

TOWARD CERTAINTY AND
UNIFORMITY IN PATENT
INFRINGEMENT CASES AFTER *FESTO*
AND *MARKMAN*: A PROPOSAL FOR A
SPECIALIZED PATENT TRIAL COURT
WITH A RULE OF GREATER
DEFERENCE

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I. INTRODUCTION

The increasingly complex technology involved in patent infringement cases has led many to question the ability of district court judges and jurors in such cases to issue uniform and predictable decisions. In fact, there is evidence that the Federal Circuit Court of Appeals—the appellate court with sole jurisdiction and accumulated expertise in patent law—routinely overrules district court decisions regarding claim construction and prosecution history estoppel under the doctrine of equivalents.¹ Given the frequency with which the Federal Circuit overturns district court decisions, and the fact that nearly every patent infringement case involves a dispute over claim construction or prosecution history estoppel under the doctrine of equivalents, patent infringement cases are typically uncertain until after appeal.

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1. See *infra* Part II.C.1.

The uncertainty of patent infringement cases until after appeal is highly problematic for several reasons. First, uncertainty at the trial level is inefficient because it stimulates appeals rather than settlements.² Second, it “creates doubt about the ability of district court judges to adjudicate complex technical patent [infringement] cases.”³ Finally, this uncertainty may even have the far-reaching effect of stifling innovation.⁴ Thus, the current system of adjudication for patent infringement trials is in need of reform, and a specialized patent trial court combined with a rule of greater deference appears to be the most effective means for bringing needed certainty to patent infringement trials.

Part II of this Note examines the issues of claim construction and prosecution history estoppel under the doctrine of equivalents and offers evidence to prove that these issues generate uncertainty in patent infringement trials. Part III evaluates three prevalent proposals to increase certainty in patent infringement trials: a rule of greater deference for trial courts, increased use of special masters, and the impanelment of technical juries. Part IV analyzes the most promising proposal, the creation of a specialized patent trial court that would be given greater deference on appeal. Finally, this Note concludes that the creation of a patent trial court that benefits from greater deference is likely the most effective and practical means for bringing needed certainty to patent infringement cases.

II. INCREASING COMPLEXITY IN PATENT INFRINGEMENT TRIALS: *MARKMAN V. WESTVIEW INSTRUMENTS, INC.* AND *FESTO CORP. V. SHOKETSU KINZOKU KOGYO KABUSHIKI CO.*

The Supreme Court recently issued two decisions that have had a major impact on patent infringement litigation. In *Markman v. Westview Instruments, Inc.*, the Supreme Court held that claim construction of patents is a question of law for judges, and not a question of fact for the jury.⁵ Subsequently, in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, the Court ruled that under the doctrine of equivalents, prosecution history estoppel is not a “complete bar,” contrary to the Federal Circuit’s holding

2. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1478 (Fed. Cir. 1998) (en banc) (Rader, J., dissenting).

3. Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 3 (2001).

4. See *infra* Part II.C.

5. See *Markman v. Westview Instruments, Inc.* (“*Markman III*”), 517 U.S. 370, 390 (1996).

that it was.⁶ Therefore, a patentee can rebut the presumption of prosecution history estoppel.⁷

In patent infringement cases, claim construction and prosecution history estoppel are almost always two major issues. Thus, if there is uncertainty in district courts regarding prosecution history estoppel and claim construction, nearly every patent infringement lawsuit will also remain uncertain until after appeal. In the wake of *Festo* and *Markman*, it appears that there is a great deal of uncertainty at the trial level with issues of claim construction and prosecution history estoppel and, as a consequence, patent infringement cases will remain plagued by uncertainty until after appeal unless some sort of reform is undertaken.

A. JUDGES CHARGED WITH CLAIM CONSTRUCTION: *MARKMAN V. WESTVIEW INSTRUMENTS, INC.*

1. Factual Background and Procedural Disposition

Herbert Markman and Positek, Inc., the owners of a patent on a type of inventory control and reporting system for drycleaning stores, brought an infringement suit against Westview and Althon Enterprises.⁸ At trial, a jury compared the patented device to Westview's device and found an infringement of Markman's independent claim 1 and dependent claim 10.⁹ However, the District Court granted a judgment as a matter of law for Westview and Althon Enterprises, based partially on its own interpretation of the term "inventory" in claims 1 and 10.¹⁰ Markman then appealed this ruling, arguing that, "it was error for the District Court to substitute its construction of the disputed claim term 'inventory' for the construction the jury had presumably given it."¹¹ The Court of Appeals for the Federal Circuit affirmed the decision and held that the interpretation of claims was a matter of law for the court to decide.¹² Markman then sought review by the Supreme Court on the issue of whether interpretation of a patent claim

6. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* ("*Festo II*"), 535 U.S. 722, 739–40 (2002).

7. See *id.* at 741.

8. See *Markman v. Westview Instruments, Inc.* ("*Markman I*"), 772 F. Supp. 1535, 1536 (E.D. Pa. 1991), *aff'd*, 52 F.3d 967 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996).

9. See *id.*

10. See *id.* at 1537–38.

11. *Markman v. Westview Instruments, Inc.* ("*Markman III*"), 517 U.S. 370, 376 (1996). See also *Markman v. Westview Instruments, Inc.* ("*Markman II*"), 52 F.3d 967, 973–75 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

12. *Markman II*, 52 F.3d at 988–89.

is a matter of law exclusively for judges, or whether it is subject to the Seventh Amendment right to a jury trial.¹³ The Supreme Court granted certiorari and issued a unanimous opinion.¹⁴

2. The Supreme Court's Decision in *Markman*

The unanimous opinion for the Supreme Court, written by Justice Souter, began by applying the Seventh Amendment framework to the issue of claim construction.¹⁵ First, the Court used the "historical test" to determine whether the cause of action was tried at law at the time of the enactment of the Seventh Amendment.¹⁶ With regard to this historical test, the Court concluded, "there is no dispute that infringement cases today must be tried to a jury, as their predecessors were more than two centuries ago."¹⁷

The Court then addressed whether the construction of patent claims occurring in a patent infringement jury trial was necessarily an issue for the jury.¹⁸ It stated that the general answer to this second question is whether a jury must decide a particular issue within a jury case in order "to preserve the 'substance of the common-law right of trial by jury.'"¹⁹ The Court noted, however, that the "substance of the common-law right" is difficult to discern and therefore, the better practice is to use a variation of the historical test.²⁰ It did not apply this type of historical test because it was unable to locate a "direct antecedent of modern claim construction in the historical sources."²¹ As an alternative, the modern practice of claim construction was compared to those allocations between the judge and jury that had been firmly established at the time of the passage of the Seventh Amendment.²² This comparison failed to find such a firmly established practice that was sufficiently analogous to modern patent claim construction.²³ Therefore, the Court looked to both functional and policy

13. See *Markman III*, 517 U.S. at 372.

14. See *id.* at 370–71.

15. See *id.* at 376.

16. *Id.*

17. *Id.* at 377.

18. *Id.*

19. *Id.* (emphasis omitted) (quoting *Tull v. United States*, 481 U.S. 412, 426 (1987)).

20. See *id.* at 378 (stating that "the sounder course, when available, is to classify a mongrel practice (like construing a term of art following receipt of evidence) by using the historical method, much as we do in characterizing the suits and actions within which they arise").

21. *Id.* at 379.

22. See *id.* at 379–80.

23. See *id.*

considerations in order to determine the proper allocation between judge and jury.²⁴

As for the functional aspect of claim interpretation, “the relative interpretive skills of judges and juries” was considered.²⁵ The Court concluded that judges are in the better position to interpret “highly technical” patent claims, reasoning that the “construction of written instruments is one of those things that judges often do and are likely to do better than jurors unburdened by training in exegesis.”²⁶ In addition, the policy consideration of uniformity in patent cases offered further justification for allocating claim construction entirely to judges²⁷ because without uniformity the incentive to invent might be stifled.²⁸ Furthermore, it was noted that Congress created the Court of Appeals for the Federal Circuit specifically to ensure uniformity in patent cases.²⁹ Thus, uniformity could be increased by allocating claim construction to judges because “treating interpretive issues as purely legal will promote . . . intrajurisdictional certainty through the application of stare decisis on those questions not yet subject to interjurisdictional uniformity under the authority of the single appeals court.”³⁰

B. THE “FLEXIBLE BAR” APPROACH TO PROSECUTION HISTORY
ESTOPPEL: *FESTO V. SHOKETSU KINZOKU KOGYO KABUSHIKI CO.*

1. Factual Background and Procedural Disposition

Festo Corporation (“Festo”) was the owner of two patents for an “improved magnetic rodless cylinder.”³¹ The two patents, the Stoll Patent and Carroll Patent,³² were both amended after examinations by a patent examiner.³³ The amendment to both patents added the new limitation that the cylinders contain a pair of sealing rings, and the amendment to the Stoll Patent added that the exterior of the device be made of magnetizable

24. *See id.* at 384, 388.

25. *Id.* at 384.

26. *Id.* at 388.

27. *Id.* at 390–91.

28. *See id.*

29. *Id.*

30. *Id.* at 391.

31. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo I”),* 535 U.S. 722, 728 (2002).

32. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo I”),* 234 F.3d 558, 579–83 (Fed. Cir. 2000) (en banc), *vacated by* 535 U.S. 722 (2002).

33. *See Festo II,* 535 U.S. at 728.

material.³⁴ Both patents were granted and Festo Corporation brought an infringement claim after Shoketsu Kinzoku Kogyo Kabushiki (“SMC”) began selling a similar device.³⁵ The cylinder produced by SMC did not literally infringe on Festo’s patents, but Festo argued that there was infringement under the doctrine of equivalents.³⁶

The SMC cylinder used a single sealing ring and the outside of the cylinder was nonmagnetizable; the amendments to the claims in Festo’s patents, however, limited the cylinder to two sealing rings and a magnetizable exterior.³⁷ Thus, SMC argued that because Festo narrowed its claims in order to obtain the patents, “Festo is now estopped from saying that these features are immaterial and that SMC’s device is an equivalent of its own.”³⁸ This issue of whether prosecution history estoppel applied to Festo’s amendments was appealed to both the Federal Circuit and the Supreme Court.³⁹

The Federal Circuit, sitting en banc, held that, “a narrowing amendment made for any reason related to the statutory requirements for a patent will give rise to prosecution history estoppel with respect to the amended claim element.”⁴⁰ Yet, even more notable was the Federal Circuit’s conscious decision to discard the “flexible bar” approach to the application of prosecution history estoppel,⁴¹ whereby only some claims were foreclosed depending on the changes and reasons for the amendment.⁴² Instead, the Federal Circuit held that when prosecution history estoppel applies it acts as a “complete bar” to the application of the doctrine of equivalents.⁴³ The court reasoned that the flexible bar approach was unworkable because it produced inconsistent results and uncertainty in the patent system.⁴⁴

34. *Id.*

35. *See id.* at 729.

36. *Id.*

37. *Id.*

38. *Id.*

39. *See id.* at 729–30.

40. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo I”),* 234 F.3d 558, 579–83 (Fed. Cir. 2000) (en banc), *vacated by* 535 U.S. 722 (2002).

41. *See id.* at 574–75.

42. *See Festo II,* 535 U.S. at 728.

43. *Festo I,* 234 F.3d at 574.

44. *See id.* at 575.

2. The Supreme Court's Decision in *Festo*

Although the unanimous decision of the Supreme Court acknowledged that prosecution history estoppel is not limited to amendments that were made for reasons related to patentability,⁴⁵ it reiterated its position in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.* that prosecution history estoppel “applies to amendments made for a ‘substantial reason related to patentability.’”⁴⁶ Moreover, “even if the amendment’s purpose was unrelated to patentability, the court might consider whether it was the kind of reason that nonetheless might require resort to the estoppel doctrine.”⁴⁷ The Court, however, disagreed with the Federal Circuit’s ruling that prosecution history estoppel acts as a complete bar to the doctrine of equivalents.⁴⁸ As such, the complete bar approach was rejected in favor of the flexible bar approach defined in *Warner-Jenkinson*.⁴⁹

Under the Court’s flexible bar approach, the patentee may rebut the presumption that prosecution history estoppel applies to any narrowing amendment, but the patentee has the burden of showing that the amendment “does not surrender the particular equivalent in question.”⁵⁰ The Court provided examples of instances when an amendment would not surrender a particular equivalent:

The equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question.⁵¹

In spite of these instances, however, if a patentee fails to give an explanation for an amendment, prosecution history estoppel would apply.⁵²

45. See *Festo II*, 535 U.S. at 736–37 (stating that an amendment made to comply with 35 U.S.C. § 112, which requires that a patent application describe, enable, and set forth the best mode of carrying out the invention, may give rise to estoppel if the amendment to the application is necessary and not purely cosmetic).

46. See *id.* at 735 (quoting *Warner-Jenkinson v. Hilton Davis Chem. Co.*, 520 U.S. 17, 30–33, 40–41 (1997)).

47. *Id.*

48. See *id.* at 737.

49. See *id.* at 739–40. See also *Warner-Jenkinson*, 520 U.S. at 33–34 (describing the flexible bar approach).

50. See *Festo II*, 535 U.S. at 738–40.

51. *Id.* at 739–40.

52. See *id.* at 740.

C. THE NEED FOR CHANGE: UNCERTAINTY IN PATENT INFRINGEMENT
CASES AFTER *FESTO* AND *MARKMAN*

The main theoretical justification for patent law is that rewarding inventors with a limited monopoly increases innovation.⁵³ In other words, without patent rights, there would be little, if any, economic incentive to invent.⁵⁴ By that reasoning, any uncertainty regarding patent rights would diminish the incentive to invent. Indeed, both Congress and the Supreme Court have recognized the negative effect that uncertainty has on innovation, and the positive aspects of uniformity in a patent system.

One of the primary rationales Congress gave for creating the Court of Appeals for the Federal Circuit was to decrease uncertainty and increase uniformity in the patent system.⁵⁵ Specifically, Congress identified uniformity in the patent system “as one of the most far-reaching reforms that could be made to strengthen the [U.S.] patent system in such a way as to foster technological growth and industrial innovation.”⁵⁶ Similarly, the Supreme Court cited increased uniformity in the patent system as a major justification for allocating claim construction to judges.⁵⁷ The Court maintained that if the limits of a patent were not clear there would be “a ‘zone of uncertainty which enterprise and experimentation [would] enter only at the risk of infringement[, which] would discourage invention only a little less than unequivocal foreclosure of the field.’”⁵⁸ Thus, for these reasons, an optimal patent system would maximize uniformity and minimize uncertainty.

1. Uncertainty After *Markman*

Although the Supreme Court intended to reduce uncertainty by allocating claim construction to judges in *Markman*, many scholars have provided strong arguments, supported with empirical evidence, to suggest that *Markman* failed to bring certainty to patent claim construction.⁵⁹ In

53. See ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 137 (2d ed. 2000).

54. See *id.*

55. See H.R. REP. NO. 97-312, at 7–11 (1981).

56. *Id.* at 7.

57. See *Markman v. Westview Instruments, Inc.* (“*Markman III*”), 517 U.S. 370, 390–91 (1996).

58. *Id.* at 390 (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)).

59. See Cheryl L. Johnson, *Judges Were Tasked with Claim Construction to Bring Necessary Certainty: But Where Is It?*, in *HOW TO PREPARE AND CONDUCT MARKMAN HEARINGS* 7, 81 (2002) (concluding that “judges have not been able to meet these lofty expectations, and the evidence suggests these *Markman* proceedings have simply added to the uncertainty, cost and length of patent litigation”). See also Christian A. Chu, *Empirical Analysis of the Federal Circuit’s Claim Construction Trends*, 16

addition, Judge Rader of the Federal Circuit Court of Appeals has provided empirical evidence of the high reversal rates of claim construction issues on appeal. Judge Rader's dissent in *Cybor Corp v. FAS Technologies, Inc.* stated that nearly 40% of appealed claim constructions were reversed, in whole or in part, in the period from April 5, 1995 to November 24, 1997.⁶⁰ The date of April 5, 1995 represents the date when the Federal Circuit held that claim construction was a matter of law for judges.⁶¹ Judge Rader argued that as a consequence of the high rate of reversals by the Federal Circuit, the claim construction hearings in the trial court fail to provide any early certainty; instead, certainty is only obtained after an appeal.⁶²

Judge Rader's empirical survey showing a high reversal rate of claim constructions has been corroborated by other independent studies.⁶³ One study by Kimberly Moore found that district court judges improperly construe patent claim terms in 33% of the cases appealed to the Federal Circuit.⁶⁴ Moore found that this 33% error rate for claim construction was higher than the 22% reversal rate the Federal Circuit had on all other patent issues from 1983 to 1999.⁶⁵ Another study by Christian Chu analyzed nearly every patent case that was appealed to the Federal Circuit from January 1, 1998 until April 30, 2000.⁶⁶ Chu's study concluded that although the "Federal Circuit reversed 29.6% of cases involving an express review of claim construction," it modified claim interpretations in 44% of these cases.⁶⁷ Based on this empirical evidence, it appears that the Federal Circuit is affirming approximately 60% and reversing 40% of all claim constructions that are appealed. One might question the relevance of these statistics, especially in view of the case selection theory presented by George Priest and Benjamin Klein.

BERKELEY TECH. L.J. 1075, 1143 (2001) (showing that although the Federal Circuit has reversed a smaller percentage of cases based on claim construction since 1998, "claim construction modifications and claim interpretation-based reversals" have actually increased); Moore, *supra* note 3, at 38 (determining that claim construction by district courts has a "high degree of uncertainty" based on an empirical study of the Federal Circuit's de novo review of claim construction).

60. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1476, 1476 n.4 (Fed. Cir. 1998) (en banc) (Rader, J., dissenting) (basing the 40% reversal rate on a survey of all patent cases before the Federal Circuit between April 5, 1995 and November 24, 1997).

61. *See* *Markman v. Westview Instruments, Inc.* ("*Markman II*"), 52 F.3d 967, 967 (Fed. Cir. 1995) (en banc).

62. *See Cybor*, 138 F.3d at 1476 (Rader, J., dissenting).

63. *See supra* note 59.

64. *See* Moore, *supra* note 3, at 2.

65. *See id.* at 16-17.

66. *See* Chu, *supra* note 59, at 1092.

