Curbing the Federal Circuit's Enthusiasm: An Argument for a Rebuttable Presumption Against Application of the Doctrine of Equivalents to Disclosed But Unclaimed Subject Matter

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CURBING THE FEDERAL CIRCUIT'S ENTHUSIASM: AN ARGUMENT FOR A REBUTTABLE PRESUMPTION AGAINST APPLICATION OF THE DOCTRINE OF EQUIVALENTS TO DISCLOSED BUT UNCLAIMED SUBJECT MATTER

INTRODUCTION

The laws that make up the patent corpus attempt to balance competing policy objectives of providing people an incentive to create new and useful products with the need to give society the benefits derived from a competitive marketplace. To strike this balance, Congress created a series of formalistic rules that the inventor must comply with to receive a patent. Recognizing, however, in the context of patent infringement that literal compliance with formalistic rules might turn a patent into a worthless object, courts turn to the doctrine of equivalents. The purpose of the doctrine of equivalents is to prevent someone from making insubstantial variations to a patented invention in order to avoid literal infringement.

Application of the doctrine of equivalents creates ambiguities as to the exact scope of a patent. The tension between the doctrine of equivalents and other patent doctrines such as the doctrine that disclosed but unclaimed subject matter is dedicated to the public, and the doctrine of prosecution history estoppel as applied to elements of claims that have been amended during prosecution, is a frequent topic of court opinions. Of late, the Court of Appeals for the Federal Circuit (Federal Circuit) has restricted the application of the doctrine of equivalents. In Johnson & Johnston Associates v.
the en banc Federal Circuit held that the doctrine of equivalents could not be applied to find infringement as to disclosed but unclaimed subject matter.\(^1\) All such subject matter is deemed dedicated to the public.\(^2\)

Part I of this Note introduces the rule of dedication to the public and the doctrine of equivalents. Additionally, Part I provides a brief discussion of the Supreme Court's doctrine of equivalents jurisprudence. Part II examines two ends of a spectrum of Federal Circuit jurisprudence regarding disclosed but unclaimed subject matter. Part III discusses the en banc Federal Circuit's decision in Johnson & Johnston. Part IV introduces the doctrine of prosecution history estoppel—a patent law doctrine that has posed problems analogous to those posed by disclosed but unclaimed subject matter. This Part will also discuss the divergent approaches taken by the Federal Circuit and the Supreme Court in dealing with the tension between the doctrine of equivalents and the doctrine of prosecution history estoppel as evidenced in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.\(^3\) Finally, Part V advocates a Festo-like rebuttable presumption against application of the doctrine of equivalents to disclosed but unclaimed subject matter.

I. DEDICATION TO THE PUBLIC AND THE DOCTRINE OF EQUIVALENTS

A. Dedication to the Public

Under 35 U.S.C. § 112, a patent "specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."\(^4\) A literal reading of this provision seems to require that all information disclosed in the specification, but absent in the claims, is beyond the scope of the patent. Indeed, courts have interpreted the provision in this manner, and have created what is

\(^{1}\) 285 F.3d 1046 (Fed. Cir. 2002) (per curiam).
\(^{2}\) Id. at 1054.
now the "well-established rule that 'subject matter disclosed but
not claimed in a patent application is dedicated to the public.'"5

On the surface, this rule makes sense. After all, the patentee
is in the best position to know what the invention is and, conse-
quently, the patentee should be responsible for claiming the full
scope of the invention. Failure to include some subject matter
logically could be interpreted to mean that the inventor does not
regard this subject matter as part of the invention.6 Courts thus
have frequently used this rule to prevent an accused infringer from
being found liable for literal infringement for practicing disclosed
but unclaimed subject matter.7

While strict application of the bright-line, per se rule that
disclosed but unclaimed subject matter is dedicated to the public
fulfills the policy objectives of patent law during patent prosecu-
tion,8 the rule does not function quite so well in situations where a
later judicial action deems subject matter outside the scope of
the patent. For instance, in situations where patent claims are
judicially invalidated as too broad, it is not fair, as an equitable
matter, to assume that all the subject matter of those claims has
been dedicated to the public. If the invalidated claims contain
patentable and unpatentable material, the patentee should not be
deemed to have dedicated the patentable material to the public
simply because the examiner failed to reject a claim in light of the
unpatentable material. In this and other situations where strict
application of the dedication to the public rule would render an
inequitable result, patentees have looked to the doctrine of equiva-

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Concepts, Inc. v. Brown, 939 F.2d 1558, 1562-63 (Fed. Cir. 1991)).
6. This Note ignores the fact that within two years of the issue date of the patent, a
patentee may file a reissue application pursuant to 35 U.S.C. § 251, and enlarge the scope
of the patent. A reissue application prevents the disclosed but unclaimed subject matter of
the original patent from falling into the public domain. This Note is concerned with events
subsequent to the two-year window for filing a reissue application when the patentee is
powerless to recapture the unclaimed subject matter via a reissue application.
7. Maxwell, 86 F.3d at 1107.
8. Patent prosecution refers to the period when the patentee and the Patent and
Trademark Office work together to place a patent application in condition for allowance as
a patent. If an application contains patentable subject matter, patent prosecution ends with
the Patent and Trademark Office issuing a U.S. patent.
lents as a mechanism with which a court could ground a finding of nonliteral infringement.

B. The Doctrine of Equivalents

1. An Introduction

A defendant may infringe a patent either literally or via the doctrine of equivalents. "Literal infringement occurs when every element of the claim, as construed by the court, is found exactly in the accused device."9 When an accused device does not literally infringe a patent, the courts may find the accused infringer to have infringed a patent under the doctrine of equivalents.

The doctrine of equivalents is a judicially created equitable doctrine meant to ensure that a patent actually provides the patent holder a valuable property right. This doctrine provides that "a product or process that 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."10 This doctrine provides the patent holder with a scope of protection extending beyond the literal terms of the patent claim. Despite the notion that "the claims ... provide the measure of the patentee's right to exclude,"11 there are sound policy justifications for the doctrine of equivalents. As Justice Harlan noted in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.:

[T]o 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. Such a limitation would leave room for—indeed encourage—the unscrupulous copyist to 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.\textsuperscript{12}

This rationale is the foundation upon which the Supreme Court has predicated subsequent decisions reaffirming the doctrine of equivalents.

2. A Brief History of the Supreme Court’s Doctrine of Equivalents Jurisprudence

a. Winans v. Denmead

The case of \textit{Winans v. Denmead}\textsuperscript{13} provided the Supreme Court the forum, for the first time, to endorse the doctrine of equivalents. \textit{Winans} involved a patent for the improvement of railroad cars carrying coal.\textsuperscript{14} Under the terms of the patent, the railroad car would have a cylindrical upper-part and a conical lower-part.\textsuperscript{15} The patentee’s redesign allowed for a substantial increase in the load the railroad cars were capable of carrying.\textsuperscript{16} The defendants made cars that were octagonal rather than circular, and the evidence showed that despite the different shape, defendants’ cars were practically the same as patentee’s.\textsuperscript{17} Justice Curtis, writing for a majority of five justices, stated that “when a patentee describes a machine,” he claims “not only the precise forms he has described, but all other forms which embody his invention.”\textsuperscript{18} When someone copies “the principle or mode of operation described, [it] is an infringement, although such copy should be totally unlike the original in form or proportions.”\textsuperscript{19} The Court remanded the case, holding that the lower court erred in not allowing the jury to

\begin{itemize}
\item \textsuperscript{12} 339 U.S. 605, 607 (1950).
\item \textsuperscript{13} 56 U.S. (1 How.) 330 (1854).
\item \textsuperscript{14} \textit{Id.} at 330.
\item \textsuperscript{15} \textit{Id.} at 339.
\item \textsuperscript{16} \textit{See id.} at 340. The patentee’s specification stated: “Experience has shown that cars, on the old mode of construction, cannot be made to carry a load greater than its own weight; but, by my improvement, I am enabled to make cars ... which will transport double their own weight of coal.” \textit{Id.}
\item \textsuperscript{17} \textit{Id.}
\item \textsuperscript{18} \textit{Id.} at 342.
\item \textsuperscript{19} \textit{Id.}
\end{itemize}
determine whether the defendants copied the patentee’s railroad cars.\textsuperscript{20}

