting claims that incorporate every foreseeable alteration known at that time. This could mean increasing the number of claims tremendously in order to incorporate every possible angle, as well as increasing the amount of time spent researching prior art and the state of the inventive art at the time of filing. Because the presumption will be against the patentee anytime he or she amends a claim, attorneys are likely to spend more time drafting the original claims and to include more and narrower claims in order to ensure that they will be patentable without amending.

Id.; Rizzi & Banger, *supra* note 156, at 368 (indicating that though the practitioner may now draft broader claims than when the complete bar was in force, the uncertainty surrounding the Supreme Court’s decision will likely result in practitioners “to tread carefully” when drafting claims varying in scope); Anderson, *supra* note 135, at 62 (suggesting that patent applications will become longer and more complex as a result of amendments being disfavored and patent counsel seeking to predict more potential uses for the patent).

162. See Rizzi & Banger, *supra* note 156, at 368 (explaining that the uncertainty surrounding *Festo* and the deleterious effect of an amendment to a claim will likely result in practitioners appealing more rejections).

163. See Anderson, *supra* note 135, at 62 (asserting that until *Festo*’s ruling becomes clearer, it will “place more pressure on an overburdened U.S. Patent and Trademark Office, which will undoubtedly affect the speed and quality of examination”); Rizzi & Banger, *supra* note 156, at 369 (expecting more protracted proceedings before the United States Patent and Trademark Office). *Festo* may result in many possible changes including more contested prosecution, more appeals to the Board of Appeal and Court, greater resistance to examiner’s amendments, more voluminous replies to Office actions, more requests for reissue, reexamination, and suspension of action, increased application complexity, more double patenting issues, and more examiner interviews. Stephen G. Kunin, *Effects of Festo Decision on USPTO Operations*, 725 PLI/PAT 397 (2002) (indicating there is anecdotal evidence that *Festo* has caused an increase in the volume of claims but the impact is unclear).

164. See Miller, *supra* note 131, at 19 (asserting that “[a]nother additional cost could arise from an increase in litigation due to the Supreme Court’s new guidelines that will need to be tested before they become completely clear.”)

evidence to determine, for example, what is foreseeable to “a person skilled in the art.”¹⁶⁵

It is clear that complexity and cost of prosecution may increase, but commentators disagree on who benefits most from *Festo*.¹⁶⁶ Though it may not be clear who benefits from this new test, it is likely that courts will struggle with consistently applying it.¹⁶⁷ Ironically, consistency was the primary concern the Federal Circuit cited for its initial decision to discard the flexible bar approach.¹⁶⁸

165. *Festo V*, 535 U.S. at 741 (asserting that the standard for rebutting is that “one skilled in the art could not reasonably be expected to have drafted a claim . . .”). See Rizzi & Banger, *supra* note 156, at 363 stating:

Moreover, it will likely be up to the Federal Circuit to establish a specific test for “foreseeability” that could add a whole new layer of complexity to the doctrine of equivalents analysis, including the inevitable submission of expert testimony in the issue. Proving foreseeability of an equivalents or an amendment’s tangential relationship to an equivalent will most likely be complicated and fact-intensive endeavors . . . Thus, one could envision a process akin to claim construction, where the court may consider extrinsic evidence of, e.g. the foreseeability to one of skill in the art of a particular equivalent, in connection with a determination as a matter of law of the issue of prosecution history estoppel. Unlike claim construction, however, which is determined as a matter of law without reference to the accused device, the Supreme Court’s decision requires that the analysis be performed with reference to the alleged equivalent at issue, thus making it difficult if not impossible to avoid consideration of factual issues concerning the accused product or process.

Id. But see James Pooley & Marc David Peters, *Proof of Equivalence After Festo: The Impact of Foresight*, 725 PLI/PAT 101, 109-10 (2002) (suggesting that it may be possible for a court to decide the foreseeability of equivalents issue solely as a matter of law (without factual inquiry) based on the connection between foreseeability and the predictability of the technology).

166. See e.g., Burt & Castanias, *supra* note 135, at 10 (suggesting that the most likely beneficiaries of *Festo* presumption will be patent owners in industries that experience rapid technological advances such as biotechnology, computer software, telecommunications, and aerospace); Miller, *supra* note 131, at 18 (indicating that smaller companies are likely to benefit more from the *Festo* presumption).

167. See Ebert, *supra* note 133, at 46 (noting a district court has acknowledged confusion among courts over the foreseeability issue in *Festo*). The court stated:

The court is aware that several recent opinions address the applicability of prosecution history estoppel to the ‘798 patent. In *Glaxo Wellcome v. Eon Labs Mfg., Inc.* . . . [T]he Southern District of New York concluded that prosecution history estoppel does not apply, finding a triable issue of fact as to the foreseeability of HPC as a sustained-release agent. This court does not find the same ambiguity in the record before it. The court respectfully disagrees with that decision.

Id. (quoting *Glaxo v. Impax*, 220 F. Supp. 2d 1089 N.D. Cal. 2002).

