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*111 WAS FESTO REALLY NECESSARY?

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In a patent system as old as that of the United States, one would expect that certain bedrock principles of law would have been established early and maintained through time. In recent years, however, the United States Court of Appeals for the Federal Circuit has displayed a willingness to reconsider and alter principles of law that have existed for over a century. In 1995, the Federal Circuit drastically altered the procedures used by district courts across the country to try patent cases. In Markman v. Westview [FN2] the court announced that claim interpretation was exclusively a question of law for the court and not an issue for the jury. Trial courts have sought, with limited success, to cope with the effects of the Markman decision. [FN3]

In late 2000, the Federal Circuit made an even more fundamental alteration in the law affecting patent protection. In Festo Corp. v. Shoketsu Kinsoku Kogyo Kabushiki Co., [FN4] the court held that any narrowing amendment of a patent claim during prosecution, for "a substantial reason related to patentability," creates prosecution history estoppel that forecloses any resort to the doctrine of equivalents with respect to the amended limitation. The decision expanded the reach of prosecution history estoppel to amendments addressing matters other than rejections based on prior art. Under Festo, even amendments as to matters of form may preclude resort to the doctrine of equivalents. Indeed, this change in the law may prove to be the most significant aspect of the Festo decision. In effect, the Festo decision may have transformed prosecution history estoppel into an exception that swallows the rule.

*112 If not reversed by the United States Supreme Court or obviated by Congress, the Federal Circuit's Festo decision will have far-reaching implications, not only upon the way patent claims are litigated, but also upon the process by which patents are obtained. The dissenting opinions in Festo echo the assessment of former Chief Judge Markey in Black & Decker, Inc. v. Hoover Service Center: "[c]onsidering that virtually every patent application is amended, acceptance of [the Festo rule] as a proper application of prosecution history would read the doctrine of equivalents out of the law." [FN5] In Graver Tank and Mfg. Co. v. Linde Air Products Co., [FN6] the Supreme Court commented that without benefit of the doctrine of equivalents, the patent grant would be converted to a "hollow and useless thing." [FN7] Many in the patent community regard Festo as the fulfillment of the Supreme Court's prediction.

This article has two objectives. First, we report on the Festo decision, describing the state of the law before and after Festo, highlighting some unanswered questions and offering some suggestions for practitioners under "the Festo Rule." Second, we argue that the Festo decision was unnecessarily extreme and suggest a more moderate position that the Court could have adopted with less drastic and in our view less harmful results. We offer these comments in the hopes that the Festo decision is not the final word on prosecution history estoppel and, in any event, to contribute to the national discourse on this topic.

PART I

A. Evolution of Prosecution History Estoppel Before Festo

In order fully to appreciate the effect of the Festo decision on application of the doctrine of equivalents, a brief discussion of that doctrine and prosecution history estoppel is helpful. [FN8]

To promote the progress of science, the framers of the United States Constitution empowered Congress to grant inventors certain exclusive rights in their invention for limited times. [FN9] Accordingly, under the Patent Act, [FN10] "whoever invents a new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor." [FN11] The grant of a United States patent provides *113 the patentee with a right to exclude others from making, using, selling, offering for sale, or importing the patented invention. [FN12] This right commences upon issuance of the patent and expires twenty years from the filing date of the first patent application leading to issuance of the patent. [FN13]

To ensure that the progress of science is promoted, the Patent Act places certain conditions on patentability of an invention. The invention must be novel--that is, it cannot be anticipated by something already in the public domain. [FN14] Also, the invention cannot be such an insignificant departure from what was in the public domain that it would have been obvious at the time of the invention to a person of ordinary skill in the relevant art. [FN15] In order to ensure that the public receives the entire benefit of the invention upon expiration of the patent, the Patent Act requires certain disclosures by the patentee, including disclosure of the best mode of practicing the invention, and a description sufficient to enable a person of ordinary skill in the art to practice the invention. [FN16] The Act requires that the patent conclude with claims "particularly pointing out and distinctly claiming" the invention. [FN17] The claims define the metes and bounds of the patentee's exclusionary right, which is the focus of an infringement inquiry. In order for an accused device or method to infringe a patent claim, that device or method must include every element set forth in a patent claim. [FN18]

Patent claims serve the important function of providing notice to the public as to what the patentee may exclude others from doing and also what others may do without infringing the patent. The Supreme Court recently explained the importance of this function in Markman v. Westview, when the Court concluded that patent claim interpretation was to be done by the courts (as opposed to juries) as a matter of law. The Court stated:

"The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public." Otherwise, a "zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement *114 claims would discourage invention only a little less than unequivocal foreclosure of the field [citation omitted]." [FN19]

Thus, when the scope of patent protection is properly defined, the patentee obtains neither more nor less than he is entitled to in view of the art of record. At the same time, competitors are free to develop competing inventions that avoid the patent. The art is enriched by the activities of both the patentee and the patentee's competitors.

That system is abused, however, when a competitor slavishly copies the patented invention but, while avoiding the literal language of the claims, makes only minor, insubstantial changes in its device or method. [FN20] In this manner, the competitor effectively usurps the benefit of the invention while avoiding literal infringement of the patent, thus negating the statutory right to exclude. To allow such behavior, according to the Supreme Court, "would be to convert the protection of the patent grant to a hollow and useless thing." [FN21] Accordingly, the judicially created doctrine of equivalents has evolved to prevent infringers from stealing the benefit of a patented invention while making no substantial contribution to the art.

Under the doctrine of equivalents, a patent claim is infringed even if claim elements are not found literally in an accused product or method, if for every such claim element, an equivalent element is present. [FN22] The doctrine of equivalents is not intended to broaden or expand the claims of a patent. Rather, the doctrine inquires whether an element of an accused device or method is equivalent to that which is set forth literally in the claim. [FN23] To be equivalent, the differences between a specific claim element of the accused device or method and the claimed element must be insubstantial. [FN24] Nevertheless, every element of the claim must be satisfied, either literally or by an equivalent. [FN25] The determination of equivalence is an objective inquiry that is applied on an element-by-element basis. [FN26]

*115 To determine whether such differences are insubstantial, one may inquire preliminarily whether the accused elements perform substantially the same function, in substantially the same way, to obtain substantially the same result as the claimed invention. [FN27] This analysis, however, does not necessarily end the inquiry. Evidence of such factors as copying and known interchangeability of the claimed and accused element is also relevant to the analysis. [FN28]

In applying the doctrine of equivalents, a court must balance the goal of protecting the patentee's rights to the invention with the goal of providing sufficient notice to the public as to precisely what is, and is not, protected by the patent. [FN29] As the Supreme Court has explained, "the doctrine of equivalents, when applied broadly, conflicts with the definitional and public- notice functions of the statutory claiming requirement." [FN30]

Accordingly, courts have also developed restraints on the doctrine. For instance, prior art limits that which can be considered an infringement under the doctrine of equivalents. [FN31] This is because prior art also limits that which the patentee could legitimately claim in the patent. If a patentee's infringement theory under the doctrine of equivalents would also capture devices or processes in the prior art, then there cannot be infringement. This limitation on application of the doctrine of equivalents is illustrated conceptually in Figure 1 below. [FN32]

Allowed Claim (A) has a literal scope that is not encroached upon by either the Prior Art (B) before the Examiner or the Prior Art (C) asserted by an accused infringer. However, the scope of the prior art nearest to the claimed invention, such as Prior Art (C), serves as a limit as to what can constitute an equivalent to any literal element of Claim (A). An accused product falling within the scope of the shaded area might be held to infringe under the doctrine of equivalents, providing the differences with the claimed invention are insubstantial. If, however, the accused product *116 falls within the

scope of Prior Art (C), including what is obvious in view of that prior art, then there can be no infringement under the doctrine of equivalents.

Figure 1

Doctrine of Equivalents (Rule of Wilson Sporting Goods Predominates)
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This principle was exemplified in the Wilson Sporting Goods case, [FN33] in which the Federal Circuit held that an accused golf ball design was too similar to prior art golf ball designs to infringe under the doctrine of equivalents. The court stated that the patentee could not obtain protection under the doctrine of equivalents that could not have been obtained from the PTO by literal claim language. In other words, if prior art would have prevented allowance of a claim that literally would have read on the accused device, the prior art should also prevent a finding that the device infringes under the doctrine of equivalents.

Another restraint on application of the doctrine of equivalents is prosecution history estoppel. This doctrine prevents a patentee from obtaining under the doctrine of equivalents subject matter that was given up, either by argument or by claim amendment, during prosecution of the application leading to issuance of the patent. [FN34] When a patent applicant argues during prosecution that the pending claims do not cover certain subject matter (which occurs often when the patentee is seeking to obtain an *117 allowance), the patentee thereafter is estopped from capturing the same subject matter by way of the doctrine of equivalents. Prosecution history estoppel by argument is illustrated conceptually in Figure 2 below:

Figure 2

Prosecution History Estoppel by Argument Before Festo
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When it is discovered that the Submitted Claim (A) reads on prior art discovered by the Examiner (B), and the patentee amends his claim to Allowed Claim (C), normally she would be able to argue that devices falling in the area C-E were equivalents. If in response to the Examiner's rejection, however, the prosecuting attorney makes an argument that implies a narrower limitation (D), the patentee is limited by that argument. The only equivalents, if any, must fall within the shaded area C-D.