The dissent in \textit{Winans} was critical of the majority’s reasoning. Justice Campbell thought the majority’s decision was untethered to the demands of Congress.\textsuperscript{21} Campbell noted that the patentee must “describe his invention, in such full, clear, and exact terms, that from the description, the invention may be constructed and used.”\textsuperscript{22} Only “preciseness[] and particularity, in the description of the invention, its principle, and of the matter claimed to be invented, will ... fulfil the demands of Congress or the wants of the country.” The majority’s opinion left Justice Campbell wondering whether the Court could determine the exact scope of the patentee’s patent.\textsuperscript{23} Believing that the Court blurred the notice function the patent traditionally served, Justice Campbell thought the defendants presented the more compelling argument because nothing in the specification or the claims of the patent disclosed the cars that were made by the defendants.\textsuperscript{24}

Following the passage of the Patent Act of 1870, the Supreme Court “placed more emphasis on the patent claim language as the boundary of the patent monopoly.”\textsuperscript{25} Yet, this new emphasis on the language of the claims did not vitiate the role of the doctrine.\textsuperscript{26} For approximately the next one hundred years, the doctrine of equivalents “survived as a tool of interpretation,”\textsuperscript{27} and the Supreme Court in 1950 reaffirmed it as a viable doctrine in the \textit{Graver Tank} decision.\textsuperscript{28}

\textsuperscript{20} \textit{Id.} at 344.
\textsuperscript{21} \textit{Id.} at 347 (Campbell, J., dissenting).
\textsuperscript{22} \textit{Id.}
\textsuperscript{23} \textit{Id.}
\textsuperscript{24} \textit{Id.} (“The claim of [today] is, that an octagonal car is an infringement of this patent. Will this be the limit to that claim?”).
\textsuperscript{25} \textit{Id.} at 348.
\textsuperscript{26} Boalick, \textit{supra} note 9, at 2374.
\textsuperscript{27} \textit{See id.}
\textsuperscript{28} 5A DONALD S. CHISUM, \textbf{A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY AND INFRINGEMENT} § 18.02(2), at 17-18 (2003).
\textsuperscript{29} \textit{See 5A CHISUM, supra} note 28, § 18.02(2), at 18-25; Boalick, \textit{supra} note 9, at 2374.
b. Graver Tank

*Graver Tank* was a patent infringement action relating to an electric-welding process and the fluxes used in that process. According to the patent before the Court, the patentee claimed fluxes containing calcium and magnesium silicates, both of which were silicates of an alkaline earth metal. The alleged infringer used a similar flux but substituted calcium and manganese silicates (manganese is not an alkaline earth metal) for the calcium and magnesium silicates. The patentee originally included claims covering manganese silicate, but the Court, in a prior action, found these claims "too broad to be valid." To find infringement, then, the Court had to rely on the doctrine of equivalents.

Writing for the majority, Justice Jackson noted that since the Court's decision in *Winans*, the doctrine of equivalents "has been consistently applied by this Court and the lower federal courts, and continues today ready and available for utilization when the proper circumstances for its application arise." The Court noted that "[e]quivalence, in the patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum." The Court in *Graver Tank* posed the question of "whether the substitution of the manganese which is not an alkaline earth metal for the magnesium which is, under the circumstances of this case, and in view of the technology and the prior art, is a change of such substance as to make the doctrine of equivalents inapplicable." The Court went on to hold that the substitution was one to which the doctrine of equivalents applied, and thus the use of the flux infringed the patent. The majority, in fact, was so confident about its decision that it thought this to be a prototypical case for application of the doctrine of equivalents.

31. Id. at 610.
32. Id.
33. Id. at 616.
34. Id. at 608.
35. Id. at 609.
36. Id. at 610.
37. See id. at 612.
38. Id.
Besides reinvigorating the doctrine of equivalents, the *Graver Tank* Court reaffirmed the test for infringement enunciated in *Sanitary Refrigerator Co. v. Winters*, 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.’”\(^4\) The basis for this so-called “triple identity” test is the theory that “if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form, or shape.”\(^5\) The *Graver Tank* Court endorsed this test in an attempt to alleviate confusion as to whether the doctrine of equivalents was valid and as to what the proper test was for finding infringement under the doctrine. Despite this attempt, much ambiguity remained as to the nature and scope of the doctrine, which prompted the Supreme Court’s 1997 decision in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*\(^4\)

c. Warner-Jenkinson

*Warner-Jenkinson* presented the Supreme Court with another opportunity to jump into the fray over the proper place for the doctrine of equivalents in modern patent law. In granting certiorari, the Supreme Court noted the confusion surrounding the doctrine of equivalents and thought that it was time to clarify the scope of the doctrine.\(^4\) The Court was keenly aware that by taking the case it had the opportunity to eliminate the doctrine.\(^4\) Ultimately, the Court decided to retain the doctrine.\(^4\)

The dispute in *Warner-Jenkinson* centered on the pH range used in ultrafiltration purification processes. Hilton Davis owned U.S. Patent No. 4,560,746,\(^4\) which claims its ultrafiltration process “at

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41. *Id.* (quoting *Mach. Co. v. Murphy*, 97 U.S. 120, 125 (1877)).
42. 520 U.S. 17 (1997).
43. *Id.* at 21.
44. *Id.*
45. *Id.*
a pH from approximately 6.0 to 9.0."\(^{47}\) This phrase was added during prosecution to get around a prior art reference disclosing an ultrafiltration process utilizing a pH greater than 9.0.\(^{48}\) Warner-Jenkinson operated its own ultrafiltration process, but it operated at a pH of 5.0.\(^{49}\) Hilton Davis sued Warner-Jenkinson for patent infringement.\(^{50}\) The key to resolving the dispute was determining why Hilton Davis claimed a low-end pH of 6.0. The parties offered sharply different reasons for the low-end limit.\(^ {51}\) At trial, Hilton Davis conceded that Warner-Jenkinson had not infringed its patent literally.\(^{52}\) Hilton Davis thus relied on the doctrine of equivalents in asserting its infringement claim, a strategy that was successful at the trial court level and affirmed on appeal.\(^ {53}\)

In reviewing the case, the Supreme Court recognized that the doctrine of equivalents exists in tension with the notice function of patent claims.\(^ {54}\) To preserve both the doctrine of equivalents and the traditional notice function patent claims serve, the Court noted that a systematic approach to application of the doctrine of equivalents was necessary. Because "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention ... the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole."\(^ {55}\) When applying the doctrine of equivalents to an individual element of a claim, a court must take care to ensure that the doctrine is not used in such a manner that an element is eliminated from the claim.\(^ {56}\) Careful application, then, of the doctrine to the individual elements will preserve the central functions of the patent claims.\(^ {57}\) Having articulated these principles, the Supreme

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\(^{47}\) Id.
\(^{48}\) Warner-Jenkinson, 520 U.S. at 22.
\(^{49}\) Id. at 23.
\(^{50}\) Id.
\(^{51}\) See id. at 22 n.2.
\(^{52}\) Id. at 23.
\(^{53}\) Id.
\(^{54}\) See id. at 29 ("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.").
\(^{55}\) Id.
\(^{56}\) Id.
\(^{57}\) Id. at 30. One of the most important functions of patent claims is to provide the public with notice as to the boundary of the patent. Id. at 29. In other words, the patent claims tell
Court explicitly adhered to the doctrine of equivalents, but remanded the case to the Federal Circuit for a determination of matters consistent with the Supreme Court's opinion.\(^5\)

