

PATENT LAW DEVELOPMENTS IN THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DURING 1992

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TABLE OF CONTENTS

| | |
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| Introduction | 911 |
| I. Jurisdiction, Procedure, and Practice | 912 |
| A. Jurisdiction of the Federal Circuit | 912 |
| 1. The Federal Circuit's appellate jurisdiction ... | 912 |
| 2. Perfection of Federal Circuit jurisdiction— Rule 54(b) | 919 |
| B. Declaratory Judgments | 921 |
| C. Standing and Mootness | 924 |
| D. General Civil Procedure Issues | 937 |
| 1. Waiver of inconsistent jury findings | 938 |
| 2. Amending a complaint | 939 |
| 3. Law of the case doctrine | 941 |
| 4. Timeliness of general-verdict-multiple- defense argument | 942 |
| E. Judicial Estoppel and Settlement Estoppel | 942 |
| F. Standard of Review for Rule 50(b) Motions | 944 |
| G. Jury Trials—Seventh Amendment | 944 |
| H. The Attorney-Client Privilege | 946 |

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| | | |
|------|--|------|
| I. | Sovereign Immunity—Eleventh Amendment | 947 |
| J. | Frivolous Appeals Under Rule 38 of the Federal Rules of Appellate Procedure | 948 |
| K. | Modifying Consent Decrees | 950 |
| II. | Patentability and Validity | 953 |
| A. | Patentable Subject Matter—35 U.S.C. § 101 | 953 |
| B. | Anticipation—35 U.S.C. § 102 | 957 |
| 1. | Public use and on-sale bars | 957 |
| 2. | Prior printed publication | 962 |
| 3. | Identity of invention and claim interpretation | 962 |
| 4. | Jury findings with respect to patent validity | 965 |
| 5. | Foreign patents as prior art | 966 |
| C. | Obviousness—35 U.S.C. § 103 | 967 |
| 1. | Analogous prior art | 967 |
| 2. | Suggestion to combine or modify the prior art | 969 |
| 3. | Secondary considerations | 975 |
| 4. | Admissions as to obviousness | 976 |
| 5. | Design patents | 977 |
| D. | Enablement, Written Description, Best Mode— 35 U.S.C. § 112 | 977 |
| 1. | Written description | 978 |
| 2. | Enablement | 980 |
| 3. | Best mode | 981 |
| 4. | Means-plus-function claims | 983 |
| E. | Inventorship and Derivation—35 U.S.C. § 116 and § 102(f) | 986 |
| 1. | Joint inventorship under 35 U.S.C. § 116 | 986 |
| 2. | Derivation of invention under 35 U.S.C. § 102(f) | 987 |
| F. | Double Patenting | 988 |
| 1. | Claim interpretation | 988 |
| 2. | Terminal disclaimers | 991 |
| G. | New Matter—35 U.S.C. § 132 | 994 |
| III. | Interferences Under 35 U.S.C. § 135 | 995 |
| A. | Application of Interference Rules | 995 |
| B. | Preclusive Effect of Interference Judgments | 1001 |
| IV. | Infringement—35 U.S.C. § 271 | 1003 |
| A. | Claim Interpretation and Construction | 1003 |
| 1. | Interpreting claim terminology | 1004 |
| 2. | Prosecution history estoppel | 1011 |
| B. | Literal Infringement | 1014 |

| | |
|--|------|
| 1. Establishing literal infringement | 1014 |
| 2. Evidentiary considerations | 1018 |
| C. Doctrine of Equivalents | 1021 |
| D. Design Patent Infringement | 1023 |
| E. Product-by-Process Claims | 1025 |
| F. Exceptions to Infringement | 1032 |
| 1. Experimental use under 35 U.S.C. § 271(e) .. | 1032 |
| 2. "Crop exemption" under 7 U.S.C. § 2543 ... | 1034 |
| V. Remedies | 1037 |
| A. Lost Profits—35 U.S.C. § 284 | 1037 |
| B. Willful Infringement and Exceptional Cases—35 U.S.C. § 284 and § 285 | 1039 |
| C. Design Patents—35 U.S.C. § 289 | 1047 |
| D. Limitations on Damages—35 U.S.C. § 286 | 1048 |
| E. Injunctions—35 U.S.C. § 283 | 1050 |
| 1. Preliminary injunctions | 1050 |
| 2. Modifying permanent injunctions | 1052 |
| VI. Equitable Defenses to Patent Infringement | 1053 |
| A. Laches and Equitable Estoppel | 1053 |
| B. Fraud and Inequitable Conduct | 1062 |
| C. Patent Misuse | 1067 |

INTRODUCTION

During its 1992 term, the U.S. Court of Appeals for the Federal Circuit considered a broad range of patent-related subjects ranging from its appellate jurisdiction to equity-based factors affecting patent enforceability. For the most part, the court preserved the status quo and continued to apply well-established patent law principles in reaching its decisions. However, there have been a number of interesting cases that have served to clarify for the practitioner various principles of patent law, such as the laches and equitable estoppel defenses to patent infringement. The court has also confronted new issues involving exemptions to patent infringement. Finally, the court's effort to grapple with certain jurisdictional and claim interpretation issues demonstrates that there will be more interesting decisions to come in succeeding years.

This Article provides an overview of the 1992 Federal Circuit decisions in the area of patent law, highlighting the more significant aspects of those cases. For the purpose of discussion, the Article is divided into six major sections. Section I focuses on Federal Circuit decisions pertaining to its appellate jurisdiction, as well as practice before the court. In Section II, the discussion summarizes the Fed-

eral Circuit decisions relating to patentability and validity issues. Section III deals with interference practice and the effect of interference judgements. Section IV presents selected aspects of 1992 Federal Circuit patent infringement decisions. Section V discusses the court's rulings on remedies for patent infringement. Finally, in Section VI, we conclude with a discussion of various Federal Circuit rulings involving application of equitable defenses to patent infringement.

I. JURISDICTION, PROCEDURE, AND PRACTICE

A. *Jurisdiction of the Federal Circuit*

1. *The Federal Circuit's appellate jurisdiction*

The Federal Circuit has exclusive jurisdiction over an appeal from a final decision¹ or certain interlocutory orders or decrees² of a district court if the jurisdiction of the district court was based, in whole or in part, on 28 U.S.C. § 1338.³ During the past year, the Federal Circuit announced no significant doctrinal shifts concerning its appellate jurisdiction in patent cases. The Federal Circuit decisions show an acute awareness of the critical role § 1338 plays in its appellate jurisdiction. Indeed, the Federal Circuit decisions suggest that the court will continue to review the basis for its appellate jurisdiction in accordance with established paradigms in ascertaining whether the district court from which an appeal is taken had jurisdiction under § 1338.

In *Wang Laboratories, Inc. v. Applied Computer Sciences, Inc.*,⁴ the Federal Circuit held that it had jurisdiction to enforce a patent infringement settlement agreement because the district court retained jurisdiction under 28 U.S.C. § 1338(a) over the consent decree that concluded an earlier infringement action.⁵ The events leading to

1. 28 U.S.C. § 1295(a)(1) (1988) (providing that "Federal Circuit shall have exclusive jurisdiction of an appeal from a final judgement of a district court . . . if the jurisdiction of that court was based, in whole or in part, on section 1338").

2. *Id.* § 1292(c)(1) ("Federal Circuit shall have exclusive jurisdiction of an appeal from an interlocutory order or decree over which . . . the court would have jurisdiction of appeal under § 1295. . . ."); *id.* § 1292(c)(2) ("Federal Circuit shall have exclusive jurisdiction of an appeal from a judgement in a civil action for patent infringement which would otherwise be appealable . . . and is final except from an accounting.").

3. *Id.* § 1338(a) (1988) ("District courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents. . . . Such jurisdiction shall be exclusive of the courts of the states . . .").

4. 958 F.2d 355, 22 U.S.P.Q.2d (BNA) 1055 (Fed. Cir. 1992); *see also infra* notes 247-55 and accompanying text (discussing case with regard to judicial estoppel issue).

5. *See* *Wang Lab., Inc. v. Applied Computer Sciences, Inc.*, 958 F.2d 355, 356, 22 U.S.P.Q.2d (BNA) 1055, 1056 (Fed. Cir. 1992) (reversing district court's enforcement of unexecuted settlement agreement concerning patent infringement).

the Federal Circuit's involvement in *Wang* began with Wang Laboratories, Inc.'s 1986 patent infringement action against Applied Computer Sciences (ACS), which Wang settled with a consent decree and a limited license to ACS to practice the patent.⁶ Subsequently, Wang filed a second complaint against ACS in the district court that alleged breach of the license and filed a motion to hold ACS in contempt of court for violating the consent decree.⁷ The district court consolidated the motion for contempt and the breach of contract claim.⁸ Before the scheduled trial date, the parties again agreed to settle⁹ and prepared a draft settlement agreement, which neither party signed.¹⁰ At the request of the parties, the district court entered a conditional order of dismissal, which did not incorporate the unexecuted settlement agreement.¹¹ After unsuccessful attempts to conclude their settlement discussions, Wang was granted a motion to vacate the dismissal and enforce the unexecuted draft settlement agreement.¹² ACS appealed to the U.S. Court of Appeals for the First Circuit, but that court remanded and directed that any subsequent notice of appeal be filed with the Federal Circuit.¹³

The jurisdictional issue in *Wang* focused specifically on the "transfer" of ACS's appeal by the First Circuit,¹⁴ and whether the case was properly before the Federal Circuit because the district court's jurisdiction to enforce the parties' settlement was based, in whole or in part, on § 1338. The Federal Circuit began its analysis by noting that while the law of the regional circuit in which the district court sits will apply in some matters, such deference is inappropriate in matters of the court's appellate jurisdiction.¹⁵ The Federal Circuit

6. *See id.* (describing consent judgment entered by district court that held Wang's patent valid and infringed by ACS). The consent decree enjoined ACS from engaging in further infringing activity and granted ACS a license on Wang's patent. *Id.*

7. *Id.*

8. *Id.* at 357, 22 U.S.P.Q.2d (BNA) at 1057.

9. *See id.* (reporting that parties agreed to settle dispute during meetings held Thursday and Friday, which immediately preceded Monday trial).

10. *Id.*

11. *See id.* at 356-57, 22 U.S.P.Q.2d (BNA) at 1056-57 (detailing dismissal order, which provided that action could be reopened by May 26, 1988, without prejudice for good cause shown if settlement was not consummated).

12. *See id.* at 357, 22 U.S.P.Q.2d (BNA) at 1057 (indicating that district court granted Wang's motion to vacate conditional order of dismissal despite fact that Wang filed motion after deadline specified in dismissal order for reopening of action).

13. *See id.* (describing ACS's appeal of district court decision to First Circuit, which remanded case to district court for compliance with rule 58 of Federal Rules of Civil Procedure as to proper entry of judgment).

14. *Wang Lab. v. Applied Computer Sciences*, 926 F.2d 92, 94-95, 17 U.S.P.Q.2d 1935, 1936-37 (1st Cir. 1991) (emphasizing district court consolidated Wang's actions, concluding appellate jurisdiction was in Federal Circuit, and remanding with direction to file future appeals with Federal Circuit).