This principle was illustrated by Haynes International, Inc v. Jessop Steel. [FN35] The patentee argued that the invention, which was an alloy, differed from the prior art by virtue of a particular weight percentage of chromium that yielded unexpected corrosion resistance properties. The claim allowed was based on particular data submitted that purportedly showed superior performance of a single alloy composition. The percentage of chromium in the allowed claim was the corresponding percentage in the alloy for which data was submitted. The court held that argument made to distinguish the prior art precluded reaching the accused alloy *118 composition under the doctrine of equivalents. As the court noted, the limits imposed by prosecution history estoppel can be different from those imposed by prior art. The Haynes court concluded that the arguments raised by the patentee during prosecution precluded reaching any composition for which data had not been submitted.

Prosecution history estoppel can also arise when a patent applicant amends claims during prosecution of the application that emerges as an issued patent. For instance, when a patent applicant's original claim is rejected as

unpatentable in view of prior art and the applicant narrows its claim to overcome the rejection, the patentee is estopped from capturing some portion of the equivalents between the amended claim and the prior art. The extent to which the patentee is estopped in a situation of this sort was one of the significant issues decided in Festo.

Prior to the Federal Circuit's decision in Festo, that court had adopted what was known as a "flexible bar" approach. Under this approach, if a claim had been amended during prosecution to overcome prior art by adding a new element (or "limitation"), prosecution history estoppel precluded a later assertion that the claim element was met by some equivalents. However, the estoppel did not necessarily entirely preclude any application of the doctrine of equivalents as to the element in question. Rather, the range of estoppel extended only so far as would have been necessary to distinguish the scope of prior art asserted by the examiner. This flexible bar approach is illustrated conceptually by Figure 3 below:

Figure 3

Prosecution History Estoppel by Amendment Before Festo Decision
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The applicant submits Claim (A). During examination, however, it becomes clear that the claim should be amended to overcome a rejection made by the Examiner based on an asserted scope of Prior Art (C). The applicant therefore amends the claim, until it has the scope of Amended Claim (B) which is something less than the limit of allowability. The patentee could then argue that accused devices not obvious in view of the prior art and falling within the shaded area are equivalents of the claimed invention. Implicit in this discussion is that devices falling in the shaded area have only insubstantial differences with the claimed subject matter, which, of course, is a matter of proof for the patentee.

This flexible bar approach was first enunciated by the Federal Circuit in 1983 in Hughes Aircraft. [FN36] The Hughes Aircraft court stated that prosecution history estoppel may have a limiting effect on the doctrine of equivalents "within a spectrum ranging from great to small to zero." [FN37] *119 Shortly thereafter, however, the court applied a different approach. In Kinzenbaw, the court affirmed a district court's conclusion that a claim amendment gave rise to prosecution history estoppel that entirely precluded application of the doctrine of equivalents. [FN38] While the Hughes Aircraft and Kinzenbaw cases suggested significantly different approaches to prosecution history estoppel, [FN39] the flexible bar approach was applied more frequently and more widely by the Federal Circuit during the following decade. [FN40]

In Warner-Jenkinson, which was decided in 1995, the Federal Circuit upheld the vitality of the doctrine of equivalents against an argument that it had been negated by statutory revision. [FN41] The court's opinion did not, however, end the debate as to whether clear standards existed for juries to apply in assessing infringement under the doctrine of equivalents, or whether application of the doctrine was inconsistent with the notice *120 function of patent claims, [FN42] which the Federal Circuit now describes as "paramount." [FN43]

The Supreme Court granted certiorari in Warner-Jenkinson, reversed the Federal Circuit's finding of infringement under the doctrine of equivalents, and remanded the case for further consideration. [FN44] Nevertheless, the Supreme Court sided with the Federal Circuit in rejecting the defendant's argument that the doctrine of equivalents did not survive the 1952 revision

of the Patent Act, and refused to depart from established doctrine of equivalents analysis.

The Supreme Court did agree, however, that the doctrine of equivalents had "taken on a life of its own, unbounded by the patent claims," and that such a broad application of the doctrine "conflicts with the definitional and public- notice functions of the statutory claiming requirement." [FN45] In an apparent effort to address this perception, the Court held that "the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole." [FN46] The Court went on to reject Warner-Jenkinson's argument that any surrender of subject matter during prosecution, regardless of the reason, should preclude recapture of any part of the subject matter by equivalents.

The Supreme Court stated, "[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." [FN47] The Court raised a presumption that an unexplained amendment results in prosecution history estoppel, and placed the burden of establishing the reason for an amendment on the patentee. According to the Supreme Court, the trial court "would then decide whether that reason is sufficient to overcome prosecution history estoppel as a bar to application of the doctrine of equivalents to the element added by that amendment." [FN48] The Supreme Court then refused to re-write the linguistic *121 framework within which the doctrine of equivalents is to be applied. Instead, it deferred to the Federal Circuit to refine the formulation of the test for equivalence.

Following the Supreme Court's suggestion in Warner-Jenkinson, [FN49] the Federal Circuit rendered a number of decisions attempting to furnish guidelines that would lend uniformity and increased predictability to the application of the doctrine of equivalents. As expected, a primary focus of these decisions has been the extent to which prosecution history estoppel precludes a finding of infringement under the doctrine of equivalents.

Some viewed the Supreme Court's reference to prosecution history estoppel as "a bar to application of the doctrine of equivalents" to mean that a complete bar should apply. [FN50] Others continued to endorse the "flexible bar" rule. The opponents of the "flexible bar" approach have argued (and indeed, the Festo majority posited) that, in order to obtain the maximum coverage available in view of the prior art, the patentee should merely have amended the claim so as to encompass literally the shaded area illustrated in Figure 3, supra. There are several reasons, however, why an applicant might not simply amend the claim back to the exact limits of allowability. First, claim language is inexact under even the best of conditions and may be undeveloped in the particular technology to which the patent is directed. [FN51] Second, it is unrealistic to expect the prosecuting attorney to have sufficient foresight to draft an amended claim that precisely avoids the prior art while still capturing all possible equivalents. Third, the specification might not sufficiently describe the invention in a way that would provide the requisite support for a claim that goes to the limits of allowability, even if that limit is apparent. [FN52]

Several times since Warner-Jenkinson, the Federal Circuit has addressed whether the "flexible bar" or the "complete bar" to infringement under the doctrine of equivalents is the proper approach. For instance, when Hughes Aircraft, [FN53] the same case in which the Federal Circuit had *122 announced the "flexible bar" approach in 1983, returned to the Federal Circuit following Warner-Jenkinson, the Federal Circuit held that the flexible bar approach remained proper. In Hughes II, the government, which was a party, argued that, under Warner-Jenkinson, prosecution history estoppel acted as a complete bar to application of the doctrine of

equivalents as to an amended claim element. [FN54] The Federal Circuit rejected that argument, stating that Warner-Jenkinson does not require "such a wooden approach to prosecution history estoppel." [FN55]

Similarly, in Litton Systems, the defendant argued that under Warner-Jenkinson any claim language amended during prosecution for reasons related to patentability is entitled to no range of equivalents whatsoever. [FN56] The defendant based this argument on the Supreme Court's reference to prosecution history estoppel as a bar to application of the doctrine of equivalents. The Federal Circuit rejected the argument, stating that when read in context, "this passage does not effect the sweeping change advocated by [the defendant]." [FN57] The Federal Circuit noted that in Warner-Jenkinson, the Supreme Court did not find an estoppel based on the record before the Court. Instead, the Court remanded to the district court for a finding on the estoppel issue. According to the Litton panel, "a careful reading of the Supreme Court's opinion in context shows that Warner-Jenkinson did not effect a change in the scope of subject matter precluded by an estoppel, but only in the circumstances that may trigger estoppel." [FN58]

When the Federal Circuit denied Honeywell's petition for rehearing and suggestion for rehearing en banc, several judges of the Federal Circuit weighed in on the other side of the debate. According to Judge Clevenger, if Warner- Jenkinson did not eliminate the "flexible bar" approach, then the Supreme Court did not accomplish what it apparently set out to do, which was to limit broad application of the doctrine of equivalents. [FN59]

Ultimately, however, the Festo decision ended the debate. The majority concluded that, after nearly twenty years of experience as the sole court of appeals for patent matters, "it is virtually impossible [under the flexible bar approach] to predict before the decision on appeal where the line of surrender [of subject matter] is drawn." [FN60] Thus, according to the Festo majority, "*123 the current state of the law regarding the scope of equivalents that is available when prosecution history estoppel applies is "unworkable." [FN61]

It may be that the Federal Circuit meant that the previous flexible bar system was "unworkable" in the context of jury trials. While the majority opinion does not really ground its reasoning on the limited ability of jurors to absorb the foregoing theories (prosecution history estoppel is a question of law), the following passage from one of the concurring opinions shows that the issue is not very far from the surface:

The game was to convince the trier of fact, typically a jury, that even if an accused product [footnote omitted] does not infringe the claims as written, the claimed invention and the accused product have only "insubstantial differences," a wonderfully indeterminate phrase, making every decision under the doctrine an individual choice, if not simply a flip of the coin. [FN62]

Judge Plager goes on to advocate that the doctrine should be committed to the equitable discretion of the court, [FN63] which would leave a jury with very little to do in most patent cases. Although we do not mean to suggest that Festo's quest for certainty is merely code language embodying distrust of the use of juries in patent cases, it would be unrealistic to ignore the possibility that such sentiments may have played a role.

B. The En Banc Holding in Festo

The Federal Circuit's en banc decision in Festo answered, at least for the moment, several of these questions regarding application of prosecution history estoppel. The court held that prosecution history estoppel results in a complete bar to infringement under the doctrine of equivalents, eliminating the "flexible bar" approach. The court also held that amendments made for reasons "substantially related to patentability" are not limited to

amendments made to avoid prior art, but include any amendment made to place a patent claim in condition for allowance.

