

INTERMEDIATE DRAFT

The Unfinished Tasks of *Festo*: What More Needs to Be Done to Balance the Doctrine of Equivalents and Prosecution History Estoppel

In a decision eagerly awaited by the entire patent community, the Supreme Court recently vacated the Federal Circuit's *en banc* decision adopting a "complete bar" against application of the doctrine of equivalents to amended claims.¹ The Court held that the doctrine of equivalents is still available to narrowed claims, albeit at a more limited scope.² Because the vast majority of patents currently in force have amended claims, the Federal Circuit's "complete bar" approach³ would have significantly reduced the scope of protection to inventors and dramatically changed the way new patent applications are prosecuted.⁴ To most inventors and patent attorneys, the Supreme Court decision brings a welcome return of the doctrine of equivalents and the expectations unsettled by the Federal Circuit.⁵

This decision represents a continued effort by the Court to balance the two conflicting purposes of our patent system: protecting the rights of patent owners and providing notice to the public as to the boundaries of the patent rights. This Note

¹ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 122 S. Ct. 1831, 1842 (2002), hereinafter *Festo*.

² *Id.*

³ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 618 (Fed. Cir. 2000), hereinafter *Festo III*.

⁴ See, e.g., Steven H. VerSteeg, *Parallel Applications to Preserve the Doctrine of Equivalents in a Post Festo World*, 84 J. Pat. & Trademark Off. Soc'y, 341 (2002); 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. Circuit B.J. 59, 99-110 (2002).

⁵ See, e.g., Richard A. Kaplan, *Festo Brings the Return of the Doctrine of Equivalents*, 25 Chicago Lawyer 71 (2002); Steve Anderson, *Festo, Finally: Doctrine of Equivalents Withstands Test, with Concessions*, 12 Corp. Legal Times 62, col. 1 (2002); *But see*, R. Polk Wagner, *Reconsidering Estoppel: Patent Administration and the Failure of Festo*, 151 U. Pa. L. Rev. -- (2002).

examines the significance of the decision in the development of the doctrine of equivalents and prosecution history estoppel and argues that the Court's adoption of a foreseeability test is contradictory to the Court's view on the doctrine of equivalents stated in *Graver Tank*.⁶ This Note also analyzes the vagueness of the foreseeability, tangentiality and reasonableness tests proposed by the Court and suggests that the Federal Circuit's application of the tests is critical in carrying out the Court's balancing effort. In addition, the Note analyzes the potential impact of the decision on patent prosecution and litigation.

II. HISTORIC DEVELOPMENT

The purpose of the patent system is to "promote the Progress of Science and useful Arts."⁷ The patent law achieves this purpose by providing incentives to innovators and disclosing novel inventions to the public.⁸ Innovation is encouraged by giving the patentee a market monopoly through which to profit from the invention; innovation is also encouraged from the disclosure of the invention where public can learn from the invention and design around it.

These two functions, however, are frequently at tension with each other. While a patentee seeks to maximize patent protection, the public benefits from limiting the scope of the patent so that more royalty free use of the invention can be achieved. Two legal doctrines, the doctrine of equivalents and prosecution history estoppel, play an important role in balancing the two conflicting functions of the patent law.⁹

⁶ *Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co.*, 339 U.S. 605 (1950).

⁷ U.S. Const. art. I §8, cl. 8.

⁸ *See, e.g.*, Matthew J. Conigliaro, Andrew C. Greenberg and Mark A. Lemley, *Foreseeability in Patent Law*, 16 *Berkeley Tech. L.J.* 1045, 1046 (2001) (hereinafter "Conigliaro").

⁹ *Id.* at 1047.

A. The Doctrine of Equivalents

While a reasoning similar to the doctrine of equivalents can be found more than two centuries ago,¹⁰ it is in *Winans v. Denmead*, decided in 1853, that the Supreme Court cemented the doctrine into law.¹¹ In *Winans*, the Court held that an octagonal-shaped coal car with a pyramidal-shaped base is equivalent to a cylindrical-shaped one with a tapered cone-like base.¹² This debut of the doctrine of equivalents was achieved over the dissent of four justices, who raised a strong concern with the uncertainty that the doctrine would bring to the scope of patent claims.¹³

The next seminal decision on the doctrine of equivalents was the Court's ruling in *Graver Tank & Manufacturing Co. v. Linde Air Products*¹⁴ more than half a century ago, where the Court laid a firm foundation for the modern doctrine of equivalents. In *Graver Tank*, the patentee claimed an electric welding composition that contained alkaline earth metal silicates, including calcium or magnesium silicates.¹⁵ The only difference in the alleged infringer's product was the replacement of magnesium silicate by manganese silicate, which is not an alkaline earth metal silicate.¹⁶ The issue in *Graver Tank* centered on whether manganese silicate is an equivalent of magnesium silicate in the welding composition.¹⁷

¹⁰ See Jay I. Alexander, Cabining the Doctrine of Equivalents in Festo: A Historic Perspective on the Relationship Between the Doctrine of Equivalents and Prosecution History Estoppel, 51 Am. U.L. Rev. 553, 556-57 (2002) (finding the application of a reasoning similar to the doctrine of equivalents in a 1798 case).

¹¹ 56 U.S. 330 (1853).

¹² The patentee only patented the cylindrical-shaped car, not the octagonal-shaped one used by the defendant. The Court found that the advantage of a cylindrical-shaped coal cart with a cone-like base is to disperse the pressure of the load outwards in every direction, which can be achieved similarly by the octagonal-shaped car with a pyramid-like base. *Id.* at 339-442.

¹³ See *id.* at 347 (Campbell, J., dissenting).

¹⁴ 339 U.S. 605 (1950).

¹⁵ *Id.* at 610.

¹⁶ *Id.*

¹⁷ *Id.*

Protecting patent rights clearly gained an upperhand in *Graver Tank*, where the majority stated that "to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing."¹⁸ In an effort to provide a framework for the doctrine of equivalents, the Court proposed that "a patentee may invoke [the 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."¹⁹ This "function/way/result" test gained widespread acceptance after *Graver Tank*. According to the Court, an important factor in determining equivalence is whether persons reasonably skilled in the art would have known of the interchangeability of the unclaimed elements with the claimed ones.²⁰ Finding that manganese silicate is widely known to be substantially identical in operation and result to magnesium silicate in the welding composition, the Court held that it is an equivalent of magnesium silicate.²¹

Despite the firm establishment of the doctrine of equivalents in *Graver Tank*, the concerns raised by the dissenting justices in *Winans* never subsided, and the wide application of the doctrine following *Graver Tank* further exacerbated the problem. The Supreme Court recognized in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.* that after *Graver Tank*, the doctrine had "taken a life of its own, unbounded by the patent claims."²²

To rein in the application of the doctrine of equivalents, the Court endorsed two rules in *Warner-Jenkinson*, both of which have deep roots in the Court's patent

¹⁸ *Id.* at 607.