Clearly, the doctrine of equivalents survived after *Warner-Jenkinson*, but as much as the Court tried to clarify the role and scope of the doctrine, much about how to apply the doctrine remains unclear. The Court, for instance, has never specifically addressed the question of whether the doctrine applies to material disclosed in the specification but left unclaimed. The closest the Court has come to definitively answering this question came in *Graver Tank*, when the Court found equivalence for subject matter in claims that were later invalidated as being overly broad.\(^6\)

Without clear guidelines from the Supreme Court, the federal courts and, since its adoption in 1982, the Federal Circuit,\(^6\)\(^\text{6}^{6}\) have been left to their own devices in determining when to apply the doctrine of equivalents, if at all, in situations where the patentee disclosed but left unclaimed disputed subject matter. In so doing, the courts, and particularly the Federal Circuit, have created a hodgepodge of precedent, where the make-up of a particular Federal Circuit panel seems to explain the decisions more so than any other reason.\(^6\)\(^\text{1}\)

### II. Two Ends of a Spectrum

#### A. Maxwell v. J. Baker, Inc.

At one end of the spectrum of Federal Circuit cases dealing with disclosed but unclaimed subject matter is the 1996 decision *Maxwell v. J. Baker, Inc.*\(^6\)\(^2\) Maxwell's patent was for a system of fastening two shoes together.\(^6\)\(^3\) In the specification, the patentee

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the public what is covered by the patent and what is not.
58. *Id.* at 40-41.
61. *See* Boalick, *supra* note 9, at 2386 (“The wandering path taken by these decisions is as easily explained by differences in the ideologies of the judges who made up the individual panels as anything else.”).
62. 86 F.3d 1098 (Fed. Cir. 1996).
63. *Id.* at 1101.
disclosed two alternative methods for fastening the shoes. The first involved a fastening tab that "extends around the edge of the inner sole of the shoe and vertically upwardly along the inside surface of the upper body of the shoe, but spaced therefrom." Alternatively, the fastening tabs "may be stitched into a lining seam of the shoes at the sides or back of the shoes." Maxwell, however, claimed only the first of the two alternatives. When Maxwell discovered J. Baker selling the unclaimed alternative, she sued J. Baker for patent infringement.

In deciding the case, the Federal Circuit distinguished *Graver Tank*. The Federal Circuit noted that in *Graver Tank* the patentee originally claimed the disputed subject matter, and the only reason Graver Tank did not literally infringe Linde Air Products' patent was because the claims covering the disputed subject matter were judicially invalidated. The fact that the patentee in *Graver Tank* originally claimed the disputed subject matter was an important factor for the Federal Circuit in determining the issue of dedication to the public. As the Federal Circuit noted with regard to *Graver Tank*:

[B]y filing claims in the patent application that encompassed a welding composition containing metal silicates, including manganese silicates as disclosed in the specification, the patentee [in *Graver Tank*] could not be said to have dedicated such an embodiment of the invention to the public, even if the broad claims encompassing the embodiment were later held invalid.

Because Maxwell failed to claim both alternatives, the unclaimed method was dedicated to the public. The doctrine of equivalents was unavailable to Maxwell because the Patent and Trademark Office did not consider the patentability of the unclaimed alternative. As a result, the Federal Circuit relied on the traditional rule

64. U.S. Patent No. 4,624,060 (issued Nov. 25, 1986).
65. Id.
66. Maxwell, 86 F.3d at 1108.
67. Id. at 1107.
68. See id.
69. Id. at 1107-08.
70. Id. at 1108.
that disclosed but unclaimed subject matter is dedicated to the public.  

*Maxwell* was a relatively easy case for the Federal Circuit. There was no question that the two alternatives of the shoe-fastening system were distinct. To accept Maxwell's theory that the doctrine of equivalents could reach the distinct unclaimed embodiment, the court would have to "ignore the claim limitations that require the [fastening] tabs to be separate from and extend along the shoe upper, which includes the shoe lining." In other words, for the Federal Circuit to have found infringement via the doctrine of equivalents, the court would have had to read material elements out of the claim. The *Maxwell* court was unwilling to do this, particularly because it would encourage a patentee to "narrowly claim his invention and then, in the course of an infringement suit, argue that the doctrine of equivalents should permit a finding of infringement because the specification discloses the equivalents." Such an action would violate the notice function served by the claims. In *Maxwell*, then, the Federal Circuit panel had no difficulty deciding that the doctrine of equivalents could not reach the disclosed but unclaimed subject matter, and that the unclaimed subject matter was dedicated to the public.

**B. YBM Magnex, Inc. v. International Trade Commission**

Nearly two years later, in *YBM Magnex, Inc. v. International Trade Commission*, a different Federal Circuit panel reached a conclusion seemingly in contradiction with *Maxwell*.

YBM Magnex claimed as its invention in U.S. Patent No. 4,588,439 "[a] permanent magnet alloy consisting essentially of... 6,000 to 35,000 ppm [parts per million] oxygen." The alleged infringer produced magnets with an oxygen content that ranged from between 5,450 and 6,000 ppm. In a proceeding before the International Trade Commission (ITC), the Administrative Law

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71. See id. at 1107.
72. Id. at 1105.
73. Id. at 1107.
74. 145 F.3d 1317 (Fed. Cir. 1998).
75. Id. at 1318.
76. See id. at 1319.
Judge (ALJ) "found that magnet alloys having an oxygen content between 5,450 ppm and 6,000 ppm infringed [YBM Magnex's patent] under the doctrine of equivalents." In view of the ALJ's findings, YBM Magnex filed an enforcement complaint. While this action was pending, the Federal Circuit decided Maxwell. According to the ITC's interpretation of Maxwell, Maxwell established the principle that the doctrine of equivalents cannot be applied to reach disclosed but unclaimed subject matter. As such, the ITC held that there can be no infringement, either literal or under the doctrine of equivalents, of YBM Magnex's patent for magnets containing an oxygen content below 6,000 ppm.

YBM Magnex appealed the ITC's decision to the Federal Circuit, arguing that the ITC's interpretation of Maxwell directly conflicted with both Federal Circuit and Supreme Court precedent. In reversing the ITC's decision, the Federal Circuit agreed with YBM Magnex's arguments. According to the Federal Circuit, the Supreme Court in Warner-Jenkinson rejected the proposition that disclosed but unclaimed subject matter is per se dedicated to the public. In so holding, the Supreme Court "necessarily recognized that equivalents may ... be disclosed in the patent." Maxwell, then, could not be interpreted as meaning that all disclosed but unclaimed subject matter was dedicated to the public, because to do so would place Maxwell in conflict with Warner-Jenkinson.

As to its own precedent, the Federal Circuit was well aware that it was all over the map. In support of YBM Magnex's position, Judge Newman, writing for the Federal Circuit in YBM Magnex, stated that equivalency has been found for disclosed but unclaimed subject matter in a variety of different circumstances. For instance, the Federal Circuit found equivalency in cases where "the patentee had sought broader claims based on a broader disclosure
but had not obtained them." Additionally, in some situations the patentee "had sought and obtained claims that were narrower than the description in the specification, and obtained relief under the doctrine of equivalents." Finally, in some situations where the specification taught that an unclaimed embodiment was interchangeable with a claimed embodiment, "relief under the doctrine of equivalents was not denied as applying to subject matter disclosed but not claimed."

Judge Newman was also aware that the Federal Circuit had held, prior to Maxwell, that disclosed but unclaimed subject matter was deemed dedicated to the public. In support of this proposition, Judge Newman noted that the Federal Circuit in Unique Concepts, Inc. v. Brown held that disclosure of an alternative embodiment without claiming it was evidence of the patentee's intention to abandon or disclaim that embodiment. The doctrine of equivalents, thus, would be inapplicable where the patentee displayed this type of intent.