The patents at issue in the Festo case are directed to magnetic, rodless cylinders composed of a piston, a cylinder, and a sleeve. The piston moves back and forth in response to air or hydraulic pressure in the cylinder. The sleeve is magnetically coupled to the cylinder and moves in tandem with the cylinder. The movement of the sleeve can then be used to move objects or operate limit switches.

One of the patent applications originally contained one independent and two dependent claims, all directed to a "linear motor." The independent *124 claim included a means-plus-function element claiming "sealing means" at each end of the piston. One dependent claim specifically claimed sealing rings, and the other claimed a magnetisable material in the sleeve. The claims were rejected for reasons other than "prior art." Specifically, the claims were rejected because it was unclear whether the patentee was claiming a true motor or a magnetic clutch, [FN64] and because the dependent claims were in improper multiple dependent form. [FN65] In response to the rejection, the prosecuting attorney canceled the dependent claims and added an independent claim that incorporated the magnetisable sleeve and the two sealing rings.

The second patent was submitted for reexamination in light of a German patent raised by the German examiner during prosecution of a German counterpart to the first patent. The claim submitted for reexamination added an element claiming "a pair of resilient sealing rings."

The accused devices contained neither a sleeve made of magnetisable material nor two sealing rings. Nevertheless, a jury found that they infringed the first patent under the doctrine of equivalents. The district court granted summary judgment that the accused devices infringed the second patent under the doctrine of equivalents. After an arduous history of multiple appeals, the case ultimately came before the Federal Circuit sitting en banc. [FN66]

In addition to reviewing the merits of the case, the Federal Circuit requested additional briefing on four questions pertaining to the doctrine of equivalents:

1. For purposes of determining whether an amendment to a claim creates prosecution history estoppel, is "a substantial reason related to patentability," Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 33 117 S. Ct. 1040, 137 L.Ed. 2d 146 (1997), limited to those amendments made to overcome prior art under ¤ 102 and ¤ 103 or does "patentability" mean any reason affecting the issuance of a patent?

*125 2. Under Warner-Jenkinson, should a "voluntary" claim amendment--one not required by the examiner or made in response to a rejection by an examiner for a stated reason--create prosecution history estoppel?

3. If a claim amendment creates prosecution history estoppel, under Warner-Jenkinson what range of equivalents, if any, is available under the doctrine of equivalents for the claim element so amended?

4. When "no explanation [for a claim amendment] is established," Warner-Jenkinson, 520 U.S. at 33, 117 S. Ct. 1040, thus invoking the presumption of prosecution history estoppel under Warner-Jenkinson, what range of equivalents, if any, is available under the doctrine of equivalents for the claim element so amended? [FN67]

The court then proceeded to answer the questions in the following manner: (1) a substantial reason related to patentability is not limited to overcoming prior art, but includes anything related to statutory requirements for a patent; (2) voluntary amendments stand on the same footing as those required by the examiner; (3) any amendment that narrows the scope of a claim automatically precludes any application of the doctrine of equivalents as to the amended claim element; and (4) as the Supreme Court stated in its Warner-

Jenkinson opinion, "unexplained amendments" also foreclose any recourse to the doctrine of equivalents.

The Festo decision leads to a reasonably uniform inquiry that appears to apply to any analysis of prosecution history estoppel arising from a claim amendment. [FN68] First, the court must look to the intrinsic evidence of record (i.e., the patent claims, the specification, and the prosecution history) for an explanation of the reasons for any amendment of a given patent claim. If no reason can be ascertained from the intrinsic evidence, the amended element cannot be satisfied by an equivalent element. If the amendment is made for a reason substantially related to patentability, the court must then assess whether the amendment narrowed the scope of the claim. If so, the claim element cannot be met by an accused product or process under the doctrine of equivalents--it must be satisfied literally. *126 Only if the amendment is not a narrowing amendment or if the reason for the amendment is not substantially related to patentability can there be resort to the doctrine of equivalents. [FN69]

As the court made clear, a reason substantially related to patentability is not limited to avoiding prior art, but now "includes other reasons related to the statutory requirements for a patent." Apparently, these other reasons could include rejections for such things as lack of enablement and clear description under 35 U.S.C. ¤ 112. The basis for any amendment must appear in the intrinsic evidence and cannot be established by any other evidence.

Thus, following the Festo decision, an illustration of application of prosecution history estoppel could be represented as follows in Figure 4:

Figure 4

Prosecution History Estoppel After Festo
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When the applicant amends a claim to have a literal scope of the Allowed Claim (D), the applicant is no longer able to claim any area between the literal language of the claim and the Prior Art (B) as characterized by the Examiner. Instead, the applicant is confined to the reach of the literal claim terms. Thus, either a copyist or someone attempting to design around the patent may utilize all of the area between whatever the *127 true state of the prior art may have been to the limits of the literal language of the claim without being subject to a claim for infringement.

C. Unanswered Questions

While the Festo decision purports to eliminate uncertainty regarding the reach of prosecution history estoppel, it raises other uncertainties as to the application of the decision itself. At least part of the uncertainty created by the Festo opinion relates to the reach of the phrase "substantially related to patentability," and to what constitutes a narrowing amendment. There are various reasons for rejection of patent claims that go to technical drafting defects, such as improper multiple dependent claiming and lack of antecedent basis. These rejections and the correcting amendments arguably are related to patentability in the sense that the PTO will not grant a patent if they are not corrected. It is not clear whether such defects are substantial enough to trigger Festo analysis, although there is little basis in the opinion to assume otherwise. Also far from certain are what kinds of amendments or grounds for amendment will be accepted as not being related to patentability.

Furthermore, it is not at all clear what kinds of amendments can be characterized as non-narrowing amendments. Accused infringers will argue that if the amendment causes the withdrawal of an examiner's prior art rejection,

it is ipso facto a narrowing amendment, regardless of whether the actual changes demonstrably narrow the claim limitations. Both of the amendments at issue in Festo, however, added an element, which may be the clearest instance of a narrowing amendment. Language changes in an existing element are not nearly as clear in their effect. If the prosecuting attorney substitutes a synonym or an adjective, to overcome an objection by the Examiner, as a mere "clarification," will the courts see it as a narrowing of the claim?

The kinds of arguments that may be raised are illustrated in Laitram Corp. v. NEC Corp. [FN70] The Laitram case presents the question of which reexamined claims are "identical" for purposes of statutory provisions governing the litigation of those claims. The Federal Circuit had determined that "identical" did not mean verbatim, but "without substantive change." The patentee argued that wording changes in response to a prior art rejection "merely made explicit certain details that were inherent in those claims as originally granted." [FN71] The patentee also presented testimony of an expert witness that a person of ordinary skill in the art would understand *128 that the addition of terms like "high speed," and "rapidly reacting" made no change in the scope of the originally issued claims. There is no apparent reason why patentees may not similarly argue that wording changes during the application process were not "narrowing amendments" because they merely serve to make explicit what was inherent in the claims as originally submitted.

On its face, the Festo decision addresses only one prong of prosecution history estoppel, estoppel arising from amendment. It is entirely unclear how the courts will treat the other major prong of prosecution history estoppel, which is estoppel by argument. When a patentee responds to a rejection not by amendment, but by arguing that something in the submitted claim distinguishes the prior art, he has heretofore not been entirely estopped from arguing that accused devices contain an equivalent element. Instead, he may present theories of infringement under the doctrine of equivalents, providing they are not inconsistent with his earlier argument made during prosecution.

After Festo, two approaches are possible. [FN72] One approach would be to hold that there is no range of equivalents available as to disputed elements regardless of what arguments are made during prosecution. This approach would be consistent with the absolutist approach of Festo, and its emphasis on the importance of notice. On the other hand, it would set up a situation wherein a patentee is precluded from the doctrine of equivalents by any rejection, no matter how ill considered or mistaken. The other approach would be to maintain the present contours of estoppel by argument, which would at least provide the possibility of involving the doctrine of equivalents. This approach would provide an incentive to argue every rejection, including appeal in the PTO, rather than amending a claim.

Another quandary is illustrated by a recent "nonprecedential" decision of the Federal Circuit issued just two days before the Festo decision. Vermeer Mfg. Co. v. The Charles Machine Works, Inc., slip op. No. 00-1119 (Fed. Cir. November 27, 2000). While the authors understand that such decisions are not binding precedent, this opinion may furnish the best information available to predict how the court might apply the Festo decision in certain circumstances. In addition to the rather curious date of its issuance, Vermeer is a per curiam opinion from a panel that included *129 two members of the Festo majority, one of which was Judge Schall, the author of the Festo opinion.

The Vermeer panel held that there was a genuine issue of material fact regarding infringement under the doctrine of equivalents and vacated a grant of summary judgment. The court stated that prosecution history estoppel did not apply because the claim at issue was never rejected but merely rewritten

in independent form and amended to correct a problem relating to antecedent basis.

If Vermeer is intended to be consistent with Festo, two things should be apparent. First, Vermeer indicates that an amendment to correct an antecedent basis problem should not invoke Festo estoppel, perhaps because the court did not consider it a substantial reason related to patentability. Although such a defect is related to patentability in the sense that the claim will not issue absent correction, Vermeer indicates that it may not be "substantially related." Just how the antecedent basis defect differs in significance from the improper multiple dependent form defect at issue in Festo is not clear. [FN73] Second, the court regarded the independent claim formulated from the technically deficient dependent claim as a claim that had never been previously rejected, and thus a claim that had not been amended for any reason, much less a substantial reason related to patentability.