¹⁹ *Id.* at 608.

²⁰ *Id.* at 609.

²¹ *Id.* at 612.

²² 520 U.S. 17, 28-29 (1997).

adjudication. The first rule is the "all elements rule,"²³ which requires the doctrine of equivalents be applied to individual elements of the claim, not to the invention as a whole.²⁴ This element-by-element analysis of the applicable equivalents limits a patentees' overreaching argument of overall similarity in function.

The second rule is prosecution history estoppel, the subject of central contention in the Federal Circuit in *Festo III*.²⁵ Prosecution history estoppel prevents patentee from recapture subject matter she surrendered during prosecution through subsequent application of the doctrine of equivalents.²⁶ Although the Supreme Court stated in *Warner-Jenkinson* that "*Graver Tank* did not dispose of prosecution history estoppel as a legal limitation on the doctrine of equivalents,"²⁷ the scope of the application of the rule was not made very clear. In fact, the scope of the rule has never been very clear from the origination of the rule more than a century ago.

B. PROSECUTION HISTORY ESTOPPEL

The Supreme Court applied prosecution history estoppel as early as 1879 to bar the patentee from claiming subject matter clearly abandoned by her during prosecution.²⁸

²³ The framework of the "all elements rule" appeared much earlier than Warner-Jenkinson. In *Water Meter Co. v. Desper*, 101 U.S. 332 (1879), the Court held that defendant's meter did not infringe upon the patented meter because the defendant's meter lacked one material element and substituted no equivalent for the element. In *Greg v. Herring*, 107 U.S. 640 (1883), the Court dismissed the infringement complaint because all the elements of the claimed invention were not present in the defendant's product. The Court stated that every claimed element is material and the Court can only decide whether any part omitted by an alleged infringer is supplied by some other device or instrumentality which is its equivalent. *Id.* at 648. See also Alexander, *supra* note 10 at 565.

²⁴ 520 U.S. at 29.

²⁵ *Festo III*, 234 F.3d 558 (Fed. Cir. 2000).

²⁶ See, e.g., *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126, 136 (1942).

²⁷ 520 U.S. at 30.

²⁸ See *Leggett v. Avery*, 101 U.S. 256 (1879). The patentee applied for extension of seven claims, six of which were rejected for anticipation by prior art and disclaimed by the patentee. Only the fifth claim was granted. The patentee later filed reissue application containing claims essentially the same as the previously disclaimed ones and was granted the patent. The Court held the reissued patent invalid, for the patentee could not recapture claims he already abandoned. *Id.* at 259. A few years later, in *Union Metallic Cartridge Co. v. United States Cartridge Co.*, 112 U.S. 624 (1884), the Court applied the principle to bar a

The Court also held the position from the nineteenth century that the doctrine of equivalents should still be available to subject matters unaffected by a disclaimer.²⁹ However, the Court's position has not been consistent when it faced a more difficult question where an amendment narrows the originally claimed subject matter but the alleged infringing device is not clearly surrendered.

In its earlier cases decided in the nineteenth century, the Court applied a "flexible bar" approach, which allowed the application of the doctrine of equivalents to claim elements narrowed during prosecution. In *Hulbut v. Schillinger*, the patentee had disclaimed a portion of his invention to avoid prior art and was found in a prior litigation to be precluded from asserting claims against an accused device in light of the disclaimer.³⁰ Nevertheless, the Court found infringement of a device equivalent to the invention.³¹ A similar reasoning was applied in a few later cases.³²

Starting from early twentieth century, however, the Court used language consistent with a more restricted application of the doctrine of equivalents to narrowed claims.³³ *Exhibit Supply Co. v. Ace Patents Corp.* represents the Court's furthest

patent owner from claiming infringement by the doctrine of equivalents when the equivalent structure was specifically disclaimed during reissuance proceedings.

²⁹ See *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222 (1880). The patentee claimed the use of vulcanized rubber for the making of artificial teeth and disclaimed a specific material called "gutta-percha" for the purpose. The Court held that the doctrine of equivalents was still available to "vulcanized rubber."

³⁰ *Hulbut v. Schillinger*, 130 U.S. 456, 465-66 (1889). The patent is for an improvement in concrete pavements where concrete blocks are formed in detachment from each other by inserting tar paper or the equivalents in between. *Id.* at 458-62. After reissuance of the patent, the patentee disclaimed the forming of blocks from plastic material without interposing anything in between the blocks, which the original claim encompassed. *Id.* at 463. In a prior litigation involving the patent, the patentee was barred from asserting infringement to a defendant whose pavement contained nothing between the blocks. *Id.* at 465-66.

³¹ *Id.* at 472. The Court found that Defendant's temporary use of trowel or cutting instrument to divide the blocks is equivalent to the tar paper claimed in the patent.

³² See, e.g., *Sutter v. Robinson*, 119 U.S. 530 (1886). In a patent claiming a process of re-sweating tobacco leaves, the patentee narrowed his claim to porous wooden box in order to distinguish prior art, which used metal box. The Court analyzed whether the uses of cases, boxes or packages in which the tobacco leaves are originally packed by the producer is equivalent to the porous wooden box.

³³ See, e.g., *Hubbell v. United States*, 179 U.S. 77, 83-84 (1900) (stating that "limitations imposed by the inventor . . . must be strictly construed against the inventor and in favor of the public. . ."); *Weber Electric*

deviation from the "flexible bar" approach, where the Court stated: "By the amendment [the patentee] recognized and emphasized the difference between the two phrases and proclaimed his abandonment of all that is embraced in that difference."³⁴

The contradiction of the Court's own line of cases produced inconsistency in the lower courts, where both a "flexible bar" approach and a more limiting approach were applied.³⁵ After the establishment of the Federal Circuit in 1982, the Circuit embraced the "flexible bar" approach in its first case concerning prosecution history estoppel, *Hughes Aircraft Co. v. United States* (hereinafter "*Hughes I*").³⁶ As a hallmark of the "flexible bar" approach, the Federal Circuit stated that no reason or warrant exists for limiting application of the doctrine of equivalents to the few unamended claims, and that the effect of the amendment to the scope of available equivalents can range "from great to small to zero," depending on the nature and purpose of the amendment.³⁷

A majority of cases decided by the Federal Circuit between 1984 and 1997 followed the *Hughes I* reasoning and the "flexible bar" approach.³⁸ However, in *Kinzenbaw v. Deere & Co.*, a case decided less than one year after *Hughes I*, a five-judge panel refused to analyze the availability of the doctrine of equivalents to a claim element narrowed by amendment, despite the argument by the patentee that the amendment was

Co. v. E.H. Freeman Electric Co., 256 U.S. 668, 677-78 (1921) (stating that when a patentee narrowed his claim in order to obtain a patent, he may not resort to the doctrine of equivalents to claim the larger scope which it might have had without the amendments).

