The Future of the Equitable Doctrine of Equivalents in the United States

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"The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy."

Mr. Justice Brown
Topliff v. Topliff
145 U.S. 156, 171 (1892)

"No plagiarist can excuse the wrong by showing how much of his work he did not pirate…"

Judge Learned Hand
Sheldon v. Metro-Golden Pictures
81 F.2d 49, 56 (2d Cir. 1936)

1. Introduction

The court-created doctrine of equivalents, which has a long history in U.S. patent law, is about to be reconsidered by the U.S. Supreme Court.[1] As most recently expressed by the Court in *Warner-Jenkinson* in 1997, "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."[2] In reversing the lower *Warner-Jenkinson* decision of the Court of Appeals for the Federal Circuit [CAFC], the unanimous Supreme Court also stated that it would not deign to "micromanage" the "particular word-choice"

[1] *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc., cert. granted* 69 USLW 3673 (18 June 2001)
[2] *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997)

for the formula of the doctrine of equivalents by the CAFC in subsequent cases. "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 special expertise."[3]

Recently, the scope of the doctrine of equivalents was drastically curtailed by the Federal Circuit in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc*;[4] and notwithstanding its earlier-stated deference to the Federal Circuit on the issue of a specific formulation of the doctrine, the Supreme Court has decided to consider the issue once again. The Supreme Court could approve the new Federal Circuit test, revisit the tests in practice prior to *Festo*, construct a new test, or, if it deemed that the it had outlived its usefulness, abolish the doctrine completely[5].

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[3] *id*. at 40

[4] 234 F.3d 558 (C.A.Fed. 2000)

[5] Abolishing completely the doctrine in the United States (and thereby limiting the patentee to its rights under the reissue and reexamination provisions of U.S. patent law) would appear counter to the modern trend. The doctrine of equivalents was recently proposed for express inclusion in the Protocol on the Interpretation of Article 69 of the European Patent Convention. *see* "Basic proposal for the revision of the European Patent Convention MR/2/00 (Munich, 13 October 00) p.60. And in *Tsubakimoto Seiko Co. Ltd. v. THK K.K*. Supreme Court of Japan, Decided February 24, 1998/Case No. 1994 (o) 1083, (translation by Chris T. Mizumoto, Hiraki & Associates), the Supreme Court of Japan stated:

> "It would be very difficult to write down claims at the time of filing in anticipation of all types of future infringing situations. Additionally, if enforcement of patent right [by means of] an injunction and such by a patentee can be easily circumvented by another party by interchanging a material or a technique--a portion of the constituent features of the claim that is made clear after the filing of the patent application, the drive for invention by the public would be diminished. This not only violates the purpose of patent law for contributing to the development of industries through protection of and encouragement for invention, but also denies social justice, resulting in the breach of the concept of equity. (2) In view of these circumstances, the substantive value of a patented invention should be extended from the claims to cover an easily obtainable technology that is substantially identical with the constitution described in the claims, and a third party should understand that this could be anticipated. (3) On the other hand, since it is not expected for anyone to obtain a patent based on technology known publicly or easily conceived by an artisan at the time of the filing of the patent application (see Patent Law Section 29), such a technology can never be included in the technical scope of a patented claim. (4) Once a patentee excludes a technology from the technical scope of a patented invention by intentionally excluding it from the scope of the claim during patent prosecution or committing an act that can be outwardly interpreted as doing so, the patentee cannot subsequently make assertions that would contradict

2 The *Festo* Test

In *Festo*, the district court found two patents owned by the plaintiff to have been infringed under the doctrine of equivalents. A first 3-judge panel of the Federal Circuit affirmed the lower court, and following reconsideration in light of *Warner-Jenkinson*, a second 3-judge panel of the Federal Circuit again affirmed; however, upon rehearing by all of the judges of the Federal Circuit sitting *en banc*, the a majority of the Federal Circuit judges held the doctrine not to apply. In construing the doctrine, they held that (1) any reason for amendment to patent claim that is related to patentability will give rise to prosecution history estoppel; (2) voluntary amendments are treated same as other amendments for purpose of prosecution history estoppel; (3) when amendment creates prosecution history estoppel, there is no range of equivalents available for amended element (overruling Hughes Aircraft Co., 717 F.2d 1351); and (4) "unexplained" amendments are not entitled to any range of equivalents.[6]

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this exclusion since such a contradiction would not be permitted in view of the law of prosecution estoppel."