Vermeer potentially suggests a very significant way to avoid an absolute bar under the literal language of Festo. Under Vermeer, where an independent claim is rejected in view of prior art but a dependent claim is indicated by the Examiner to be allowable, the patentee is able to retain the full benefit of the doctrine of equivalents by simply rewriting the dependent claim in independent form. See also Insta-Foam Products v. Universal Foam Systems (similar facts). [FN74]

Of course, it is difficult to see why a limitation added by amendment to a rejected claim should be treated so differently from the same limitation added by incorporation of a dependent claim. The notice function of claims sheds no useful light on this subject. Indeed, logical consistency would indicate that the limitation from the dependent claim that crossed the threshold of allowability should be the limitation to which the Festo bar should apply. Nevertheless, if the court follows the distinction of Vermeer, the implication for drafting claims is clear. It would seem that a significant type of non- narrowing amendment has been identified.

*130 There is also some indication that the strictures of Festo estoppel might be avoided by the expedient of drafting such phrases as "substantially," and/or "equivalents" into the claim, either originally or when amending in response to an Examiner's rejection. The Festo majority opinion, which distinguished the Hurlbut case, [FN75] could be read as attaching enough significance to these words to view the Hurlbut case as one involving literal infringement. [FN76] While Judge Michel is probably correct that the existence of equivalents has not depended on explicit claiming of equivalents, perhaps that principle is now changed. For instance, if a patentee in the early seventies had been obliged to amend an element of a claim for an electronic device to specify an HTL integrated circuit, he might have been able later to allege that a circuit employing a CMOS integrated circuit infringed literally if he had added the words "or equivalent." This type of drafting would merely transfer the equivalence analysis to a literal infringement rubric, but until it has been rejected by the courts, it will remain something to be tried.

PART II

A. Festo Contrasted With Supreme Court Precedent

At least two of the Festo dissents strongly suggest that the majority's decision cannot be reconciled with Supreme Court precedent on the doctrine of equivalents. With knowledge that certiorari will be sought by the patentee in Festo, [FN77] we now consider whether the majority decision in Festo is consistent with Supreme Court pronouncements on the issue.

In our view, the Festo decision goes beyond what is allowed by the Supreme Court's discussion of the doctrine of equivalents in at least two dimensions.

First, it defines "a substantial reason related to patentability" far too broadly to be consistent with the language of Supreme Court precedent. Again, this may prove to be the aspect of the Festo decision that most affects this country's patent system. Second, it limits the evidence that may be employed to overcome the Supreme Court's "rebuttable presumption" about unexplained amendments in a manner that is inconsistent with that Court's remand in Warner-Jenkinson. Since Warner-Jenkinson issued from a unanimous Court, it is difficult to see how Festo can survive the scrutiny of review on these points.

In Warner-Jenkinson, the Supreme Court remarked that "[o]ur prior cases have consistently applied prosecution history estoppel only where *131 claims have been amended for a limited set of reasons, and we see no substantial cause for requiring a more rigid rule invoking an estoppel regardless of the reasons for change." [FN78] The discussion leading up to that statement emphasizes cases in which the applicant had amended its claim in order to overcome a prior art rejection based on either anticipation or obviousness. [FN79] Indeed, 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." [FN80] Thus, although the Court's discussion speaks in terms of whether the amendment made the claim "patentable," the Court arguably intended its use of this term to refer only to amendments made to overcome prior art. [FN81]

Indeed, since Warner-Jenkinson was handed down by the high court, the Federal Circuit itself has indicated that Warner-Jenkinson supports precisely that interpretation. In Bai v. L & L Wings, Inc., the Federal Circuit noted that although the "meaning of the word 'patentability' was not made clear [in Warner-Jenkinson] ... the context of the court's discussion was patentability over the prior art." [FN82] In Festo, however, the Federal Circuit took the opposite view and interpreted the word "patentable" to encompass any statutory requirement for the claims to issue, including those in Sections 101 and 112.

In our view, the policy behind prosecution history estoppel seems better confined to questions as to whether the purported invention is already in the public domain. For example, an amendment to cure an indefiniteness problem, though required to meet Section 112, does not raise the same type of concerns as an amendment to avoid having the claim read on prior art. The Supreme Court speaks of instances where "the PTO has been requesting changes in claim language without the intent to limit equivalents or, indeed, with the expectation that language it required would in many cases allow for a range of equivalents ...." [FN83] It seems logical to conclude that Patent Examiners have an expectation that the doctrine of equivalents will not be employed to encompass prior art cited *132 as anticipating or obviating the rejected claim. It is difficult to argue, however, that the Examiner has any expectation that correcting the lack of an antecedent basis or improper multiple dependent claiming implies limitations as to what might constitute an equivalent of any element in the allowed claim.

Instead of a "limited set of reasons" for invoking prosecution history estoppel, the Federal Circuit's holding results in a comprehensive set of reasons for which it is difficult to identify exceptions. Moreover, the result is virtually identical to the position rejected in Warner-Jenkinson that "any surrender of subject matter during prosecution, regardless of the reason for such surrender, precludes recapturing any part of that subject matter, even if it is equivalent to the matter expressly claimed." [FN84] The Festo Rule seems to embody the petitioner's position in Warner-Jenkinson except, perhaps, for a very narrow set of technical amendments that cannot with much confidence be identified. Furthermore, the Festo Rule shifts the

emphasis of prosecution history estoppel. Rather than merely precluding the patenting of what is known in the prior art, Festo seeks any statutory premise to preclude all recourse against copyists. Both as a matter of language and policy, it is difficult to reconcile Festo with Warner-Jenkinson.

It is also difficult to reconcile the Warner-Jenkinson opinion with the Federal Circuit holding in Festo that "a patent holder seeking to establish the reason for an amendment must base his arguments solely upon the public record of the patent's prosecution." [FN85] As Judge Newman tellingly argues in her Festo dissent, "[t]he rebuttable presumption thereby becomes irrebuttable, because the prosecution record is necessarily silent in order for the presumption to arise at all" [FN86] The remand in Warner-Jenkinson seems to make little sense in view of this evidentiary restriction. [FN87]

It is, of course, possible that in the light of proper commentary something contained in the prosecution history might blossom into a reason unrelated to patentability. At the same time, it is difficult to see how latent reasoning based on file history analysis, but not evident to the Supreme Court, could furnish proper notice to the general public. It is far more likely that the Supreme Court, while intending to set up a rebuttable *133 presumption that would aid the public to some extent, intended that extrinsic evidence could be used to overcome the presumption.

As to the extent of prosecution history estoppel once it applies, parts of the Warner-Jenkinson opinion can be read consistently with the Festo Rule. In the case of unexplained amendments (i.e. cases where the presumption remains unrebutted), the Court states that "in those circumstances, prosecution history estoppel would bar the application of the doctrine of equivalents as to that element." [FN88] This sentence, if read literally, might imply the Festo Rule. Several of the judges on the Federal Circuit have viewed it precisely that way. [FN89]

The inquiry as to the proper scope of prosecution history estoppel, however, cannot be resolved on the basis of Warner-Jenkinson alone. The Court's discussion of the instances in which "prosecution history estoppel" applies relates to amendments made in response to a rejection based on prior art. In its use of the term "bar" in this context, the Court may have been assuming situations where the amendment changed the scope of the claim to the exact limits of allowability (in which case there would be no room for equivalents at all). [FN90] Alternatively, the Court may simply have been using none too specific language in dicta that was not meant to be construed as it was in Festo. Yet nothing in the text so indicates, and the opinion does not refer to any form of flexible or partial estoppel that may exist. Certainly, the Court does not cite Hughes Aircraft or oftquoted language about the effect of the estoppel being "from great to small to zero." [FN91] In short, it is unclear what the Supreme Court meant to communicate in this context.

Older opinions may help in assessing the Supreme Court's view of the scope of prosecution history estoppel. It would be difficult to improve on Judge Michel's discussion in Festo of the relevant opinions from the late nineteenth century. [FN92] These cases plainly do contain language indicating that the Supreme Court contemplated that amended and reissued claims could have equivalents to the claimed elements, even when those elements had been narrowed.

One noteworthy instance appeared in Sutter v. Robinson. [FN93] By amendment, the patentee had narrowed his claim to indicate that the novel aspect of his invention was a wooden as opposed to a metal vessel *134 for storing and carrying tobacco. The Court held that the accused metal box, which was precisely what the patentee distinguished in obtaining the patent, did not infringe. The Court stated, however, that "the ultimate question" was

"whether, in such an apparatus, the use of the cases, or boxes, or packages, in which the tobacco leaves are originally packed by the producer is equivalent to the wooden box tobacco-holder mentioned in the complainants' specification." [FN94] Clearly, the Sutter Court did not contemplate the type of absolute bar that Festo institutes.

Unfortunately, the language of the Supreme Court decisions cited by Judge Michel was not necessary to the holdings of any of those cases. Therefore it would be possible for the Supreme Court to uphold the Festo decision, at least as to the range of prosecution history estoppel, if it agreed with the policy choices made by the Federal Circuit. In the following discussion, we seek to illuminate those policy choices by comparing the Festo Rule to other rules that the Federal Circuit could have adopted instead.