³⁴ 315 U.S. 126, 136 (1942).

³⁵ For a general discussion of circuit court approaches to prosecution history estoppel and the doctrine of equivalents, see Alexander, *supra* note 10 at 584-92. See also *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362-63 (Fed. Cir. 1983).

³⁶ 717 F.2d 1351 (Fed. Cir. 1983) (holding that the later developed technology to use onboard computers to control satellite orientation is equivalent to receive signals from the satellite and use the computers on earth to control the orientation of the satellite).

³⁷ *Id.* at 1363.

³⁸ Donald S. Chisum, *Chisum on Patents* § 18.05[3][b][i], at 18-497 (1998).

not necessary for patentability.³⁹ In contrast to the "flexible bar" approach, *Kinzenbaw* resembles the "complete bar" approach that is consistent with the Supreme Court's language in *Exhibit Supply Co.*⁴⁰

C. The Implication of *Warner-Jenkinson* on Prosecution History Estoppel

The Supreme Court's last decision regarding prosecution history estoppel and the doctrine of equivalents before its *Festo* decision is *Warner-Jenkinson v. Hilton Davis*.⁴¹ In *Warner-Jenkinson*, the patentee amended his claim to limit the application of his invention, an ultrafiltration process, to approximately pH 6.0 to 9.0.⁴² The upper limit of pH 9.0 was added to distinguish from the prior art, which disclosed an ultrafiltration process at pH above 9.0. However, the reason for adding a lower limit of pH 6.0 was not clear from the record.⁴³ The accused infringing process was conducted at pH 5.0, out of the claimed literal range.⁴⁴

The Court first declined to take the position that prosecution history estoppel applies to every amendment, regardless of reasons.⁴⁵ The Court stated that "[w]here the reason for the change was not related to avoiding the prior art, the change may introduce a new element, but it does not necessarily preclude infringement by equivalents of that element."⁴⁶ As to an involuntary narrowing amendment, to further the definitional and notice function of the claims, the Court placed the burden on the patentee to establish the

³⁹ 741 F.2d 383 (Fed. Cir. 1994). In a patent for a row planter, the patentee amended his original claim to include a limitation that the radius of the gauge wheel exceeded the radius of the disc, although the patent examiner rejection was directed to another limitation. *Id.* at 388. The Court nevertheless applied prosecution history estoppel and limited this claim element to its literal meaning. *Id.* at 389.

⁴⁰ 315 U.S. 126, 136 (1942).

⁴¹ 520 U.S. 17 (1997).

⁴² *Id.* at 32.

⁴³ *Id.*

⁴⁴ *Id.* at 23.

⁴⁵ *Id.* at 32.

⁴⁶ *Id.* at 33.

reason for the amendment, and instructed courts to determine whether the reason is sufficient to overcome prosecution history estoppel as a bar to application of the doctrine of equivalents to the amended element.⁴⁷ When no reason for the amendment could be established, the *Warner-Jenkinson* Court held that the application of the doctrine of equivalent as to that element would be completely barred, because in the Court's view an amendment is presumed to have a "substantial reason" related to patentability if not proved otherwise.⁴⁸

Although the holding of the *Warner Jenkinson* Court is narrow, its reasoning can be applied very broadly and is very misleading. The Court did not address the scope of prosecution history estoppel when the stated reason for an amendment is related to patentability. However, the Court's reasoning is arguably consistent with the idea that so long as an amendment was made due to a substantial reason related to patentability, it should be subject to a "complete bar" of the doctrine of equivalents, since an amendment with a presumed substantial relationship to patentability is subject to a "complete bar." It is this continued lack of consistency and clarity in the Court's own cases concerning the scope of the doctrine of equivalents applicable to narrowed claim elements that triggered the debate in *Festo III*.

II. CASE SUMMARY

A. FACTS AND PROCEDURAL HISTORY

Festo Corporation owns two patents, the Stoll Patent (U.S. Patent No. 4,354,125) and the Carroll Patent (U.S. Patent No. 3,779,401), for an improved magnetic rodless

⁴⁷ *Id.*

⁴⁸ *Id.*

cylinder.⁴⁹ Stoll added two new limitations to the claims during prosecution--that the invention contains a pair of sealing rings and that the cylindrical sleeve is made of magnetizable material-- after the examiner rejected the original claims for indefiniteness under 35 U.S.C. §112.⁵⁰ Carroll added the same requirement of a pair of sealing rings during a reexamination proceeding to more specifically define his invention and to distinguish it from the prior art references.⁵¹

Shoketsu Kinzoku Kogyo Kabushiki Co. (hereinafter "SMC") made a device similar to Festo's except that SMC employs a single sealing ring with a two-way lip instead of Festo's pair of one-way sealing rings. Furthermore, SMC's device does not use magnetizable sleeve.⁵² Since SMC's device falls outside of the literal claims of the two Festo patents, the question at issue is whether SMC infringed the patents under the doctrine of equivalents.⁵³

The District Court found that Festo's amendments were not related to the examiner's §112 rejections or to avoid prior art, it therefore declined to apply the prosecution history estoppel, and granted Festo's summary judgment motion on the infringement of the Carroll patent.⁵⁴ A jury also found SMC infringed the Stoll patent under the doctrine of equivalents.⁵⁵ A panel of the Court of Appeals for the Federal Circuit affirmed.⁵⁶ The Supreme Court granted *certiorari*, vacated and remanded to the Federal Circuit for further consideration in light of the Court's intervening Warner-

⁴⁹ Festo III at 578-82.

⁵⁰ *Id.* at 583.

⁵¹ *Id.* at 584.

⁵² *Id.* at 582.

⁵³ *Id.*

⁵⁴ *Id.* at 585.

⁵⁵ *Id.* at 584-85.

⁵⁶ Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 72 F.3d. 857 (Fed. Cir. 1995), hereinafter "Festo I."