67. *Id.* at 1104.

Priest and Klein's case selection theory states that "where the gains or losses from litigation are equal to the parties, the individual maximizing decisions of the parties will create a strong bias toward a rate of success for plaintiffs at trial or appellants at appeal of 50[%] regardless of the substantive standard of law."⁶⁸ Under this economic theory, all cases where the parties agree on the probable outcome on appeal will be settled, and only those cases where the parties disagree about the probable outcome on appeal will be further litigated.⁶⁹ In essence, the parties are more likely to appeal when they estimate the probability of an outcome in their favor is near 50%. When the difference between their estimates of winning on appeal are small, the parties are more likely to settle and avoid the costs of appeal.⁷⁰ Therefore, the only cases that are likely to be appealed are "close cases," where the parties estimate they have a 50% chance of succeeding on appeal.⁷¹ Given that the only cases that are likely to be appealed are these close cases, the case selection theory dictates that the affirmance rate on appeal will approach 50% as the number of cases that are appealed declines.⁷² According to the case selection model, the affirmance rate will tend toward 50% regardless of the standard of review on appeal because this would have been considered in estimating the parties' probability of success on appeal.⁷³

Assuming that appellate review of claim construction is consistent with Priest and Klein's case selection model predicting a 50% appellate affirmance rate, the 60% affirmance rate of claim constructions would not be extraordinary. However, the Priest and Klein model does not appear to be a viable model for appellate affirmance rates.⁷⁴ Instead of a 50% affirmance rate by appellate courts in the United States, the affirmance rate has consistently been around 80%.⁷⁵ For 2001 and 2002 the average affirmance rate for all the Circuits of the United States Courts of Appeals

68. George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 4-5 (1984).

69. *See id.* at 17.

70. *See id.* at 16.

71. *See id.* at 17.

72. *Id.* at 19-20.

73. *See id.* at 4-5.

74. *See* Kevin M. Clermont & Theodore Eisenberg, *Litigation Realities*, 88 CORNELL L. REV. 119, 151 (2002) (stating that case selection theorizing is "clearly wrong"); Moore, *supra* note 3, at 10.

75. *See* Kevin M. Clermont & Theodore Eisenberg, *Appeal from Jury or Judge Trial: Defendants' Advantage*, 3 AM. L. & ECON. REV. 125, 130 n.10 (2001) (noting that their reported affirmance rate of 80% is higher than other studies that only looked at published appeals because published appeals are skewed toward reversals, and their study looked at both unpublished and published appeals).

was 90.4%⁷⁶ and 90.5%,⁷⁷ respectively, based on the data collected by the Administrative Office of the United States Courts (“Administrative Office”). Likewise, the Administrative Office reported an affirmance rate of 84% for the Federal Circuit Court of Appeals in 2002.⁷⁸ In addition, an independent study of every patent case that went to trial from 1983 to 1999 found that the overall affirmance rate by the Federal Circuit for all issues in patent cases was 78%.⁷⁹ These overwhelming statistics demonstrate that the case selection model is ineffective in predicting appellate affirmance rates.

The reason for this failure of the case selection model is most likely due to the many differences between appeals and trials. In particular, there are two main differences between Priest and Klein’s selection model that do not appear to be applicable to patent appellate cases. First, the selection model proceeds on the theory that the stakes to both parties of the disputes are typically symmetric.⁸⁰ Yet, in patent cases, the stakes to the parties are quite often asymmetric.⁸¹ For instance, a patent holder usually has a much greater stake in any patent infringement litigation than an alleged infringer because the court could find the patent invalid or unenforceable against anyone, which would likely result in a loss of potential profits far exceeding any monetary damages the patent holder would have received had they been successful in proving infringement.⁸² Therefore, the fact that patent infringement suits generally differ from other civil trials, which normally have symmetrical stakes to the parties, is one possible reason the case selection model fails to predict the roughly 80% affirmance rate for such cases.⁸³

76. ADMIN. OFFICE OF THE U.S. COURTS, FEDERAL JUDICIAL CASELOAD STATISTICS: MARCH 31, 2001 28 tbl.B-5 (2001) (reporting a total reversal rate of 9.6%, which translates into an affirmance rate of 90.4%), *available at* <http://www.uscourts.gov/caseload2001/tables/b05mar01.pdf>.

77. ADMIN. OFFICE OF THE U.S. COURTS, FEDERAL JUDICIAL CASELOAD STATISTICS: MARCH 31, 2002 28 tbl.B-5 (2002) [hereinafter 2002 ADMIN. OFFICE] (reporting a total reversal rate of 9.5%, which translates into an affirmance rate of 90.5%), *available at* <http://www.uscourts.gov/caseload2002/tables/b05mar02.pdf>.

78. 2002 ADMIN. OFFICE, *supra* note 77, at 37 tbl.B-8 (reporting a total reversal rate of 16% which translates into an affirmance rate of 84%), *available at* <http://www.uscourts.gov/caseload2002/tables/b08mar02.pdf>.

79. Moore, *supra* note 3, at 17 tbl.2.

80. Priest & Klein, *supra* note 68. George L. Priest and Benjamin Klein acknowledge that asymmetrical stakes are likely to occur when dealing with the terms of injunctions and “appellate disputes . . . for which the objectives of the parties most frequently are some favorable precedent.” *Id.* at 28–29.

81. Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 377 (2000).

82. *Id.* at 377–78.

83. See Moore, *supra* note 3, at 17 tbl.2 (finding that 80% of all patent infringement cases were affirmed by the Federal Circuit from 1983–1999).

A second reason why the case selection model does not appear to hold true for appeals is the assumption that litigation costs to the parties are greater than settlement costs.⁸⁴ According to Priest and Klein, the case selection model can be applied only if the following equation is correct:

$$\frac{C - S}{J} > 0$$

where $C = C_d + C_p$, $S = S_d + S_p$, and J is the expected judgment.⁸⁵ The terms C_p and C_d are the litigation costs to the plaintiff and defendant, respectively, and S_p and S_d are the respective settlement costs.⁸⁶ Under the case selection model, the terminology of plaintiff and defendant is interchangeable with appellant and appellee since Priest and Klein state that the “decision to appeal a trial verdict is in all respects identical to the decision to litigate a dispute.”⁸⁷ The above equation can be simplified so that it becomes $C - S > 0$ or $C > S$. This equation illustrates the assumption that the litigation costs to the parties must be greater than the settlement costs for the case selection theory to work.

The assumption that the litigation costs are greater than settlement costs may be valid at the trial level, but it may not apply to appeals where the costs are significantly lower.⁸⁸ The reasoning is evident from the equation, since as C approaches zero the probability that this assumption is valid decreases.⁸⁹ Priest and Klein attempt to justify their assumption empirically by noting that if $C - S \leq 0$, over 50% of cases would be litigated, when in fact less than 5% actually proceed to trial.⁹⁰ Indeed, the percentage of lawsuits that were initiated in U.S. district courts in 2002 and actually reached trial was only 1.9%.⁹¹ However, the percentage of cases that are appealed is much greater, with roughly 20% of cases being appealed nationwide.⁹² Even more significant is the fact that 58% of direct patent infringement actions decided at trial, either literal or under the doctrine of equivalents, were appealed to the Federal Circuit in both 2000

84. Priest & Klein, *supra* note 68, at 13.

85. *Id.*

86. *Id.*

87. *See id.* at 6–7.

88. *See* Clermont & Eisenberg, *supra* note 75, at 133.

89. In other words, as the litigation costs tend toward zero, it becomes less likely that the assumption that the litigation costs are greater than the settlement costs will hold true.

90. Priest & Klein, *supra* note 68, at 13 n.34.

91. 2002 ADMIN. OFFICE, *supra* note 77, at 53 tbl.C-4, available at <http://www.uscourts.gov/caseload2002/tables/c04mar02.pdf>.

92. *See* Clermont & Eisenberg, *supra* note 75, at 130.

and 2001.⁹³ Thus, the fact that 58% of patent infringement cases are being litigated on appeal is empirical evidence that $C - S \leq 0$ in these cases, contrary to Priest and Klein's assumption in their case selection model that $C - S > 0$. In sum, the Priest and Klein case selection model does not apply to patent infringement appeals, most likely due to these two major differences between trials and appeals.

Although the Priest and Klein case selection theory of a 50% affirmance rate is not reconcilable with the approximately 80% affirmance rate by the Federal Circuit, there is another possible explanation for this high rate. The 80% affirmance rate is entirely consistent with the theory that a random sampling of cases are being appealed.⁹⁴ If every case were to be appealed, which would be one method of random selection, an 80% affirmance rate would be expected "because of reviewers' deference and because of experts' agreement."⁹⁵ Similarly, when review is de novo, without any deference, a 75% affirmance rate or greater would be expected "because of the tendency of experts to agree at approximately a 75% rate."⁹⁶ This 75% rate of agreement among experts has been established through an in-depth study.⁹⁷ Accordingly, the expected affirmance rate for claim constructions is 75% or greater, because it is reviewed de novo by the Federal Circuit.