B. The Efficacy of Alternative Rules For Prosecution History Estoppel

Given the pivotal role of the doctrine of equivalents to the patent laws, the Federal Circuit could have adopted less drastic rules for the clarification of prosecution history estoppel. In proposing such rules we are mindful of the Federal Circuit's desire for a "workable" system and for sufficient clarity and notice to the public concerning what is and what is not covered by a given patent. Unlike the majority in Festo, however, we do not feel that the rigid (or, to use the Supreme Court's word, "wooden") rule adopted in Festo is necessary to achieve these ideals.

The Federal Circuit's previous case law indicates that the essence of the doctrine of prosecution history estoppel is the bargain that was struck by the patentee and the PTO Examiner. The task for the trial court is to determine, as closely as the record will allow, what was agreed to be patentable concerning the invention, and then to prevent the patentee from recovering, through the doctrine of equivalents, subject matter that was surrendered during prosecution. This principle is stated repeatedly, albeit with varying terminology. See, e.g. Sage v. Devon Industries [FN95] ("A patentee is not free to retrade or renege on a deal struck with the PTO during patent prosecution."). As we see it, the use of the word "estoppel" in the context of examining prosecution history is somewhat of a misnomer. Examining the prosecution history to determine permissible equivalents *135 is much closer to divining the intent of the parties in a contract dispute. The all-important questions then become, what bargain was struck, and what subject matter was surrendered in reaching that bargain?

That these questions must be addressed does not mean that any patentee is free to run amuck with the doctrine of equivalents. It should be remembered that, apart from prosecution history estoppel, there are other independent legal limitations on the doctrine of equivalents. One limitation, which has existed for years, is discussed in detail in the Federal Circuit's decision in Wilson Sporting Goods. [FN96] Essentially, Wilson Sporting Goods reiterates that the doctrine of equivalents cannot be used so as to encompass prior art. Any prior art, not just prior art considered during prosecution, is fair game for the analysis. Another limitation, which is another prong of prosecution history estoppel, is estoppel by argument. Under this doctrine, if the patentee argues that his invention is distinguished from the prior art by a particular feature or process step, the doctrine of equivalents cannot be employed to encompass products or processes lacking that feature or step. [FN97]

More importantly, before the doctrine of equivalents can even be considered, the requirements of the doctrine itself must be satisfied. That is, for every element not found literally in the accused device of method, there must be an equivalent element in the accused device or method (i.e., the all elements rule). [FN98] Further, the differences between the claimed element and the element in the accused device or method must be

insubstantial. Only if these requirements are satisfied is resort to the doctrine of equivalents available, and even then the availability of the doctrine may be limited by estoppel or the prior art. Provided the doctrine of equivalents was applied properly, then even under the previous flexible bar rule, relatively few cases would pass all of these hurdles to the point that prosecution history estoppel by amendment would even come into play. Thus, it would appear that the Festo Rule does not seek increased certainty so much as reduced litigation. By making any amendment, for any reason, a basis for precluding any resort to the doctrine of equivalents, the decision attempts to remove the ability of most patentees to raise an argument under the doctrine of equivalents.

Prosecution history estoppel, while heretofore driven mainly by the content of prior art, also encompasses policy considerations grounded on the bargaining process before the PTO. For instance, Examiners often *136 overstate the teachings of the cited prior art in rejections. When this occurs, the patent applicant sometimes challenges the Examiner's position, but often, it does not. In many cases, the applicant will accept the Examiner's position, opting instead (for any number of reasons) to limit one or more aspects of the claim rather than endure a lengthy and sometimes expensive appellate procedure. [FN99] Thus, the interaction played out in the prosecution history between the patent applicant and the Examiner takes on added significance. If the applicant has acquiesced in the assertions of the Examiner as to the scope and content of certain prior art and amended a claim accordingly, his acquiescence will be clear from the record. Furthermore, it is not unfair to hold the patentee to the bargain he made, rather than forcing the public to evaluate the merits of the Examiner's position.

The Festo Rule, however, goes beyond any concept of the intent of the parties to the prosecution. When an amendment is made in the face of prior art, the only thing that is evident is that the parties did not expect that the claim would encompass that prior art as it is characterized in the record. There is no basis to presume that they contemplated that the claims would or would not read on other devices that were not discussed. To fashion a rule limiting the amended claim element to its literal language, goes beyond any reasoned analysis of the prosecution history. Instead, the Festo rule changes policy that for decades has favored the innovator over would-be copyists. Festo arbitrarily enables competitors to appropriate technology that may not even have existed in the public domain when the subject patent was filed.

There are at least two rules short of absolute bar that could be used to limit the kinds of devices or processes that may infringe under the doctrine of equivalents. These alternative rules provide what we believe to be an acceptable measure of clarity and notice while maintaining some measure of protection against the would-be copyist. The choice of which rule to use depends upon an analysis of the prior art as expressed by the Examiner.

By submitting these rules for consideration, we do not intend to imply that they are novel, universal or infallible. We simply make explicit that which was implicit in previous Federal Circuit cases. Moreover, the application of these rules to historical cases shows that they do not exhaustively address every situation that arises from prosecution. We do *137 contend, however, that these alternative rules represent a better compromise of competing considerations than does the Festo Rule.

1. Description of Alternative Rules

Where the Examiner asserts that a particular claim limitation is anticipated by the prior art, one may determine "that which was surrendered" by reference to the Examiner's assertion. Even if a closer examination reveals that the true scope of the prior art is narrower than the Examiner

asserted, the applicant by amending surrendered to the Examiner on that point, which gives rise to our first alternative rule. See Warner-Jenkinson, 117 S. Ct. at 1051, n.7 (courts are not free to examine correctness of Examiner's objection).

The first alternative rule is illustrated in Figure 5. Although the scope of the Submitted Claim (A) may not read on the Prior Art (B) as a court might determine later, the Examiner asserts otherwise. See circle (C). Rather than dispute the Examiner's position through the PTO appeals process if necessary, the applicant opts to amend his claim as represented by circle (D) to avoid the rejection. It is reasonable under these facts, that prosecution history estoppel should foreclose all resort to the doctrine of equivalents that would cover the prior art as asserted by the Examiner. It does not follow from these facts, however, that the area between circles *138 (C) and (D) was abandoned for the purpose of determining equivalents, for the simple reason that the state of the prior art (again, as asserted by the Examiner) did not call devices falling within that area into question. [FN100]

Figure 5

First Alternative Rule of Estoppel
TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

Alternatively, if the Examiner asserts that the prior art obviates the disputed claim consistent with Section 103, the rejected claim limitation represents the outer limits for that limitation beyond which the doctrine of equivalents should not be allowed to reach. This principle was well stated by the Supreme Court: "The patentee is [after amending] estopped to claim the benefit of his rejected claim or such a construction of his amended claim as would be equivalent thereto." [FN101]

This second alternative rule is illustrated by Figure 6. In this case, the Examiner asserts that the Prior Art (C), although not anticipating the submitted claim (A), nonetheless suggests it within the meaning of case law construing Section 103. As such, neither the position of the Examiner nor the prior art on which the rejection was based establishes the best boundary for application of the doctrine of equivalents. As shown in Figure 6, the scope of the Submitted Claim (A) represents the outer boundary for the disputed claim limitation beyond which the patentee should not be allowed to resort to the doctrine of equivalents. Stated otherwise, the patentee should be estopped from asserting that a device that does not literally infringe the Submitted Claim (A) nonetheless infringes the Allowed Claim (B) under the doctrine of equivalents. [FN102] Nevertheless, subject matter that literally infringes the Submitted Claim (A) and that is "equivalent" to (i.e., is insubstantially different from) the Allowed Claim (B), should be susceptible to an infringement claim under the doctrine of equivalents. Certainly, it cannot be logically said that by amending the claim in the manner shown, the patentee knowingly surrendered all coverage of subject matter not suggested by the cited prior art as asserted by the Examiner.

Both of these suggested rules are based on evidence included in the prosecution history of any patent and thus both provide reasonable notice to the public concerning the outer boundary of the doctrine of *139 equivalents. The Examiner's arguments as to the state of the prior art, even if they amount to no more than the citation of particular prior art references, are available to inform the public as to a dividing line beyond which they are free to design and sell. Further, the scope of the abandoned Submitted Claim is set forth in the record and can be referred to by the public. This rejected claim constitutes another measure beyond which the patentee may not reach by resort to the doctrine of equivalents.

Figure 6

Second Alternative Rule of Estoppel
TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

The second rule represents a "fallback" position, and is less robust than the first rule. In certain cases, it contributes little to the doctrine of equivalents analysis. If the patentee amended a claim by adding a new element, for instance, the abandoned claim provides no limits for application of the doctrine of equivalents to the added element. [FN103] Nevertheless, it may prove useful in certain cases where the Examiner's position was not clear on the record.

It should also be noted that, like the Festo Rule, these alternative rules focus only on estoppel by amendment. They do not purport to address *140 estoppel by argument, which is the other major prong of prosecution history estoppel. Furthermore, they do not supplant or alter the other doctrinal requirements of the doctrine of equivalents, such as the all elements rule, or the basic requirement of insubstantial differences.

Even though there are areas of indeterminacy between the literal language of the allowed claim and the boundaries established by these alternate rules, the public does not lack notice. Members of the public may design and sell devices that fall into that gray area, but, depending on the specifics of what is designed, they may be found to infringe under the doctrine of equivalents. One may object that this uncertainty does not sufficiently favor prospective competitors, but the problem is not lack of clarity or notice. Rather, it reflects a policy choice that the Federal Circuit and many other courts have previously resolved in favor of the patentee.