15. *See Wang Lab., Inc. v. Applied Computer Sciences*, 958 F.2d 355, 357, 22 U.S.P.Q.2d

recognized that it was unclear whether the district court retained jurisdiction under 28 U.S.C. § 1338 to enforce a settlement agreement that was not incorporated into the final judgment.¹⁶ The court reviewed various circuit court decisions and concluded that the regional circuit courts differ as to the basis upon which a district court has jurisdiction to enforce such a settlement agreement.¹⁷

The First Circuit, which originally heard ACS's appeal, however, held that the district court had inherent jurisdiction and had retained jurisdiction under § 1338 over the consolidated actions for contempt to enforce the injunction and to enforce the settlement agreement.¹⁸ The Federal Circuit characterized the First Circuit's decision as having adopted the rule set forth in *Aro Corporation v. Allied Witan Co.*,¹⁹ which stated that the district court may retain jurisdiction to enforce settlement agreements entered into by parties to an action before the court.²⁰ Adhering to the principle that "if the transferee court can find the transfer jurisdiction plausible, its jurisdictional inquiry is at an end,"²¹ the Federal Circuit concluded that there was no reason to disturb the First Circuit's decision and upheld its jurisdiction to hear ACS's appeal.²²

(BNA) 1055, 1057 (Fed. Cir. 1992) (recognizing that Federal Circuit may nonetheless look for guidance to relevant regional circuit court decisions).

16. *Id.*; see 28 U.S.C. § 1338 (1988) (providing that district courts shall have original and exclusive jurisdiction over any civil action arising under patent laws).

17. *Wang*, 958 F.2d at 357-58, 22 U.S.P.Q.2d (BNA) at 1057. The apparent rationale for the requirement of an independent basis for a district court's jurisdiction over a settlement agreement is that given a district court's limited jurisdiction, it is a fair presumption that a claim is not within the court's jurisdiction until the contrary is demonstrated. *Turner v. Bank of N. Am.*, 4 U.S. (4 Dall.) 7, 10 (1799). The burden of establishing jurisdiction over each claim is on the party seeking to invoke jurisdiction. *McNutt v. General Motors Acceptance Corp.*, 298 U.S. 178, 182-83 (1936). Compare *Fairfax Countywide Citizens Ass'n v. Fairfax County*, 571 F.2d 1299, 1303 (4th Cir.) (requiring independent basis for jurisdiction), *cert. denied*, 439 U.S. 1047 (1978) with *Aro Corp. v. Allied Witan Co.*, 531 F.2d 1368, 1371-72, 190 U.S.P.Q. (BNA) 392, 394 (6th Cir.) (holding that district court retains jurisdiction from original action), *cert. denied*, 429 U.S. 862 (1976) and *Kulka v. National Distillers Prods. Co.*, 483 F.2d 619, 621 (6th Cir. 1973) (recognizing that settlement of litigation is always preferable to proceedings before district court as means to resolve initial litigation and avoid further litigation) and *Cia Anon Venezolana De Navegacion v. Harris*, 374 F.2d 33, 35 (5th Cir. 1967) (favoring settlement as means to resolve litigation) and *All States Investors, Inc. v. Bankers Bond Co.*, 343 F.2d 618, 624 (6th Cir. 1965) (finding settlement to be favored means of ending or avoiding litigation).

18. *Wang*, 958 F.2d at 357, 22 U.S.P.Q.2d (BNA) at 1057.

19. 531 F.2d 1368, 190 U.S.P.Q. (BNA) 392 (6th Cir.), *cert. denied*, 429 U.S. 862 (1976).

20. *Wang Lab., Inc. v. Applied Computer Sciences*, 958 F.2d 355, 357, 22 U.S.P.Q.2d (BNA) 1055, 1057 (Fed. Cir. 1992) (citing *Aro Corp. v. Allied Witan Co.*, 531 F.2d 1368, 1371-72, 190 U.S.P.Q. (BNA) 392, 394 (6th Cir. 1976), *cert. denied*, 429 U.S. 862 (1976)).

21. *Id.* at 358, 22 U.S.P.Q.2d (BNA) at 1057.

22. *Id.* When a transferee court can find the transfer decision plausible, the jurisdictional inquiry is at an end. *Christianson v. Colt Indus. Operating Corp.*, 486 U.S. 800, 819 (1989). Uncertainty over the Federal Circuit's future application of *Wang* presents difficulties for practitioners. In particular, it is unclear whether the court will decide jurisdiction over actions to enforce settlement agreements on an *ad hoc* basis depending on the ruling of another circuit court of appeals.

In *American Telephone & Telegraph Co. v. Integrated Network Corp.*,²³ the Federal Circuit interpreted 28 U.S.C. § 1338(a) as not conferring federal subject matter jurisdiction over a case involving breach of an employment contract, even though the central issue was a patent question regarding whether an employee “made or conceived” an invention during the course of employment.²⁴ American Telephone and Telegraph (AT&T) brought an action in a New Jersey state court against Integrated Network Corporation (INC) and four of AT&T’s former employees who were working for INC.²⁵ AT&T alleged that the former employees had breached their employment contracts by assigning to INC an invention that the former employees had “made or conceived” while working for AT&T.²⁶ INC removed the case to federal district court based on § 1338(a),²⁷ and the district court denied AT&T’s motion to remand the case back to state court.²⁸

The Federal Circuit reversed the district court’s denial of AT&T’s motion, instructing that the case be transferred back to state court.²⁹ The Federal Circuit cited *Christianson v. Colt Industries Operating Corp.*³⁰ for the proposition that a claim supported by alternate theories of recovery may not form the basis for § 1338(a) jurisdiction unless patent law is essential to each theory.³¹ Although AT&T’s complaint presented four separate counts, each count was based on the breach of the affirmative agreement between AT&T and its four

23. 972 F.2d 1321, 23 U.S.P.Q.2d (BNA) 1918 (Fed. Cir. 1992).

24. *American Tel. & Tel. Co. v. Integrated Network Corp.*, 972 F.2d 1321, 1323-26, 23 U.S.P.Q.2d (BNA) 1918, 1919-21 (Fed. Cir. 1992); *see also* 28 U.S.C. § 1338(a) (1988) (providing that district courts shall have original and exclusive jurisdiction over any civil action arising under patent laws).

25. *American Tel.*, 972 F.2d at 1321-22, 23 U.S.P.Q.2d (BNA) at 1918.

26. *See id.* (reporting AT&T’s four-count complaint for breach of contract, breach of fiduciary duty, misuse and misappropriation of proprietary information, and inducing breach of contract and misappropriation of proprietary information). The employment contract, which the former employees had signed, required the assignation to AT&T of all rights to inventions that the employee made or conceived, solely or jointly with others, during the course of employment with AT&T. *Id.* at 1323, 23 U.S.P.Q.2d (BNA) at 1919.

27. *See id.* (finding that interpretation of employment contract, and in particular, term “conception” as used in contract, would necessarily involve questions related to patent law).

28. *See id.* (describing district court statement that for AT&T to recover, AT&T would have to prove that substantial question of federal patent law existed when invention was conceived). In response to AT&T’s motion for reconsideration, the district court affirmed its denial and added two bases for the decision. *Id.* The first additional basis was that the granting of AT&T’s motion would have the effect of circumventing federal jurisdiction by the mere addition of a nonpatent count. *Id.* The second additional basis was that the term “conceived” in the contract must be given its narrow, technical, patent law meaning, rather than its broader general meaning used in nonpatent law. *Id.*

29. *Id.* at 1322, 23 U.S.P.Q.2d (BNA) at 1918.

30. 468 U.S. 800 (1988).

31. *American Tel.*, 972 F.2d at 1323, 23 U.S.P.Q.2d (BNA) at 1919 (citing *Christianson v. Colt Indus. Operating Corp.*, 468 U.S. 800, 809 (1988)).

former employees.³² The court, therefore, reasoned that even if the interpretation of the employment contract term "conceived" would involve a substantial question of patent law, AT&T's action was not entitled to federal jurisdiction under § 1338(a) because substantial questions of patent law were not necessary elements to each of the theories presented in the well-pleaded claims of AT&T's complaint.³³ Interpretation of the patent law meaning of contract terms thus became an ancillary issue that could not itself sustain jurisdiction under § 1338(a).³⁴

In *In re Regents of the University of California*,³⁵ the Federal Circuit affirmed its jurisdiction to entertain a mandamus petition under 28 U.S.C. § 1651 to review a transfer order of the Judicial Panel on Multidistrict Litigation (JPMDL) that consolidated five patent infringement cases for pretrial purposes.³⁶ According to the court, "[w]ith the formation of the Federal Circuit . . . this court acquired the authority of § 1651 and the responsibility of 35 U.S.C. § 1407(e)."³⁷ The Federal Circuit noted that the appellants erroneously relied on *Wood v. United States*³⁸ for the proposition that the Federal Circuit lacked jurisdiction over the transferee district

32. *Id.* at 1324, 23 U.S.P.Q.2d (BNA) at 1920.

33. *See id.* (recognizing that because contract terms "conceived" and "invention" have meaning in both patent law and general law, AT&T could rely on theories that would not involve interpretation of patent law meaning of contract terms).

34. *Id.* The Federal Circuit noted that its holding was not remarkable because it previously held that statutory limitations on the jurisdiction of the Federal Circuit in conjunction with the well-pleaded complaint rule may result in a state court resolving a patent issue. *Id.* (citing *Speedco, Inc. v. Estes*, 853 F.2d 909, 913, 7 U.S.P.Q.2d (BNA) 1637, 1641 (Fed. Cir. 1988)).

35. 964 F.2d 1128, 22 U.S.P.Q.2d (BNA) 1748 (Fed. Cir. 1992); *see also infra* notes 234-40 and accompanying text (discussing case with regard to law of case doctrine); *infra* notes 288-98 and accompanying text (discussing case with regard to sovereign immunity and Eleventh Amendment issues).

36. *See In re Regents of the Univ. of Cal.*, 964 F.2d 1128, 1130, 22 U.S.P.Q.2d (BNA) 1748, 1750 (consolidating two cases from U.S. District Court for Northern District of California and three cases from U.S. District Court for Southern District of Indiana). The University of California is an instrumentality of the State of California. *BV Eng'g v. University of Cal., Los Angeles*, 858 F.2d 1394, 1395, 8 U.S.P.Q.2d (BNA) 1421, 1422 (9th Cir. 1988), *cert. denied*, 489 U.S. 1090 (1989). The University of California, Eli Lilly, and Genentech were parties to the litigation, which centered around patents pertaining to recombinant DNA technology and its use in the production of human insulin and human growth hormone. *Regents*, 964 F.2d at 1130, 22 U.S.P.Q.2d (BNA) at 1750. The five cases presented numerous issues relating to these patents that included validity, infringement, breach of licensing agreements, and alleged antitrust violations. *Id.*

37. *Regents*, 964 F.2d at 1130, 22 U.S.P.Q.2d (BNA) at 1750; *see Federal Courts Improvement Act of 1982*, Pub. L. No. 97-164, § 127(a), 96 Stat. 37, 37-39 (codified as amended at 28 U.S.C. § 1295 (1988)) (establishing Federal Circuit); *see also* 28 U.S.C. § 1651 (1988) (providing that federal courts can issue all writs necessary or appropriate to secure their respective jurisdiction); 35 U.S.C. § 1407(e) (1988) (prescribing rules for transfer and consolidation of federal cases that bar review of order of JPMDL except as required by extraordinary writ).