Jenkinson decision.⁵⁷ After a decision by the original panel on remand,⁵⁸ the Federal Circuit ordered rehearing *en banc* and reversed the District Court's ruling (hereinafter "*Festo III*").⁵⁹ The *en banc* court held that prosecution history estoppel arises from any amendment that narrows a claim to comply with the Patent Act, not only from amendments made to avoid prior art.⁶⁰ Furthermore, the court held that when estoppel applies, it stands as a complete bar against any claim of equivalence for the element that was amended.⁶¹ This ruling stood in sharp contrast to the flexible bar approach that had been in place for over a century and generated a huge controversy in the patent community.⁶² The Supreme Court granted *certiorari* in June 2001 and vacated the Federal Circuit's complete bar ruling in May 2002 (hereinafter "*Festo*").⁶³

B. THE FEDERAL CIRCUIT'S ANALYSIS

In *Festo III*, the Federal Circuit first analyzed whether the "substantial reason related to patentability" as required by *Warner-Jenkinson* to invoke prosecution history estoppel is limited to those amendments made to overcome prior art under §102 and §103.⁶⁴ Acknowledging that the Supreme Court in *Warner-Jenkinson* focused on claim amendments made to overcome prior art, the court reasoned that other statutory requirements, such as 35 U.S.C. § 101 and § 112 requirements, are equally important in patentability analyses, as the Patent Office will reject a patent application that fails to

⁵⁷ *Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. v. Festo Corp.*, 520 U.S. 1111 (1997).

⁵⁸ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 172 F.3d 857 (Fed. Cir. 1999), hereinafter "*Festo II*."

⁵⁹ *Festo III*, 234 F.3d 558 (Fed. Cir. 2000).

⁶⁰ *Id.* at 566.

⁶¹ *Id.* at 574-75.

⁶² *See, e.g.*, William M. Atkinson, Bruce J. Rose & John A. Wasleff, Was Festo Really Necessary?, 83 J. Pat. & Trademark Off. Soc'y 111 (2001); 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. Circuit B.J. 59 (2002); Faith S. Fillman, Doctrine of Equivalents: Is Festo the Right Decision for the Biomedical Industry?, 33 St. Mary's L. J. 493 (2002).

⁶³ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 122 S. Ct. 1831 (2002), hereinafter "*Festo*."

⁶⁴ *Festo III*, 234 F.3d at 566.

satisfy any of these statutory requirements.⁶⁵ The court concluded that since an amendment related to any of these statutory requirements is an amendment made for "a substantial reason related to patentability," such amendment triggers the prosecution history estoppel.⁶⁶

Second, the Federal Circuit analyzed whether a voluntary claim amendment--one not required by the examiner or made in response to a rejection by an examiner for a stated reason--creates prosecution history estoppel.⁶⁷ Since voluntary amendments, like amendments required by the Patent Office, signal to the public that subject matter has been surrendered, the court saw no reason to treat them differently.⁶⁸

Third, the Federal Circuit asked what range of equivalents, if any, is available to amended claim elements subject to prosecution history estoppel.⁶⁹ This question sharply divided the court. The eight-member majority claimed that the Supreme Court never directly addressed this question, at least not in circumstances where the claim was amended for a reason related to patentability.⁷⁰ After analyzing several Supreme Court cases, including *Warner-Jenkinson*, the majority concluded that in all those cases, the Supreme Court only resolved the question of whether prosecution history estoppel applied, but did not address the scope of the equivalents available after the estoppel.⁷¹ The majority concluded that the Federal Circuit must "independently decide the issue."⁷²

The majority then analyzed the Federal Circuit's own precedents and acknowledged that in most of those cases, the court applied a "flexible bar" approach in

⁶⁵ *Id.*

⁶⁶ *Id.* at 567.

⁶⁷ *Id.* at 568.

⁶⁸ *Id.*

⁶⁹ *Id.* at 569

⁷⁰ *Id.*

⁷¹ *Id.* at 569-71.

⁷² *Id.* at 571.

deciding the scope of the equivalents.⁷³ Under this approach, although the available range of equivalency is limited by estoppel, the prosecution history and the prior art do not eliminate equivalence.⁷⁴ In *Kinzenbaw v. Deere & Co.*, however, the majority found that the court applied a more stringent standard where it refused to apply the doctrine of equivalents to a claim element narrowed by amendment.⁷⁵

Despite the weight of the Federal Circuit's own precedent favoring the "flexible bar" approach, the majority nonetheless concluded that based on the Circuit's long experience, the "flexible bar" approach is "unworkable."⁷⁶ Emphasizing the paramount importance of the notice function and the need for certainty as to the scope of patent protection,⁷⁷ the majority proposed a "complete bar" approach, under which no range of equivalents is available for an element amended for patentability reasons.⁷⁸ The majority reasoned that with a "complete bar" technological advances that would have otherwise lain in the unknown, undefined zone around the literal terms of narrowed claim under the "flexible bar" approach will not go wasted and undeveloped due to fear of litigation.⁷⁹ As for the reduced protection to the patentees under the complete bar, the majority cursorily concluded that the benefits to patentees under the flexible bar do not outweigh the costs of uncertainty.⁸⁰

Four judges dissented as to the "complete bar" approach.⁸¹ Judge Michel in particular wrote a lengthy dissenting opinion in which he stated that the "complete bar"

⁷³ *Id.* at 572-74.

⁷⁴ *Modine Mfg. Co. v. United States Int'l Trade Comm'n.*, 75 F.3d 1545, 1555-56 (Fed. Cir. 1996).

⁷⁵ 741 F.2d 383 (Fed. Cir. 1984).

⁷⁶ 234 F.3d at 575.

⁷⁷ *Id.*

⁷⁸ *Id.* at 569.

⁷⁹ *Id.* at 576-77.

⁸⁰ *Id.* at 578.

⁸¹ *Id.* at 598-642.

approach contradicts settled law.⁸² To support his opinion, he listed numerous cases that, according to him, were overturned by the majority's ruling.⁸³

Fourth, the Federal Circuit addressed voluntary, unexplained claim amendments. Based on *Warner-Jenkinson* and the court's holdings on the previous questions, the court concluded that no range of equivalents is available to those amended elements.⁸⁴

Finally, the court held that prosecution history estoppel applies to the amendments made to the two patents at issue. Applying the "complete bar" approach, the court easily concluded that no range of equivalents is available to the two amended claim elements.⁸⁵ The District Court's infringement ruling was reversed.⁸⁶

C. THE SUPREME COURT'S ANALYSIS

The Supreme Court agreed with the Federal Circuit that a narrowing amendment made to satisfy any requirement of the Patent Act may give rise to an estoppel, but it vacated the Federal Circuit's "complete bar" approach.⁸⁷ While the Court acknowledged the importance of certainty and clarity in defining the boundary of patent rights, it also recognized the impreciseness of language in fully describing an invention.⁸⁸ Since a narrowing amendment may demonstrate what the claim is not; but may still fail to capture precisely what the claim is,⁸⁹ the Court concluded that the very reason for adopting the doctrine of equivalents in the first place still exists in amended claims.⁹⁰

⁸² *Id.* at 612.