2. Application of the Alternative Rules

In an effort to ascertain the relative efficiency of these alternative rules as compared to the Festo Rule, we have examined the facts of a number of historical cases where prosecution history estoppel was in issue. We have taken these cases from the list cited by Judge Michel in his Festo dissent as, in effect, having been overruled by the Festo majority. [FN104] Our purpose in undertaking this study was to see whether these alternative rules would have provided the clarity and notice that the Federal Circuit seeks while also maintaining the reported decision. The results are tabulated below.

At the outset, it is interesting to note that the Festo Rule would have reversed the outcome of only 13 of the 52 cases. In this regard, it might be argued that the effect of the Festo Rule might not be as great in its application as it seems in the abstract. It should be remembered, however, that heretofore prosecution history estoppel by amendment was widely thought to apply only to amendments made to overcome prior art. Since Festo expanded the types of amendments giving rise to prosecution history estoppel, the Festo Rule will be applicable in a far greater number of cases, and may prove to be determinative in many of them.

Between the two alternative rules, 47 of the 52 cases could be resolved. Only 5 cases were indeterminate and, in most instances, this was *141 due to the absence of the required information in the public reports rather than any theoretical shortcomings of the rules. Invoking one or the other of the rules preserved the reported outcome of the case in 42 instances. Of the five cases where the alternate rules indicated a different result as to estoppel by amendment, two would have resulted in estoppel by argument. Thus only 3 cases, in our view, would have been decided differently under the alternate rules. In each of these cases, the court's application of flexible bar

resulted in estoppel whereas the alternate rules would have indicated no estoppel.

Some might conclude that this approach gives more ground to patentees. Nevertheless, they cannot seriously maintain that certainty and notice would be lost by application of the new rules. Additionally, any slight shift embodied in the alternative rules would be less drastic than the shift in the opposite direction that is posed by the Festo Rule. It would also be consistent with the previous policy of providing protection against copyists.

In 22 cases, neither application of the alternative rules nor the other limitations on doctrine of equivalents conclusively eliminated the possibility that the accused device was an equivalent, which would have required submission of the case to a jury. This total of 22 cases includes the five cases where the reported facts are insufficient to apply the alternative rules. Furthermore, so far as we are able to determine, the Festo Rule would not have resolved the doctrine of equivalents issue in eight of those cases. Therefore, insofar as reported facts permit evaluation, application of the alternate rules could have resulted in nine more jury cases than the Festo Rule.

The conclusion to be drawn is that neither public notice nor consistency requires the dislocations in the patent system that will flow from the Festo decision. [FN105] The alternative rules provide a measure of consistency with the Federal Circuit's cases that is remarkable. Moreover, these rules would not leave the public without guidance as to how to conduct its affairs in any substantive sense. One or both of the rules lead to the reported result in the vast majority of cases. That there sometimes remains a region of possible equivalents does not constitute lack of guidance. Moreover, if litigiousness is the evil that Festo seeks to address, it is far from clear that the decision will be a net gain after patentees learn how to exploit the uncertainties of the decision itself. While the alternative rules do not provide as much of a safe harbor to those attempting to design around a patent, they are more commensurate with the limitations of language and the realities of patent prosecution. *142 Therefore, they strike a better balance between the interests of innovators and the interests of those who seek to capitalize on their invention.

FESTO: TABLE OF FED. CIR. CASES

Instructions: The table below lists the 52 Federal Circuit cases cited in Judge Michel's dissenting opinion. We will need to analyze each of the cases to determine:

(1) whether in the actual case, the Fed. Cir. held the plaintiff was estopped from alleging infringement under the D.O.E.;

(2) whether plaintiff would be estopped under the majority's decision in Festo;

(3) whether plaintiff would be estopped under the 1st alternative rule we propose: (Examine the state of the prior art as asserted by the Examiner.) Plaintiff is estopped from asserting equivalents that would reach the scope of the prior art as asserted by the examiner.

(4) whether plaintiff would be estopped under the 2nd alternative rule we propose: (Examine the claim that was rejected by the Examiner and altered by amendment. The rejected claim represents the outer limits beyond which the doctrine of equivalents may not expand the allowed claims. In some cases, neither the arguments of the Examiner nor the prior art on which the rejection was based establish any useful boundaries for application of the doctrine of equivalents. Therefore, one must resort to the claim that was submitted and abandoned in favor of the claim eventually allowed. The former

represents an outer boundary beyond which the patentee may not employ the doctrine of equivalents.)

For each of the columns below enter (E) if plaintiff was or would be estopped by the relevant rule from showing infringement under the D.O.E. Enter (None) if plaintiff was not or would not be estopped, under the relevant rule, from showing infringement under the D.O.E. If under any of the rules you can not determine the result on the facts that you can discover in the case report(s), simply enter (I) for indeterminate.

[Note: The following TABLE/FORM is too wide to be displayed on one screen. You must print it for a meaningful review of its contents. The table has been divided into multiple pieces with each piece containing information to help you assemble a printout of the table. The information for each piece includes: (1) a three line message preceding the tabular data showing by line # and character # the position of the upper left-hand corner of the piece and the position of the piece within the entire table; and (2) a numeric scale following the tabular data displaying the character positions.]

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******** This is piece 1. -- It begins at character 1 of table line 1.
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#CASE NAME	CITATION	HOLDING	FESTO	1st ALT.	2nd ALT.
1. Hughes Aircraft Co. v. U.S.	717 F.2d 1351	None	E	None	None
2. Bayer Aktienge-sellschaft v. Duphar Int'l Research B.V.	738 F.2d 1237	E	E	None	E
3. Loctite Corp. v. Ultraseal Ltd.	781 F.2d 861	None	None	None	None
4. Mannesmann Demag Corp. v. Engineered Metal Prod. Co., Inc.	793 F.2d 1279	E	E	E	E
5. Great Northern Corp. v. Davis Core & Pad Co., Inc.	782 F.2d 159	None	E	None	None
6. Moeller v. Ionetics, Inc.	794 F.2d 653	None	E	None	None
7. Chemical Eng'g Corp. v. Essef Indus., Inc.	795 F.2d 1565	E	E	E	E
8. Townsend Eng'g Co. v. Hitec Co., Ltd.	829 F.2d 1086	E	E	E	E

9.	Tandon Corp. v. United States Int'l Trade Comm'n	831 F.2d 1017	E	E	E	E
10.	Pennwalt Corp. v. Durand-Wayland, Inc.	833 F.2d 931	E	E	E	E
11.	Hi-Life Prod., Inc. v. American Nat'l Water-Mattress Corp.	842 F.2d 323	None	E	None	None
12.	Water Techs. Corp. v. Calco, Ltd.	850 F.2d 660	None	E	None	None
13.	Diversitech Corp. v. Century Steps, Inc.	850 F.2d 675	E	E	E	E
14.	LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n	867 F.2d 1572	None	E	I	I
15.	Sun Studs, Inc. v. ATA Equip. Leasing, Inc (Two sets of patents)	872 F.2d 978	None	None	I	None
		None	None	None	None	paten-ts
16.	Environmental Instruments, Inc. v. Sutron Corp.	877 F.2d 1561	E	E	E	None
17.	Black & Decker, Inc. v. Hoover Serv. Ctr.	886 F.2d 1285	None	I	None	I
18.	Jonsson v. Stanley Works	903 F.2d 812	E	E	E	I
19.	Hormone Research Found., Inc. v. Genentech, Inc.	904 F.2d 1558	I	I	I	I
20.	Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc.	906 F.2d 698		None	None	None
21.	Dixie USA, Inc. v. Infab Corp.	927 F.2d 584	E	E	E	E
22.	Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.	944 F.2d 870	None	I	None	None

23.	2Laitram Corp. v. NEC Corp.	952 F.2d 1357	I	I	I	I
24.	2Charles Greiner & Co., Inc. v. Mari-Med Mfg., Inc.	962 F.2d 1031	E	E	E	None
25.	Texas Instruments, Inc. v. United States Int'l Trade Comm'n	988 F.2d 1165	E	None	None	None
26.	Wang Labs., Inc. v. Toshiba Corp.	993 F.2d 858	E	E	None	None
27.	Hoganas AB v. Dresser Indus., Inc.	9 F.3d 948	E	None	E	None

28.	Genentech, Inc. v. Wellcome Found. Ltd.	29 F.3d 1555	E	E	None	None
29.	99Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570	54 F.3d 1570	E	E	E	None
30.	Pall Corp. v. Micron Separations, Inc.	66 F.3d 1211	None	None	None	None
31.	Modine Mfg., Co. v. United States Int'l Trade Comm'n	75 F.3d 1545	None	E	None	None
32.	Athletic Alternatives, Inc. v. Prince Mfg., Inc.	73 F.3d 1573	None	E	None	None
33.	Insituform Tech., Inc. v. CAT Contracting, Inc.	99 F.3d 1098	None	E	None	None
34.	Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc.	62 F.3d 1512	None	E	None	None
35.	Wang Labs, Inc. v. Mitsubishi Elecs. Amer., Inc.	103 F.3d 1571	E	E	None	I
36.	Lockwood v. American Airlines, Inc.	107 F.3d 1565	None	None	None	None
37.	Cybor Corp. v. FAS Tech., Inc.	138 F.3d 1448	None	None	None	None
38.	Litton Sys., Inc. v. Honeywell, Inc.	140 F.3d 1449	I	E	None	None
39.	Hughes Aircraft Co. v. United States	140 F.3d 1470	None	E	None	None
40.	Laitram Corp. v. Morehouse Indus., Inc.	143 F.3d 1456	None	None	None	None
41.	EMI Group North Amer. Inc. v. Intel Corp.	157 F.3d 887	E	E	E	None
42.	Desper Prod., Inc. v.	157 F.3d	E	E	E	None