38. 961 F.2d 195 (Fed. Cir. 1992).

court.³⁹ In *Wood*, the Federal Circuit held that under 28 U.S.C. § 1407(e) it did not have jurisdiction over the transferee district court because the action was brought under the Federal Tort Claims Act, which precludes appeals to the Federal Circuit.⁴⁰ In *Regents*, however, the Federal Circuit had exclusive appellate jurisdiction under 28 U.S.C. § 1295 to review the final judgment of the transferee district court because the district court's jurisdiction arose under 28 U.S.C. § 1338.⁴¹ Therefore, under 28 U.S.C. §§ 1295, 1407, and 1651, the Federal Circuit had jurisdiction to review the writ of mandamus challenging the transfer order.⁴²

The Federal Circuit subsequently denied the petition for extraordinary writ, holding that consolidation was neither a clear abuse of discretion nor usurpation of judicial authority, nor was it contrary to law.⁴³ The court held that there were sufficient common questions of fact to justify consolidating the actions for pretrial purposes.⁴⁴ These common questions included the existence of at least thirty-five deposition witnesses common to all five actions, common activities that gave rise to the suits in two different jurisdictions, a settlement agreement common to two cases, and the same grounds upon which the validity of various patents was challenged in several different courts.⁴⁵ The Federal Circuit also concluded that the JPMDL did not exceed its discretionary authority in selecting the U.S. District Court for the Southern District of Indiana as the appro-

39. *Regents*, 964 F.2d at 1130, 22 U.S.P.Q.2d (BNA) at 1750 (citing *Wood v. United States*, 961 F.2d 195 (Fed. Cir. 1992), which held that petitions for extraordinary writ to review order to transfer must be filed only in court of appeals having jurisdiction over transferee district).

40. *Wood v. United States*, 961 F.2d 195, 198-99 (Fed. Cir. 1992); see also Federal Tort Claims Act, 28 U.S.C. §§ 1346, 2671-2680 (1988) (assigning district courts original jurisdiction over tort claims, with appeals to regional circuits).

41. *Regents*, 964 F.2d at 1130, 22 U.S.P.Q.2d (BNA) at 1750; see 28 U.S.C.A. § 1295 (West Supp. 1992) (setting forth Federal Circuit's exclusive appellate jurisdiction over patent cases that arise under 28 U.S.C. § 1338).

42. *Regents*, 964 F.2d at 1130, 22 U.S.P.Q.2d (BNA) at 1750.

43. *Id.* at 1136, 22 U.S.P.Q.2d (BNA) at 1755. The Federal Circuit noted that orders, reviewable by extraordinary writ, may only be overturned when there has been clear abuse of discretion or usurpation of judicial authority. See *id.* at 1135, 22 U.S.P.Q.2d (BNA) at 1754 (citing *Bankers Life & Casualty Co. v. Holland*, 346 U.S. 379, 383 (1953), which held that supplementary review power over writ is meant to be used only in exceptional cases). Furthermore, a petitioner has the burden of establishing that its right to the issuance of the writ is clear and indisputable. *Id.* (citing *Will v. United States*, 389 U.S. 90, 96 (1967), which held that party must convince court that "exceptional circumstances" make its right to reversal of writ "clear and indisputable"); see also *In re Innotron Diagnostics*, 800 F.2d 1077, 1086, 231 U.S.P.Q. (BNA) 178, 185 (Fed. Cir. 1986) (finding that petitioner failed to show "exceptional circumstances" to satisfy burden of proof required under *Will*).

44. See *Regents*, 964 F.2d at 1135-36, 22 U.S.P.Q.2d (BNA) at 1754-55 (noting that JPMDL was presented evidence of overlapping documents and witnesses in these five cases).

45. See *id.* (holding that posture of each case, respective state of advancement toward trial, and degree of overlap and separateness should also be considered when consolidating cases).

prate forum because many factors supported the appropriateness of the Indiana forum.⁴⁶ Specifically, the court cited the following factors: the broader-based action was filed in Indiana; the first suit was brought in that state; more suits were pending in Indiana; the Indiana district court was familiar with the issues; Indiana was a centrally located forum for witnesses and counsel; and the only party common to all five actions had its headquarters and many of its documents in Indiana.⁴⁷

In another case involving an appellate transfer order and jurisdiction over the transferred appeal, the Federal Circuit held in *Franchi v. Manbeck*⁴⁸ that it had appellate jurisdiction to determine whether the district court properly had jurisdiction under an act of Congress which related to patents within the meaning of § 1338(a).⁴⁹ In *Franchi*, the plaintiff challenged the grading of his examination for registration to practice before the U.S. Patent and Trademark Office (PTO) by filing an action against the Commissioner of Patents and Trademarks in the U.S. District Court for the District of Connecticut, which promptly dismissed the action.⁵⁰ Franchi first appealed to the Second Circuit, which transferred the appeal to the Federal Circuit while leaving unanswered the question of whether the claim should have been brought in the U.S. District Court for the District of Columbia under 35 U.S.C. § 32.⁵¹ On appeal, the Federal Circuit noted that it had appellate jurisdiction to review a refusal of regis-

46. See *id.* at 1136, 22 U.S.P.Q.2d (BNA) at 1755 (finding that petitioner failed to demonstrate clear and indisputable right to selection of U.S. District Court for Northern District of California as transfer forum).

47. *Id.* But see *id.* (stating factors that instead favored California forum, including that two of three parties were in California and that California had less congested docket). The appropriateness of the forum based on the location of the first suit filed—the first-to-file rule—is not subject to rigid application. See, e.g., *EEOC v. University of Pa.*, 850 F.2d 969, 971-72, 976-78 (3d Cir. 1988) (noting that first-to-file rule is not mandate directing automatic application without regard to rare or extraordinary circumstances, bad faith, or forum shopping), *aff'd*, 493 U.S. 182 (1990); *Tempco Elec. Heater Corp. v. Omega Eng'g, Inc.*, 819 F.2d 746, 749-50, 2 U.S.P.Q.2d (BNA) 1930, 1934 (7th Cir. 1987) (holding that mere fact that alleged infringer filed action four days before trademark registrant filed infringement action did not give alleged infringer right to select forum); *Pacific Employers Ins. Co. v. M/V W.D. Cargill*, 751 F.2d 801, 804 (5th Cir.) (finding that suit may be dismissed where evidence indicates its filing was in anticipation of later suit and intended as forum-controlling maneuver), *cert. denied*, 474 U.S. 909 (1985); *Ven-Fuel, Inc. v. Department of Treasury*, 673 F.2d 1194, 1195 (11th Cir. 1982) (ruling that district court may decline to entertain declaratory judgment action filed in apparent anticipation of proceeding in another court that would fully resolve controversy).

48. 972 F.2d 1283, 23 U.S.P.Q.2d (BNA) 1847 (Fed. Cir. 1992).

49. *Franchi v. Manbeck*, 972 F.2d 1283, 1285, 23 U.S.P.Q.2d (BNA) 1847, 1850 (Fed. Cir. 1992).

50. *Id.* Franchi had appealed to the Second Circuit, but the Second Circuit transferred the appeal to the Federal Circuit. *Id.*

51. *Id.* at 1285, 23 U.S.P.Q.2d (BNA) at 1851 (explaining that Second Circuit did not decide whether claim should have been brought originally in U.S. District Court for District of Columbia or Connecticut).

tration to practice under 35 U.S.C. § 32, which is an act of Congress pertaining to patents within the meaning of 28 U.S.C. § 1338(a).⁵² Contrary to appellant's argument, the Federal Circuit explained that the U.S. District Court for the District of Columbia, not the Connecticut District Court, is the appropriate forum for actions brought under 35 U.S.C. § 32 and affirmed the dismissal.⁵³

2. *Perfection of Federal Circuit jurisdiction—Rule 54(b)*

Under rule 54(b) of the Federal Rules of Civil Procedure, an appeal can be taken from an individual claim that has been finally adjudicated, even though other issues remain unadjudicated.⁵⁴ In *W.L. Gore & Associates v. International Medical Prosthetics Research Associates*,⁵⁵ the Federal Circuit held that it had jurisdiction to review a district court's certification under rule 54(b).⁵⁶ W.L. Gore sued International Medical Prosthetics Research Associates (IMPRA) for patent infringement to which IMPRA raised several affirmative defenses, including patent misuse, and filed antitrust counterclaims.⁵⁷ The district court bifurcated the patent misuse and antitrust counterclaims and held that IMPRA did not infringe W.L. Gore's patent.⁵⁸ The district court then certified its judgment pursuant to rule 54(b), leaving IMPRA's patent misuse defense and antitrust counterclaim

52. *Id.* at 1287, 23 U.S.P.Q.2d (BNA) at 1851 (citing *Wyden v. Commissioner of Patents & Trademarks*, 807 F.2d 934, 935-37, 231 U.S.P.Q. (BNA) 918, 919-20 (Fed. Cir. 1986)); see 35 U.S.C. § 32 (1988) (authorizing Commissioner of Patents and Trademarks to suspend or exclude from practice any party engaging in certain misconduct); 28 U.S.C. § 1338 (1988) (providing that district courts shall have original and exclusive jurisdiction over any civil action arising under patent laws).

53. See *Franchi*, 972 F.2d at 1288, 23 U.S.P.Q.2d (BNA) at 1852 (explaining that U.S. District Court for District of Columbia is exclusive forum for judicial review under 35 U.S.C. § 32).

54. FED. R. CIV. P. 54(b). Rule 54(b) provides:

When more than one claim for relief is presented in an action, . . . or when multiple parties are involved, the court may direct the entry of a final judgment as to one or more but fewer than all of the claims or parties only upon an express determination that there is no just reason for delay and upon an express direction for the entry of judgment.

Id.

55. 975 F.2d 858, 24 U.S.P.Q.2d (BNA) 1195 (Fed. Cir. 1992).

56. *W.L. Gore & Assocs. v. International Medical Prosthetics Research Assocs.*, 975 F.2d 858, 865, 24 U.S.P.Q.2d (BNA) 1195, 1197 (Fed. Cir. 1992). The Federal Circuit recognized that the Supreme Court has provided adequate guidance to resolve the issue of whether the district court's rule 54(b) certification was proper. *Id.* at 864, 24 U.S.P.Q.2d (BNA) at 1197 (citing *Curtiss-Wright Corp. v. General Elec. Co.*, 446 U.S. 1 (1980), which held that even where issues overlap, court may be justified in certifying appeal of single claim). Because Supreme Court precedent controlled, the respective interpretations of rule 54(b) by the U.S. Court of Appeals for the Ninth Circuit and by the Federal Circuit were irrelevant. See *id.* (indicating absence of need to address choice of law issue because of existing Supreme Court case law).

57. *Id.* at 860, 24 U.S.P.Q.2d (BNA) at 1195.

58. *Id.*

unadjudicated.⁵⁹

The Federal Circuit noted that rule 54(b) permits a district court to sever an individual claim that is final and separable from the other claims for relief, thus allowing immediate appeal of the individual claim without waiting for a final decision on all claims.⁶⁰ The court also noted that when one defense is sustained, rule 54(b) does not require that all other defenses be certified.⁶¹ Rule 54(b) explicitly allows certification only of one or more, but not all, claims or parties to a dispute.⁶² Therefore, a defense could only be considered implicitly and indirectly with the claim against which the defense was raised.⁶³

The Federal Circuit held that the infringement judgment was "final" and that rule 54(b) certification was proper.⁶⁴ In reaching this conclusion, the court noted that there was insufficient evidence of factual overlap between infringement and the unadjudicated misuse defense and the antitrust counterclaims to show that the district court abused its discretion in certifying its infringement judgment.⁶⁵ According to the Federal Circuit, the certified judgment was final because Gore's infringement claim was finally adjudicated when the district court held Gore's patent valid and not infringed, which was the only claim for relief.⁶⁶ Moreover, the district court's bifurcation of the misuse defense did not and could not have an impact on the finality of its noninfringement judgment.⁶⁷

59. *Id.*

60. *See id.* at 861-62, 24 U.S.P.Q.2d (BNA) at 1198 (observing that principal issues in determining severability are finality of judgment and separateness of claims for relief).

61. *Id.* at 863, 24 U.S.P.Q.2d (BNA) at 1199 (explaining basis for declining to certify patent misuse defense). IMPRA argued that because the district court did not certify the unadjudicated patent misuse defense, the Federal Circuit did not have jurisdiction over W.L. Gore's entire cause of action. *Id.*

62. *See supra* note 54 and accompanying text (providing text of rule 54(b) and explaining its application).