[6] 234 F.3d 558 (C.A.Fed. 2000) The Supreme Court in *Warner-Jenkinson* had held the effect of PHE to create a "rebuttable presumption" avoiding the application of the doctrine. Judge Newman, in dissent, states "First, the majority holds that all equivalency is barred as to any claim element that is narrowed or added for reasons relating to patentability; access to the doctrine of equivalents is barred whether or not the Court's new rebuttable presumption arises and whether or not it is rebutted. Second, the majority denies consideration to any rebuttal evidence that is not already in the prosecution record, thereby converting the rebuttable presumption into an irrebuttable fiat. Third, the majority's inappropriately broad definition of 'reasons related to patentability' further limits a patentee's access to equivalency, and exacerbates the conflict with the holdings of Warner-Jenkinson. The result is to negate infringement by equivalents, as a matter of law, thereby providing a blueprint for ready imitation of patented products." *Id. at 630* The term 'prosecution history estoppel' first appeared in a federal reporter in 1983 in *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362 (Fed. Cir. 1983). The prior term for the same doctrine –"file wrapper estoppel"–was used from at least 1933, in the case *Kellogg Switchboard & Supply Co., v. Michigan Bell Tel. Co.*, 5 F.Supp. 118 (E.D.Mich. 1933). *see Note, "Prosecution History Estoppel, The Doctrine of Equivalents, and the Scope of Patent*, 13 Harv. J.L. & Tech. 465, fn2 (2000) (proposing elimination of the doctrine of prosecution history estoppel)

The patents at issue in *Festo* (Stoll and Carroll) were directed to magnetic rod cylinders used to transport articles or machinery, wherein the cylinder moves by means of a pressurized fluid within a cylinder tube and a sleeve outside the tube moves back and forth by means of magnetic rather than mechanical force. The Stoll claims were initially rejected under 35 U.S.C. §112 ¶1 for failure to clarify whether the device operated "as a true motor or magnetic clutch."[7] The examiner also objected to the claims under 35 U.S.C. §112 ¶2 for improper multiple dependencies.[8] The Stoll claims were never rejected in view of the prior art; however, Stoll added two limitations to the broadest claim which had originally appeared in dependent claims: *viz*. (1) that there be two sealing rings disposed on the piston and (2) that the outer sleeve of the device be made from a magnetizable material. A claim in the Carroll patent was amended to include two sealing rings without prompting from the examiner in view of a German prior art reference that had not been considered in the original prosecution. The alleged infringing device did not have two one-way sealing rings but one two-way sealing ring and was made of an aluminum alloy which is not considered a magnetizable material. The plaintiff asserted that the differences between the claimed inventions and the SMC devices were insubstantial. Both patents were found by the district court to have been infringed under the doctrine of equivalents.[9] After the decision was affirmed by the first panel of the Federal Circuit, the judgment was vacated and the case was remanded for further consideration in light of *Warner-Jenkinson*.[10]

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[7] Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc*. (9 April 2001) 3.
[8] *Id*., at 4.
[9] *Id*.
[10] *Supra,* note 2.

The second panel of the Federal Circuit reinstated the prior findings that SMC's devices contained no substantial differences from the patented inventions. It held that the amendment to the Stoll and Carroll patents, having been made voluntarily, did not trigger a PHE limiting the application of the doctrine of equivalents. In its *en banc* rehearing, however, the Federal Circuit held that the term "a substantial reason related to patentability" was not limited to reasons relating to a prior art rejection; an amendment relating to any statutory requirement triggers a PHE.[11] The Federal Circuit further held that the existence of an estoppel acts as a "complete bar" to the application of the doctrine of equivalents to that element. The Federal Circuit thus rejected its former "flexible bar" approach to PHE–in which the range of permissible equivalents required a determination as to the exact subject matter the patentee actually surrendered–in favor of a "strict approach" according to which a court must refuse to speculate whether a narrower amendment would have been allowed and disallow any range of equivalents for amended elements. The *en banc* majority justified its analysis in the public policy objective that "technological advances that would have lain in the unknown, undefined zone around the literal terms of a narrowed claim under the flexible bar approach will not go wasted and undeveloped due to fear of litigation."[12]