⁸³ *Id.* at 613-619.

⁸⁴ 234 F.3d at 578.

⁸⁵ *Id.* at 591.

⁸⁶ *Id.*

⁸⁷ *Festo*, 122 S. Ct. at 1839-41.

⁸⁸ *Id.* at 1837.

⁸⁹ *Id.* at 1841.

⁹⁰ *Id.* The Court stated that "there's no more reason for holding the patentee to the literal terms of an amended claim than there is for abolishing the doctrine of equivalents altogether and holding every patentee to the literal terms of the patent."

In addition, the Court found no case in its precedent that supported the sweeping "complete bar" approach and was mindful of the settled expectations of the inventing community.⁹¹ Since inventors who amended their claims under the previous regime had no reason to believe they were conceding all equivalents, the Court found "no justification for applying a new and more robust estoppel to those who relied on prior doctrine."⁹²

To be consistent with *Warner-Jenkinson*, the Court retained the limited version of the "complete bar" in situations where the patentee is unable to explain the reason for an amendment.⁹³ In addition, when prosecution history estoppel applies to an amended element, the Court placed the burden on the patentee to show that the amendment does not surrender the particular equivalent in question.⁹⁴ The Court provided three scenarios where the patentee can satisfy that burden: 1) the equivalent was unforeseeable at the time of the application; 2) the rationale underlying the amendment bears no more than a tangential relation to the equivalent in question; 3) the patentee could not reasonably be expected to have described the insubstantial substitution in question.⁹⁵

Applying these principles to the case before it, the Court determined that the amendments were made for reasons relating to patentability.⁹⁶ It held that the question is not whether estoppel applies but what territory the amendments surrendered.⁹⁷ It remanded the case to the Federal Circuit for further proceedings.⁹⁸

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.* at 1842.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

III. DISCUSSION

The Supreme Court in *Festo* addressed two issues relating to prosecution history estoppel and the doctrine of equivalents: 1) What kinds of claim amendment trigger prosecution history estoppel and 2) if prosecution history estoppel applies to an amended claim element, what is the remaining scope of protection available to that claim element under the doctrine of equivalents? Both questions were left unresolved by the *Warner-Jenkinson* Court.

A. Any narrowing amendment made to satisfy the Patent Act may give rise to prosecution history estoppel

The Supreme Court agrees with the Federal Circuit that any narrowing amendment made to satisfy the Patent Act, including §§ 101, 102, 103 and 112, may give rise to prosecution history estoppel.⁹⁹ In a majority of earlier cases, prosecution history estoppel was applied in the context of amendments made to avoid prior art references. However, the same rationale should apply to other narrowing amendments. The key term here is "narrowing." If a patentee has to narrow her claim scope to obtain the patent, then it means that the original broad claim is not patentable. She should thus be barred from broadening her narrowed claim to the extent of her original broad claim through the doctrine of equivalents.¹⁰⁰

The definition of a narrowing amendment, however, is subject to contention. If an examiner's rejection is based on indefiniteness under §112, then an amendment made in response to this rejection may not be a narrowing amendment, since the scope of the

⁹⁹ *Id.* at 1839-40.

¹⁰⁰ This is the principle of prosecution history estoppel, to prevent "backdoor" patenting. *See, e.g.,* Leggett v. Avery, 101 U.S. 256 (1879), *supra* note 28. The Court went one step further in *Festo* by stating 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." 122 S. Ct. at 1839.

original term is uncertain.¹⁰¹ The potential problem here is that some indefinite terms nevertheless have a scope, albeit an uncertain scope. For example, if a patentee originally used "substantially parallel," and the examiner rejected the term "substantially" for indefiniteness. In response, the patentee removed "substantially" to obtain the patent. Although "substantially parallel" has an uncertain scope, it certainly has a larger scope than "parallel." If this amendment is considered as a narrowing amendment and triggers prosecution history estoppel, it would be unfair to hold that the patentee had abandoned everything not "parallel." The Federal Circuit needs to provide guidance on this issue.

B. The "presumptive bar" approach

The more important and controversial holding is the Court's adoption of a "presumptive bar" to the scope of equivalents available to amended claim elements. Following its own language from *Warner-Jenkinson*, the Court held that "when the patentee is unable to explain the reason for amendment, estoppel not only applies but also bars the application of the doctrine as to that element."¹⁰² In contrast to the complete bar approach adopted by the Federal Circuit, however, this limited version of a total bar can be rebutted if the patentee can show that the amendment does not surrender the particular equivalent in question.¹⁰³

This burden, however, may not be an easy task to meet for the patentees. According to the Court, a patentee's narrowing amendment may be presumed to be a general disclaimer of the territory between the original claim and the amended claim,¹⁰⁴

¹⁰¹ The Court refers to this kind of amendments "cosmetic." *Id.* at 1841.

¹⁰² *Id.* at 1842.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

and the Court's guidance as to in what situations the patentee can rebut that presumption is by no means a clear standard.

1. The foreseeability test

The Court stated that an amendment cannot reasonably be viewed as surrendering a particular equivalent when the equivalent was unforeseeable at the time of application.¹⁰⁵ The Court apparently adopted this test in searching for a middle ground between the traditional "flexible bar" approach and the Federal Circuit's "complete bar" approach to better balance the protection function and the notice function of our patent law.¹⁰⁶ If a correct foreseeability standard is in place, this test does have a potential to be fair, objective and workable. In its proponent's words, it overcomes the failings of both the absolute bar and the flexible bar.¹⁰⁷ However, the test as proposed by the *Festo* Court, suffers from several problems.

a. The foreseeability rule contradicts with the doctrine of equivalents expressed in *Graver Tank*.