93. See The University of Houston Law Center Institute for Intellectual Property & Information Law, *U.S. Patent Litigation Statistics*, at <http://www.patstats.org> (last visited Oct. 2, 2004) (reporting the outcome of patent cases on an issue specific basis of precedential, nonprecedential, and Rule 36 summary affirmance decisions of the Federal Circuit, as well as every reported patent case from district courts, the International Trade Commission, and the Court of Federal Claims). The data provided for the categories of direct literal infringement and direct doctrine of equivalents infringement were then used to calculate the percentage of appeals for these cases. For these two categories, in 2000 there were 108 appeals out of 187 occurrences resulting in a 57.8% appeal rate, and in 2001 there were 145 appeals out of 249 occurrences resulting in a 58.2% appeal rate. See *id.* The appeal rate for claim construction could not be calculated because it was not a separately reported issue, but the appeal rate of direct infringement is informative because claim interpretation is an issue in nearly every case of infringement.

94. See Clermont & Eisenberg, *supra* note 74, at 152.

95. *Id.* at 151.

96. Clermont & Eisenberg, *supra* note 75, at 131. A good analogy demonstrating the expected high agreement rate among experts is a decision by a referee during a National Football League ("NFL") football game. In an NFL football game the coaches have the ability to appeal a ruling on the field several times per game and have the referee's decision reviewed using instant replay. Because the coaches are given a limited number of appeals, they have an incentive to appeal only the close calls. Therefore, one would expect the referees' review on appeal to affirm the ruling on the field roughly 50% of the time. If, however, every ruling on the field were reviewed by the referees using instant replay, or just a random sampling of rulings, one would expect a much higher affirmance rate than 50%, because even clear, undisputed calls would be reviewed.

97. See Kevin M. Clermont & Theodore Eisenberg, *Trial by Jury or Judge: Transcending Empiricism*, 77 CORNELL L. REV. 1124, 1153 (1992).

In view of the expected affirmance rate of claim constructions of 75% or greater and an overall affirmance rate by the Federal Circuit of approximately 80%, the uncertainty of an affirmance rate near 60% becomes clear. In fact, Judge Rader noted in his dissent in *Cybor* that an affirmance rate near 50% is the “worst possible” and even a much lower affirmance rate would provide more certainty.⁹⁸ An affirmance rate of claim construction of approximately 75% or more would obviously provide more certainty in predicting a ruling by the Federal Circuit, because it would indicate that district courts are correctly interpreting the claims of the patent most of the time. Similarly, a very low affirmance rate, for example less than 25%, would also provide greater certainty in predicting the ruling of the Federal Circuit because it would signal that district courts’ interpretations of the claims are probably incorrect. An affirmance rate of approximately 60%, however, makes it virtually impossible to predict the ruling of the Federal Circuit. This unpredictability on appeal creates uncertainty, thereby encouraging appeals and discouraging settlements. In conclusion, there seems to be strong empirical evidence to suggest that *Markman* was unsuccessful in bringing certainty to claim construction.

2. Uncertainty After *Festo*

In contrast to the issue of claim construction, there are no empirical studies showing that the flexible bar approach to prosecution history estoppel produces uncertainty. In fact, Judge Lourie acknowledged, in his concurring opinion in *Festo*, that there is a lack of “hard evidence showing that the so-called ‘flexible’ bar impairs predictability.”⁹⁹ Despite the absence of any “hard evidence,” however, Judge Lourie offered the Federal Circuit’s personal experience as evidence that the flexible bar approach produces uncertainty:

While it is true that empirical data may not be available, powerful evidence may be garnered from the experience of [the Federal Circuit], which monthly reviews appeals in which infringement is asserted under the doctrine of equivalents even though the accused product is clearly not within the literal scope of the asserted claims. Many of these appeals involve prosecution histories in which amendments for patentability reasons have been made. Yet, equivalence is argued in the hope that one

98. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1476 (Fed. Cir. 1998) (Rader, J., dissenting).

99. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo I”)*, 234 F.3d 558, 596 (Fed. Cir. 2000) (en banc) (Lourie, J., concurring).

panel might find equivalence where another would not. That surely is persuasive evidence that the current flexible bar is not working.¹⁰⁰

In his concurring opinion, Judge Plager noted that due to the “indeterminate nature” of the doctrine of equivalents, which is partially a result of the flexible bar rule, infringement cases under the doctrine of equivalents are not over until they have been appealed.¹⁰¹ The en banc Federal Circuit’s decision in *Festo* echoed the concerns of uncertainty presented by Judge Lourie and Judge Rader.¹⁰²

The court cited “the need for certainty” as a primary reason for consciously rejecting binding Supreme Court precedent and finding the flexible bar approach to be “unworkable.”¹⁰³ Based on the court’s “nearly twenty years of experience in performing [the] role as the sole court of appeals for patent matters,”¹⁰⁴ it found that the flexible bar approach did not “produce consistent results”¹⁰⁵ and that it was “virtually impossible to predict before the decision on appeal where the line of surrender is drawn.”¹⁰⁶ Ultimately, the Federal Circuit held that the certainty produced by a complete bar rule outweighed the increased protection to the patentee offered by the flexible bar approach.¹⁰⁷ The Supreme Court applied a similar balancing test but came to the opposite conclusion.¹⁰⁸

In rejecting the complete bar approach, the Supreme Court agreed that a complete bar would provide more certainty, but that the advantages were outweighed by the “cost of disrupting the expectations of countless existing patent holders.”¹⁰⁹ Specifically, if existing patent holders had known that prosecution history estoppel would act as a complete bar to the doctrine of equivalents, they might have appealed any amendments they were required to make to their patent application.¹¹⁰ Therefore, the Court concluded that the complete bar approach “risk[s] destroying the legitimate expectations of inventors,” and only Congress can change the rule because prosecution history estoppel is “settled law.”¹¹¹

100. *Id.*

101. *See id.* at 592 (Plager, J., concurring).

102. *See id.* at 574–78.

103. *See id.* at 574–75.

104. *Id.*

105. *See id.* at 575.

106. *Id.*

107. *See id.* at 578.

108. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo II”), 535 U.S. 722, 737–40 (2002).*

109. *Id.* at 739.

110. *See id.*

111. *Id.*

It is particularly noteworthy that the Supreme Court in *Festo* never disputed the Federal Circuit's finding that the flexible bar rule produced greater uncertainty. Hence, although there may not be any evidence showing that the flexible bar approach produces highly uncertain results, there does not appear to be any empirical evidence to the contrary. Thus, in an instance where there is an apparent lack of empirical evidence, the Federal Circuit's decision to rely on personal experience in finding that the flexible bar creates uncertainty and to explicitly discard *stare decisis* speaks very loudly.¹¹²

III. OPTIONS FOR DECREASING UNCERTAINTY IN THE WAKE OF *MARKMAN* AND *FESTO*

The Supreme Court's decisions in *Markman* and *Festo* will almost certainly remain good law unless Congress makes a major effort to reform the patent system. This also means that in patent infringement cases there will be continued uncertainty with issues of claim construction and prosecution history estoppel under the doctrine of equivalents.¹¹³ There have been a number of proposals for reform, however, that endeavor to improve uniformity and certainty in patent infringement cases without reworking the entire patent system. Four of these proposals appear to have substantial merit: implementation of a rule of greater deference for trial courts, increased use of special masters, use of technical juries, and creation of a specialized patent trial court.¹¹⁴

A. A RULE OF GREATER DEFERENCE

1. Standards of Review by the Federal Circuit in Patent Infringement Cases

In *Cybor*, the Federal Circuit found that claim construction was a "purely legal question" that is subject to *de novo* review on appeal.¹¹⁵ Similarly, the Federal Circuit has held that prosecution history estoppel is a

112. *Festo I*, 234 F.3d at 574–75.

113. *See supra* Parts II.C.1–C.2.

114. There have been other proposals focused on increasing the certainty of particular, more narrow issues in patent infringement cases like claim construction. *See, e.g.*, Gretchen Ann Bender, *Uncertainty and Unpredictability in Patent Litigation: The Time Is Ripe for a Consistent Claim Construction Methodology*, 8 J. INTELL. PROP. L. 175 (2001) (arguing for changes in the methodology of claim construction in order to increase certainty). The four proposals discussed here, however, have the possibility of providing more certainty in patent infringement trials with respect to a greater number of issues.

115. *See Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).

question of law subject to de novo review.¹¹⁶ However, the ultimate issue of infringement, whether literal or under the doctrine of equivalents, is a question of fact.¹¹⁷

Questions of law are subject to de novo review, which the Federal Circuit has defined as the “appellate review standard for issues of law in the trial proceeding, regardless of whether the case was tried to a judge or a jury.”¹¹⁸ In applying de novo review, appellate courts decide the issue “anew,”¹¹⁹ without giving any weight to the trial court’s decision.¹²⁰ On the other hand, the standard of review for questions of fact depends on whether the case was tried to a judge or a jury.¹²¹

If a question of fact is tried before a judge, the finding “shall not be set aside unless clearly erroneous.”¹²² The Supreme Court has defined clearly erroneous as a decision where “although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.”¹²³ Yet, if the finding of fact is plausible based on the complete record, an appellate court may not reverse using the clearly erroneous standard even if it would have construed the evidence differently had it been the factfinder.¹²⁴ Accordingly, “[w]here there are two permissible views of the evidence, the factfinder’s choice between them cannot be clearly erroneous.”¹²⁵

116. *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1323 (Fed. Cir. 1999). *See Cybor*, 138 F.3d at 1460. *See also Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n.8 (1997) (finding that “the various legal limitations on the application of the doctrine of equivalents are to be determined by the court”). The Federal Circuit has explicitly stated that “[q]uestions relating to the application and scope of prosecution history estoppel . . . fall within the exclusive province of the court.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1368 (Fed. Cir. 2003), *petitions for cert. filed*, 2004 WL 239391 (Feb. 3, 2004) & 2004 WL 239387 (Feb. 3, 2004). In the same opinion, the Federal Circuit further clarified that “whether prosecution history estoppel applies, and hence whether the doctrine of equivalents may be available for a particular claim limitation, presents a question of law.” *Id.* at 1367–68.