Judge Michel, concurring and dissenting, criticized the absolute bar, stating:

> Would be copyists, of course, will exploit the majority's bar. Unwittingly, the majority has severely limited the protection previously available to patentees. Indeed, it may nullify the doctrine of equivalents. Under the majority's approach, anyone who wants to steal a patentee's technology need only review the prosecution history to identify patentability-related amendments, and then make a

[11] *Festo*, at 596
[12] *Festo*, at 577

> trivial modification to that part of its product corresponding to an amended claim limitation.[13]

Judge Linn, concurring and dissenting, joined by Judge Rader, stated that "the majority's new rigid bright line rule, eliminating all flexibility in the scope afforded certain claim limitations amended for a statutory purpose just because they were amended for a statutory purpose, goes too far."[14]

> [T]he new bright line rule, as simple as it is hoped to be in application, wrongfully sets in place a regime that increases the cost and complexity of patent prosecution to the detriment of individual inventors, start-up companies, and others unable to bear these increased costs. The new regime also places greater emphasis on literary skill than on an inventor's ingenuity, gives unscrupulous copyists a free ride on the coattails of legitimate inventors; and changes the rules under which prosecution strategies were formulated for thousands of extant patents no longer subject to correction."[15]

In its petition for certiorari to the Supreme Court, Festo argued that the Federal Circuit has refused to follow the directions of *Warner-Jenkinson* in asserting that the Supreme Court has never addressed the question of whether, if prosecution history estoppel exists, the patentee is still entitled to assert the patent against some range of equivalent structures.[16] In *Warner-Jenkinson*, no dispute existed that the 9.0 pH limitation was necessary to avoid a similar prior art process that operated at above pH 9.0. But the Court remanded for determination of whether equivalents should be barred for the 6.0 pH limitation, which "by its mere inclusion became a material *element* of the claim [but] that did not necessarily preclude the application of the doctrine of equivalents

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[13] *Festo*, at 600, Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc.* (9 April 2001) 9.
[14] *Festo* at 620, Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc.* (9 April 2001) 9.
[15] *Festo* at 620, Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc.* (9 April 2001) 10.
[16] Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc.* (9 April 2001) 24

as to that element." "Such preclusion would seriously disrupt and damage the patent system and constitute legislation of a policy which will lower the benefits of innovation without lowering its costs."[17]

3. Fallout from *Festo*

The Federal Circuit has recently said that the *Festo* analysis must be given full retroactive effect in all cases open on direct review and as to all events, regardless of whether such events predate or postdate the announcement, and that the law-of-the-case doctrine does not apply where a change in the controlling law occurred. [18] Even patents which were drafted and prosecuted prior to the *Festo* decision will be interpreted in accordance with it.[19] The effect on patent prosecution and litigation practice is likely to be significant unless the decision is modified or reversed by the Supreme Court. One pundit has recently observed that "[t]he only thing certain to flow from the recent decision of the U.S. Court of Appeals for the Federal Circuit in *Festo*… is ink."[20] Patent practitioners prior to *Festo* habitually filed an application with the broadest claims

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[17] *id*. for an influential general review of the policy trade-off, *see* Donald S. Chisum, *The Scope of Protection for Patents After The Supreme Court's Warner Jenkinson Decision: The Fair Protection – Certainty Conundrum* 14 SANTA CLARA COMP. & HIGH TECH. L.J. 1 (1998):

> "Underlying the anomalous doctrine [of equivalents] and the related doctrine of prosecution history estoppel is a policy dilemma. To coin a phrase, this dilemma can be termed as the "Fair Protection-Certainty Conundrum," which is inherent in any patent system that requires a fixed, written description of the invention (I.e., a "claim"). There is clearly an interest in providing a clear definition of the scope of the patent right; lack of clarity can impede legitimate investment in technology-based products and services. On the other hand, strict and literal adherence to the written claim in determining the scope of protection can invite subversion of a valuable right and substantially diminish the economic value of patents. Claims are often written by people with limited resources and time, imperfect expression skills, and incomplete understandings of the invention, the prior art that determines its patentability, and the forms in which it may later be cast."