168. See *Festo IV*, 234 F.3d at 574-75. The court stated that

A problem with the flexible bar approach is that it is virtually impossible to predict before the decision on appeal where the line of surrender is drawn. The patentee would draw the line just at or slightly short of the prior art, leaving a wide range of equivalents untouched by prosecution history estoppel. The accused infringer, however, would draw the line close to the literal terms of the claims, leaving little or no range of equivalents. These considerations, we think, contribute to the difficulty under the flexible bar

D. *An Alternative Approach*

In light of the increase in cost and complexity likely to result from the Court's new rule, one wonders if an alternative approach would have served patent law and the patent community better.¹⁶⁹ Some commentators have advocated an approach that focuses on the foreseeable effect of an amendment rather than on the foreseeability of an equivalent or the rationale underlying the amendment.¹⁷⁰ Such an approach places the determination of whether prosecution history should apply on how the amendment would be perceived by someone reading it, rather than on the claim drafting process.¹⁷¹

Placing the emphasis on the foreseeable effect of the amendment is consistent with the policy concerns underlying prosecution history estoppel and the doctrine of equivalents.¹⁷² In addition, it comports with the notice function because it focuses on how the hypothetical third

approach in predicting with any degree of certainty the scope of surrender that will be found when prosecution history estoppel applies.

Id. at 575.

169. *See supra* notes 160-66 and accompanying text.

170. *See Conigliaro, supra* note 130, at 1048 (advocating a "foreseeable bar" that apply estoppel if the limiting effect of the language of the amendment with respect to the accused device would have been foreseeable to a reasonable person skilled in the art at the time of amendment); *Leading Cases – Patent Act, supra* note 122, at 409 (suggesting the Court could have adopted a rule where "a patentee may rebut the new presumption of estoppel only by showing that no reasonable competitor could have understood the prosecution history to surrender the equivalent at issue).

171. *Id.* (asserting that "the settled test for prosecution history estoppel" is "whether a competitor, reading the prosecution history, would reasonably have believed that the patentee surrendered that relevant subject matter" (citing *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998) and *Mark I Mktg. Corp. v. R.R. Donnelley & Sons Co.*, 66 F.3d 285, 291 (Fed. Cir. 1995)). *Festo* shifts the focus from the established "reasonable competitor" test to the ex ante reasonableness of the claim drafting process. *Leading Cases – Patent Act, supra* note 122, at 408-09. "The 'reasonable competitor' test traces back at least to *Prodyne Enterprises, Inc. v. Julie Promerantz, Inc.*, 743 F.2d 1581, 1583 (Fed. Cir. 1984), which found estoppel where 'a competitor should reasonably be entitled to believe' that it does not infringe the amended claim." *Leading Cases – Patent Act, supra* note 122, at 408 n.65. "The relevant inquiry [regarding application prosecution history estoppel] is whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter" *Cybor Corp.*, 138 F.3d at 1457. "The standard for determining whether particular subject matter was relinquished is an objective one that depends on what a competitor reasonably would conclude from the patent's prosecution history." *Mark I Mktg.*, 66 F.3d at 291.

172. *See Conigliaro, supra* note 130, at 1069. Application of the foreseeable bar is eminently fair and consistent with concept of the notice function of claims and prosecution history because it bars use of the doctrine of equivalents when a reasonable person skilled in the art would foresee the limiting effect of the amendment. *Id.* The foreseeable bar also allows use of the doctrine of equivalents when "subtlety of language or complexity of the technology, [or a] subsequent changing in the state of the art, such as later-developed technology" would make foreclosing the use of equivalents an unfair deprivation of patent protection. *Id.*

person, one skilled in the art, foresees the effect of the amendment.¹⁷³ It is also consistent with the idea that language is an imperfect fit for invention in that “subtlety of language or complexity of technology” impacts the foreseeability of the limiting effect.¹⁷⁴ Similar to the tests in *Festo*, looking at the foreseeable effect of the amendment utilizes the initial presumption and would only alter how the presumption is rebutted.¹⁷⁵ This approach addresses some of the evils of both the flexible bar approach and the complete bar approach¹⁷⁶ and avoids some of the confusion and unfavorable consequences that the cases for rebutting the presumption in *Festo* present.¹⁷⁷

First, such an approach does not require the patentee incorporate every foreseeable equivalent into the application as the test in *Festo* does.¹⁷⁸ In addition, there is less concern with technology developing between the time of application and time of amendment since the focus is the foreseeability of the limiting effect of the amendment, not the equivalent itself.¹⁷⁹ Finally, when the focus is on the foreseeable effect of the limitation, the counterintuitive argument indicated by Judge Lourie’s concurrence in *Sage Products* no longer has to be made.¹⁸⁰

173. See Conigliaro, *supra* note 130, at 1048 (indicating the foreseeable bar “presents the best means for effectuating patents’ protective and notice functions to promote all forms of progress, including both pioneering inventions and technological improvements”).

174. See *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) (referring to the invention as a simple structure and that the patent author would not have been confused by “subtleties in language or complexity in technology”); *Festo V.*, 535 U.S. at 737 (stating “the nature of language makes it impossible to capture the essence of a thing in a patent application.”). The Court further stated

After amendment, as before, language remains an imperfect fit for invention . . . As a result, there is no more reason for holding the patentee to the literal terms of an amended claim that there is for abolishing the doctrine altogether and holding every patentee to the literal terms of the patent.