	Qusound Labs, Inc.	1325				
43.	Bai v. L & L Wings, Inc.	160 F.3d 1350	E	E	E	None
44.	Insituform Tech., Inc. v. Cat Contracting, Inc.	161 F.3d 688	None	E	None	I
45.	Pharmacia & UpJohn Co. v. Mylan Pharms., Inc.	170 F.3d 1373	E	I	I	I
46.	Sextant Avionique, S.A. v. Analog Devices, Inc.	172 F.3d 817	E	E	E	E
47.	Augustine Med. Inc. v. Gaymar Indus., Inc.	181 F.3d 1291	E	E	E	I
48.	Loral Fairchild Corp. v. Sony Corp. (two patents)	181 F.3d 1313	E	E	E	None
			E	E	E	'485 pat-ent
49.	Merck & Co. v. Mylan Pharms. Inc.	190 F.3d 1335	E	E	E	E
50.	K-2 Corp. v. Salomon S.A.	191 F.3d 1356	E	E	E	I
51.	Bayer AG v. Elan Pharm. Research Corp.	212 F.3d 1241	E	E	None	None
52.	KCJ Corp. v. Kinetic Concepts, Inc.	223 F.3d 1351	E	E	I	I

1...+...10....+...20....+...30....+...40....+...50....+...60....+...70.

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**
******* This is piece 2. -- It begins at character 72 of table line 1.
****
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**

COMMENTS

The claim was not amended. The issue was Estoppel by Argument

S.J. patents
JMOL

Estoppel by argument supports sameresult
Effect of Festo Rule indeterminate in view of Vermeer
Estoppel by argument supports same result
Amendments to subject claim not at issue in case report; issue was stoppel by argument raised in regard to

another claim	
None	
Estoppel by argument supports same result	
Potential Estoppel by Warner-Jenkinson presumption	
Accused device not disclosed in case report. Unclear if language added during re-exam would be deemed narrowing amendment under Festo Rule	
The claim at issue was not amended; thus neither the Festo rule nor the second alternative rule apply. There was PHE by argument, but the argument was not made to overcome prior art, thus the first alternative rule does not apply.	
Applicant narrowed claims beyond what was required by the prior art.	

The claim at issue was not amended; thus neither Festo nor the second alternative rule apply. PHE arose by argument to overcome prior art.

PHE by argument; no amendment

PHE byargument; no amendment

Estoppel by amendment may preclude infringement under DOE. Case remanded for determination whether estoppel by argument precluded infringement under DOE. Results of

remand not
available

No amendment,
only estoppel
by argument
at issue
Estoppel by
argument also
in case
Estoppel by
argument

Estoppel by
argument; no
amendment
Estoppel by
argument
supports same
result
Estoppel by
argument
supports same
result
'674 patent

Estoppel by
argument

72.....80....+..

[FN1]. Messrs. Atkinson and Rose are partners, and Mr. Wasleff is Counsel in the Litigation Section of the Intellectual Property Practice Department of the firm of Alston & Bird LLP. The authors are admitted to practice before the United States Patent and Trademark Office. The authors gratefully acknowledge the research contributions of Patrick Elsevier and Lance Lawson, both of whom are patent litigation associates at Alston & Bird.

[FN2]. 52 F.3d 967 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370, 116 S. Ct. 1384, 134 L.Ed.2d 577 (1996).

[FN3]. The Markman decision has given rise to a new procedural vehicle called a "Markman hearing," in which the district court seeks to determine the literal scope of patent claims. Recent statistics have shown that the reversal rate by the Federal Circuit on claim interpretation decisions is about forty per cent.

[FN4]. 56 USPQ2d 1865; 2000 WL 1753646, Nov. 29, 2000 (Fed. Cir.) (en banc).

[FN5]. Black & Decker, Inc. v. Hoover Service Center, 866 F.2d 1285, 1295 (Fed. Cir. 1989).

[FN6]. 339 U.S. 605, 70 S. Ct. 854 (1950).

[FN7]. Id. at 607, 70 S. Ct. 856.

[FN8]. The authors presume that the reader has at least some familiarity with the laws relating to patent infringement, and thus have not included an exhaustive explanation of patent infringement analysis.

[FN9]. U.S. Const., art. I, ¤ 8, cl. 8.

[FN10]. 35 U.S.C. ¤¤ 100, et seq.

[FN11]. 35 U.S.C. ¤ 101.

[FN12]. 35 U.S.C. ¤ 271.

[FN13]. 35 U.S.C. ¤ 154. For patents issuing from applications filed before June 8, 1995, however, the patent term expires either twenty years after the date the application was filed, or seventeen years after the patent was issued, whichever is later. 35 U.S.C. ¤ 154(c)(1).

[FN14]. 35 U.S.C. ¤ 102.

[FN15]. 35 U.S.C. ¤ 103.

[FN16]. 35 U.S.C. ¤ 112, ¦ 1.

[FN17]. Id.

[FN18]. Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935 (Fed. Cir. 1987) (en banc).

[FN19]. Markman v. Westview Instr., Inc., 517 U.S. 370, 390; 116 S. Ct. 1384 (1996) (quoting General Elec. Co. v. Wabash Appliance Corp., 304 U.S. 364, 369; 58 S. Ct. (1938); and United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236; 63 S. Ct. 165 (1942)).

[FN20]. Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607-08; 70 S. Ct. 854 (1950).

[FN21]. Id. at 607.

[FN22]. Pennwalt Corp., 833 F.2d at 935.

[FN23]. Wilson Sporting Goods v. David Geoffrey and Assoc., 904 F.2d 677, 684 (Fed. Cir. 1990).

[FN24]. Warner-Jenkinson Company, Inc. v. Hilton Davis Chemical Co., 520 U.S. 17, 117 S. Ct. 1040 (1997).

[FN25]. Pennwalt Corp., 833 F.2d at 935.

[FN26]. Pennwalt Corp., 833 F.2d at 935.

[FN27]. Graver Tank, 339 U.S. at 608; Pennwalt Corp., 833 F.2d at 934.

[FN28]. Corning Glass Works, 868 F.2d at 1259-1261.

[FN29]. See Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1425 (Fed. Cir. 1997).

[FN30]. Warner-Jenkinson, 520 U.S. at 29; 117 S. Ct. at 1049.

[FN31]. Wilson Sporting Goods., 904 F.2d at 684.

[FN32]. We recognize that due to the limitations of Venn diagrams, the Figures do not represent the concept of claim scope with complete fidelity, particularly in the case of claims having more than two elements. However, in light of the All-Elements Rule, we believe that the diagrams presented here are adequate to present a conceptual framework, particularly as to a hypothetical amended claim element, for comparing the different rules regarding application of the doctrine of equivalents. In addition, (as in several of the other Venn diagrams set forth herein), the outer boundary of what we have termed as the "possible equivalents" is marked by a dotted rather than a solid line. This graphical device illustrates that estoppel applies if the prior art includes the same device or process step that is accused as an equivalent (or something obvious in view thereof).

[FN33]. Wilson Sporting Goods v. David Geoffrey & Associates, 904 F.2d 677 (Fed. Cir. 1990).

[FN34]. Pharmacia & Upjohn Co. v. Mylan Pharmacies, Inc., 170 F.3d 1373, 1376 (Fed. Cir. 1999).

[FN35]. 8 F.3d 1573, 1579 (Fed. Cir. 1993).

[FN36]. Huges Aircraft Co. v. United States, 717 F.2d 1351 (Fed. Cir. 1983).

[FN37]. Id., at 1363.

[FN38]. Kinzenbaw v. Deere & Co., 741 F.2d 383, 388-91 (Fed. Cir. 1984).

[FN39]. See, 5A Donald S. Chisum, Chisum on Patents, ¤ 18.05[3][b] (1998).

[FN40]. See, e.g., Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1026 (Fed. Cir. 1987); Pennwalt Corp., 833 F.2d at 939 n.2; LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n, 867 F.2d 1572, 1576 (Fed. Cir. 1989); Sun Studs, Inc. v. ATA Equipment Leasing, Inc., 872 F.2d 978, 987 (Fed. Cir. 1989); Laitram Corp. v. NEC Corp., 952 F.2d 1357, 1361 (Fed. Cir. 1991).

[FN41]. Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc., 62 F.3d 1512 (1995), rev'd and remanded 520 U.S. 17 (1997).

[FN42]. See, e.g., Hilton Davis, 62 F.3d at 1538 (Plager, J., dissenting) ("the reality is that the doctrine of equivalents is a virtually uncontrolled and unreviewable license to juries to find infringement if they so choose. And this is done largely without regard to and independent of the express limitations of the patent claims ..."); see also, Sage Prods., 126 F.3d at 1425 ("Because the doctrine of equivalents blurs the line of demarcation between infringing and non-infringing activity, it creates a zone of uncertainty, into which competitors tread only at their peril.").

[FN43]. 56 U.S.P.Q.2d at 1877; 2000 WL 1753646 at * 14.

[FN44]. The Supreme Court reversed the Federal Circuit, not because the Federal Circuit upheld the doctrine of equivalents, but because it failed to consider all of the requirements under the doctrine of equivalents.

[FN45]. Warner-Jenkinson, 520 U.S. at 28-29; 117 S. Ct. at 1048.

[FN46]. Warner-Jenkinson, 520 U.S. at 29; 117 S. Ct. at 1049.