[18] *Insituform Technologies Inc.,, et al. V. Cat Contracting Inc., et al.,* Nos. 99-1584, 00-1005, Fed. Cir, 26 March 2001 unpublished)

[19] Petition for Writ of Certiorari, *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd. A/k/a SMC Corporation and SMC Pneumatics, Inc*. (9 April 2001) 12.

[20] William James, *Ensuring Broad Claim Coverage after* Festo, COMPUTER AND INTERNET LAWYER (May 2001) 13.

supported by the specification that did not read on the prior art known to the applicant.[21] "This approach enabled the patent applicant to avoid selling himself short by including limitations that were not, in fact, necessary to distinguish the prior art. The strategy complemented Patent Office practice well, as examiners frequently issue first office action rejections in at least a significant number of cases, most commonly based on cited prior art."[22] Any response to such a rejection was conditioned by the knowledge that the scope of any prosecution history estoppel arising from an amendment would extend only to the specific prior art cited by the examiner and some reasonable scope beyond.[23] Now, conceivably, the patentee which adopted such a strategy prior to the *Festo* decision cannot retrospectively explain its failure to provide a reason why an amendment was made.

The vigor with which some lower courts are applying the new *Festo* rules is significant. One district court recently held that the *Festo* absolute bar applies where claims at issue in the litigation included certain limiting language from the outset, but identical limiting language had been added to non-asserted claims, stating that "there is

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[21] *Id*.
[22] *Id*.
[23] Some prospective strategies for the practitioner for coping with *Festo* mentioned by James include [1] presentation of a multiplicity of independent claims covering the entire spectrum of possible claim breadth, [2] including means-plus-function claims which expressly exclude prior art equivalents rather than leaving patentable equivalents to be excluded by implication, [3] resisting amending a claim to clarify what distinguishes the claimed invention from the prior art (traversing the examiner's rejection without amendment and taking an appeal if necessary), [4] resisting amending to make claims more elegant or more technically or grammatically correct, [5] focusing on carving out the prior art rather than further describing the "invention," [6] using a claim structure that divides the claim into discrete elements and make amendments by adding a separate element wherever possible and [7] interviewing the examiner before making any amendment that might be construed as having been made for a substantial reason related to patentability. *Id*. At 14. Other suggestions made at a recent roundtable of the Association of Patent Law Firms include [1]wherever possible, state that an amendment broadens a claim element or at least does not narrow that element, [2] whenever possible, state clearly that an amendment was made for purposes unrelated to statutory concerns, [3] try to convince the examiner to issue an examiner's amendment in which he or she states that the amended language does not change or narrow the scope of the claim, [4] never make a change to a claim element that is left unexplained in the patent prosecution record. *See* Conference News: *Courts' Festo Interpretations are Increasing Uncertainty*, 14 SOFTWARE LAW BULL. 7 (May 2001)

no reason to assign different ranges for equivalents for the identical terms used in different claims in the same patent, absent an unmistakable indication to the contrary."[24] *Festo* attempts to simplify life for district court judges (who are rarely trained in technology or knowledgeable about patent law and will be relieved to apply the more mechanical *Festo* test) and juries but may complicate it for the USPTO Board of Patent Appeals and Interferences, which should be preparing for a barrage of appeals from final rejection by applicants refusing to enter amendments which create a certain PHE bar. Perhaps the Supreme Court will decide to return to the *status quo ante*?