63. *International Medical*, 975 F.2d at 863, 24 U.S.P.Q.2d (BNA) at 1199 (explaining that practical effect of claim certification under rule 54(b), which authorizes certification for appeal of claims, and not defenses, amounts to certification of defenses raised against those claims).

64. *Id.* at 863-65, 24 U.S.P.Q.2d (BNA) at 1199-1201 (finding no abuse of discretion in district court's certification notwithstanding absence of findings justifying certification). Finality occurs when the judgment ends litigation on the merits and leaves nothing for the court to do but execute the judgment. *See Catlin v. United States*, 324 U.S. 229, 233 (1945) (outlining limits of issues eligible for appellate review). Because the finality requirement is a statutory mandate and not a matter of discretion, an appellate court should review the finality of the judgement *de novo* in order to ensure itself that it has jurisdiction. *See Sears, Roebuck & Co. v. Mackey*, 351 U.S. 427, 437 (1956) (holding that district court has no discretion to treat as final that which is not final within statute's meaning).

65. *See International Medical*, 975 F.2d at 864-65, 24 U.S.P.Q.2d (BNA) at 1200 (holding that factual overlap of only tangential issues or "one aspect" of counterclaim does not prohibit certification).

66. *Id.* at 863, 24 U.S.P.Q.2d (BNA) at 1199.

67. *Id.*

The Federal Circuit also held that the antitrust and infringement issues were separate claims for relief.⁶⁸ The court noted that at least two factors are generally considered to determine whether claims are separate: first, the factual relatedness of the claims; and second, whether the appellate court would have to decide the same issues more than once if there were subsequent appeals.⁶⁹ The Federal Circuit dismissed IMPRA's conclusory assertions of a factual overlap between the counterclaims and Gore's infringement claim, noting that a factual overlap on tangential issues is inadequate to show an abuse of discretion.⁷⁰ Finally, the Federal Circuit held that the district court's failure to set forth explicit reasons underlying the certification was not an abuse of discretion because the case posture and factors justifying the judgment were easily ascertainable from the briefs and materials of record.⁷¹

B. Declaratory Judgments

The Declaratory Judgment Act⁷² provides federal district courts with the discretion to declare the rights of an interested party to an actual case or controversy.⁷³ An actual controversy exists, for example, when a declaratory judgment plaintiff proves that a patentee-defendant's conduct created a reasonable apprehension that the defendant would initiate suit should the plaintiff commence or continue the allegedly infringing activity.⁷⁴ In 1992, the Federal Circuit

68. *Id.* at 864, 24 U.S.P.Q.2d (BNA) at 1200. Separateness of claims is required so that the appellate court is not duplicating its efforts in separate appeals relating to the same issue or factual subject matter. Unlike the finality requirement, a separateness determination will only be overturned if the district court abused its discretion in holding the claims separate. See *Curtiss-Wright Corp. v. General Elec. Co.*, 446 U.S. 1, 8 (1980) (discussing district court's need to weigh administrative interests and equities involved in deciding whether to separate claims); *Cold Metal Process Co. v. United Eng'g & Foundry Co.*, 351 U.S. 445, 452 (1956) (holding that district court is free to sever claims arising out of same transaction or occurrence if circumstances justify certification of less than all claims together).

69. *International Medical*, 975 F.2d at 864, 24 U.S.P.Q.2d (BNA) at 1200 (citing *Curtiss-Wright*, 446 U.S. at 8; *Cold Metal Process*, 351 U.S. at 452).

70. *Id.*

71. *Id.* at 865, 24 U.S.P.Q.2d (BNA) at 1200 (rejecting IMPRA's argument, which relied on *Morrison-Knudson Co. v. Archer*, 655 F.2d 962, 965 (9th Cir. 1981), that rule 54(b) requires district court to make specific findings setting forth reasons for its order).

72. 28 U.S.C. §§ 2201-2202 (1988).

73. See *Aetna Life Ins. Co. v. Haworth*, 300 U.S. 227, 239-41 (1937) (acknowledging court's discretion pursuant to Declaratory Judgment Act to decide concrete issues of legal rights). The standard of proof for establishing an actual controversy is a preponderance of the evidence. *Jervis B. Webb Co. v. Southern Sys., Inc.*, 742 F.2d 1388, 1399, 22 U.S.P.Q. (BNA) 934, 949 (Fed. Cir. 1984).

74. See *Indium Corp. of Am. v. Semi-Alloys, Inc.*, 781 F.2d 879, 882, 228 U.S.P.Q. (BNA) 845, 847 (Fed. Cir. 1985) (holding that conduct creating reasonable apprehension of suit satisfies controversy requirement for declaratory judgment), *cert. denied*, 479 U.S. 829 (1986); see also *Goodyear Tire & Rubber Co. v. Releasomers, Inc.*, 824 F.2d 953, 955, 3 U.S.P.Q.2d (BNA) 1310, 1311 (Fed. Cir. 1987) (presenting two-part test requiring (1) reasonable apprehension, and (2) that party seeking declaratory judgment have either actually produced device

addressed the actual controversy requirement issue in three cases, two of which focused on reasonable apprehension.⁷⁵

In *Shell Oil Co. v. Amoco Corp.*,⁷⁶ the Federal Circuit held that Amoco's statements during licensing negotiations with Shell were not threats to sue when considered in context and thus did not create a reasonable apprehension of litigation.⁷⁷ In reaching this conclusion, the court recognized that an express charge of infringement is not required to establish reasonable apprehension.⁷⁸ Rather, the conduct of the parties alone, when considered in context with the totality of the circumstances, may give rise to a reasonable apprehension of litigation.⁷⁹ During licensing negotiations, Amoco referred to a composition that Shell planned to produce as "falling within" and "covered" by Amoco's patent.⁸⁰ The Federal Circuit characterized this as a statement of a negotiating position rather than an express charge of infringement that could create a reasonable apprehension of litigation.⁸¹ The court noted that Amoco's statement of intent to enforce its patent arose in response to Shell's inquiry at the end of unsuccessful negotiations.⁸² Based on the totality of the circumstances, the court accepted Amoco's assertion that this statement was "mere jawboning," typical of licensing nego-

or prepared to produce that device to determine existence of case or controversy in declaratory judgment action).

75. *West Interactive Corp. v. First Data Resources, Inc.*, 972 F.2d 1295, 1297-98, 23 U.S.P.Q.2d (BNA) 1927, 1929-30 (Fed. Cir. 1992) (holding that statements made to plaintiff by party not representing patentee could not have given rise to reasonable apprehension of suit by patentee); *Shell Oil Co. v. Amoco Corp.*, 970 F.2d 885, 889, 23 U.S.P.Q.2d (BNA) 1627, 1631 (Fed. Cir. 1992) (finding patentee's statements were not threats to sue when considered in context and thus did not create reasonable apprehension on part of plaintiff).

76. 970 F.2d 885, 23 U.S.P.Q.2d (BNA) 1627 (Fed. Cir. 1992).

77. *See Shell Oil*, 970 F.2d at 887-89, 23 U.S.P.Q.2d (BNA) at 1629-31 (discussing test for reasonable apprehension of litigation and finding that Amoco's statements hinting at Shell's apparent violation of Amoco's patent did not constitute cognizable threat that Amoco might sue).

78. *See id.* at 888, 23 U.S.P.Q.2d (BNA) at 1630 (citing *Goodyear Tire & Rubber Co. v. Releasomers, Inc.*, 824 F.2d 953, 956, 3 U.S.P.Q.2d (BNA) 1310, 1312 (Fed. Cir. 1987), which argued against such narrow interpretation of actual controversy requirement of Declaratory Judgment Act).

79. *Id.* (citing *Arrowhead Indus. Water, Inc. v. Ecolochem, Inc.*, 846 F.2d 731, 736, 6 U.S.P.Q.2d (BNA) 1685, 1689 (Fed. Cir. 1988), which held that test for actual controversy in declaratory judgment complaints in patent cases is whether, in totality of circumstances, defendant's conduct creates reasonable apprehension in plaintiff that suit will be filed if plaintiff continues its allegedly infringing conduct and has either produced or is preparing to produce device in question). Shell unsuccessfully argued on appeal that the district court erroneously required the presence of related litigation on the part of the patentee to establish reasonable apprehension. *Id.* The Federal Circuit did not find that the district court had actually required such evidence from Shell. *Id.*

80. *Id.* at 886-87, 23 U.S.P.Q.2d (BNA) at 1630.

81. *Id.* at 889, 23 U.S.P.Q.2d (BNA) at 1631.

82. *See id.* (finding that passive response in affirmative to question of whether Amoco would enforce its patent could not equate with active threat to bring suit against Shell).

tiations.⁸³ The court concluded that Amoco's reply was "reflective and obligatory."⁸⁴ Answering in the negative would have potentially given Shell free reign to infringe Amoco's patent.⁸⁵

In *West Interactive Corp. v. First Data Resources, Inc.*,⁸⁶ decided after *Shell Oil*, the Federal Circuit also held that there was no actual controversy to support a declaratory judgment action.⁸⁷ The court's holding reflected its conclusion that Call Interactive, the party that made remarks alleged to cause West Interactive to have a reasonable apprehension of suit, did not represent the patentee, First Data.⁸⁸ During a meeting between Call Interactive and Semper, a potential customer, Call Interactive informed Semper that Semper and West Interactive were infringing First Data's patents.⁸⁹ Afterward, Semper informed West Interactive of the remarks made by Call Interactive during the meeting.⁹⁰ Upon learning of other litigation brought by First Data on the same patents, West Interactive filed a declaratory judgment action against First Data.⁹¹

The Federal Circuit affirmed the district court's finding that First Data's conduct did not cause West Interactive to have a reasonable apprehension of litigation.⁹² In doing so, the court noted that no representative of First Data or West Interactive attended the meeting and that Call Interactive was not authorized to speak for First Data.⁹³ Furthermore, relying on *Shell Oil*, the court characterized

83. *Id.* (noting that certain charges of infringement do not give rise to reasonable fear of litigation as such "jawboning" is common in licensing negotiations).

84. *Id.*

85. *Id.* The court explained that the intent of the Declaratory Judgment Act is to protect truly threatened parties. *Id.* The Declaratory Judgment Act should not be used to allow a potential infringer to bring into court a nonthreatening patentee that has merely protected its own interests during discussions by asserting its best arguments. *Id.*

86. 972 F.2d 885, 23 U.S.P.Q.2d (BNA) 1627 (Fed. Cir. 1992).

87. *See West Interactive Corp. v. First Data Resources, Inc.*, 972 F.2d 1295, 1298, 23 U.S.P.Q.2d (BNA) 1927, 1930 (Fed. Cir. 1992) (finding that conduct by defendant, First Data, did not rise to level of threat to satisfy actual controversy requirement).

88. *See id.* (noting that Call Interactive's conduct could not be attributed to First Data, even though Call Interactive was nonexclusive licensee of First Data and joint venture of First Data's subsidiary).

89. *See id.* at 1296, 23 U.S.P.Q.2d (BNA) at 1928 (recounting conversation between Ronald Katz, inventor of patents in suit and employee of Call Interactive, and Andrew Batkin, employee of Semper). Call Interactive was a joint venture between AT&T and First Data Resources Interactive Technologies Corporation, which itself was a nonexclusive licensee of First Data. *Id.* Semper was unrelated to either party to the litigation. *Id.* Call Interactive initiated the meeting with Semper to attempt to gain Semper as a customer. *Id.*

90. *Id.*

91. *See id.* (reporting district court's dismissal of declaratory judgment action for lack of subject matter jurisdiction in absence of actual controversy because there was no contact directly or indirectly between West Interactive and First Data, and there was no evidence that First Data intended to bring suit).