Id. at 738.

175. See *supra* note 131 and accompanying text.

176. See Conigliaro, *supra* note 130, at 1069. The foreseeable bar overcomes the substantial failings of the absolute bar such as its encouragement of competitors to make trivial changes to avoid the patent and discouragement of the creation of pioneering innovations. *Id.* at 1069-70. Because the foreseeable bar allows use of the doctrine of equivalents, it does not disproportionately discourage pioneering innovation or encourage trivial copying. *Id.* at 1070 The foreseeable bar permits patent protection against insubstantial changes and exploitation of subtleties of language or complexity of technology. *Id.*

177. See *supra* notes 160-66 and accompanying text.

178. See *supra* note 165 and accompanying text. The concerns with patent counsel needing to draft longer claims, spend more time researching the technology, and fine tuning the language are results from needing to cover all foreseeable equivalents in the claim. See *Festo V.*, 535 U.S. at 741.

179. See *supra* notes 155-59 and accompanying text.

180. *Sage Prods.*, 126 F.3d at 1420. See *supra* note 153 and accompanying text. Arguing that a particular equivalent is foreseeable or not is not the issue under an approach focused on the

V. CONCLUSION

The doctrine of equivalents and prosecution history estoppel have long been a part of patent law in the United States.¹⁸¹ Throughout their existence, courts have struggled trying to strike appropriate balance between the doctrines and their underlying policy goals.¹⁸² The Supreme Court recently reaffirmed the importance of both doctrines and solidified their existence as settled law.¹⁸³ In *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*,¹⁸⁴ Festo Corporation sought to invoke the doctrine of equivalents against an alleged infringer.¹⁸⁵ Instead of reaching a verdict on the merits, the Court significantly changed the law a second time and remanded the case for further consideration.¹⁸⁶

In *Festo*, the United States Supreme Court was faced with a drastic change in the law dictated by the Court of Appeals for the Federal Circuit, who reasoned that this change would lead to more certainty to the scope of claims.¹⁸⁷ The Supreme Court declined to support the Federal Circuit's severe approach but appeared to have some sympathy for the Federal Circuit's position.¹⁸⁸ Instead of choosing to revert back to the traditional flexible approach, the Supreme Court sought a middle ground and drafted a novel rule—the rebuttable presumption approach.¹⁸⁹

As it sought to improve the balance between patent policy goals over that offered by the complete bar and the flexible bar rules,¹⁹⁰ the Supreme Court changed the face of patent law.¹⁹¹ The Court, however,

foreseeable effect of a limitation. *Id.*

181. See *supra* notes 12-20 and accompanying text.

182. See *supra* notes 21-39 and accompanying text.

183. See *supra* notes 60-71 and accompanying text.

184. *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo V*], 535 U.S. 722 (2002).

185. See *supra* notes 78-88 and accompanying text.

186. See *supra* notes 102-20 and accompanying text.

187. See *supra* notes 95-100 and accompanying text.

188. See *supra* notes 102-20 and accompanying text.

189. See *supra* notes 114-16, 128-31, and accompanying text.

190. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* [*Festo IV*], 234 F.3d 558 (Fed. Cir. 2000) (asserting that the flexible bar approach did not provide adequate notice to the public which resulting in overbroad patent protection that became unworkable); *Id.* at 598 (Michel, J., concurring-in-part, dissenting-in-part) (disagreeing with the complete bar approach because it directly contradicts a U.S. Supreme Court holding, it undermines the legal standards the Supreme Court articulated in seven other cases, it effectively strips most patentees of their rights to asset infringement under the doctrine of equivalents, and it creates easy exploitation for would-be copyists).

191. See *supra* note 120 and accompanying text; Chisum, *supra* note 139, at 19 (indicating that though prosecution history estoppel and the doctrine of equivalents are the focal areas of the *Festo* opinion, the opinion “rests on important general themes that will influence the development and application of patent law in the future” and touch areas such as limiting per se rules, disruptive rule

stopped short—leaving the new rule ill-defined and numerous issues unresolved.¹⁹² The initial impact of the Supreme Court’s decision appears to be increased cost, complexity, and uncertainty in patent prosecution and litigation.¹⁹³ One wonders if an alternative rule that focuses on the foreseeable effect of an amendment would alleviate some of the concerns.¹⁹⁴ The future of the doctrine of equivalence appears to be back in the hands of the Federal Circuit as it must flesh out the guidance given by the Supreme Court.¹⁹⁵ That fact should leave proponents of the doctrine of equivalents with little solace, as trends within the Federal Circuit suggest the doctrine is not welcome.¹⁹⁶

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changes, the dedication rule, written description, “on sale” bar, and prosecution laches).

192. *See supra* notes 132-58 and accompanying text.

193. *See supra* notes 159-68 and accompanying text.

194. *See supra* notes 169-80 and accompanying text.

195. *See supra* note 3 and accompanying text.

196. *See supra* notes 138 and accompanying text.