4. Bars to Application of the Doctrine of Equivalents prior to *Festo*

In a 1999 speech, Judge Michel laid out five bars to the doctrine of equivalents in active use by the Federal Circuit at that time.[25]

> "The **all-limitations rule** of *Pennwalt Corp. v. Durand-Wayland, Inc.* 833 F.2d 931 (Fed. Cir. 1987) is the first, and perhaps greatest, legal bar. Also referred to as 'legal equivalency,' this rule holds that no equivalent infringement exists as a matter of law, if the allegedly infringing article lacks any claim limitation. Ordinarily, the issue of 'factual equivalency' should be sent to the jury only after "legal equivalency" has first been established. Essentially, once all the claim limitations of a claim have been construed, the court investigates whether a counterpart for each and every limitation can be identified in the accused device or process and applies the Pennwalt bar when appropriate. Thus, the inquiry takes one step beyond claim construction to check the "correspondence of these elements or limitations with the components or steps of the accused device or process," …

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[24] *Molton Metal Equipment Innovations Inc. v. Metallics Systems Co.* No. 1:97c02244 (N.,D. Ohio, 20 April 2001) *See* Conference News: *Courts'* Festo *Interpretations are Increasing Uncertainty*, 14 Software Law Bull. 7 (May 2001) One set of commentators has noted that even the slightest formal slip, such as a failure to provide an antecedent basis for "said widget" in a claim might lead to an invocation of *Festo*. *See* Bruce J. Rose, John A. Wasleff, J. Scott Anderson, *The Value of Quality Patent Preparation and Prosecution Increases Under Festo*, 5 Elec. Banking L. & Com. Rep. 26 (February 2001)

[25] Paul R. Michel, *The Role And Responsibility Of Patent Attorneys In Improving The Doctrine Of Equivalents*, 40 IDEA 123, 125 (2000)

The second well-settled bar to applying equivalence is **obviousness**. …[I]n *Loctite Corp. v. Ultraseal Ltd.*,781 F.2d 861 (Fed. Cir. 1985) the Federal Circuit held that the doctrine of equivalents does not extend to an infringing device found in the prior art. Five years later, in *Wilson Sporting Goods Co. v. David Geoffrey & Associates* (a.k.a. *Dunlop Sports Co.*), 904 F.2d 677 (Fed. Cir. 1990) the court explained that the doctrine of equivalents "exists to prevent a fraud on a patent, not to give a patentee something which he could not lawfully have obtained from the PTO had he tried." As the Federal Circuit stated … in *Streamfeeder v. Sure-Feed Systems, Inc.*, 175 F.3d 974, 982 (Fed. Cir. 1999), this bar applies not only to prior art devices, but also to those that 'would have been obvious to one of ordinary skill in the art' at the time of invention. Thus, an accused device or process cannot infringe under the doctrine of equivalents if it is merely an obvious variation of prior art inventions.

The third legal bar is **prosecution history, or file wrapper, estoppel**. In 1997, the Supreme Court addressed this bar in *Warner-Jenkinson*. Prosecution history estoppel prevents subject matter surrendered when applying for a patent from being reclaimed later under the doctrine of equivalents. Significantly, the Court emphasized that the doctrine of equivalents must give "proper deference to the role of claims in defining an invention and providing public notice ...." Public notice implicitly leads to and proxies for predictability.

The rule of **'dedication'** serves as the fourth bar to equivalence. In *Maxwell v. J. Baker, Inc.*, 86 F.3d. 1098 (Fed. Cir. 1996) the Federal Circuit held that where a patent application discloses unclaimed subject matter, that subject matter must be deemed to have been dedicated to the public. Therefore the doctrine of equivalents can not apply to such subject matter.

The fifth legal bar to the doctrine of equivalents concerns the special form of claims allowed by 35 U.S.C. § 112, ¶ 6, known as 'means-plus-function' claims. In *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*, 145 F.3d 1303, (Fed. Cir. 1998) the Federal Circuit expressed that such claims limit equivalence to **later-developed technologies** (those "developed after the patent is granted"). […I]n *Al-Site Corp. v. VSI International, Inc.*, 174 F.3d 1308 (Fed. Cir. 1999) the Federal Circuit further stated that '[i]n other words, an equivalent structure or act under § 112 for literal infringement must have been available at the time of patent issuance, while an equivalent under the doctrine of equivalents may arise after patent issuance and before the time of infringement.'"