92. *See id.* at 1297-98, 23 U.S.P.Q.2d (BNA) at 1929-30 (finding that Katz's oral statement in course of negotiations did not give West Interactive reason to fear lawsuit).

93. *See id.* at 1297, 23 U.S.P.Q.2d (BNA) at 1929 (noting that Katz was not officer of Call

the meeting between Call Interactive and Semper as negotiations that involved "jawboning," not threats of litigation.⁹⁴

In *Telectronics Pacing Systems, Inc. v. Ventritex, Inc.*,⁹⁵ the Federal Circuit held that a district court did not abuse its discretion in dismissing a declaratory judgment action for lack of actual controversy at the time the complaint was filed.⁹⁶ Telectronics sought a declaration that Ventritex's device, upon Food and Drug Administration (FDA) approval, would infringe Telectronics' patents.⁹⁷ The Federal Circuit agreed that future potential infringement can satisfy the actual controversy requirement, but only if the patentee shows the existence of an immediacy and reality of conflict at the time the complaint is filed.⁹⁸ The Federal Circuit affirmed the district court's finding of a lack of immediacy or reality at the time of filing, however, because Ventritex was still years away from potential FDA approval and because Ventritex could modify its device in the interim.⁹⁹

C. Standing and Mootness

In 1992, the Federal Circuit addressed mootness issues in a series of cases. Prudential and jurisdictional mootness questions arose in

Interactive nor owner, officer, agent, or even employee of First Data). *But see id.* at 1299, 23 U.S.P.Q.2d (BNA) at 1931 (Lourie, J., dissenting) (stating that Katz was "no small fry" as he was inventor of patents in suit and employee of patent licensee, Call Interactive). Judge Lourie found it inconceivable that Katz was not "acting with the knowledge and authority of the patentee." *Id.*

94. *See id.* at 1298, 23 U.S.P.Q.2d (BNA) at 1930 (emphasizing that vagueness of discussion and nonstructured nature of negotiation setting supported finding of mere jawboning). In dissent, Judge Lourie argued that the totality of the circumstances supported the existence of a reasonable apprehension of litigation. *See id.* at 1300, 23 U.S.P.Q.2d (BNA) at 1931 (noting that West Interactive was aware of other lawsuits brought by First Data against parties similarly situated and that West Interactive was told by potential customer, Semper, that Call Interactive believed West Interactive to be infringing).

95. 982 F.2d 1520, 25 U.S.P.Q.2d (BNA) 1196 (Fed. Cir. 1992).

96. *Telectronics Pacing Sys., Inc. v. Ventritex, Inc.*, 982 F.2d 1520, 1523, 25 U.S.P.Q.2d (BNA) 1196, 1201 (Fed. Cir. 1992).

97. *Id.* at 1520, 25 U.S.P.Q.2d (BNA) at 1197. The original complaint sought a declaratory judgment, alleging that after expiration of the 35 U.S.C. § 271(e)(1) clinical testing exemption period, Ventritex's activities would constitute infringement of Telectronics' patents. *Id.* Ventritex moved to dismiss on the ground that the declaratory judgment counts sought an advisory opinion and failed to state a claim on which relief could be granted. *Id.* In response, Telectronics amended its complaint to include five counts of patent infringement, alleging that Ventritex engaged in activities that were not exempt under § 271(e)(1). *Id.*

98. *Id.* at 1523, 25 U.S.P.Q.2d (BNA) at 1201 (citing *Lang v. Pacific Marine & Supply Co.*, 895 F.2d 761, 764, 13 U.S.P.Q.2d (BNA) 1820, 1822 (Fed. Cir. 1990)).

99. *Id.* The Federal Circuit also noted that the exercise of the district court's jurisdiction over a declaratory judgment action is discretionary. *Id.* Based on the record in this case, there was no abuse of the district court's discretion. *Id.* The Federal Circuit further determined that, contrary to Telectronics' assertions, the failure of the district court to explicitly set forth findings and conclusions supporting its grant of summary judgment did not warrant reversal. *Id.* at 1527, 25 U.S.P.Q.2d (BNA) at 1201-02.

several contexts, which included a settlement during the pendency of an appeal,¹⁰⁰ a settlement of infringement issues while cross-appelling issues under 35 U.S.C. § 291,¹⁰¹ and a vacating of a district court's judgment of invalidity upon affirmance of its noninfringement judgment.¹⁰²

District court judgments are often vacated as moot under the *Munsingwear* doctrine,¹⁰³ which provides that judgments should be vacated when the case becomes moot.¹⁰⁴ In *U.S. Philips Corp. v. Windmere Corp.*,¹⁰⁵ the Federal Circuit, while noting exceptions to this general rule, held the district court decision became moot when all parties to the appeal reached a settlement.¹⁰⁶ The Federal Circuit also held that a nonappealing defendant lacked standing to oppose a motion to dismiss an appeal, even though the defendant was

100. See *U.S. Philips Corp. v. Windmere Corp.*, 971 F.2d 728, 731, 23 U.S.P.Q.2d (BNA) 1709, 1710 (Fed. Cir. 1992) (addressing propriety of vacatur of judgment at trial where parties have settled dispute); see also *infra* notes 106-23 and accompanying text (discussing *Philips* in detail).

101. See *Kimberly-Clark Corp. v. Proctor & Gamble Distrib. Co.*, 973 F.2d 911, 914, 23 U.S.P.Q.2d (BNA) 1921, 1924 (Fed. Cir. 1992) (holding that relief may still be granted on noninfringement issues after settlement of infringement dispute); see also *infra* notes 128-38 and accompanying text (discussing *Kimberly-Clark* in detail).

102. See *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 952, 22 U.S.P.Q.2d (BNA) 1231, 1235 (Fed. Cir.) (holding that because district court's ruling of noninfringement was affirmed, appellate court need not address question of validity and therefore must vacate holding of invalidity), cert. granted, 113 S. Ct. 52 (1992); see also *infra* notes 139-67 and accompanying text (discussing *Morton* in detail).

103. See *United States v. Munsingwear, Inc.*, 340 U.S. 36, 39-40 (1950). Under the *Munsingwear* doctrine, the established practice in dealing with a federal civil case that becomes moot on its way up the ladder of court review is to reverse or vacate the lower court judgment and remand with directions to dismiss. *Id.*

104. See *id.* at 39 (relating that where mootness has been determined, established Supreme Court practice is to reverse or vacate decision below and remand with direction to dismiss); see also *Duke Power Co. v. Greenwood County*, 299 U.S. 259, 267 (1936) (observing that appellate court has duty to remand case for dismissal where controversy has become entirely moot); *Great Western Sugar Co. v. Nelson*, 442 U.S. 92, 93-94 (1979) (applying *Duke Power* and *Munsingwear*, and remanding with directions to have district court judgment vacated and complaint dismissed); 1B JAMES W. MOORE ET AL., *MOORE'S FEDERAL PRACTICE* 548 n.34 (2d ed. 1993) (stating that more cases have followed vacation-and-remand practice of *Munsingwear* than have not). But see *Center for Science in the Pub. Interest v. Regan*, 727 F.2d 1161, 1165 (D.C. Cir. 1991) (distinguishing *Munsingwear* doctrine as inapplicable when parties deliberately choose to forgo appeal); *In re Memorial Hosp. of Iowa Co.*, 862 F.2d 1299, 1300 (7th Cir. 1988) (holding that settlement of appealed case does not give rise to vacatur of district court's determination because, while parties may enter into contracts concerning parties' private property, same is not true of judicial precedents that are public acts by public officials, and which provide guidance to future judges and litigants).

105. 971 F.2d 728, 23 U.S.P.Q.2d (BNA) 1709 (Fed. Cir. 1992).

106. *U.S. Philips Corp. v. Windmere Corp.*, 971 F.2d 728, 731, 23 U.S.P.Q.2d (BNA) 1709, 1711 (Fed. Cir. 1992) (holding that where all parties have settled, parties to appeal are "entitled" to vacatur). The court recognized exceptions to the general rule because of the distinction that can be drawn between mootness occasioned by settlement and mootness caused by changed circumstances or "happenstance," and also because such exceptions can require court to weigh the basis of mootness in deciding whether to vacate action. *Id.*

included in the official caption of the case.¹⁰⁷

Philips brought a patent infringement and unfair competition action against Windmere and a contributory infringement action against Izumi Seimitsu Kogyo Kabushiki Kaisha (Izumi) in the U.S. District Court for the Southern District of Florida.¹⁰⁸ Windmere counterclaimed, alleging unfair competition and antitrust violations.¹⁰⁹ Although Windmere lost on the infringement issue at the original trial, Windmere prevailed on its counterclaims against Philips at retrial.¹¹⁰ Philips and Windmere thereafter entered into a settlement agreement and filed a joint motion to dismiss Philip's appeal of the antitrust and unfair competition judgment, which the court granted.¹¹¹ Izumi, however, opposed the motion to dismiss in order to prevent vacatur of the antitrust and unfair competition counterclaims judgment against Philips.¹¹²

Despite Izumi's name in the caption of the case, the Federal Circuit held that Izumi lacked standing to oppose the joint vacatur motion because Izumi was not a party to the appeal of the antitrust judgment following the retrial.¹¹³ The court noted that Izumi failed to file an appearance or a certificate of interest at the appeal before the Federal Circuit.¹¹⁴ The court further stated that Izumi in fact actively avoided being characterized or involved as a party in the trial of the antitrust counts.¹¹⁵ Relying on the practice note to Federal Circuit rule 12, Izumi argued that it was a party to the appeal based on its inclusion in the official caption.¹¹⁶ The Federal Circuit disagreed, stating that a "practice note does not confer status or

107. *See id.* at 730-31, 23 U.S.P.Q.2d (BNA) at 1710-11 (explaining decision to deny standing to defendant, Izumi, to intervene in order to preserve action).

108. *See id.* at 729, 23 U.S.P.Q.2d (BNA) at 1709 (noting that three parties actually involved in suit as co-plaintiffs were U.S. Philips Corporation, North American Philips Corporation, and N.V. Philips Gloeilampenfabriken, collectively referred to as "Philips"). Izumi manufactured rotary electric shavers in Japan that were sold in the United States by Windmere. *Id.*

109. *Id.*

110. *See id.* (describing original trial where district court entered directed verdict against Windmere on antitrust claim). On appeal, however, the Federal Circuit reversed and remanded for retrial. *U.S. Philips Corp. v. Windmere Corp.*, 861 F.2d 695, 8 U.S.P.Q.2d (BNA) 1885 (Fed. Cir. 1988), *cert. denied sub nom.* *North Am. Philips Corp. v. Windmere Corp.*, 490 U.S. 1068 (1989).

111. *U.S. Philips*, 971 F.2d at 731, 23 U.S.P.Q.2d (BNA) at 1711.

112. *Id.* at 730, 23 U.S.P.Q.2d (BNA) at 1709.

113. *See id.* at 730-31, 23 U.S.P.Q.2d (BNA) at 1710-11 (describing Izumi's failure to intervene in appeal in accordance with Federal Rules of Civil Procedure).

114. *Id.* at 730, 23 U.S.P.Q.2d (BNA) at 1710.