117. GLENN W. RHODES, *PATENT LAW HANDBOOK 2001–2002 EDITION* § 8.07(2) (2001). *See IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed. Cir. 2000), *cert. dismissed*, 530 U.S. 1299 (2000); HERBERT F. SCHWARTZ, *PATENT LAW AND PRACTICE* 81–82 (2d ed. 1995).

118. *Markman v. Westview Instruments, Inc. (“Markman II”)*, 52 F.3d 967, 984 n.13 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

119. BLACK’S LAW DICTIONARY 435 (6th ed. 1990).

120. *See Kevin Casey, Jade Camara & Nancy Wright, Standards of Appellate Review in the Federal Circuit: Substance and Semantics*, 11 FED. CIR. B.J. 279, 290 (2002). It should be noted that although, theoretically, the court gives no weight to the trial court’s decision, in practice, the lower court’s decisions do have some impact on the appellate court’s de novo ruling. *Id.*

121. *See id.* at 307–08.

122. FED. R. CIV. P. 52(a).

123. *United States v. U.S. Gypsum Co.*, 333 U.S. 365, 395 (1948).

124. *See Anderson v. City of Bessemer*, 470 U.S. 564, 573–74 (1985).

125. *Id.* at 574 (citing *United States v. Yellow Cab Co.*, 338 U.S. 338, 342 (1949)).

If a question of fact is tried before a jury, an appellate court will uphold the verdict if the factual findings are “supported by substantial evidence.”¹²⁶ This substantial evidence standard provides more deference to the trial court than when a judge is the factfinder and the clearly erroneous standard applies.¹²⁷ The Federal Circuit has stated that the substantial evidence standard requires that the court look at the entire record to determine “whether factors such as ‘[e]xaggeration, inherent improbability, self-contradiction, omissions in a purportedly complete account, imprecision, and errors’ . . . so detract from the weight of the evidence . . . that a reasonable fact-finder would not find the charge proved by a preponderance of the evidence” in order to reverse the jury’s findings.¹²⁸ Therefore, the issue of patent infringement, either literal or under the doctrine of equivalents, will be reviewed by the Federal Circuit using the clearly erroneous standard in the case of a bench trial, or reviewed using the substantial evidence standard in the case of a jury trial.

2. The Effects of a Rule of Greater Deference

Scholars and judges have recommended a higher standard of deference for issues like prosecution history estoppel and claim interpretation in patent infringement cases.¹²⁹ For instance, Judge Rader’s dissent in *Cybor* maintained that claim construction involved a “factual component” and therefore should be accorded more deference.¹³⁰ Additionally, Judge Plager’s concurring opinion in *Festo* argued that the doctrine of equivalents should be recognized as a question of equitable law for judges and subject to the highest deferential standard of appellate review.¹³¹

The main justification for a rule of greater deference in the patent context has been increased certainty in the trial courts.¹³² Undoubtedly, a

126. See *Jurgens v. McKasy*, 927 F.2d 1552, 1557 (Fed. Cir. 1991).

127. See *Casey et al.*, *supra* note 120, at 307–08.

128. *Dixon v. Dep’t of Transp.*, 8 F.3d 798, 804 (Fed. Cir. 1993) (internal citations omitted).

129. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1478 (Fed. Cir. 1998) (Rader, J., dissenting) (arguing for increased deference to the trial court for claim construction); M. Reed Staheli, Comment, *Deserved Deference: Reconsidering the De Novo Standard of Review for Claim Construction*, 3 MARQ. INTELL. PROP. L. REV. 181, 199–201 (1999) (recommending greater deference to the trial court for appellate review of claim construction).

130. See *Cybor*, 138 F.3d at 1478 (Rader, J., dissenting).

131. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (“Festo I”)*, 234 F.3d 558, 593 (Fed. Cir. 2000) (en banc) (Plager, J., concurring) (stating that the doctrine of equivalents should be a question of law for judges and reviewed “under the deferential standard of abuse of discretion”), *vacated by* 535 U.S. 722 (2002).

132. See Staheli, *supra* note 129, at 198.

rule of greater deference would increase the affirmance rate on appeal and thereby increase certainty as to the outcome on appeal.¹³³ For example, if issues that are currently reviewed de novo by the Federal Circuit, like claim construction, were reviewed on appeal using a standard that is deferential to the trial court, there would be fewer reversals, which translates into more certainty. Moreover, as Judge Rader noted, a rule of greater deference would also “have the salutary effect of making the [district court’s] trial on the merits the ‘main event,’ so to speak, rather than a ‘tryout on the road’ for what will later be the determinative [appeal to the Federal Circuit].”¹³⁴

Besides increased certainty, a rule of greater deference would likely have other benefits. Since reversals on appeal would be less common, a rule of greater deference would discourage appeals and increase the number of settlements.¹³⁵ It also might encourage district court judges to be even more diligent and vigilant in patent infringement trials because their opinions would be not overturned on appeal as often.¹³⁶ Furthermore, a rule of greater deference would decrease the potential costs to both patent litigants and the judicial system seeing as fewer cases would be appealed and even fewer would be remanded for additional proceedings. Thus, there are some substantial benefits of adopting a rule of greater deference.

The negative aspects of a rule of greater deference outweigh the many advantages it offers. Although a rule of greater deference would increase the certainty that the trial court’s decision will not be overruled, it would likely come at the cost of accuracy.¹³⁷ A rule of greater deference may simply be turning “a blind eye” to the errors of district court judges¹³⁸ who have limited experience with patent cases.¹³⁹ It seems logical to assume that the Federal Circuit, which has extensive experience with patent cases because of its role as the lone patent appellate court, is correctly applying the law in patent infringement cases. Based on this assumption, the high reversal rates by the Federal Circuit in patent infringement cases is primarily due to the incorrect or inaccurate rulings at the district court level. Therefore, a rule of greater deference to district courts would hinder the Federal Circuit from correcting inaccuracies at the trial court.¹⁴⁰

133. See Moore, *supra* note 3, at 28.

134. *Cybor*, 138 F.3d at 1478 (Rader, J., dissenting) (quoting *Wainwright v. Sykes*, 433 U.S. 72, 90 (1977)).

135. See *id.*

136. See Moore, *supra* note 3, at 28–29.

137. See *id.* at 29–31.

138. See Johnson, *supra* note 59, at 81.

139. See Moore, *supra* note 3, at 30.

140. See *id.* at 29.

Another major disadvantage of a rule of greater deference is that it almost certainly would decrease uniformity in the patent system.¹⁴¹ Uniformity is one of the foremost purposes of appellate courts, and it was one of the major reasons why Congress created the Federal Circuit: “The new Court of Appeals for the Federal Circuit will provide nation-wide uniformity in patent law.”¹⁴² Additionally, in creating the Federal Circuit, Congress noted that a lack of uniformity results in “different outcomes in different courtrooms in substantially similar cases,” which commonly brings about “forum-shopping.”¹⁴³ Forum-shopping is “[t]he practice of choosing the most favorable jurisdiction or court in which a claim might be heard.”¹⁴⁴ Congress’s abhorrence for forum-shopping was evident, as they characterized it as “expensive, time-consuming, and unseemly.”¹⁴⁵ Many commentators have also criticized forum-shopping as producing inefficiency and inequity in the legal system.¹⁴⁶

Forum-shopping would almost certainly be the result of a rule of greater deference in patent infringement cases. For example, two judges in separate district courts may interpret the same claim of a patent differently, which under *de novo* review would allow the Federal Circuit to unify the incongruent decisions.¹⁴⁷ Yet, under a rule of greater deference, such as the clearly erroneous standard for findings of fact by judges,¹⁴⁸ the appellate court would likely lack the power to provide uniformity by reconciling the conflicting decisions.¹⁴⁹ These contradictory decisions at the district court level may then give future plaintiffs an incentive to bring a patent infringement suit in the particular district court they believe would interpret the claims of their patent most favorably.¹⁵⁰

The potential for forum-shopping under a rule of greater deference would not be limited to the issue of claim construction given in the example. Rather, forum-shopping would likely occur whenever the Federal Circuit is unable to reconcile disparate decisions of the trial court due to a

141. See Staheli, *supra* note 129, at 195–96.

142. H. R. REP. NO. 97-312, at 7 (1981).

143. See *id.* at 7–8.

144. BLACK’S LAW DICTIONARY 291 (2d Pocket ed. 2001).

145. H. R. REP. NO. 97-312, at 7.

146. E.g., Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 924 (2001).

147. See Staheli, *supra* note 129, at 195–96.

148. See *supra* Part III.A.1.

149. Staheli, *supra* note 129, at 195–96.

150. See Moore, *supra* note 146, at 899–901.

rule of greater deference. Thus, implementing a rule of greater deference has serious drawbacks, making it an unattractive proposal for reform.