As to the overall state of the law of equivalency, Judge Newman noted that equivalency is inherently a fact-specific inquiry where the evidence in a particular case sometimes warrants a finding of equivalency and sometimes the evidence does not. The purpose of a court in adjudicating these types of disputes is to avoid having insubstantial changes to the patented invention cause a fraud on the patent. Because the fact-specific adjudications had created two seemingly contradictory lines of precedent, the en banc Federal Circuit seized the opportunity Johnson & Johnston presented the court to clarify its position on disclosed but unclaimed subject matter vis-à-vis the doctrine of equivalents. The result of the en banc court's foray into this problem was a heavily fractured court

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86. Id. (citing Modine Mfg. Co. v. Int'l Trade Comm'n, 75 F.3d 1545 (Fed. Cir. 1996); Cole v. Kimberly-Clark Corp., 102 F.3d 524 (Fed. Cir. 1996)).
87. Id. (citing Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211 (Fed. Cir. 1995); Uniroyal, Inc. v. Rudkin-Wiley Corp., 939 F.2d 1540 (Fed. Cir. 1991)).
88. Id. (citing Miles Labs., Inc. v. Shandon, Inc., 997 F.2d 870 (Fed. Cir. 1993)).
89. See id.
90. 939 F.2d 1558 (Fed. Cir. 1991).
91. YBM Magnex, Inc., 145 F.3d at 1321.
92. Id. at 1322.
93. Id.
in which there were four concurring opinions and one dissenting opinion.

III. THE FEDERAL CIRCUIT'S EN BANC DECISION OF
JOHNSON & JOHNSTON

A. Background

This case reached the Federal Circuit after Johnson & Johnston asserted that R.E. Service Company (R.E. Service) infringed U.S. Patent No. 5,153,050 (the '050 patent), which it owned. The '050 patent related to the manufacture of multilayered printed circuit boards. Traditionally, manufacture of the printed circuit boards required workers to "manually handle ... thin sheets of copper foil during the layering process," and, before the invention at issue, such handling caused irregularities or even damage to the copper sheets. The purpose of the invention Johnson & Johnston patented was to "provide means for better foil handling, not only to prevent folds or wrinkles, but to maintain cleanliness." To accomplish this goal, Johnson & Johnston created a system whereby the copper foil would adhere to a substrate, this substrate-foil system would be incorporated into the portion of the normal manufacturing process where the foil traditionally was handled manually, and afterward the substrate would be removed and recycled. At issue in this case was the material comprising the substrate.

The '050 patent specification disclosed aluminum as the preferred substrate material. In addition, the specification taught that "[w]hile aluminum is currently the preferred material for the substrate, other metals, such as stainless steel or nickel alloys, may be used." Johnson & Johnston, however, claimed only

96. Johnson & Johnston, 285 F.3d at 1049.
97. Id.
99. See Johnson & Johnston, 285 F.3d at 1049.
101. Id.
aluminum as its substrate material. R.E. Service, in 1997, began using a substrate-foil system for manufacturing multilayered printed circuit boards, and it used steel, rather than aluminum, as its substrate material. After learning of R.E. Service’s system, Johnson & Johnston filed suit alleging infringement of the '050 patent.

At trial, the district court adjudicated the dispute on both literal infringement and infringement via the doctrine of equivalents grounds. The district court quickly disposed of the literal infringement issue by granting R.E. Service’s motion for summary judgment of no literal infringement. The issue as to infringement via the doctrine of equivalents was not so clear. R.E. Service relied on the Federal Circuit’s Maxwell decision in arguing that use of steel as a substrate material was dedicated to the public. Johnson & Johnston, in contrast, relied on YBM Magnex in asserting that infringement under the doctrine of equivalents was still available even though the steel substrate had been disclosed but not claimed. The district court found that Johnson & Johnston did not dedicate the steel substrate to the public, and a jury found that R.E. Service had infringed the patent willfully under the doctrine of equivalents and awarded Johnson & Johnston over $1,000,000 in damages. The issue on appeal, then, was whether Maxwell or YBM Magnex controlled the disposition of this case.

B. The Per Curiam Decision and Its Meaning

In its per curiam opinion, the Federal Circuit began its analysis by stating the rule that the claims delineate the scope of protection for an invention. The fact that the claims define the scope of protection is important because they “give notice both to the

102. See id.
103. Johnson & Johnston, 285 F.3d at 1050.
104. See id.
105. See id.
106. Id.
107. Id.
108. See id.
109. Id. at 1050-51.
110. Id.
111. Id. at 1052.
examiner at the U.S. Patent and Trademark Office during prosecution, and to the public at large, including potential competitors, after the patent has issued."\textsuperscript{112} To determine infringement then, it is the claims, rather than the specification, that the courts construe.\textsuperscript{113}

With this perspective in mind, the Federal Circuit reaffirmed its holding in Maxwell, and overruled YBM Magnex to the extent that it conflicted with Maxwell.\textsuperscript{114} By overruling YBM Magnex, the Federal Circuit made explicit that "when a patent drafter discloses but declines to claim subject matter ... this action dedicates that unclaimed subject matter to the public."\textsuperscript{115} Because Johnson & Johnston disclosed but did not claim steel as a substrate material, Johnson & Johnston dedicated steel substrates to the public, and could not use the doctrine of equivalents to recapture that subject matter.\textsuperscript{116}

Taken literally, the holding of Johnson & Johnston seems to indicate that it is the intent of the patent drafter that determines whether disclosed but unclaimed subject matter is dedicated to the public. As defined in the dictionary, the word "decline" means "[t]o express polite refusal."\textsuperscript{117} In order to express polite refusal (to decline), an affirmative act is necessary. The Federal Circuit's holding in Johnson & Johnston, then, could be interpreted to mean that only when there is an affirmative declaration by the patent drafter that unclaimed subject matter is dedicated to the public is unclaimed subject matter actually dedicated to the public. Under the Federal Circuit's reading of the rule, however, the intent of the patent drafter is irrelevant.\textsuperscript{118} This interpretation seems to create a per se rule that all disclosed but unclaimed subject matter is dedicated to the public. Yet, if Johnson & Johnston is read to erect

\textsuperscript{112} Id.
\textsuperscript{113} See id.
\textsuperscript{114} Id. at 1054-55.
\textsuperscript{115} Id. at 1054.
\textsuperscript{116} See id. at 1055.
\textsuperscript{117} THE AMERICAN HERITAGE COLLEGE DICTIONARY 360 (3d ed. 1997). Or, more bluntly, "to withhold consent." THE MERRIAM WEBSTER DICTIONARY 201 (5th ed. 1994).
\textsuperscript{118} The court held: "[O]ne of the advantages of the Maxwell rule is that it is a purely objective test. The patentee's subjective intent is irrelevant to determining whether unclaimed subject matter has been disclosed and therefore dedicated to the public." Johnson & Johnston, 285 F.3d at 1054 n.1.
such a per se rule, then Johnson & Johnston would conflict with Graver Tank because in Graver Tank the Supreme Court found infringement for use of the disclosed but unclaimed manganese silicate under the doctrine of equivalents.\footnote{119. Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 612 (1950).} Implicit in this holding is that the manganese silicate had not been dedicated to the public.

To circumvent this problem, the Federal Circuit focused on the fact that in Graver Tank the patentee had originally claimed the subject matter and had its patent issue with these claims.\footnote{120. Johnson & Johnston, 285 F.3d at 1053.} By having the patent issue with claims covering manganese silicate, the patentee could not be said to have failed to claim subject matter disclosed in the specification, which left the doctrine of equivalents available to the patentee when those claims were later judicially invalidated. As such, when patent claims are invalidated, the subject matter of those claims is not automatically deemed dedicated to the public. Instead, courts are free to apply the traditional doctrine of equivalents analysis, specifically that “equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case,”\footnote{121. Graver Tank, 939 U.S. at 609.} to determine infringement involving the subject matter of those invalidated claims.

Accordingly, the broadest rule of Johnson & Johnston would be: except for the subject matter of invalidated claims, all disclosed but unclaimed subject matter is dedicated to the public. A narrower interpretation of Graver Tank’s holding would limit the availability of invalidated claim subject matter only to those claims that were invalidated as overly broad, essentially limiting the holding to the facts of Graver Tank. Such an interpretation would further limit the scope of the exception to the holding of Johnson & Johnston.