115. *Id.*

116. *See id.* (reviewing Izumi's reliance on court rule regarding docketing of appeal and filing of record); *see also* FED. CIR. R. 12 (practice note) (providing that "parties included in the trial court title having an adverse interest to the appellant but not cross appealing shall be deemed appellees").

standing.”¹¹⁷

The Federal Circuit also rejected Izumi's argument that the district court's decision should not be vacated for collateral estoppel reasons.¹¹⁸ Izumi had successfully used the Florida district court's reversal of the remanded unfair competition issue for collateral estoppel purposes in an analogous district court trial in Illinois.¹¹⁹ The Federal Circuit, however, rejected Izumi's argument that this conferred standing to intervene in the vacatur motion, noting that Izumi admittedly was not a party to the specific unfair competition claims before the Illinois district court action.¹²⁰ Despite Izumi's challenge to the propriety of the vacatur, the Federal Circuit held that vacatur was proper because the settlement between Philips and Windmere included all the parties to the appeal.¹²¹ The district court's judgment was therefore mooted.¹²² The court emphasized that although vacatur is not automatic under all circumstances, Philips and Windmere were entitled to the vacatur under Federal Circuit precedent.¹²³

The Federal Circuit's decision in *Windmere* will not be the last

117. *U.S. Philips*, 971 F.2d at 730, 23 U.S.P.Q.2d (BNA) at 1710. The Federal Circuit also rejected Izumi's argument that Izumi should be accorded standing based on its substantial interest in the subject matter of the litigation. *Id.*, 23 U.S.P.Q.2d (BNA) at 1710-11. The court stated that “despite Izumi's asserted interest as manufacturer of the accused product, Izumi refrained from intervention at the trial . . . and did not seek to join the action.” *Id.*

118. *Id.* at 730-31, 23 U.S.P.Q.2d (BNA) at 1711.

119. *Id.* at 731, 23 U.S.P.Q.2d (BNA) at 1711. Izumi was apparently concerned that vacatur of the district court's antitrust and unfair competition judgment would permit Philips to revive the unfair competition issue in the Illinois case. *Id.*

120. *Id.*

121. *Id.*

122. *Id.* Vacating a judgment as moot may not end the controversy because the vacated judgment may still, in certain situations, have a preclusive effect in other litigation on the same issue involving parties not participating in the original suit. See *Bates v. Union Oil Co. of Cal.*, 944 F.2d 647, 650 (9th Cir. 1991) (holding that when vacatur is granted as condition of settlement without balancing interest in finality of judgments against right to relitigation of unreviewed disputes, preclusive effect of vacated judgment remains to be determined by later case involving same issue).

123. *Id.* The *Mumsgwear* doctrine is not universally followed by the courts. Some regional circuit courts have declined to vacate judgments after the parties settled their disputes. See, e.g., *Clarendon Ltd. v. Nu-West Indus., Inc.*, 936 F.2d 127, 130 (3d Cir. 1991) (holding that parties' settlement of dispute during pendency of appeal does not render case moot so as to require vacatur); *In re United States*, 927 F.2d 626, 627 (D.C. Cir. 1991) (finding vacatur inappropriate where mootness was due to parties' settlement of dispute); *National Union Fire Ins. Co. v. Seafirst Corp.*, 891 F.2d 762, 769 (9th Cir. 1989) (holding that where case gave rise to separate litigation that might be precluded by judgment, settlement should not be used as device by defendant to pursue other actions). The Federal Circuit distinguished such cases as typically involving situations where settlement was a voluntary decision to forgo appeal rather than involving happenstance that divested the parties of their right to appellate review. *U.S. Philips*, 971 F.2d at 731, 23 U.S.P.Q.2d (BNA) at 1711. But see 13A CHARLES A. WRIGHT ET AL., *FEDERAL PRACTICE AND PROCEDURE* § 3533.10 (2d ed. 1984 & Supp. 1992) (noting that growing number of courts of appeals do not automatically permit vacatur of district court decisions at party's request because litigation is public event, not merely means of solving private disputes, and district court opinion represents substantial investment of public resources).

word on whether district court judgments should be vacated when a case settles during the pendency of an appeal. The Supreme Court granted Izumi's petition for certiorari on the issue of whether U.S. courts of appeals should routinely vacate district court final judgments at the parties' request when cases are settled while on appeal.¹²⁴ In its brief for certiorari to the Supreme Court, Izumi challenged the Federal Circuit's approach to vacatur as conflicting with that of other U.S. courts of appeals¹²⁵ and a misinterpretation of *United States v. Munsingwear Inc.*¹²⁶ Philips and Windmere, in their joint brief in opposition to Izumi's certiorari petition, disputed Izumi's argument that the Federal Circuit misinterpreted *Munsingwear*.¹²⁷ They also pointed out that there is no clear split between the circuits with respect to vacatur because no court has as yet adopted an inflexible rule on vacatur after settlement.

In *Kimberly-Clark Corp. v. Proctor & Gamble Distributing Co.*,¹²⁸ the Federal Circuit held that where parties to an infringement action settled the infringement dispute but conceded that their patents interfered, the partial settlement did not moot the issues of validity, priority, and enforceability.¹²⁹ Kimberly-Clark (K-C) brought a patent infringement suit against Proctor & Gamble (P&G).¹³⁰ The district court held that K-C's patent was valid but not infringed and had priority over P&G's patent.¹³¹ The district court accordingly invalidated certain claims in P&G's patent.¹³² Before the Federal Circuit

124. *Izumi Seimitsu Kogyo Kabushiki Kaisha v. U.S. Philips Corp.*, 113 S. Ct. 1249 (U.S. 1993) (granting certiorari). Izumi characterized the Federal Circuit's vacatur practice as permitting unsuccessful litigants to avoid the preclusive effects of a final judgment, thus transforming the federal courts into a tool for furthering the agenda of private parties.

125. See *Supreme Court: Court Will Consider Vacatur of Judgments After Settlement*, 45 Pat., Trademark & Copyright J. (BNA) 341, 341 (Feb. 25, 1993) [hereinafter *Vacatur of Judgments*] (discussing arguments in briefs in *Izumi Seimitsu Kogyo Kabushiki Kaisha v. U.S. Philips Corp.*, 113 S. Ct. (U.S. 1993)). Izumi pointed out that the Third, Ninth, and District of Columbia Circuits have forcefully rejected the *Munsingwear* doctrine. *Id.*

126. 340 U.S. 36 (1950). Izumi argued that the Federal Circuit erroneously relied on *City Gas Co. of Fla. v. Consolidated Gas Co. of Fla.*, 111 S. Ct. 1300 (1991), because *City Gas* did not expressly or implicitly endorse the vacatur practice followed by the Federal Circuit. See *Vacatur of Judgments*, *supra* note 125, at 341 (discussing Izumi's brief).

127. *Vacatur of Judgments*, *supra* note 125, at 341. Philips and Windmere contended that Izumi's view of *Munsingwear*, as only being applicable when the case becomes moot due to happenstance, cannot be reconciled with the judgments in *City Gas* and *Deakins v. Monaghan*, 484 U.S. 193 (1988), where a party mooted appeal by withdrawing its claims. *Id.*

128. 973 F.2d 911, 23 U.S.P.Q.2d (BNA) 1921 (Fed. Cir. 1992); see also *infra* notes 632-45 and accompanying text (discussing case with regard to joint inventorship issue); *infra* notes 1344-48 and accompanying text (discussing case with regard to inequitable conduct issue).

129. See *Kimberly-Clark Corp. v. Proctor & Gamble Distrib. Co.*, 973 F.2d 911, 914, 23 U.S.P.Q.2d (BNA) 1921, 1924 (Fed. Cir. 1992) (finding that court had jurisdiction to grant relief notwithstanding partial settlement of dispute by parties).

130. *Id.*

131. *Id.*

132. *Id.*

considered the parties' cross-appeals, K-C and P&G settled their infringement claims.¹³³ The parties, however, asserted that the appeal should proceed because the partial settlement did not moot the priority issues under 35 U.S.C. § 291.¹³⁴

The Federal Circuit stated that "there are situations 'in which one issue in a case has become moot, but the case as a whole remains alive because other issues have not become moot.'" ¹³⁵ The court held that the partial settlement did not moot the priority issues, noting that § 291 provides a means for resolving priority issues without requiring the owner of an interfering patent to accuse the owner of another of infringement.¹³⁶ Instead, § 291 gives patent owners a separate and distinct statutory basis for a claim for relief where two patents interfere.¹³⁷ The Federal Circuit concluded that "the 'relief' provided by the statute is not limited to infringement 'relief,' but includes resolution of priority issues between owners of interfering patents, even when, by agreement or otherwise, there is no infringement issue between the parties."¹³⁸

In *Morton International, Inc. v. Cardinal Chemical Co.*,¹³⁹ the Federal Circuit affirmed a district court judgment of noninfringement but declined to review and vacated as moot the district court's judgment of invalidity.¹⁴⁰ In vacating the invalidity judgment, the Federal Circuit without further analysis relied on the oft-criticized practice, first set forth in *Vieau v. Japax Inc.*,¹⁴¹ of vacating an invalidity finding

133. *See id.* (noting that P&G and K-C agreed on mutual immunity from infringement suits against one another based on patent at issue).

134. *Id.*; *see also* 35 U.S.C. § 291 (1988) (authorizing civil suit against owner of interfering patent).

135. *Kimberly-Clark*, 973 F.2d at 914, 23 U.S.P.Q.2d (BNA) at 1924 (quoting *University of Texas v. Camenisch*, 451 U.S. 390, 394 (1981), which pointed out that case as whole can remain very much alive notwithstanding mootness of one issue, as in situation where issue of damages remains despite mootness of injunctive relief issue).

136. *See id.* (holding that validity and priority issues have statutory basis distinct from that of infringement action). As a preliminary matter, the Federal Circuit held that it had jurisdiction because two patent owners are entitled to relief under 35 U.S.C. § 291, even though they once accused each other of infringement under 35 U.S.C. § 271. *Id.* Moreover, because the PTO issued two patents on the same invention, each patentee suffered a serious impediment to the enjoyment of the right to exclude others from making, using, and selling their inventions. *Id.* The court stated that "[n]either patent owner knows if its patent is valid in light of the other's patent, the presumption of validity . . . having been eroded by the grant of an 'interfering' patent." *Id.*

137. *Id.*; *see* 35 U.S.C. § 291 (1988) (authorizing civil suit against owner of interfering patent).

138. *Kimberly-Clark*, 973 F.2d at 915, 23 U.S.P.Q.2d (BNA) at 1924.

139. 959 F.2d 948, 22 U.S.P.Q.2d (BNA) 1231 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992); *see also infra* notes 307-10 and accompanying text (discussing case with regard to frivolous appeals issue); *infra* notes 929-39 and accompanying text (discussing case with regard to evidentiary considerations issue); *infra* notes 1101-02 and accompanying text (discussing case with regard to attorney's fees issue).

140. *Id.* at 952, 22 U.S.P.Q.2d (BNA) at 1235.

141. 823 F.2d 1510, 3 U.S.P.Q.2d (BNA) 1094 (Fed. Cir. 1987).

when on appeal it is held that there was no infringement.¹⁴² *Morton International* involved a suit brought by Morton International, Inc. (Morton) against Cardinal Chemical Co. (Cardinal) for infringement of two of Morton's patents to which Cardinal counterclaimed for a declaratory judgment of invalidity of those patents.¹⁴³ Following a trial, the district court held Morton's patents invalid under 35 U.S.C. § 112 because the claims were indefinite and not supported by an enabling disclosure in the patent specifications.¹⁴⁴ The district court further held that Cardinal's accused products infringed neither patent, but it declined to award Cardinal attorney's fees.¹⁴⁵ Morton appealed the noninfringement and validity rulings, and Cardinal cross-appealed the denial of attorney's fees.¹⁴⁶

A concurring opinion in *Morton* expressed agreement with the majority's decision to affirm the district court's noninfringement judgment but objected to the majority's confining appellate review to only that judgment.¹⁴⁷ The concurring opinion observed that the Federal Circuit is neither compelled to address both invalidity and noninfringement nor to address them in any order, and "[t]he power to choose one or the other is . . . a matter of discretion."¹⁴⁸ The Federal Circuit should not automatically apply the *Vieau* doctrine, according to this view, but rather should be guided by pragmatic considerations.¹⁴⁹ In appropriate cases, the Federal Circuit "should review an invalidity judgment first, and if [the court] affirm[s], then vacate or simply not rule on the infringement issue."¹⁵⁰ The multiple validity suits involving the patents at issue in *Morton*

142. *Morton Int'l Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 952, 22 U.S.P.Q.2d (BNA) 1231, 1235 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992). In *Vieau*, the Federal Circuit held that disposition of the infringement issue mooted the patentee's appeal of an adverse directed verdict on the issues of damages and willful infringement. *Vieau v. Japax, Inc.*, 823 F.2d 1510, 1517, 3 U.S.P.Q.2d (BNA) 1094, 1100 (Fed. Cir. 1987). The court also reasoned that Japax's cross-appeal of the district court's failure to grant JNOV on the issue of obviousness was confined to the litigated claims and the accused devices found noninfringing. *Id.* The court accordingly dismissed the cross appeal as moot, and vacated the district court judgment with respect to the mooted issues. *Id.*

143. *Morton Int'l Inc. v. Cardinal Chem. Co.*, 967 F.2d 1571, 1571, 23 U.S.P.Q.2d (BNA) 1362, 1363 (Fed. Cir. 1992) (Nies, C.J., dissenting from denial of rehearing *in banc* of *Morton Int'l Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 23 U.S.P.Q.2d (BNA) 1231 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992)).