B. INCREASED USE OF SPECIAL MASTERS

1. The Legal Authority of Special Masters in Patent Cases

A special master is a “parajudicial officer” who is “specially appointed to help a court with its proceedings.”¹⁵¹ The legal authority to appoint a special master comes “from Rule 53 of the Federal Rules of Civil Procedure (“Rule 53”), the consent of the parties, and the inherent power of the court.”¹⁵² The Supreme Court recognized the inherent power to appoint special masters in *Ex Parte Peterson*, where it held that

[c]ourts have . . . inherent power to provide themselves with appropriate instruments required for the performance of their duties. This power includes authority to appoint persons unconnected with the court to aid judges in the performance of specific judicial duties . . . by appointing, either with or without the consent of the parties, special masters, auditors, examiners, and commissioners.¹⁵³

In addition, parties can consent to the appointment of a special master, even when the conditions under Rule 53 are not met.¹⁵⁴ As early as 1889, the Supreme Court acknowledged that “when the parties consent to the reference of a case to a master,” the master may report findings that would otherwise be prohibited without their consent.¹⁵⁵ Finally, Rule 53 specifically authorizes the appointment of special masters.¹⁵⁶

While Rule 53 allows appointment of special masters, it specifically states that a “reference to a master shall be the exception and not the rule.”¹⁵⁷ As such, Rule 53 authorizes the appointment of a special master in actions tried to a jury only when the “issues are complicated,” and in actions not tried to a jury, special masters can be used only in matters of accounting, when difficult computation of damages arises, or when “some

151. BLACK’S LAW DICTIONARY 441 (2d Pocket ed. 2001).

152. See Thomas L. Creel & Thomas McGahren, *Use of Special Masters in Patent Litigation: A Special Master’s Perspective*, 26 AIPLA Q.J. 109, 118 (1998). See also Margaret G. Farrell, *The Role of Special Masters in Federal Litigation*, in AMERICAN LAW INSTITUTE, CIVIL PRACTICE AND LITIGATION TECHNIQUES IN FEDERAL AND STATE COURTS 1005, 1009 (2002).

153. *Ex parte Peterson*, 253 U.S. 300, 312–13 (1920).

154. See Farrell, *supra* note 152, at 1010; Creel & McGahren, *supra* note 152, at 119.

155. See *Kimberly v. Arms*, 129 U.S. 512, 524 (1889).

156. FED. R. CIV. P. 53.

157. FED. R. CIV. P. 53(b).

exceptional condition requires it.”¹⁵⁸ Subject to the order of reference by the court, a master is granted with “the power to regulate all proceedings in every hearing before the master and to do all acts and take all measures necessary or proper for the efficient performance of the master’s duties under the order.”¹⁵⁹ A special master is required to prepare a report addressing the issues in the order of reference.¹⁶⁰ The findings of fact in the report shall be accepted unless clearly erroneous in actions without a jury,¹⁶¹ and in actions tried before a jury the findings are admissible as evidence and may be read to the jury.¹⁶²

The Supreme Court has narrowly interpreted the term “exceptional condition” in Rule 53, holding that court congestion, complex issues of fact and law, and the prospect of a lengthy trial were not “exceptional conditions” within the meaning of Rule 53(b).¹⁶³ Thus, the complexity involved in a patent infringement suit would not be considered an exceptional condition as required to satisfy Rule 53(b) in actions tried without a jury. For a patent infringement suit tried before a jury, however, the complexity involved in the case would likely be a sufficient reason under Rule 53(b) to appoint a special master.¹⁶⁴ Therefore, there is a higher requirement for reference to a special master in a nonjury case than in a jury case.¹⁶⁵

2. Assessment of the Proposal for Increased Use of Special Masters in Patent Infringement Trials

The use of special masters in patent infringement trials to decide issues such as claim construction has become an accepted practice.¹⁶⁶ Commentators have argued that the increased use of special masters in patent cases would increase the quality of justice by bringing added

158. *Id.*

159. FED. R. CIV. P. 53(c).

160. FED. R. CIV. P. 53(e)(1).

161. FED. R. CIV. P. 53(e)(2).

162. FED. R. CIV. P. 53(e)(3).

163. *See La Buy v. Howes Leather Co.*, 352 U.S. 249, 259 (1957) (noting that most antitrust lawsuits have complex issues of law and fact, and this is a reason to have the case tried before a regular, experienced judge rather than a temporary master, appointed on an ad hoc basis).

164. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 72 F.3d 857, 865 (Fed. Cir. 1995), *vacated on other grounds by* 535 U.S. 722 (2002).

165. *See Creel & McGahren*, *supra* note 152, at 124.

166. *See* Kenneth R. Adamo, *Get on Your Marks, Get Set, Go: Or “And Just How Are We Going to Effect Markman Construction in this Matter, Counsel?”, in* PLI’S SEVENTH ANNUAL INSTITUTE FOR INTELLECTUAL PROPERTY LAW 183, 286 (2001).

technical competence to the trial court.¹⁶⁷ Without a doubt, special masters in patent cases, who would likely be practicing lawyers possessing expertise in both patent law and a relevant technical field,¹⁶⁸ would bring additional technical competence to the trial court. In addition, a special master would be able to dedicate more time to the voluminous information in a patent infringement trial than a district court judge with a full caseload.¹⁶⁹ Thus, using special masters in patent infringement cases might result in more accurate rulings, which in turn would mean fewer reversals on appeal and more certainty. Although the use of a special master could be the solution in a particular case, it is not the solution to the uncertainty in every patent infringement case.

There are a number of reasons why the use of special masters is not the remedy for the uncertainty in all patent infringement trials. First, under the terms of Rule 53, a special master cannot be appointed in all patent infringement trials. Without the consent of the parties, a special master could not be appointed in a patent infringement case that is tried to a judge, unless there were some exceptional condition besides complexity.¹⁷⁰ Furthermore, Rule 53(b) explicitly states that the appointment of a master “shall be the exception and not the rule,”¹⁷¹ which militates against the use of a special master in every patent infringement trial. Although Congress has the power to amend Rule 53 to allow the use of special masters in all patent infringement trials, increasing certainty in patent infringement trials does not appear to be a sufficient reason to ignore the justifications and policy behind the rule and create an exception.

Secondly, there is no guarantee that special masters would produce more accurate results, even though they may have technical training. Although special masters may have more technical expertise than a judge, they are lacking the accumulated expertise that is gained from presiding over numerous trials.¹⁷² In fact, the Supreme Court in *La Buy v. Howes Leather* acknowledged that the complexity of a case in a nonjury trial “is an impelling reason for trial before a regular, experienced trial judge rather

167. Robert C. Weiss, Armand F. Ayazi & Kate Hertel, *Markman Practice, Procedure and Tactics*, in *PATENT LITIGATION* 2000, 117, 173 (2000).

168. See Edward V. Di Lello, Note, *Fighting Fire with Firefighters: A Proposal for Expert Judges at the Trial Level*, 93 *COLUM. L. REV.* 473, 486 (1993).

169. See Farrell, *supra* note 152, at 1041.

170. See *supra* Part III.B.1.

171. *FED. R. CIV. P.* 53(b).

172. See Di Lello, *supra* note 168, at 489.

than before a temporary substitute appointed on an *ad hoc* basis and ordinarily not experienced in judicial work.”¹⁷³

There are also disadvantages to the use of special masters that are present whenever one is appointed. Anytime a special master is used there is the potential for conflicts of interest.¹⁷⁴ Special masters also add to the high cost of litigation,¹⁷⁵ since Rule 53 provides that compensation of the special master “shall be charged upon . . . the parties or paid out of any fund or subject matter of the action, which is in the custody and control of the court as the court may direct.”¹⁷⁶ Additionally, the use of a special master can cause serious delay because the special masters are often busy, practicing attorneys¹⁷⁷ and their extensive reports have to be reviewed by a judge.¹⁷⁸

In conclusion, there are legal barriers and major disadvantages to appointing special masters in patent infringement trials, and there is no guarantee that the use of special masters will increase certainty. Therefore, this proposal is noticeably deficient.

C. TECHNICAL JURIES

1. The Advantages of Technical Juries

Many commentators have advocated for the use of expert or “blue ribbon” juries in complex litigation, specifically in patent litigation.¹⁷⁹ In the realm of patent litigation, the proposal for expert juries essentially becomes a proposal for technical juries, or juries that have advanced training or education in technical fields like science and engineering. The

173. *La Buy v. Howes Leather Co.*, 352 U.S. 249, 259 (1957).

174. *See Creel & McGahren, supra* note 152, at 128–29.

175. *See Farrell, supra* note 152, at 1041.

176. FED. R. CIV. P. 53(a).

177. *See Di Lello, supra* note 168, at 488.

178. *See Farrell, supra* note 152, at 1041.