C. The Concurring Opinions

Concurring opinions to the Federal Circuit’s per curiam opinion illustrated unease by some members of the court over the Johnson & Johnston decision.\footnote{122. See, e.g., Johnson & Johnston, 285 F.3d at 1055-56 (Clevenger, J., concurring).} This unease was a product of how the holding of the per curiam decision could be read as being incompatible with Graver Tank. Two of the four concurring opinions focused...
on reconciling *Johnson & Johnston* with *Graver Tank*. Judge Clevenger, for instance, viewed *Johnson & Johnston* merely as an opportunity to “ensure uniformity in the application of our precedent” and to resolve a “perceived conflict between Judge Lourie’s opinion for the court in Maxwell, and Judge Newman’s opinion for the court in [YBM Magnex].” Since all the Federal Circuit was doing in *Johnson & Johnston*, then, was clarifying its own precedent, it would be incorrect to classify *Johnson & Johnston* as “a mutinous act in the light of the Supreme Court’s decision in [*Graver Tank*].”

Judge Dyk too felt the need to defend the Federal Circuit’s decision. The sole purpose of his concurring opinion was to emphasize why the Federal Circuit’s decision was consistent with *Graver Tank*. According to Judge Dyk, because of factual differences between *Graver Tank* and both *Johnson & Johnston* and *Maxwell*, the Federal Circuit cases are consistent with Supreme Court precedent. Judge Dyk argued that in *Graver Tank*, the “specification made reference to the possible use of manganese, but it was not clear that the specification actually disclosed that manganese silicate (or the particular combination reflected in the infringing material) worked for its intended purpose.” In both *Maxwell* and *Johnson & Johnston*, however, there were “clear disclosures,” which made them factually different from *Graver Tank*. Because *Graver Tank* was not decided in light of a clear disclosure, then, *Maxwell* and *Johnson & Johnston* could be consistent with *Graver Tank*.

Judge Dyk also argued that the issue of dedication of disclosed but unclaimed subject matter was not properly before the Court in *Graver Tank*. The crux of this argument rested on the patentee’s contention that the issue of dedication to the public had not been raised properly in the court below. From this, and the fact that it was the patentee that “argued that the patent disclosed the

123. Id. at 1056.
124. Id. at 1055-56 (Dyk, J., concurring).
125. Id. at 1059.
126. See id. at 1060-61.
127. Id. at 1061.
128. Id.
129. Id. at 1062.
130. Id.
equivalent subject matter," which was a "reversal of the expected positions of the parties," Judge Dyk argued that it was likely that the Supreme Court "concluded that the issue of specification disclosure had not been sufficiently raised by the alleged infringer as a ground for rejecting the doctrine of equivalents."131 Because the question was not before the *Graver Tank* Court, there was no controlling precedent on this issue that bound the Federal Circuit.132

In the remaining two concurring opinions, Judges Rader and Lourie sparred with each other over an alternative line of reasoning for the Federal Circuit's decision: a foreseeability bar. Advanced by Judge Rader, the foreseeability bar would prevent the "capture [of] subject matter that the patent drafter reasonably could have foreseen during the application process and included in the claims."133 The primary benefits of this foreseeability bar, according to Judge Rader, were that it would "enhance[] the notice function of claims by making them the sole definition of invention scope in all foreseeable circumstances" and would "protect[] patentees against copyists who employ insubstantial variations to expropriate the claimed invention in some unforeseeable circumstances."134 Foreseeability, therefore, created an objective standard for determining the applicability of the doctrine of equivalents.135

Judge Lourie argued that Judge Rader's foreseeability bar would not make doctrine of equivalents issues any easier. "Determining what is foreseeable would often require expert testimony as to what one skilled in the art would have foreseen."136 Use of a foreseeability bar, moreover, would run the risk of making an already complex and technical area of the law even more complex and difficult.137 After all, "[w]hat is foreseeable is quite different from what is disclosed in the patent."138 All of this led Judge Lourie to conclude that use of a foreseeability bar was not the answer to the questions posed in cases such as *Johnson & Johnston*.

131. *Id.*
132. *Id.* at 1063.
133. *Id.* at 1056 (Rader, J., concurring).
134. *Id.*
135. *Id.* at 1057 (Clevenger, J., concurring).
136. *Id.* at 1063 (Lourie, J., concurring).
137. *See id.*
138. *Id.*
D. The Dissent

Writing a scathing dissent, Judge Newman characterized the Federal Circuit's decision as establishing a "new absolute bar to equivalency."\textsuperscript{139} In so doing, according to Judge Newman, the court "overrule[d] not only its own decisions but also those of the Supreme Court, and reach[e]d out to create a new, unnecessary and often unjust, \textit{per se} rule."\textsuperscript{140} Moreover, she even argued, though this rule may be easy to apply, it does not represent sound policy.\textsuperscript{141}

Judge Newman characterized the per curiam opinion as being in "egregious"\textsuperscript{142} conflict with \textit{Graver Tank} and chided her colleagues for deriving "various gambits" to distinguish \textit{Graver Tank}.\textsuperscript{143} For instance, Judge Newman noted that the per curiam opinion "proposes that the inclusion of [disclosed subject matter] in invalid claims was critical to the decision in \textit{Graver Tank}, although neither the majority nor the dissenting opinions mentioned it."\textsuperscript{144} This meant the Federal Circuit had to take "the curious position that the inclusion of disclosed subject matter in invalid claims renders the subject matter available for equivalency, but that otherwise subject matter is barred from equivalency. That is not, of course, the holding of \textit{Graver Tank}."\textsuperscript{145} In Judge Newman's mind, \textit{Graver Tank} created binding precedent that precluded an absolute bar to equivalency.\textsuperscript{146} The role of the Federal Circuit is to apply faithfully the Supreme Court's precedent.\textsuperscript{147} By failing to apply faithfully the precedent created by \textit{Graver Tank}, the Federal Circuit's decision in \textit{Johnson & Johnston} was improper.\textsuperscript{148}

\textsuperscript{139} Id. at 1064 (Newman, J., dissenting).
\textsuperscript{140} Id.
\textsuperscript{141} Id. at 1072.
\textsuperscript{142} Id. at 1064.
\textsuperscript{143} Id. at 1065.
\textsuperscript{144} Id.
\textsuperscript{145} Id.
\textsuperscript{146} Id. at 1066.
\textsuperscript{147} Id.
\textsuperscript{148} Id.
This Part will examine how the Federal Circuit and the Supreme Court dealt with the tension between the doctrine of prosecution history estoppel and the doctrine of equivalents through the lens of the litigation between Festo Corporation and Shoketsu Kinzoku Kogyo Kabushiki Company. Before, however, any in-depth discussion of this litigation and how the Supreme Court’s analysis in this case is applicable to Johnson & Johnston-type disputes, a brief discussion of the doctrine of prosecution history estoppel is in order.

A. Background of Prosecution History Estoppel

Prosecution history estoppel is another example of a patent law doctrine that traditionally has created problems for courts. The basic premise of the doctrine is that “[a]ctions by the patentee, including claim amendments and arguments made before the Patent Office, may give rise to prosecution history estoppel.” These actions create “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 there is a finding of prosecution history estoppel to particular subject matter, the doctrine of equivalents cannot be used as a basis for infringement for that subject matter. In this way, prosecution history estoppel “prevents the doctrine of equivalents from vitiating the notice function of claims.”

Application of prosecution history estoppel is easy when it is clear that the contested subject matter has been surrendered for the purpose of obtaining a patent. As the Supreme Court noted in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.:

Where the original application once embraced the purported equivalent but the patentee narrowed his claims to obtain the

150. Id. at 565.
151. Id. at 564 (citations omitted).
patent or to protect its validity, the patentee cannot assert that he lacked the words to describe the subject matter in question. In that instance the prosecution history has established that the inventor turned his attention to the subject matter in question, knew the words for both the broader and narrower claim, and affirmatively chose the latter.\textsuperscript{152}

Not all amendments made to claims during prosecution are to circumvent the prior art, however. In addressing the issue of whether prosecution history estoppel applies to amendments made for reasons unrelated to novelty and nonobviousness patentability issues, courts have split.\textit{Festo} presented the Supreme Court with an opportunity to resolve this split and clarify the rules for applying prosecution history estoppel.