The plaintiff has to prove that none of the bars apply. (If any one does apply, the defendant wins.) Judge Michel, stating "the issue of 'factual equivalency' should be sent to the jury only after 'legal equivalency' has first been established," suggests that the "all-elements" rule of *Pennwalt* should be a threshold consideration prior to

the other tests. The *Festo* majority thinking otherwise, applied the test of PHE and "did not reach" the all-elements rule.[26] In dissent, Judge Michel said

> "In contrast to the doctrine of prosecution history estoppel we have applied until today, the majority's new complete bar rule does not supplement the all-elements rule as a way to further clarify the scope of equivalents available to the patentee. Rather than attempt to "refine" our case law as to how the added claim limitations should be enforced in light of the substance of the communications between examiner and applicant, the majority's new rule simply forecloses all application of the doctrine of equivalents for any amended claim limitation. This approach by-passes the all-elements rule altogether."[27]

Assuming the 'all-elements rule" is applied first, what should come second? Judge Newman, also in dissent, added, "The court does not reach the questions of identity of function, way, and result, or the insubstantiality of the change, or interchangeability in the context of the invention. The formulaic framework of the majority opinion thus vitiates the doctrine of equivalents, without respect to the merits of any particular claim."[28]

The majority in *Festo* held that *any* amendment "related to patentability" (not just utility, novelty, and nonobviousness) bars application of the doctrine of equivalents as to that element. Judge Michel, in the same article cited above, said,

> "In support of … an obviousness analysis, the late [Federal Circuit Chief Judge] Helen Nies…suggested this alternative in her concurring opinion in *Roton Barrier, Inc. v. Stanley Works* 79 F.3d 1112, 1128 (Fed. Cir. 1996). However, litigators ignored her 'trial balloon' obviousness theory. This is unfortunate, because the obviousness concept has lain at the heart of patent law since enactment of the 1952 Act. It has served us well and provided a specific, objective and fairly predictable test. Surely it has greater predictive potential than 'function/way/result' or 'insubstantial change,' for it refers not to abstractions, but to prior patents which can be consulted.[29]

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[26] *Festo* at 590
[27] *Festo* at 600
[28] Festo at 638
[29] *supra,* note 25 at 128. also *see Note, "Prosecution History Estoppel, The Doctrine of Equivalents, and the Scope of Patent*, 13 Harv. J.L. & Tech. 465 *passim* (2000)

The objective obviousness test proposed by Judge Nies and the *Festo* rule which does not probe into the substance of the examination process but merely looks (exclusively) back at the prosecution history are, in a sense, polar opposite attempts to provide "clarity" to the decisionmaker and eschew the indeterminacy of a "flexible approach."[30] In his dissent, (joined by Judge Rader), Judge Linn said:

> Some amendments may be made for a statutory reason, such as providing proper antecedent basis, which is required by 35 U.S.C. § 112, second paragraph's requirement that the applicant particularly point out and distinctly claim that which is regarded as the invention. However, while such an amendment affects issuance of the patent, it is a trivial matter. Restricting such an amended claim limitation to its literal scope would unfairly penalize patent owners beyond what is necessary to provide notice and certainty to competitors. As long as the reason for an amendment is explained, and a competitor can reasonably determine what subject matter the applicant surrendered, prosecution history estoppel should preclude the patent holder from recapturing only the surrendered subject matter, not from accessing the doctrine of equivalents entirely. [31]

Is obviousness a better choice? What about a new theory?