179. *See* Michael A. Fisher, *Going for the Blue Ribbon: The Legality of Expert Juries in Patent Litigation*, 2 COLUM. SCI. & TECH. L. REV. 1, 2–3 (2001). For additional articles that advocate “blue ribbon” juries, see Kristy Lee Bertelsen, *From Specialized Courts to Specialized Juries: Calling for Professional Juries in Complex Civil Litigation*, 3 SUFFOLK J. TRIAL & APP. ADVOC. 1, 4–5 (1998); Philippe Signore, *On the Role of Juries in Patent Litigation (Part II)*, 83 J. PAT. & TRADEMARK OFF. SOC’Y 896, 914–15 (2001) (arguing for a modified jury selection process where part of the jury would be composed of individuals who had previously applied for a patent); Franklin Strier, *The Educated Jury: A Proposal for Complex Litigation*, 47 DEPAUL L. REV. 49, 59–61 (1997); Gregory D. Leibold, Comment, *In Juries We Do Not Trust: Appellate Review of Patent-Infringement Litigation*, 67 U. COLO. L. REV. 623, 648–53 (1996) (suggesting educated, special juries in patent trials); Davin M. Stockwell, Comment, *A Jury of One’s (Technically Competent) Peers?*, 21 WHITTIER L. REV. 645, 648 (2000).

obvious advantage of a technical jury is the ability of these special jurors to more easily comprehend the complex technology involved in most patent infringement trials.¹⁸⁰ This is important because the development of a majority of the commercially profitable patents required the employment of scientists and engineers with advanced technical degrees, years of research and development, and investment in sophisticated machinery.¹⁸¹ Meanwhile, any mentally stable adult who is able to read and speak English and is registered to vote is qualified to serve on a jury that evaluates this complex technology.¹⁸²

Accordingly, the main advantage of a technical jury is that these special jurors, when compared to lay jurors, could more easily understand the complex technologies involved in patent infringement trials. Since a technical jury would better comprehend the technology, patent infringement trials would likely be more fair and efficient.¹⁸³ For instance, application of the doctrine of equivalents by a technical jury might be more fair, because a technical jury would better relate to the standard of a person “reasonably skilled in the art.”¹⁸⁴ Similarly, patent infringement trials might proceed more efficiently with technical juries because lawyers and judges would not have to spend as much time educating the jury about the relevant technologies.

Another possible advantage of having a technical jury in patent infringement cases is that it may decrease the number of patent infringement cases tried to a jury that are reversed on appeal. Even though findings of fact by juries are given a great deal of deference on appeal,¹⁸⁵ the findings are still overruled occasionally. Therefore, the findings of a technical jury would likely be overruled less often than those of a lay jury, since technologically competent jurors are presumably more qualified to render verdicts in complex patent infringement trials. Despite the potential advantages of impanelling technical juries in patent infringement cases, technical juries are not the solution for the reasons discussed below.¹⁸⁶

180. See *Signore*, *supra* note 179, at 903.

181. See *id.* at 897.

182. See *id.*

183. See *Stockwell*, *supra* note 179, at 693.

184. See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950).

185. See *supra* Part III.A.1.

186. See *infra* Part III.C.2.

2. The Disadvantages of Technical Juries

In order for technical juries to increase certainty and uniformity in patent infringement cases, Congress would have to adopt federal rules authorizing the use of technical juries.¹⁸⁷ Some commentators argue that the federal district courts presently have the power to impanel technical juries,¹⁸⁸ but even if district courts do possess this power, no court has yet exercised that power, and it is unlikely that any court will attempt to do so without affirmative legislation. Yet, even if Congress were to authorize the use of technical juries in patent infringement trials, it would not solve the problem of uncertainty with claim construction and prosecution history estoppel under the doctrine of equivalents.

Claim construction and prosecution history estoppel under the doctrine of equivalents are questions of law for judges, not questions of fact for a jury.¹⁸⁹ Thus, the implementation of technical juries would not affect the interpretation of patent claims or the application of prosecution history estoppel under the doctrine of equivalents.¹⁹⁰ Although technical juries could decide such factual issues as literal infringement or infringement under the doctrine of equivalents,¹⁹¹ the numerous problems with technical juries effectively preclude their use in any patent infringement trial.

To begin, the use of technical juries would have to overcome constitutional challenges.¹⁹² Courts have interpreted the Constitution as requiring a jury to be drawn from a “fair cross section” of the community.¹⁹³ This fair cross section requirement has been incorporated in federal statutes.¹⁹⁴ The purpose of the cross section requirement is to ensure that all “cognizable” segments of society have the opportunity to serve on a

187. See Leibold, *supra* note 179, at 648–49.

188. See Fisher, *supra* note 179, at 37–38.

189. See *supra* Part III.A.1.

190. Theoretically, either the Supreme Court or Congress could overrule the decision in *Markman* and find a right to jury trial for claim construction. Likewise, either could find a right to a jury trial for prosecution history estoppel under the doctrine of equivalents. This issue is not addressed, however, because it is both highly improbable and raises many issues beyond the scope of this Note.

191. See *supra* Part III.A.1.

192. Stockwell, *supra* note 179, at 661.

193. See *United States v. Butera*, 420 F.2d 564, 567 (1st Cir. 1970), *vacated by Barber v. Ponte*, 772 F.2d 982, 1000 (1st Cir. 1985) (en banc) (noting that the Supreme Court’s requirement that a fair cross section of the community be represented in juries is based on the Fourteenth and Sixth Amendments to the U.S. Constitution).

194. See 28 U.S.C. § 1861 (2000). See also 28 U.S.C. § 1863 (2000) (requiring each district court to devise a written plan for random jury selection).

jury.¹⁹⁵ It is quite possible that less educated people constitute a cognizable group requiring the opportunity to serve on a jury.¹⁹⁶ Consequently, selecting a jury of persons highly educated in technical areas may very well violate the fair cross section requirement by excluding less educated people.¹⁹⁷ A second potential problem is that technical jurors may be exceptionally qualified in the particular field in dispute, which might make them overqualified to step into the shoes of a person “reasonably skilled in the art,”¹⁹⁸ as is frequently necessary for trials involving patent validity and infringement.¹⁹⁹ However, perhaps the biggest problem with the proposal for technical juries is the process surrounding implementation of a technical jury system.

There is the practical difficulty of defining the qualifications needed to serve on a technical jury.²⁰⁰ A simple solution would be to require that jurors have a college degree.²⁰¹ Yet, this approach would include many jurors with little knowledge in areas of science and engineering and exclude many jurors who are trained in these technologies but lack the requisite degree.²⁰² Another solution might be to require jurors to have a college degree or expertise in an area that is relevant to the disputed patent.²⁰³ It might be impossible, however, to obtain enough qualified jurors who meet such a requirement and who would not suffer undue hardship from service on a jury throughout the course of a lengthy patent trial.²⁰⁴ Also, many patents today utilize cutting-edge technology from a variety of fields, and few potential jurors are likely to be trained in all areas relevant to the disputed patent, further complicating the selection of a technical jury. For example, the development of a patented design for an artificial heart might involve the combined expertise of electrical engineers, mechanical engineers, cardiac specialists, and surgeons, but it seems doubtful that any potential juror would have been trained in all of these areas.

195. James Oldham, *The History of the Special (Struck) Jury in the United States and its Relation to Voir Dire Practices, the Reasonable Cross-Section Requirement, and Peremptory Challenges*, 6 WM. & MARY BILL RTS. J. 623, 627 (1998).

196. See Fisher, *supra* note 179, at 17, 20–21.

197. See *id.*

198. See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950).

199. See Leibold, *supra* note 179, at 650.

200. See *id.* at 649.

201. See *id.*

202. See *id.*

203. See *id.* at 650.

204. See *id.* at 650 (noting that “no matter how special juries are chosen . . . they would be preferable to . . . the old system”).

A final drawback with the proposal for technical juries in patent infringement trials is that a jury would not necessarily try every case. The parties in a patent infringement suit could simply waive the right to a jury trial,²⁰⁵ thereby negating any benefits of a technical jury. Parties might choose to waive the right to a jury trial because a bench trial may prove less costly or quicker. Thus, the proposal for technical juries in patent infringement cases seems burdened with problems and hardly an ideal solution.

IV. A SPECIALIZED PATENT TRIAL COURT WITH A RULE OF GREATER DEFERENCE

A. THE PROPOSAL

A number of commentators are in favor of creating a specialized trial court for patent cases.²⁰⁶ In fact, many other industrial nations already have specialized patent trial courts or specialized patent panels.²⁰⁷ This Note proposes the creation of a U.S. patent trial court. The Federal Circuit would give this proposed specialized patent court greater deference for rulings on claim construction and prosecution history estoppel, both of which are currently reviewed *de novo*.

Commentators have suggested that if a specialized trial court were created, the Federal Circuit would likely give more deference to such a lower court.²⁰⁸ However, the greater deference in this proposal would be created through congressional legislation, instead of relying on the Federal Circuit to give greater deference simply by its own accord. In addition, the creation of a specialized patent trial court would require Congress to pass legislation under Article I of the Constitution.²⁰⁹

Congress clearly has the power to create a specialized patent trial court, as indicated by its creation of other specialized Article I courts: the U.S. Court of Federal Claims, the U.S. Tax Court, and the Court of Appeals for the Federal Circuit.²¹⁰ The proposed structure of the specialized patent trial court would involve establishing a court in each of the eleven

205. See FED. R. CIV. P. 38(d).

206. See, e.g., John B. Pegram, *Should There be a U.S. Trial Court with a Specialization in Patent Litigation?*, 82 J. PAT. & TRADEMARK OFF. SOC'Y 765, 767 (2000).