In *Graver Tank*, the Court determined that manganese silicate was held as an equivalent to magnesium silicate in an electric welding composition.¹⁰⁸ At that time, the Court regarded the case as a perfect example in which to apply the doctrine of equivalents, where it is well known that manganese silicate and magnesium silicate "performs substantially the same function in substantially the same way to obtain the same result" in electric welding compositions.¹⁰⁹ The patentee's inadvertence in failing to

¹⁰⁵ *Id.*

¹⁰⁶ The Court largely adopted the foreseeability test from an amicus brief filed on behalf of the Institute of Electrical and Electronics Engineers (the "IEEE") (No. 00-1543), rewritten in Conigliaro, 16 Berkeley Tech. L.J. 1045 (2001).

¹⁰⁷ *Id.* at 1069.

¹⁰⁸ *Graver Tank*, 339 U.S. at 612.

¹⁰⁹ *Id.* at 608.

literary include this well known equivalent was forgiven by the Court. In contrast, the *Festo* Court stated that "[t]he patentee, as the author of the claim language, may be expected to draft claims encompassing readily known equivalents."¹¹⁰ And according to the *Festo* Court's foreseeability rule, a patentee's inadvertence in failing to literary include a well known equivalent during amendment will certainly be punished.

One might reconcile the two cases by pointing out that in *Graver Tank*, the claim was not amended, while in *Festo*, the Court was addressing amended claims. However, this distinction does not warrant such a drastic change in the way the doctrine of equivalents is applied. First, drafting original claims and amending claims serve a common function. Both represent the effort of the patentee to define a scope of protection for the underlying invention. Conceivably, an unamended claim can be understood as defining a flexible scope from the entire universe, and a narrowing claim amendment can be understood as defining a somewhat smaller flexible scope inside the original flexible scope due to the unpatentability of the original scope. If defining the original scope is given the benefit of the full protection of the doctrine of equivalents, the same treatment should be given to the patentee in defining a smaller scope. Conversely, if the patentee is expected to include all foreseeable equivalents during amendment, the same standard should be applied to the drafting of the original claims. Most times it is the same patent attorney that files the original application and the amendment. A double standard is reasonable only if the same patent attorney is expected to suddenly gain enough insight when facing a rejection, so that she should be expected to conceive everything foreseeable during an amendment. This is certainly not the case.

¹¹⁰ *Festo*, 122 S. Ct. at 1842.

Second, whether a claim is required to be amended largely depends on how a particular patent examiner regards it, and the standard varies greatly from one examiner to the other. The PTO is not imposing a high standard on its examiners in the examination of patent applications. The total average time an examiner spends on an application is only eighteen hours, and litigated patents are held invalid forty-six percent of time.¹¹¹ Given the low standard in examining patent applications, one can imagine the error rate in PTO's rejections. Amendments in many cases are simply a strategy to get the patent issued without staging a lengthy fight against the examiner. Because of the low quality and lack of consistency in claim rejections, applying a higher standard only to claim amendments but not original claims results in uneven treatment and unfairness to different patentees.

Lastly, the opposite roles foreseeability plays in amended and unamended claims increase the difficulty in predicting the value of an invention before the patent issues, because it is unpredictable as to which claim language will need to be amended. The same invention, simply because of the different prosecution history, may have very different value. For example, if the same claim in *Graver Tank* was originally drafted to cover all metal silicates and was rejected for lack of enablement, and it was later narrowed to cover only alkaline earth metal silicates, based on the *Festo* reasoning, manganese silicate is a foreseeable alternative and should be barred from the doctrine of equivalents. On the contrary, since the claim was originally drafted to only cover alkaline earth metal silicate in *Graver Tank*, the Court applied the doctrine of equivalents

¹¹¹ Mark A. Lemley, Rational Ignorance at the Patent Office, 95 Nw. U.L. Rev. 1495, 1500 (2001). In fact, Professor Lemley suggested that it is more cost effective to the society to have a rational ignorance in the PTO than to examine every patent with greater care.

to cover manganese silicate.¹¹² Two drastically different outcomes will result from two identical patents facing the same equivalent in question, only because of a different prosecution history. This discrepancy focuses on formality rather than substance.

b. A uniform foreseeability test better balances the protection function and the notice function.

If the Court determines to change the adjudication of the doctrine of equivalents, it should at least apply a uniform standard to all situations. Compared to the traditional "flexible bar" rule, where "depending on the nature and purpose of an amendment, it may have a limiting effect from great to small to zero,"¹¹³ a foreseeability test at least provides a workable standard. It is certainly not a bright line rule that the *en banc* Federal Circuit wanted, but it is a significant development and arguably is in the right direction. For it to be applied in a full force, *Graver Tank* should be overruled and a uniform foreseeability test should be put in place irrespective of the amendment history of the claims.¹¹⁴

It is true that the foreseeability test places a heavier burden on the patentee to claim every foreseeable equivalent. However, compared to the public at large, the patentee is the best party to bear that burden. Nobody knows the invention better than the patentee. The doctrine of equivalents should not be used to reward inadvertence in patent drafting at the expense of the public. In addition, the patentee has the protection of the reasonableness test, which this Notice discuss in subsection 4 below.

¹¹² 339 U.S. at 612.

¹¹³ *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363 (Fed. Cir. 1983).

¹¹⁴ In fact, Judge Rader in his concurring opinion in *Johnson & Johnson Assocs. v. R.E. Service Co.*, 285 F.3d 1046, 1056-58 (Fed. Cir. 2002) has already proposed a foreseeability test to guide the general application of the doctrine of equivalents, in contradiction to the teachings of *Graver Tank*. See also *Sage Prods. Inc. v. Devon Indus., Inc.*, 126 F.3d 1420 (Fed. Cir. 1997).

The tension between the protection function and the notice function of our patent law demands a balanced approach. Unbalanced emphasis on either function at the expense of the other will undermine the purpose of our patent law to "promote the progress of science." The "complete bar" approach focuses too much on the notice function and ignores the protection function. The traditional flexible bar approach, on the other hand, lacks a required amount of certainty as to the scope of the patent rights.¹¹⁵ The foreseeability test as a framework provides a middle ground.

However, for the test to achieve the desired function, the Federal Circuit has to establish a sensible standard in the application of the test. The Federal Circuit still has the opportunity to limit the test in a way that resembles a "complete bar:" all current available technology is foreseeable, and even later developed technologies may not be truly unforeseeable. As one commentator puts it, "[l]anguage is nearly always available to describe an invention--in hindsight."¹¹⁶ If the Federal Circuit embraces itself with this line of reasoning, then the foreseeability test will become "a complete bar in another name." Development of case law in this area is therefore critical to the viability of the test. The Supreme Court should keep a close look at the future cases from the Federal Circuit.

c. The *Festo* Court failed to give a guideline as to the administration of the test

In addition to the inconsistency of the foreseeability test with the Court's *Graver Tank* opinion, the *Festo* Court also failed to give a guidance as to the administration of the test. The Court is inconsistent as to the timing of the test. In the earlier part of the opinion, the Court expressed that a narrowing amendment should not be deemed to

¹¹⁵ See Conigliaro, 16 Berkeley Tech. L.J. at 1059-63.