144. *Morton*, 959 F.2d at 950, 22 U.S.P.Q.2d (BNA) at 1233; *see supra* notes 929-39 (discussing evidentiary considerations at issue in *Morton*).

145. *Morton*, 959 F.2d at 950, 22 U.S.P.Q.2d (BNA) at 1233.

146. *Id.*

147. *Id.* at 952, 22 U.S.P.Q.2d (BNA) at 1235 (Lourie, J., concurring).

148. *Id.* at 952-53, 22 U.S.P.Q.2d (BNA) at 1235-36. The Supreme Court addressed the validity issue prior to the infringement issue in *United Carbon Co. v. Binney Co.*, 317 U.S. 228 (1942) (finding against patentee as to validity and thus not deciding infringement issue).

149. *Morton*, 959 F.2d at 952-54, 22 U.S.P.Q.2d (BNA) at 1235-37.

150. *Id.* at 952, 22 U.S.P.Q.2d (BNA) at 1235.

were pointed to as evidence that rigid following of *Vieau* results in a misallocation of judicial resources.¹⁵¹ Moreover, “[a]ll parties are entitled to a decision affirming or reversing the trial court’s holding of invalidity of these patents so that they can plan their future affairs accordingly.”¹⁵² The concurring opinion also pointed out that the rationale underlying the *Vieau* doctrine is dubious because the Federal Circuit is “not a court of last resort . . . [and] a holding of either invalidity or noninfringement by our court does not render the case moot because it is not over.”¹⁵³

The Federal Circuit denied Cardinal’s petition for a rehearing in banc.¹⁵⁴ Two judges dissented without opinion. Another judge wrote a dissenting opinion that questioned the reasoning underlying the *Vieau* doctrine.¹⁵⁵ According to the dissenting opinion, the Supreme Court’s decision in *Altwater v. Freeman*,¹⁵⁶ on which the *Vieau* doctrine is based, is no longer germane because it involved a licensee’s counterclaim for invalidity.¹⁵⁷ In the *Altwater* era, a licensee had to prove that the dispute was beyond the scope of the patentee’s complaint to avoid the licensee estoppel doctrine.¹⁵⁸ The dissent thus argued that *Altwater* should be viewed in this historical context, stating that “[t]o interpret *Altwater* broadly as requiring an accused infringer who is not a licensee to prove its counterclaim for invalidity goes beyond the scope of the patentee’s complaint in or-

151. *Id.* at 954, 22 U.S.P.Q.2d (BNA) at 1237. Prior to the suit with Cardinal Chemical, Morton had sued another company for infringement of the same patent claims. *Id.* at 950, 22 U.S.P.Q.2d at 1233. The trial court in that action held the patents invalid and not infringed, but the Federal Circuit, after affirming the noninfringement finding, vacated the invalidity finding in accordance with the *Vieau* doctrine. *Id.* Thus, following the Federal Circuit’s decision in the *Cardinal* litigation, Morton’s patent claims had gone through two bench trials, had been twice invalidated, only to have the Federal Circuit vacate each of those invalidity judgments. In addition, Morton had filed a third action against a third company asserting infringement of the twice-invalidated patent, which means that a third court would be faced with deciding the validity of the patents all over again. *Id.* at 950 n.2, 22 U.S.P.Q.2d (BNA) at 1233 n.2.

152. *Id.* at 954, 22 U.S.P.Q.2d (BNA) at 1237.

153. *Id.* at 953, 22 U.S.P.Q.2d (BNA) at 1236. A decision of the Federal Circuit could of course be overturned by the United States Supreme Court.

154. *Morton Int’l, Inc. v. Cardinal Chem. Co.*, 967 F.2d 1571, 1571-78, 23 U.S.P.Q.2d (BNA) 1362, 1363-68 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992).

155. *See id.* (Nies, C.J., dissenting).

156. 319 U.S. 359 (1943).

157. *Morton*, 967 F.2d at 1572-73, 23 U.S.P.Q.2d (BNA) at 1364 (Nies, C.J., dissenting).

158. *See Altwater v. Freeman*, 319 U.S. 359, 361 (1943) (acknowledging licensee estoppel rule). The Supreme Court later overruled the licensee estoppel doctrine. *See Lear v. Adkins*, 395 U.S. 653, 668-71 (1969) (holding that because technical requirements of contract doctrine must yield to public interests in patent licensing, licensee estoppel rule is overruled). Neither the licensee estoppel doctrine nor the legal fiction to avoid it has been relevant since the Supreme Court’s decision in *Lear*. *Id.* at 688-71 (overruling case or controversy analysis underlying *Altwater*).

der to establish a case or controversy has never been warranted."¹⁵⁹

The dissent also argued that the "one-size-fits-all" approach¹⁶⁰ to appellate review of validity judgments is inappropriate.¹⁶¹ Distinguishing between jurisdictional mootness and prudential mootness,¹⁶² the dissent concluded that the holding of noninfringement in a declaratory judgment action is not jurisdictionally or prudentially mooted by a holding of noninfringement.¹⁶³ The dissent concluded that because the patentee cannot raise noninfringement as an affirmative defense, noninfringement cannot be an alternative ground for a judgment on an action for a declaration of invalidity.¹⁶⁴ The dissent therefore argued that it is not redundant for a district court to decide a declaratory invalidity counterclaim.¹⁶⁵

The Supreme Court granted certiorari to consider whether the Federal Circuit should vacate declaratory judgments that hold an asserted patent invalid merely because the court affirmed on the ground of noninfringement.¹⁶⁶ The petition presented to the

159. *Id.* (asserting further that *Altwater* should be "assigned to the graveyard" with respect to case or controversy analysis).

160. *See id.* at 1574, 23 U.S.P.Q.2d (BNA) at 1365 (arguing for separate analyses depending on outcome of various issues in patent suit in lower court). Under the "one-size-fits-all" approach, the court may always dismiss and vacate the judgment below once it concludes the patent claims at issue are not infringed. *Id.*

161. *Id.*

162. *Id.* at 1575-76, 23 U.S.P.Q.2d (BNA) at 1365-67. Jurisdictional mootness results when the dispute between the parties, or at least an issue in the case, no longer exists. *Id.* at 1574, 23 U.S.P.Q.2d (BNA) at 1365. Prudential mootness results when a court, having decided one dispositive issue, chooses not to address the other. *Id.* Jurisdictional mootness is not appropriate in a declaratory judgment action because only an unconditional guarantee by the patentee that the alleged infringer is safe from suit would moot the claim. *Id.* at 1575, 23 U.S.P.Q.2d (BNA) at 1365. Prudential mootness is not appropriate because a court's consideration of a declaratory judgment is discretionary in the first place. *Id.* at 1576, 23 U.S.P.Q.2d (BNA) at 1365-67. Under the dissent's reasoning, having chosen to hear the action, a court could not rule that a case is mooted by a ruling on an infringement issue. *Id.*

163. *Id.* at 1576, 23 U.S.P.Q.2d (BNA) at 1366-67.

164. *Id.*

165. *Id.* at 1576-77, 23 U.S.P.Q.2d (BNA) at 1367.

166. *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 113 S. Ct. 52 (1992) (granting certiorari). The Federal Circuit's disposition of appeals both before and after *Vieau* has varied and may suggest an intracircuit conflict amenable to resolution by the Supreme Court. Prior to *Vieau*, the Federal Circuit addressed invalidity holdings, regardless of any infringement determination. *See, e.g., Medtronic Inc. v. Intermedics, Inc.*, 799 F.2d 734, 740, 230 U.S.P.Q. (BNA) 641, 645 (Fed. Cir. 1986) (holding that because invalidity decision by district court was affirmed, appellate court need not decide issue of infringement), *cert. denied*, 479 U.S. 1033 (1987); *Eaton Corp. v. Appliance Valves Corp.*, 790 F.2d 874, 880, 229 U.S.P.Q. (BNA) 668, 672 (Fed. Cir. 1986) (affirming district court's holding of invalidity and noninfringement); *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 453, 227 U.S.P.Q. (BNA) 293, 296 (Fed. Cir. 1985) (holding that patent claim was apparently invalid and that even if claim was valid, it was nevertheless not infringed). After *Vieau*, the Federal Circuit affirmed a noninfringement holding but reversed an invalidity holding in *Tol-O-Matic, Inc. v. Proma Product-Und Mktg. GmbH*, 495 F.2d 1546, 20 U.S.P.Q.2d (BNA) 1332 (Fed. Cir. 1991) and affirmed, rather than vacated, an invalidity holding in *Environmental Instruments, Inc. v. Su-tron Corp.*, 877 F.2d 1561, 11 U.S.P.Q.2d (BNA) 1132 (Fed. Cir. 1989). As a result, the

Supreme Court tracks the views espoused by the concurring and dissenting Federal Circuit opinions.¹⁶⁷ However, the parties disagreed under what circumstances validity should be considered on appeal.¹⁶⁸ Cardinal asserts that validity need not be considered by the Federal Circuit if it was raised only as an affirmative defense, because an affirmative defense relies on the plaintiff's claim.¹⁶⁹ If the plaintiff's claim is dropped, for example where the district court determines there was no infringement, the Federal Circuit should have the discretion to drop the affirmative defense as well.¹⁷⁰ Morton, however, argued that validity should be addressed on appeal whether it was raised as an affirmative defense or as a counterclaim.¹⁷¹

In 1992 the Federal Circuit also considered a standing issue, not in the context of whether a party had standing to participate in an appeal, but whether the party had standing to enforce the asserted patent rights under 35 U.S.C. § 281.¹⁷² In a decision that may be of interest to practitioners involved with patent rights and government

diverging line of decisions between *Vieau*, and *Tol-O-Matic* and *Environmental Instruments*, awaits the Supreme Court's resolution.