\textbf{B. Festo and the Federal Circuit}

\textit{Festo} gave the en banc Federal Circuit an opportunity to reassess how prosecution history estoppel and the doctrine of equivalents are to be applied in light of the Supreme Court's \textit{Warner-Jenkinson} decision. The actual dispute in \textit{Festo} became, in effect, a peripheral matter as the Federal Circuit used the opportunity to lay down its view of the role the doctrine of equivalents played in situations where an amended claim gave rise to prosecution history estoppel. Prior to rendering its decision in \textit{Festo}, the Federal Circuit asked both parties to brief five questions relating to when prosecution history estoppel arises, and whether after it arises, to assess if and how the doctrine of equivalents applies.\textsuperscript{153} The Federal Circuit's disposition of the first three questions (the only questions discussed in this Note) later became of interest to the Supreme Court.

First, the Federal Circuit queried what claim amendments created prosecution history estoppel.\textsuperscript{154} Specifically, the Federal Circuit wanted to know what types of claim amendments fairly could be said to have been made for a substantial reason related to

\begin{footnotes}
\footnote{152. 535 U.S. 722, 734-35 (2002).}
\footnote{153. See \textit{Festo}, 234 F.3d at 563.}
\footnote{154. See \textit{id}.}
\end{footnotes}
The real issue was how to determine which claim amendments affect patentability. In other words, do patentability issues arise only with claim amendments made to overcome rejections based on those statutory provisions that relate to novelty or obviousness (sections 101, 102, and 103 of the Patent Act), or do patentability issues arise for any claim amendment made for "any reason affecting the issuance of the patent?" The answer, according to the Federal Circuit, was:

[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. Therefore, a narrowing amendment made for any reason related to the statutory requirements for a patent will give rise to prosecution history estoppel with respect to the amended claim element.

Under the Federal Circuit's approach, any narrowing amendment made in response to a statutory rejection would give rise to prosecution history estoppel. Left unanswered by the Federal Circuit's first question was whether this rule applied to narrowing amendments the patentee made voluntarily. This was the subject of the Federal Circuit's second question.

"Under Warner-Jenkinson," inquired the Federal Circuit, "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?" To this, the Federal Circuit answered: "Voluntary claim amendments are treated the same as other amendments. Therefore, a voluntary amendment that narrows the scope of a claim for a reason related to the statutory requirements for a patent will give rise to prosecution

155. Id. In Warner-Jenkinson, the Court intimated that unless the patentee can provide an explanation for why a particular claim amendment was not made for patentability reasons, "the court should presume that the patent applicant had a substantial reason related to patentability for including the limiting element added by amendment. In those circumstances, prosecution history estoppel would bar the application of the doctrine of equivalents." Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 33 (1997).
156. Festo, 234 F.3d at 563.
157. Id. at 566.
158. See id. at 563.
159. Id.
history estoppel as to the amended claim element.” This answer makes logical sense. “There is no reason why prosecution history estoppel should arise if the Patent Office rejects a claim because it believes the claim to be unpatentable, but not arise if the applicant amends a claim because he believes the claim to be unpatentable.”

The Federal Circuit’s disposition of these first two questions did not arouse much controversy among the members of the court. In fact, only one member of the court dissented. This display of cohesiveness among the members of the Federal Circuit evaporated as it considered whether the doctrine of equivalents is available to a patent owner for claims that have been amended for reasons relating to the statutory provisions of the Patent Act.

After disposing of the question of when prosecution history estoppel arises, the Federal Circuit asked: “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 the claim element so amended?” The majority’s answer, from which four judges dissented, was: “When a claim amendment creates prosecution history estoppel with regard to a claim element, there is no range of equivalents available for the amended claim element. Application of the doctrine of equivalents to the claim element is completely barred (a ‘complete bar”). In answering the question this way, the majority overturned nearly twenty years’ worth of cases in which the court applied a flexible bar rather than a complete bar. Mindful of this result, and the fact that binding precedent is not to be lightly disregarded, the majority justified its approach by declaring that “the current state

160. Id. at 568.
161. Id.
162. In her dissent, Judge Pauline Newman argued that the majority’s definition of “reasons related to patentability” was “inappropriately broad.” Id. at 630 (Newman, J., dissenting). According to Judge Newman, the Supreme Court has recognized that “not every rejection based on the Patent Act is concerned with substantive grounds of patentability.” Id. at 634. For this reason, she declined to join the majority opinion with regard to its disposition of the question of when prosecution history estoppel arises.
163. Id. at 563.
164. Id. at 569.
165. Id. at 575.
of the law regarding the scope of equivalents that is available when prosecution history applies is ‘unworkable.’”

According to the majority, the flexible bar approach was unworkable because it was “virtually impossible to predict before the decision on appeal where the line of surrender is drawn.” The patentee would place the line of surrender very near the prior art while the accused infringer would place the line much closer to the language of the claims, limiting the possible range of equivalents.

To the majority, this ambiguity was unacceptable. Rather, the majority wanted to establish a rule that “can be relied upon to produce consistent results and give rise to a body of law that provides guidance to the marketplace on how to conduct its affairs.” While “[a]llowing some range of equivalents gives the patentee some benefit of the doubt as to what was disclaimed,” this benefit “comes at the public’s expense.” To the majority, the cost of having a flexible bar was simply too steep.

166. Id.
167. Id.
168. Id.
169. Id.
170. Id. at 576.
171. Not all members of the Federal Circuit were pleased with the majority’s bright-line rule establishing a complete bar to a finding of equivalents for claim elements to which prosecution history estoppel applies. Judge Michel, for instance, thought that the majority’s new rule constituted a “rejection of the policy advanced by the Supreme Court in Warner-Jenkinson that the all-elements rule and prosecution history estoppel are sufficient to balance the competing needs of granting meaningful protection to patentees and of notifying the public of the effective scope of a patentee’s claims.” Id. at 598 (Michel, J., dissenting). To Judge Michel, the majority’s complete bar will, “in many cases, ‘convert the protection of the patent grant into a hollow and useless thing.’” Id. at 600 (quoting Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607 (1950)). The reason for this is that “anyone who wants to steal a patentee’s technology need only review the prosecution history to identify patentability-related amendments, and then make a trivial modification to that part of its product corresponding to an amended claim limitation.” Id. at 600-01.

Like Judge Michel, Judge Rader was concerned about the unintended consequences of the majority’s complete bar. Judge Rader’s focus, however, was on after-arising equivalents that a patentee could not be expected to have anticipated when drafting the patent. “A primary justification for the doctrine of equivalents is to accommodate after-arising technology. Without a doctrine of equivalents, any claim drafted in current technological terms could easily be circumvented after the advent of an advance in technology.” Id. at 619 (Rader, J., dissenting). This complete bar effectively punishes the patentee for failing to predict technological advancements when deciding how to amend a claim. “Because after-arising technology was not in existence during the patent application process, the applicant could not have known of it, let alone surrendered it.” Id. at 620. By holding to the contrary, Judge
C. Festo and the Supreme Court

The Supreme Court granted certiorari to consider whether prosecution history estoppel applied to “every amendment made to satisfy the requirements of the Patent Act” and whether “when estoppel arises, it bars suit against every equivalent to the amended claim element.” Writing for a unanimous Court, Justice Kennedy affirmed the reasoning behind the Federal Circuit’s holding that prosecution history estoppel arises for every narrowing amendment made to satisfy the Patent Act, but disagreed with the Federal Circuit’s per se rule against application of the doctrine of equivalents to amended claim elements.