¹¹⁶ Steve J. Frank, *Festo, Schmesto!*, IEEE Spectrum, July 2002, at 38.

relinquish equivalents unforeseeable at the time of the amendment,¹¹⁷ while in the later part of the opinion the test seems to apply at the time of application. However, the time between application and amendment may be several years apart, and the equivalents unforeseeable at the time of application may be foreseeable at the time of amendment. From the spirit of the Court's reasoning, it seems more logical to apply the foreseeability test at the time of amendment, which action triggers prosecution history estoppel.

In addition, it is not clear who should determine whether an equivalent is foreseeable or not. To promote consistency and increase predictability, it is probably better for a judge to decide. Some commentators have suggested a pretrial Festo hearing, either together or separate from a Markman hearing, to address the foreseeability issue.¹¹⁸ However, because patents are technical documents and meant to be understood by persons with ordinary skill in the art, presumably such persons should determine the foreseeability of the equivalent in question. However, neither a jury nor a judge is a person with ordinary skill in the art, thus expert witnesses will often be needed in trials to help determine the foreseeability issue. Since expert witnesses on both sides are likely to present competing views, creditability will be a crucial issue in the determination, which is traditionally a jury question.¹¹⁹

Although courts are familiar with foreseeability issues in other types of cases, such as in the context of a common law duty of care in torts, foreseeable reliance in

¹¹⁷ *Id.* at 1840.

¹¹⁸ *See, e.g.*, Frank J. Derosa and Steven E. Halpern, Assessing Impact of the 'Festo' Cases, 228(18) N.Y.L.J. s4, col. 3 (2002).

¹¹⁹ Judge Lourie in his concurring opinion in *Johnson & Johnson Assocs. v. R.E. Service*, 285 F.3d 1046, 1063-64 (Fed. Cir. 2002) opposed Judge Rader proposal of using a foreseeability test to guide the scope of the doctrine of equivalents. One of his reasons is that foreseeability will make the doctrine of equivalents adjudication more complicated. In his opinion, foreseeability is not solely a question of law.

contracts, or foreseeability in the context of limiting damages,¹²⁰ foreseeability of equivalents provides a unique challenge to the courts due to the frequent complexity of the underlying technology. Deciding whether a particular consequence is foreseeable due to negligence is probably different from deciding whether a particular variant of a DNA sequence is a foreseeable equivalent.¹²¹ Courts' experience with foreseeability determination in non-patent cases is helpful, but may not provide enough guidance in the patent context.

The Federal Circuit in its recent order to reconsider *Festo* in light of the Supreme Court decision has asked the parties to submit briefs and has sought *amicus curie* briefs regarding the function a jury should play in determining whether a patent owner can rebut the presumption of surrender.¹²² In the mean time, the Federal Circuit itself¹²³ and several District Courts have already decided a few cases on the foreseeability issue, and inconsistency in applying the test has already emerged in the District courts.¹²⁴ In two cases concerning infringement by the same equivalent to the same patent by two different

¹²⁰ Conigliaro, 16 Berkeley Tech. L.J. at 1065.

¹²¹ One reason that the Court easily applied a foreseeability test in *Sage Products* might be that the patent involved is easily understandable by a lay person.

¹²² *Festo Corp. v. Shoketsu Kinzoko Kogyo Kabushiki Co., LTD*, 2002 U.S. App. Lexis 19734 (Fed. Cir. 2002).

¹²³ *E.g.*, in *Schwing GMBH v. Putzmeister Aktiengesellschaft*, 2002 U.S. App. Lexis 20205 (Fed. Cir. 2002), the Federal Circuit remanded on one alleged infringing device for consideration of the rebuttal in light of the Supreme Court decision. It decided on the record before it that the other alleged infringing device is foreseeable, therefore the rebuttal failed on the part of the patentee.

¹²⁴ *See, e.g.*, *Smithkline Beecham Corp. v. Excel Pharmaceuticals, Inc.*, 214 F. Supp. 2d 581 (E.D. Va. 2002); *Glaxo Wellcome, Inc. v. EON Labs Mfg, Inc.*, 2002 U.S. Dist. LEXIS 14923 (S.D. NY. 2002); *Glaxo Wellcome v. IMPAX Laboratories, Inc.*, 2002 U.S. Dist. Lexis 15966 (N.D. Cal. 2002). The three cases arose from the same patent on the sustained release of an anti-depression drug. The patentee narrowed several claims by the addition of a specific sustained release agent, HPMC, through amendment. Excel used PVA, and both EON and IMPAX used HPC, instead of HPMC, as sustained release agent. The Northern District of Virginia held that even if the use of PVA is unforeseeable at the time of amendment, the patentee should try to draft a category claim that encompasses PVA. EXCEL, --- F. Supp. at ---. The Northern District of California held that the use of HPC is foreseeable to anyone skilled in the art at the time of amendment and the patentee was barred from using the doctrine of equivalents. IMPAX, --- F. Supp. at ---. In contrast, the Southern District of New York held that whether the use of HPC was foreseeable at the time of amendment is a triable question of fact that precludes summary judgment. EON, -- F. Supp. at ---.

defendants, while the Northern District of California had no problem granting a summary judgment on the issue of foreseeability, the Southern District of New York held that a jury determination is proper.¹²⁵ A guidance by the Federal Circuit on this issue is clearly required.

2. The tangential relationship test and the reasonableness test

In addition to the foreseeability test, the Supreme Court provided two other situations where the presumption can be rebutted: the amendment bears only tangential relationship to the equivalent in question; or it is unreasonable to expect the patentee to have claimed the equivalent in question.¹²⁶ The Court provided even less guidance in these two tests as compared to the foreseeability test.

The Court did not specify what it considers as a tangential relationship, and no judicial precedent is available on this issue. The most logical reading of this test is that the amendment, though on the same claim element, does not narrow the scope that affects the equivalent in question. For example, if the amendment limits the length of an element, and the equivalent in question is only different from the claimed element in the width, the amendment may bear only a tangential relationship to the equivalent. This is precisely the reading the District Court took with regard to this test in *Vardon Golf Co. v. Karsten Manufacturing Corp.*¹²⁷

The reasonableness test bears many similarities to the foreseeability test. The Federal Circuit must confront the same question as to whether a judge or a jury should

¹²⁵ See supra note 124.