5. Returning to the roots of the Doctrine of Equivalents

Judge Plager, who joined the majority in *Festo*, was clearly dissatisfied with the result:

> "It is a second-best solution to an unsatisfactory situation. Under our preexisting law, a count for infringement under the doctrine of equivalents became a routine part of a patent infringement suit. The game was to convince the trier of fact, typically a jury, that even if an accused product…does not infringe the claims as written, the claimed invention and the accused product have only 'insubstantial differences,' a wonderfully indeterminate phrase, lending itself to making every decision under the doctrine an individualistic choice, if not simply a flip of the coin.…That is why I consider it a second-best solution. A better solution would be to declare the doctrine of equivalents--a judge-made rule in the first place-- to have its roots firmly in equity, and to acknowledge that when and in what circumstances it applies is a question of equitable law, a question for which

[30] Judge Newman states "This jurisprudence reflects …rulings of estoppel and findings of equivalency vel non in a continuum of situations, from those that clearly warranted liability to those that clearly did not." *Festo* at 634

[31] *Festo* at 629

judges bear responsibility. We have admitted to these roots in a number of cases."[32]

Judge Plager notes that the Supreme Court in its *Warner-Jenkinson* opinion did opine that "intent plays no role in the application of the doctrine of equivalents," and suggests it might want to reconsider that position, citing *Graver-Tank*.[33] He also suggests that determinations of infringement under the doctrine of equivalents should be the responsibility of a judge – not a jury. Should the intent (especially the defendant's knowledge of interchangeability of elements) play no role? Should the nature of the technology play no role? Do limitations on application of the doctrine of equivalents apply equally in biotechnology and business methods? An epigraph to this paper is Judge Hand's observation on the role of intent in copyright infringement: "No plagiarist can excuse the wrong by showing how much of the work he did not pirate." Is it equitable for a licensee of a patent who now refuses to pay and makes a trivial change in the patented invention to be free of liability for infringement? Could we perhaps formulate a test in which a judge, acting in equity, first applies the all-elements rule, then a test for obviousness taking prosecution history estoppel into consideration, and also considers the defendant's intent? Judge Plager suggests that on appeal, the appeals court would review a trial court's determination under the deferential standard of abuse of discretion.

6. Conclusion: The Impact on After-arising Technology

Warner-Jenkinson does not limit the application of the doctrine of equivalents to equivalents that are disclosed within the patent itself, reasoning that the "proper time for

[32] *Festo* at 591
[33] *Warner-Jenkinson,* 520 at 36

evaluating equivalency ... is at the time of infringement, not at the time the patent was issued."[34] Judge Rader, dissenting in *Festo* says:

> 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 be easily circumvented after the advent of an advance in technology. A claim using the terms "anode" and "cathode" from tube technology would lack the "collectors" and "emitters" of transistor technology that emerged in 1948. Thus, without a doctrine of equivalents, infringers in 1949 would have unfettered license to appropriate all patented technology using the out-dated terms 'cathode' and 'anode. Fortunately, the doctrine of equivalents accommodates that unforeseeable dilemma for claim drafters. Indeed, in *Warner-Jenkinson* the Supreme Court acknowledged the doctrine's role in accommodating after-arising technology. Unfortunately, by barring all application of the doctrine of equivalents for amended claims, [the *Festo*] court does not account at all for the primary role of the doctrine. All patent protection for amended claims is lost when it comes to after-arising technology, while the doctrine of equivalents will continue to accommodate after-arising technology in unamended claims. For a reason far more important than disparate treatment of claims, however, this result defies logic.
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> Prosecution history estoppel is an estoppel doctrine. Estoppel prevents a litigant from denying an earlier admission upon which another has already relied. In the case of patent law, the admission is the applicant's surrender of claim scope to acquire the patent. Today's rule forfeits all protection of the doctrine of equivalents whenever applicants amend their claims, regardless of whether they in fact surrendered coverage. By definition, applicants could not have surrendered something that did not even exist at the time of the claim amendment, namely after-arising technology."[35]

In the words of Justice Topliff in 1879, "The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy." It is no more likely that we can predict the future of the doctrine of equivalents in the United States than can a patent attorney struggling to draft patent claims today to predict the state of technology of a decade from now. For the world's most technologically advanced nation to sacrifice what little

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[34] *Warner-Jenkinson,* 520 at 37

[35] *Festo* at 619-20

certainty exists for patent owners in an unknown technological future for the sake of simplifying the work of judges seems too great a risk to take.