Justice Kennedy disposed of the issue of whether prosecution history estoppel arises for any amendment made to satisfy the requirements of the Patent Act rather quickly by agreeing with the Federal Circuit’s disposition of the issue. Allaying fears that any amendment would give rise to prosecution history estoppel, Justice Kennedy noted that if an amendment “is truly cosmetic, then it would not narrow the patent’s scope or raise an estoppel.” If, however, an “amendment is necessary and narrows the patent’s scope—even if only for the purpose of better description—estoppel may apply. A patentee who narrows a claim as a condition for obtaining a patent disavows his claim to the broader subject matter.” Estoppel may arise in such a situation because courts “must regard the patentee as having conceded an inability to claim the broader subject matter or at least as having abandoned his right to appeal a rejection.”

In reviewing the Federal Circuit’s decision to apply a complete bar to the application of the doctrine of equivalents to amended claim elements, Justice Kennedy acknowledged that the doctrine of equivalents increases the uncertainty surrounding the exact scope

Rader argued, the majority has to “apply an estoppel where none exists and defeat the doctrine of equivalents.” Id.

173. See id. at 730-42.
174. See id. at 736.
175. Id. at 736-37.
176. Id. at 737.
177. Id.
of a patent claim and that it may be difficult to determine what is and what is not equivalent to an element of the patent claim.\textsuperscript{178} This ambiguity, however, is a cost necessary to spur innovation.\textsuperscript{179} For this reason, each time the Court has considered the validity of the doctrine of equivalents, the Court "has affirmed the doctrine over dissents that urged a more certain rule."\textsuperscript{180}

In Festo, Justice Kennedy criticized the reasoning behind the Federal Circuit's decision to adopt a complete bar. First, the adoption of a per se rule against the application of the doctrine of equivalents to amended claim elements

is inconsistent with the purpose of applying the estoppel in the first place—to hold the inventor to the representations made during the application process and to the inferences that may reasonably be drawn from the amendment. By amending the application, the inventor is deemed to concede that the patent does not extend as far as the original claim. It does not follow, however, that the amended claim becomes so perfect in its description that no one could devise an equivalent."\textsuperscript{181}

In other words, the amendment "may demonstrate what the claim is not; but it may still fail to capture precisely what the claim is."\textsuperscript{182} The ambiguities of language may prevent a patentee from ever claiming precisely what the claim is. A better approach, according to Justice Kennedy, was the approach long favored by the Supreme Court; specifically, flexibly applying the doctrine of equivalents by considering "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 overcome."\textsuperscript{183}

The Supreme Court also criticized the Federal Circuit's complete bar because of the potential the per se rule has in disrupting the expectations of inventors and inventive entities.\textsuperscript{184} After all,

\textsuperscript{178} Id. at 732.
\textsuperscript{179} Id.
\textsuperscript{180} Id.
\textsuperscript{181} Id. at 737-38.
\textsuperscript{182} Id. at 738.
\textsuperscript{183} Id. (citation omitted).
\textsuperscript{184} Id. at 739 (citations omitted).
"[i]nventors who amended their claims under the previous regime had no reason to believe they were conceding all equivalents. If they had known, they might have appealed the rejection instead."

Instead of a complete bar, the court erected a rebuttable presumption against a finding of equivalency for amended claim elements. Justice Kennedy was quick to note that this "presumption is not ... just the complete bar by another name." To rebut this presumption, a patentee needs only to produce evidence showing that the amendment did not disclaim a particular equivalent. Examples of this type of evidence include evidence that the equivalent was unforeseeable as of the application date, or that the "rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question," or "some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question." Upon such a showing, the patentee has met his burden and is free to rely on the doctrine of equivalents to show infringement. A finding of infringement in this manner produces a fair and equitable result—the exact result the doctrine of equivalents was designed to produce.

V. A FESTO-LIKE REBUTTABLE PRESUMPTION FOR CASES SUCH AS JOHNSON & JOHNSTON

A. The Supreme Court's Rationale for a Rebuttable Presumption

Implementation of a Festo-like rebuttable presumption to situations involving disclosed but unclaimed subject matter and alleged infringement under the doctrine of equivalents would fulfill the same policy objectives of fairness and equity as were present in Festo. As such, this Part describes how the rationale utilized by the Supreme Court in resolving Festo is easily analogized to

185. Id.
186. See id. at 741.
187. Id.
188. Id. at 740.
189. Id.
190. Id. at 741.
Johnson & Johnston-type disputes, and why a Festo-like rebuttable presumption should be the rule courts use when determining the applicability of the doctrine of equivalents to infringement actions involving disclosed but unclaimed subject matter.

Writing for the Supreme Court in Festo, Justice Kennedy noted:

> If patents were always interpreted by their literal terms, their value would be greatly diminished. Unimportant and insubstantial substitutes for certain elements could defeat the patent, and its value to inventors could be destroyed by the simple acts of copying. For this reason, the clearest rule of patent interpretation, literalism, may conserve judicial resources but is not necessarily the most efficient rule. The scope of a patent is not limited to its literal terms but instead embraces all equivalents to the claims described.\(^\text{191}\)

While this language was directed to the issue of application of the doctrine of equivalents to claim elements to which prosecution history estoppel applied, the Court’s reasoning easily could be applied to the analogous situation of whether the doctrine of equivalents is available to a patentee for disclosed but unclaimed subject matter. Because a rebuttable presumption serves the policy objectives of the prosecution history estoppel/doctrine of equivalents dichotomy, a rebuttable presumption likewise should serve the policies underlying the disclosed but unclaimed subject matter/doctrine of equivalents dichotomy.

B. Johnson & Johnston Revisited

In Johnson & Johnston, the Federal Circuit was concerned that application of the doctrine of equivalents to the disclosed but unclaimed subject matter would allow a patentee to avoid scrutiny at the Patent and Trademark Office for certain equivalents and then rely on the doctrine of equivalents to enlarge the scope of the patent. Indeed, in its per curiam opinion in Johnson & Johnston, the Federal Circuit noted that one of the virtues of its rule was that courts would “avoid the problem of extending the coverage of an exclusive right to encompass more than that properly examined by

\(^{191}\) Id. at 731-32.
the [Patent and Trademark Office]."¹⁹² This logic was evident in *Maxwell* as well.¹⁹³ In *Maxwell*, the Federal Circuit noted that application of the doctrine of equivalents to disclosed but unclaimed subject matter would "merely encourage a patent applicant to present a broad disclosure in the specification of the application and file narrow claims, avoiding examination of broader claims that the applicant could have filed consistent with the specification."¹⁹⁴ Such a situation would vitiate the notice function of the claims and the Federal Circuit properly precluded such an occurrence.

C. Situations in Which Subject Matter Is Outside Patent Scope

By holding that the doctrine of equivalents cannot be used to rescue unclaimed subject matter disclosed in a specification, however, the Federal Circuit seemed to ignore the reality that a patentee may believe his patent encompasses all disclosed subject matter only to learn later that some of the subject matter is deemed outside the scope of the claims. This occurred, for instance, in *Graver Tank*, and the majority in *Johnson & Johnston* was forced to acknowledge that the Supreme Court held that the doctrine of equivalents could serve as a basis for a finding of infringement for subject matter contained within claims that were judicially invalidated.¹⁹⁵ Yet judicial invalidation is not the only mechanism by which a patentee may learn that particular subject matter is outside the scope of his patent. "A patentee could disclose multiple embodiments, genuinely intending to claim them all. But during litigation, the court unexpectedly construes the claim narrowly to cover only one embodiment, despite the patentee's arguments to the contrary.... The other embodiments are then considered disclosed but not claimed."¹⁹⁶ Because the Federal Circuit refuses to consider the intent of the patentee, the patentee will be unable to

¹⁹⁴. Id. at 1107.
¹⁹⁵. See Johnson & Johnston, 285 F.3d at 1053.
show infringement via the doctrine of equivalents as to these suddenly unclaimed embodiments. This is true even if the Patent and Trademark Office examined and issued the patent in light of these embodiments. In this situation, there is no rationale for arguing that the patentee skirted the examination process by disclosing broadly and claiming narrowly. Equity would argue that a judicial narrowing of the scope of a claim is equivalent to having claims judicially invalidated, and as such, the doctrine of equivalents should be available to rescue these embodiments.