¹²⁶ Festo, 122 S. Ct. at 1841.

¹²⁷ 2002 U.S. Dist. Lexis 11802 (N.D. Ill. 2002). In a patent infringement action concerning golf clubs, the court held that the amendments focused primarily on structural explanations and descriptions on the club, not the ring and dot elements in question.

decide reasonableness.¹²⁸ Unlike the foreseeability test, whose major application may involve later developed technologies, the reasonableness test focuses on currently available equivalents. This test potentially softens the harsh standard that may be inherent in the foreseeability test. After all, it may be unreasonable to require the patentee to exhaust every potential equivalent in the world, even foreseeable equivalent, therefore if he *reasonably* misses some, he will not be punished. It is certainly an equitable idea, but the reasonableness test has an even fewer judicial precedents in patent law than the foreseeability doctrine. Without a clear standard, this test has a danger of slipping back into the uncertainty associated with the "flexible bar."

Biotech patents may benefit greatly from this reasonableness test. Small nucleotide or protein sequence variations usually will not alter the function of the gene. However, it is practically impossible to describe all the analogues of a given sequence in the claim language.¹²⁹ In this case, if the sequence is narrowed by amendments, the patentee will not lose the protection of the doctrine of equivalents.

C. Effect of *Festo* on patent prosecution

The Supreme Court's *Festo* decision is generally perceived as a relief to patent prosecutors from the burden imposed by the Federal Circuit's "complete bar" approach. However, the "presumptive bar" still differs from the traditional "flexible bar." It is true that the doctrine of equivalents is still available to amended claim elements, but to what extent the door is kept open largely depends on the Federal Circuit's interpretation of the three Supreme Court tests.

¹²⁸ *Festo Corp.*, 2002 U.S. App. Lexis 19734 (Fed. Cir. 2002) (The Federal Circuit is seeking briefs from parties and amicus briefs on the function of jury in determining whether a patent owner can rebut the presumption).

¹²⁹ *See, e.g.*, *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1213 (Fed. Cir. 1991) (finding over 3600 different EPO analogs with a single amino acid substitution).

In any case, it is safe to say that *Festo* still places a heavier burden than before on the shoulder of patent prosecutors, especially when facing rejections from the patent examiner. During claim amendment, if a foreseeable equivalent that reasonably could be drafted in claims is not literally captured, it may be lost forever. Facing this dire consequence, patent prosecutors have to be very diligent and try to claim as much as possible by literal language the difference between the original scope and the narrowed scope. Carelessness and inadvertence may result in significantly reduced patent protection.

After the Federal Circuit's *Festo III* decision, many commentators proposed various patent prosecution strategies to preserve the doctrine of equivalents, though many of the proposed strategies will not work.¹³⁰ However, given the current double standard applied to unamended and amended claims, the following three strategies will provide a cushion to the potential limiting effect of the *Festo* tests on the doctrine of equivalents.

One strategy is to keep the application alive by filing continuation applications. If the patentee finds out after the issuance of the original patent that she forgot to claim an equivalent, which would be barred due to claim amendment in the issued patent, she can still amend the continuation application to recapture that equivalent as long as the original disclosure supports the claim. Of course, keeping an application alive requires

¹³⁰ For example, in Steven H. VerSteeg, Parallel Application to Preserve the Doctrine of Equivalents in a Post *Festo* World, 84 J. Pat. & Trademark Off. Soc'y 341, the author proposed a strategy to file a broad and a narrow application for the same invention. He suggested that any amendments made to the broad application can be rewritten on a clean slate on the narrow application, therefore preserving the doctrine of equivalents on the narrow application. However, the Federal Circuit has specifically stated that the relevant prosecution history includes not only the application but also the parent and grandparent applications. *Mark I Mktg. Corp. v. R.R. Donnelley & Sons Co.*, 66 F.3d 285, 291 (Fed. Cir. 1995). Similarly, starting with a narrow claim and broadening the scope of the claim to the point of rejection by the examiner will not help either, since when prosecution history estoppel applies, it applies with equal force to all claims with the same limitation. *Intermatic Inc. v. Lamson & Sessions Co.*, 273 F.3d 1355, 1366-67 (Fed. Cir. 2001). Canceling instead of amending the broad claims is equally unavailing, since the Federal Circuit still considers the scope of the cancelled broad claim as abandoned by the patentee. *See Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 681 (Fed. Cir. 1988).

additional costs, and the amended claims might still be held invalid due to laches if the patentee has waited too long to amend.

A better strategy is to appeal, not to amend the claims, especially for important inventions. Any amendment may result in unintentional surrender. Without amendment, the full force of the doctrine of equivalents governed by *Grave Tank* still applies. Again, appeal is associated with increased financial and time commitment. The inventor has to decide whether it is worthwhile to challenge the examiner. With the increased risk of forfeiting the protection of the doctrine of equivalents, more applications will warrant an appeal.

Lastly, the best strategy is to submit a set of well-thought claims to begin with. Try to avoid rejection by the examiner from the very beginning. Obviously, there is no need for amendment if the examiner does not reject. This strategy certainly requires a lot of research of prior arts and a lot of thinking before submitting the first draft to the PTO. It may not be practical for every patent, but may be worth the extra effort for high value inventions.

All three strategies require extra effort on the part of patent prosecutor and will result in increased cost of patent prosecution. On the other hand, the extra cost may produce better quality patents. If the *Festo* tests can lead to a more balanced approach that facilitates the progress of science and useful arts, the society is the biggest beneficiary. Some extra costs incurred in producing important patents are well deserved.

CONCLUSION

The Supreme Court's *Festo* decision is a seminal decision that will profoundly affect patent law adjudication. It clarifies the circumstances where prosecution history

estoppel should be triggered, and provides a new set of rules governing the interaction of the doctrine of equivalents and prosecution history estoppel. This new set of rules is potentially more balanced than either the "flexible bar" approach or the "complete bar" approach. However, the rules are not self-implementary and require the Federal Circuit to interpret sensibly the meats and bounds of the rules. How to apply the rules fairly and consistently may not be an easy task. One problem of the foreseeability rule is its inconsistency with *Graver Tank*. To better serve the patent community and the public, a uniform standard concerning foreseeability is necessary, and *Graver Tank* should be overruled. Lastly, the scope of application of the doctrine of equivalents will still be narrower under the *Festo* rules than under the "flexible bar" approach, and the burden is greater on the patent prosecutor to draft better claims.