207. See *id.* at 773–78.

208. See Leibold, *supra* note 179, at 648.

209. See U.S. CONST. art. I, § 8, cl. 9.

210. See Pegram, *supra* note 206, at 781–82.

geographic circuits.²¹¹ Additionally, all the patent trial courts would apply the same uniform rules and be overseen by permanent judges. The number of permanent judges needed for a particular circuit would be determined by evaluating the number of patent cases brought in each circuit, in order to account for the fact that patent cases are more frequently brought in certain districts.²¹² It is possible to estimate the total number of patent judges required by evaluating nationwide statistics.

Approximately 2300 patent cases are filed a year, approximately 100 of which actually go to trial.²¹³ District court judges typically handle an average of nineteen civil trials per year and approximately sixty nine criminal trials per year.²¹⁴ Allocating one patent trial court judge for each of the eleven geographic circuits would result in a caseload of roughly 225 case filings and ten trials a year for each judge. Although the projected eleven patent trial court judges would be responsible for less filings and trials than district court judges, they would likely be just as busy, given the complex nature of patent cases. A detailed caseload analysis, however, is required to determine the precise number of patent trial court judges that would be necessary. Based on the analysis, the number of patent trial court judges could simply be increased or decreased. If it is determined that it is not necessary to have at least one judge in each circuit, one or more judges could ride the circuit, or alternatively, selected circuits could be consolidated. At this point, having detailed the structure of the proposed patent trial court, arguments for and against such a court can be evaluated.

B. ARGUMENTS AGAINST A SPECIALIZED PATENT TRIAL COURT WITH A RULE OF GREATER DEFERENCE

There are three main arguments against the creation of a specialized patent trial court. First, one could argue that the United States currently has a semispecialized patent trial court because under the current system almost half of all patent cases are filed in ten district courts.²¹⁵ Yet, this means that

211. Although there are thirteen circuits, it only seems necessary to have a patent trial court in the eleven geographic circuits because the Federal Circuit and the D.C. Circuit are both located in Washington, D.C.

212. See Moore, *supra* note 146, at 937 (finding that patent cases “consistently gravitate toward a cluster of districts”).

213. Moore, *supra* note 3, at 30; Pegram, *supra* note 206, at 769; 2002 ADMIN. OFFICE, *supra* note 77, at 53 tbl.C-4.

214. See Patrick E. Longan, *The Shot Clock Comes to Trial: Time Limits for Federal Civil Trials*, 35 ARIZ. L. REV. 663, 671 tbl.1, 673 tbl.2 (1993).

215. Arti K. Rai, *Specialized Trial Courts: Concentrating Expertise on Fact*, 17 BERKELEY TECH. L.J. 877, 895 (2002).

more than half of all patent cases are being tried before inexperienced trial courts.²¹⁶ Furthermore, parties with weak cases have incentives to file in these inexperienced courts.²¹⁷ An argument could also be made that having a single patent court in each circuit imposes a burden on those who would have to travel. Although it would not be practical to have more than one specialized patent court per circuit because of the small caseload, one would only have to travel a relatively modest distance within his or her circuit. Besides, many patent cases in district courts already require substantial travel for one party.²¹⁸

A second argument against a specialized patent trial court is that excessive specialization will result in narrowness of judicial vision.²¹⁹ The criticism of narrow jurisdiction contemplates the possibility of isolation, or the court being “captured” by part of its constituency.²²⁰ To that end, there does not seem to be a problem with narrowness in the Federal Circuit, and by exercising appellate review over a patent trial court the specialized patent court would have the ability to prevent narrowness from invading patent law.²²¹ In addition, if narrowness became a problem, patent trial courts could be given jurisdiction over other specialized fields, analogous to the Federal Circuit’s jurisdiction.²²²

A third argument against the creation of a specialized patent court is that there are not enough qualified judges to staff such a court. This argument assumes that patent trial court judges need a technical background. However, the expertise in patent law could be developed from experience, and not necessarily from training in a particular technology. For example, the Federal Circuit’s expertise comes from their experience in dealing with patent cases, seeing as only a fraction of the active judges on the Federal Circuit have a technical background.²²³ Moreover, judges with a technical background “are unlikely to have expertise in the area of science or technology raised by any given patent case.”²²⁴ In conclusion, the arguments against a specialized patent trial court are relatively weak, especially in light of the many advantages such a court offers.

216. *See id.*

217. *Id.* at 895–96.

218. *See Pegram, supra* note 206, at 791.

219. *See Rai, supra* note 215, at 896.

220. *See Pegram, supra* note 206, at 787.

221. *See Rai, supra* note 215, at 896.

222. *See Pegram, supra* note 206, at 787.

223. *See Rai, supra* note 215, at 888.

224. *Id.*

C. ADVANTAGES OF A SPECIALIZED PATENT TRIAL COURT WITH A RULE OF GREATER DEFERENCE

A specialized patent trial court with a rule of greater deference has all the benefits of increased deference in patent infringement trials²²⁵ but lacks the drawbacks. As previously discussed, adopting a rule of greater deference for rulings on claim construction and prosecution history estoppel would reduce the amount of reversals on appeal, thereby increasing the certainty of the trial court ruling and, in turn, would encourage settlements and discourage appeals.²²⁶ However, the two major disadvantages of greater deference, forum-shopping and decreased accuracy,²²⁷ cease to exist when incorporated into a specialized patent court.

First, it would be much more difficult to forum-shop with a uniform, national patent trial court. With a national patent trial court all patent infringement suits would have to be brought in that court. This is in marked contrast to the current system, which allows patent infringement suits to be brought in any federal district court. Thus, the patent court would prevent parties from bringing suits in district courts that they believe might be more favorable to their case. Parties, however, might still try to bring suit before a particular judge of the specialized patent trial court. Yet, this would not be as problematic as the current system, which allows parties to choose between district court judges with little or no experience in patent infringement trials and those with a great deal of experience, because with a specialized patent trial court all judges would have a great deal of experience with patent infringement trials. Moreover, if the judges of a national patent trial court were randomly assigned cases, there would be virtually no opportunity for forum-shopping in patent infringement cases because the parties would lack the power to select either the court or the judge.

Secondly, the danger of decreased accuracy, due to a rule of greater deference forcing the Federal Circuit to more frequently ignore the errors of the trial court,²²⁸ would most likely be absent from a specialized patent court. If a lower reversal rate of patent cases were achieved by a rule of greater deference while still employing the current district courts, “which

225. *See supra* Part III.A.2.

226. *See supra* Part III.A.2.

227. *See supra* Part III.A.2.

228. *See supra* Part III.A.2.

typically undertake a patent trial only once every six to eight years,”²²⁹ the lower reversal rate would most likely be the result of the Federal Circuit turning a blind eye to the errors of district courts. Granting specialized patent courts increased deference, however, would not have the same effect because patent trial court judges would be as experienced in patent law as Federal Circuit judges. Thus, granting more deference to a specialized patent court for issues like claim construction and prosecution history estoppel would not involve the same dangers of inaccuracy because there is no reason to believe that the Federal Circuit would make correct rulings more often than a specialized patent court.

Finally, specialized patent court judges would become increasingly proficient in patent cases, which would likely reduce the cost and length of current patent trials. Further efficiency would be achieved by the adoption of uniform court rules. For example, claim construction hearings, or *Markman* hearings, might be improved under a uniform procedure, rather than the current “disparity on ‘when,’ ‘how,’ and ‘in view of what (evidence)’ a *Markman* construction proceeding should be carried out.”²³⁰ A specialized patent court may also facilitate settlements or promote alternative dispute resolution techniques.²³¹ In conclusion, a specialized patent trial court with a rule of greater deference to issues of claim construction and prosecution history estoppel would bring needed certainty and uniformity to patent infringement trials, and there are few, if any, negative aspects.

V. CONCLUSION

In the wake of the Supreme Court’s decisions in *Markman* and *Festo*, rulings on claim construction and prosecution history estoppel under the doctrine of equivalents generally remain uncertain until the Federal Circuit’s decision on appeal. Moreover, nearly every patent infringement case involves a dispute over claim construction or prosecution history estoppel under the doctrine of equivalents and, as a consequence, patent infringement trials are typically uncertain until after appeal. Uncertainty at the trial level is highly inefficient, in part, because it encourages appeals and discourages settlements. Thus, there is a need for some type of reform to increase certainty at the trial level in patent infringement trials.

229. Rai, *supra* note 215, at 878.

230. Adamo, *supra* note 166, at 189.

231. See Pegram, *supra* note 206, at 794–95 (describing particular settlement and alternative dispute resolution techniques frequently used by courts).

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With the exception of a complete overhaul of the patent system, there are four proposals for reform of patent infringement trials that have substantial merit: a rule of greater deference to the trial courts, increased use of special masters, use of technical juries, and creation of a specialized patent court along with a rule of greater deference to this specialized court. A specialized patent trial court combined with a rule of greater deference is likely the most effective proposal to bring needed certainty to patent infringement trials. Regardless of whether others agree or disagree that this is the best solution, hopefully this Note will lead to further discussion of ways to resolve the current uncertainty in patent infringement trials.