D. Settled Expectations of Patent Holders

Another problem with the Federal Circuit's rule in Johnson & Johnston is that it upsets the expectations of patent holders. "Indeed, it is hard to predict just how much subject matter in existing patents might have just been dedicated to the public by operation of the Johnson & Johnston decision." As the Supreme Court noted in Festo, Warner-Jenkinson cautioned courts to be careful before adopting changes that may disrupt the expectations inventors have in their property. Like Festo, it is apparent that the Federal Circuit in Johnson & Johnston ignored this aspect of Warner-Jenkinson. The logic of the Supreme Court in Festo is as valid for disclosed but unclaimed subject matter as it is for claim elements subject to prosecution history estoppel. In both situations, case law influences patent prosecution and, like claim elements subject to prosecution history estoppel, there is no compelling reason for a new, more stringent rule against application of the doctrine of equivalents to disclosed but unclaimed subject matter.

E. Application of a Festo-Like Rebuttable Presumption to Johnson & Johnston-Type Disputes

Under a Festo-like rebuttable presumption against application of the doctrine of equivalents to disclosed but unclaimed subject matter, the delicate balance between the incentives given to

197. Id.
199. Id.
inventors and the notice function of patent claims is preserved. The burden is placed squarely on the patentee to show that the patent was examined in light of the disclosed but unclaimed subject matter. A rebuttable presumption would prevent the patentee from disclosing broadly and claiming narrowly, and it would not allow the patentee to rescue subject matter that was inadvertently left unclaimed, thereby vitiating the notice function of the claims. The purpose of the doctrine of equivalents, after all, is not to save the patentee from his own mistakes. Rather, it is to prevent others from practicing a fraud on the patent.

In both Festo and Johnson & Johnston, the Federal Circuit was preoccupied with notions of certainty and judicial economy. By focusing primarily on the notice function of claims, the Federal Circuit, in both cases, missed the more nuanced questions to which its attention should have been focused. The Supreme Court in Festo chastised the Federal Circuit for failing to consider the purpose of the claim amendments and the actual subject matter surrendered in making the amendments.\textsuperscript{200} With respect to Johnson & Johnston, the Federal Circuit should have focused on the extent to which the examiner examined the patent in light of the disclosed but unclaimed subject matter during prosecution, and on the question of why the subject matter was left unclaimed. Answering these questions requires a consideration of the vagaries of the patent application process, and points to an equitable balance between the interests of the patentee and society at large. As with claim elements to which prosecution history estoppel applies, a rebuttable presumption against application of the doctrine of equivalents to disclosed but unclaimed subject matter allows a court to strike this proper balance. A rebuttable presumption is the better rule, and thus the one the Federal Circuit should use when adjudicating Johnson & Johnston-type disputes.

\textbf{F. A Hypothetical Example}

This Part presents an example of a situation where application of a Festo-like rebuttable presumption would allow for a finding of infringement under the doctrine of equivalents for disclosed but

\textsuperscript{200} See id. at 739-41.
unclaimed subject matter. A patentee files an application in the Patent and Trademark Office claiming a process utilizing a "fluorocarbon." Nowhere in the specification is the term “fluorocarbon” explicitly defined. The patentee, however, discloses two embodiments of her invention. The first embodiment includes a partially fluorinated hydrocarbon (e.g., a compound having the chemical formula \( \text{C}_2\text{H}_4\text{F}_2 \)), and the second embodiment includes a fully fluorinated hydrocarbon (e.g., a compound having the chemical formula \( \text{C}_2\text{F}_6 \)). During patent prosecution, the patent examiner rejects the patentee's claims on grounds not related to use of the term “fluorocarbon.” In making the rejections, the patent examiner cites patents utilizing both partially and fully fluorinated hydrocarbons. Responding to the rejections, the patentee makes arguments and amends the claims. Satisfied that the application now contains allowable subject matter, the patent examiner allows the application, and it issues as a U.S. patent.

Subsequent to the patent issuing, the patentee discovers that one of her competitors is using her claimed process with a partially fluorinated hydrocarbon. The patentee then files suit alleging literal infringement or, alternatively, infringement under the doctrine of equivalents. During a bench trial, the defendant claims that he did not infringe the patent because the term “fluorocarbon” exclusively refers to fully fluorinated hydrocarbons, and because of this, the patentee dedicated the process utilizing a partially fluorinated hydrocarbon to the public. The defendant supports this allegation with technical dictionaries, common dictionaries, and testimony from experts in that technology area, all defining the term “fluorocarbon” to mean a hydrocarbon in which all the hydrogen molecules have been replaced with fluorine molecules. The patentee counters this allegation by supplying technical and common dictionary definitions that define “fluorocarbon” as a hydrocarbon in which fluorine molecules have replaced some or all of the hydrogen molecules. Additionally, the patentee submits an affidavit from the patent examiner stating that during prosecution, the patent examiner examined the patentee's application under the assumption that the term “fluorocarbon” referred to both partially and fully fluorinated hydrocarbons.

After hearing all the evidence, the trial judge makes two rulings. First, he construes the term “fluorocarbon” to mean a fully fluori-
nated hydrocarbon (e.g., C$_2$F$_6$), placing partially fluorinated hydrocarbons outside the scope of the patent claims. This means that the defendant cannot have literally infringed the patent. Second, the trial judge finds that for the purposes of the claimed process, partially fluorinated hydrocarbons are equivalent to fully fluorinated hydrocarbons. These two rulings, thus, raise the question of whether the process utilizing a partially fluorinated hydrocarbon was dedicated to the public. If the process was not dedicated to the public, the defendant infringed the patent under the doctrine of equivalents.

Application of a Festo-like rebuttable presumption to this fact pattern warrants the trial judge finding infringement under the doctrine of equivalents for the following reasons. First, the specification includes examples of the claimed process utilizing both a partially and a fully fluorinated hydrocarbon. This is evidence that the patentee intended the term “fluorocarbon” to include both partially and fully fluorinated hydrocarbons. Second, the patent examiner admits, and there is no contrary evidence in the prosecution history, that the patent was examined under the assumption that the claims covered both fully and partially fluorinated hydrocarbons. Third, the evidence of record in the trial shows that “fluorocarbon” has been defined to include both partially and fully fluorinated hydrocarbons. In view of the totality of the evidence, the patentee cannot reasonably be said to have intentionally dedicated the process utilizing a partially fluorinated hydrocarbon to the public. Nor does the evidence support a conclusion that the patentee attempted to disclose broadly and claim narrowly to prevent a rigorous examination of the process utilizing a partially fluorinated hydrocarbon before the Patent and Trademark Office. The sum total of this evidence, then, is enough to overcome the rebuttable presumption against application of the doctrine of equivalents to the disclosed but unclaimed subject matter. This is a fair and equitable result.

**CONCLUSION**

Until Congress decides to step into the fray, tension between various doctrines in patent law will always exist. The need for clarity and definiteness necessarily will be balanced against the
need to protect the patent as valuable incentive to create. Rules that force courts to explicitly balance these competing policy objectives will produce more equitable and just results than any bright-line, per se rule that values one set of policy objectives over another. The Supreme Court stated explicitly in Festo that a rebuttable presumption, a flexible rule, is the preferred approach to resolving disputes about whether a patentee surrendered a particular equivalent when amending a claim for the purpose of complying with the Patent Act. Because the policy objectives and the rationale used to justify the Supreme Court's disposition of Festo are the same as those present in disputes such as Johnson & Johnston, the same rules should apply to both situations. As such, courts should employ a rebuttable presumption against application of the doctrine of equivalents to disclosed but unclaimed subject matter rather than the per se rule the Federal Circuit articulated in Johnson & Johnston. If the Federal Circuit is unwilling to overrule Johnson & Johnston sua sponte, the Supreme Court should step into the fray to overrule the Federal Circuit as it did in Festo.

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