[FN47]. Warner-Jenkinson, 520 U.S. at 30-31; 117 S. Ct. at 1049.

[FN48]. Warner-Jenkinson, 520 U.S. at 32; 117 S. Ct. at 1050.

[FN49]. See 117 S. Ct. at 1054 ("We expect that the Federal Circuit will refine the formulation of the test for equivalence in the orderly course of case-by-case determinations, and we leave such refinement to that court's sound judgment in this area of its special expertise.").

[FN50]. See, Litton Systems, Inc. v. Honeywell, Inc., 145 F.3d 1472, 1474-79 (Fed. Cir. 1998) (Gajarsa, J., dissenting).

[FN51]. See 56 USPQ2d at 1915; 2000 WL 1753646 at *69 (Linn. J. dissenting).

[FN52]. For example, assume that one element of the claim is a percentage range for one constituent of an alloy or chemical mixture. Further, assume that one example discloses a range of six to ten percent of the constituent, and a second example discloses a range of six to twenty percent. Ordinarily, the applicant will claim a range from six to twenty percent. If a prior art reference discloses seventeen percent, however, the applicant can not merely amend his claim to read six to sixteen percent and still overcome the prior art. Instead, the PTO Examiner likely will require that the claim be limited to a range from six to ten percent on the basis that nothing further is both allowable and supported by the specification under Section 112.

[FN53]. Hughes Aircraft Co. v. United States, 140 F.3d 1470 (Fed. Cir. 1998) ("Hughes II").

[FN54]. Hughes II, 140 F.3d at 1476.

[FN55]. Hughes II, 140 F.3d at 1476.

[FN56]. Litton Systems, Inc. v. Honeywell, Inc., 140 F.3d 1449, 1456 (Fed. Cir. 1998).

[FN57]. Litton Systems, 140 F.3d at 1456.

[FN58]. Litton Systems, 140 F.3d at 1457.

[FN59]. Litton Systems, 145 F.3d at 1473 (Clevenger, J., dissenting).

[FN60]. 56 USPQ2d at 1877; 2000 WL 1753646 at *15.

[FN61]. Id.

[FN62]. USPQ2d at 1890; 2000 WL 1753646 at *33 (Plager, J., concurring) (emphasis added).

[FN63]. USPQ2d at 1892-93; 2000 WL 1753646 at 34-36.

[FN64]. In patent terms, this rejection was under 35 U.S.C. ¤ 112, ¦ 1, which requires a clear, concise and exact written description of the claims.

[FN65]. This rejection was under 35 U.S.C. ¤ 112, ¦ 2, which requires claims describing the invention. The statute further provides that a multiple dependent claim may not depend on another multiple dependent claim. Id. ¦ 5.

[FN66]. Initially, a panel of the court had affirmed the judgment of infringement of both patents. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 72 F.3d 857 (Fed. Cir. 1995). The defendants appealed to the United States Supreme Court, which vacated and remanded to the Federal Circuit for further consideration in light of Warner-Jenkinson (a sequence known as GVR). On remand, a second panel again affirmed the district court's judgment of infringement. 172 F.3d 1361 (Fed. Cir. 1999). The defendants then sought and obtained a rehearing en banc. 187 F.3d at 1381.

[FN67]. It is not clear why this question was briefed. As the Festo opinion acknowledges, this question was answered in the Supreme Court's Warner-Jenkinson opinion.

[FN68]. In our view, the Festo decision relates to prosecution history estoppel arising from claim amendments, as opposed to arguments, made during prosecution. Specifically, the court stated, "[W]e hold that prosecution history estoppel acts as a complete bar to the application of the doctrine of equivalents when an amendment has narrowed the scope of a claim fore a reason related to patentability." 56 USPQ2d at 1877; 2000 WL 1753646 at *14 (emphasis added).

[FN69]. The doctrine of equivalents can nonetheless be limited in these instances by other doctrines such as the all elements rule, estoppel by argument, and by the prior art.

[FN70]. 952 F.2d 1357 (Fed. Cir. 1991)

[FN71]. Id. at 1363.

[FN72]. The Festo majority noted that if the claims have not been amended, amendment based estoppel will not bar applications of the doctrine of equivalents. 56 USPQ2d at 1886. The Festo court goes on to ambiguously state that "the [trial] court may need to consider whether statements made during prosecution give rise to argument-based estoppel." Id. It is not clear whether the court intended that the latter type of estoppel should be an absolute bar or the flexible rule previously employed.

[FN73]. See 56 USPQ2d at 1895; 2000 WL 1753646 at * 82. Multiple dependent claiming is mentioned in paragraph 5 of 35 U.S.C. ¤ 112. One possible distinction is whether the rejection is related to a PTO rule or an explicit statutory provision.

[FN74]. 906 F.2d 698, 703 (Fed. Cir. 1990).

[FN75]. Hurlbut v. Schillinger, 130 U.S. 456; 9 S.Ct. 584 (1889).

[FN76]. See 56 USPQ2d at 1902; 2000 WL 1753646 at * 48 (Michel, J., dissenting).

[FN77]. The authors have received correspondence from the patentee to members of the Federal Circuit Bar Association soliciting support for its petition for certiorari.

[FN78]. 117 S.Ct. at 1050 (emphasis added).

[FN79]. Id. at 1049-1050.

[FN80]. Id. at 1050-1051.

[FN81]. Id. at 1049. The statutory requirements relating to the state of prior art are set forth in 35 U.S.C. ¤¤ 102 and 103. The Festo decision expanded prosecution history estoppel to encompass changes made to fulfill the requirements of 35 U.S.C. ¤ 112.

[FN82]. 160 F.3d 1350, 1355 (Fed. Cir. 1998); see also Sextant Avionique, S.A. v. Analog Devices, Inc., 172 F.3d 817, 828 (noting that in the patent statutes, Sections 102 and 103 fall under the heading "Conditions for Patentability," whereas Section 112 does not); Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449, 1457 (Fed. Cir. 1998) ("related to patentability" encompassed amendments "made to avoid the prior art").

[FN83]. Warner-Jenkinson at 1050 (emphasis added).

[FN84]. Id. at 1049.

[FN85]. 56 USPQ2d at 1886; 2000 WL 1753646 at *27.

[FN86]. 56 USPQ2d at 1924; 2000 WL 1753646 at *80. (Newman, J., dissenting)

[FN87]. Indeed, if the Federal Circuit's position that only intrinsic evidence can be relied upon to overcome the presumption is coupled (as it must be under Festo) with the rule that all unexplained, narrowing amendments form a complete bar to the application of the doctrine of equivalents, the Supreme Court's remand of the case to the Federal Circuit and the Federal Circuit's subsequent remand of the case to the District Court makes little, if any, sense at all. Had the Supreme Court had the Festo Rule in mind, it could have ended the matter once and for all by simply studying the prosecution history.

[FN88]. 117 S.Ct. at 1051.

[FN89]. See, Litton Systems, Inc. v. Honeywell, Inc., 145 F.3d 1472 (Fed. Cir. 1998).

[FN90]. As discussed above, there are several reasons why this assumption may not hold. See, supra, notes 51, 52 and accompanying text.

[FN91]. 717 F.2d 1351, 1363 (Fed. Cir. 1983).

[FN92]. 56 USPQ2d at 1898-1904; 2000 WL 1753646 at *49-52 (Michel, J., dissenting).

[FN93]. 119 U.S. 530; 7 S.Ct. 376 (1886).

[FN94]. Id. at 542.

[FN95]. 126 F.3d 1420, 1432 (Fed. Cir. 1997).

[FN96]. 904 F.2d 677 (Fed. Cir. 1990) cert. denied 498 U.S. 992 (1990).

[FN97]. As shown in the discussion below, this doctrine is another facet of prosecution history estoppel, although it is unaffected by the Festo rule, since it has nothing to do with amendments.

[FN98]. See, e.g., Warner-Jenkinson at 1049.

[FN99]. It should not be lost on the reader that since the term of the patent begins with filing rather than issuance, an even greater premium is attached to a speedy, streamlined prosecution.

[FN100]. In addition to the limitations caused by estoppel, it is assumed with regard to these Venn diagrams that an accused device or method within the shaded areas meets the requirement of an "equivalent," which is to have insubstantial differences from the claimed element. We note that the outer boundary of "possible equivalents" is marked by a dotted line in order to suggest that if the accused device includes the same element regarding the disputed limitation as did the prior art as asserted by the Examiner (or something obvious in view thereof), the patentee loses; estoppel applies.

[FN101]. Smith v. Magic Kennel Club, 282 U.S. 784; 51 S.Ct. 291, 294 (1931).

[FN102]. The dotted line representing the scope of Submitted Claim (A) has the same meaning in Figure 6 as the dotted line in Figure 5.

[FN103]. It is worth asking in such a case whether prosecution history estoppel should apply at all. Indeed, where a claim is patentable because it recites a new and unobvious combination, why should resort to the doctrine of equivalents be barred where another merely alters in an insubstantial way one element of the combination?

[FN104]. It seems that Judge Michel's assertion that the holdings in all of these cases have been overruled is a bit of an overstatement. Our analysis of these cases suggests that the result would not have changed in the majority of the cases. What is changed by Festo is the statement of the law recited in these cases, most of which refer, directly or indirectly, to the Federal Circuit's 1983 decision in Hughes Aircraft.

[FN105]. See 56 USPQ2d at 1877; 2000 WL 1753646 at *15 ("In patent law, we think that rules qualify as "workable" when they 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.").

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