167. See *Morton*, 967 F.2d at 1576-77, 23 U.S.P.Q.2d (BNA) at 1367 (addressing question of how finding of noninfringement relates to finding of patent invalidity); *supra* notes 147-53 and accompanying text (describing in detail Judge Lourie's concurring opinion in *Morton*); *supra* notes 155-65 and accompanying text (relating in detail Chief Judge Nies' dissenting opinion in denial of *in banc* rehearing of *Morton*). Both parties questioned whether the Federal Circuit's vacatur practice was consistent with the doctrine of *Blonder-Tongue Lab., Inc. v. University of Ill. Found.*, 402 U.S. 313 (1971), in which the Supreme Court held that once a patent has been held invalid, it is invalid as to all potential infringers, so long as the patentee had a fair opportunity to pursue the patent claim. *Supreme Court: Arguments Heard in Case Considering Federal Circuit's "Vieau" Policy*, 45 Pat., Trademark & Copyright J. (BNA) 378-79 (Mar. 4, 1993) [hereinafter *Arguments*]. The parties pointed out that the Federal Circuit's vacatur practice does not allow future accused infringers to defend themselves based on the earlier invalidity holding. *Id.* Instead, this nondiscretionary vacatur practice "reinstates" the validity of the patent, allowing the patentee to bring an action against other potential infringers on the same previously invalidated patent, which was a concern of the Supreme Court in *Blonder-Tongue*. *Id.*

168. See *Arguments*, *supra* note 167, at 378-79 (discussing oral arguments before Supreme Court).

169. *Arguments*, *supra* note 167, at 378-79.

170. *Arguments*, *supra* note 167, at 378-79.

171. *Arguments*, *supra* note 167, at 378-79.

172. See *FilmTec Corp. v. Hydranautics*, 982 F.2d 1546, 1550, 25 U.S.P.Q.2d (BNA) 1283, 1286 (Fed. Cir. 1992) (concluding that Filmtec cannot maintain suit when title to patent was vested in United States). It is well-established that title to a patent is required in order to have standing to sue for infringement of that patent. See, e.g., *Arachnid, Inc. v. Merit Indus.*, 939 F.2d 1574, 1579, 19 U.S.P.Q.2d (BNA) 1513, 1517 (Fed. Cir. 1991) (stating that to recover damages one must have legal title to patent during infringement); *FilmTec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1569, 1573, 19 U.S.P.Q.2d (BNA) 1508, 1513 (Fed. Cir. 1991) (reversing preliminary injunction because it was not clear that FilmTec has title to patent, and thus standing to sue for patent infringement); *Kalman v. Berlyn Corp.*, 914 F.2d 1473, 1481, 16 U.S.P.Q.2d (BNA) 1093, 1099 (Fed. Cir. 1990) (noting that it is well-settled that non-exclusive licensee lacks standing to sue for patent infringement).

contracts, the Federal Circuit in *FilmTec Corp. v. Hydranautics*¹⁷³ held that an accused infringer in a patent infringement action can raise the defense that the Federal Government, and not the plaintiff, holds equitable claim of title to the patent at issue.¹⁷⁴ The Federal Circuit held that resolving issues of title requires a focus on the terms of the government contract and the act authorizing the agency to enter into the contract.¹⁷⁵

In *FilmTec*, the Department of the Interior entered into a contract under the Saline Water Conversion Act of 1971¹⁷⁶ with the North Star Division of Midwest Research Institute (MRI), a nonprofit research organization.¹⁷⁷ The contract required MRI to perform research and development on polymer membranes for desalinating seawater by reverse osmosis.¹⁷⁸ Both the contract and the federal law that authorized the contract vested title in the United States for any invention made (i.e., actually reduced to practice) or conceived during the course of the contract.¹⁷⁹ After securing the contract,

173. 982 F.2d 1546, 25 U.S.P.Q.2d (BNA) 1283 (Fed. Cir. 1992).

174. *FilmTec Corp. v. Hydranautics*, 982 F.2d 1546, 1550-55, 25 U.S.P.Q.2d (BNA) 1283, 1286-87 (Fed. Cir. 1992).

175. *Id.* at 1551, 25 U.S.P.Q.2d (BNA) at 1287-88 (noting that district court erred when it resolved issue of title according to patent claims instead of terms of contract and act under which contract was created).

176. *Id.* at 1547-48, 25 U.S.P.Q.2d (BNA) at 1284-85.

177. *Id.*

178. *Id.* at 1547, 25 U.S.P.Q.2d (BNA) at 1284-85. The scope of work under the contract with MRI was to develop polymer membranes consisting of a thin polymer desalinating layer on a porous support. *Id.* at 1547 n.1, 25 U.S.P.Q.2d (BNA) at 1285 n.1. High pressure causes reverse osmosis polymer membranes to retain the salt in the seawater, thus creating purified water. *Id.* at 1547, 25 U.S.P.Q.2d (BNA) at 1285.

179. *Id.* (reprinting language of contract, which stated that MRI "does hereby grant to the Government the full and entire domestic right, title and interest in 'any invention . . . [conceived or first actually reduced to practice] in the course of or under this contract or any subcontract'"); see also Saline Water Conversion Appropriations Act, Pub. L. No. 94-316, § 3, 90 Stat. 694, 694 (1976) (providing that title to inventions resulting from contracts made pursuant to Saline Water Conversion Act are governed by Federal Nonnuclear Energy, Research, and Development Act (FNERDA) of 1974, Pub. L. No. 93-577, § 9, 88 Stat. 1878, 1887-88 (codified at 42 U.S.C. § 5908 (1988)), which states that title in any invention conceived pursuant to contract shall vest in United States). When an invention is made (actually reduced to practice) or conceived in the performance of or under a government contract, it is typically referred to as a "subject invention." See *FilmTec*, 982 F.2d at 1548, 25 U.S.P.Q.2d (BNA) at 1285 (observing that contract between Government and MRI identified any invention conceived or reduced to practice under contract as "a Subject Invention"). Whether the government agency retains title to a patent claiming that invention generally hinges on (1) whether the invention is a "subject invention"; and (2) whether any agency-specific legislation dictates a title retention policy. See RALPH C. NASH, JR. & LEONARD RAWICZ, PATENTS AND TECHNICAL DATA 162-212 (1983) (discussing determination of ownership of patents under government contracts); see also 35 U.S.C. §§ 201(e), (g) (1988) (defining "subject invention" as "any invention of the contract or conceived or first actually reduced to practice in the performance of work under a funding agreement" and defining "made" as "conception or first actual reduction to practice" of any invention). The patent statutes encourage title retention by the government contractor when it is a small business or nonprofit organization. See 35 U.S.C. §§ 200-212 (1988) (comprising chapter 18 of title 35, which deals with patent rights in inventions made with federal assistance; one of Congress' objectives under chapter 18,

MRI hired Cadotte, the inventor of the patents at issue, to carry out the reverse osmosis membrane research contemplated by the contract.¹⁸⁰ Cadotte subsequently developed three composite polyamide membranes capable of desalinating seawater.¹⁸¹ Cadotte then left MRI to co-found FilmTec, a self-described spin-off of MRI.¹⁸² At FilmTec, Cadotte performed experiments that essentially duplicated the MRI experiments, ultimately developing two composite reverse osmosis membranes capable of desalinating seawater.¹⁸³ Approximately one year later, Cadotte filed a patent application for the reverse osmosis membrane and assigned the patent to FilmTec.¹⁸⁴

FilmTec later sued Hydranautics for infringement, alleging that the membranes manufactured by Hydranautics used the same compositions as the claimed invention.¹⁸⁵ Hydranautics raised the defense that FilmTec lacked standing to sue because the United States, and not FilmTec, had title to the patent at issue because Cadotte conceived or actually reduced to practice the invention during the performance of or under MRI's government contract.¹⁸⁶ The district court held that FilmTec had legal title to the patent at issue, and thus standing to sue, because Cadotte did not invent the claimed membranes until after leaving MRI.¹⁸⁷ The district court reasoned that because the MRI experiments did not result in a membrane having the performance characteristics claimed in the

according to § 200, is "to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise"). On February 18, 1983, President Ronald Reagan issued a Memorandum on Government Patent Policy establishing that the title retention policy as applied to small business firms and nonprofit organizations shall extend to all recipients of Government contracts, grants, and cooperative agreements, except as provided in 35 U.S.C. § 202(a). Memorandum on Government Patent Policy, PUB. PAPERS 248 (Feb. 18, 1983); see Patents, Temporary Regulation, 48 Fed. Reg. 16,254 (1983) (discussing February 18, 1983 presidential memorandum).

180. *FilmTec*, 982 F.2d at 1548, 25 U.S.P.Q.2d (BNA) at 1285.

181. See *id.* (noting that Cadotte reported formation of polyamide membranes in his MRI laboratory notebook on November 17, 1977, and that his contract period extended from July 15, 1976 to January 15, 1978).

182. *Id.* at 1549, 25 U.S.P.Q.2d (BNA) at 1286 (observing that during summer of 1977, Cadotte and other MRI employees discussed forming FilmTec to research and develop new reverse osmosis polymer membrane technologies and that Cadotte left MRI to join FilmTec on December 31, 1977). Shortly before he left MRI, Cadotte and a FilmTec cofounder proposed to the Department of Interior's Office of Water Research and Technology that FilmTec continue the research begun under the Government's contract with MRI. *Id.*

183. *Id.* (noting that FilmTec experiments used same compositions, proportions, and reactions as MRI experiments and in fact sole difference was that lower drying temperature was used in FilmTec experiments).

184. *Id.*

185. *Id.*

186. *Id.*

187. *FilmTec Corp. v. Hydranautics*, No. 90-563 GT (M), 1991 U.S. Dist. LEXIS 13495, at *27-28 (S.D. Cal. Aug. 30, 1991), *rev'd*, 982 F.2d 1546, 25 U.S.P.Q.2d (BNA) 1283 (Fed. Cir. 1992).

patent at issue, Cadotte did not invent the claimed membranes while at MRI.¹⁸⁸

The Federal Circuit reversed and held that Hydranautics could raise the Government's equitable claim of title as a defense.¹⁸⁹ FilmTec argued that Hydranautics could not raise a third party's claim of title as a defense, citing *Dorr-Oliver, Inc. v. United States*.¹⁹⁰ The Court of Claims in *Dorr-Oliver* stated that "[i]n patent litigation between private parties, equitable rights of ownership of strangers cannot be raised as defenses against the legal titleholder of a patent."¹⁹¹ The Federal Circuit determined, however, that "*Dorr-Oliver* in fact supports, rather than undermines, Hydranautics' position . . . since the [court] in *Dorr-Oliver* applied a federal statute to preclude the record title-holder from asserting a patent infringement claim."¹⁹² The court also expressly based its decision that FilmTec could not maintain the present suit on the fact that Hydranautics was a third-party beneficiary to the contract between the Government and MRI.¹⁹³ Section 6(d) of the contract's authorizing statute, the Saline Water Conversion Act, states that all patents resulting from research made pursuant to contract under the act shall be available to the general public.¹⁹⁴ The court reasoned that because Hydranautics was a member of the general public, "it would be contrary to the intent of Congress to permit FilmTec to preclude Hydranautics from practicing such an invention."¹⁹⁵

After concluding that Hydranautics could raise the Government's equitable claim of title as a defense, the court considered whether

188. *Id.* at *29 (discussing differences between experiments Cadotte performed at MRI and those performed at FilmTec and finding that differences were great enough that MRI experiments did not embody claimed invention).

189. *FilmTec*, 982 F.2d at 1550-51, 25 U.S.P.Q.2d (BNA) at 1286-87.

190. 432 F.2d 447, 165 U.S.P.Q. (BNA) 517 (Ct. Cl. 1970) (involving private party record title holder who sued United States for infringement under 28 U.S.C. § 1498, and government defense on ground that plaintiff was not "owner" because plaintiff's employer had superior claim of title pursuant to employment contract).

191. *Dorr-Oliver, Inc. v. United States*, 432 F.2d 447, 451, 165 U.S.P.Q. (BNA) 517, 519 (Ct. Cl. 1970) (noting nonetheless that federal statute affecting ownership of patent raised additional issues "not present in private litigation").

192. *FilmTec*, 982 F.2d at 1550, 25 U.S.P.Q.2d (BNA) at 1287. The court in *Dorr-Oliver* permitted the defendant Government to raise a third party's claim of title as a defense because a federal anti-assignment statute prohibited any assignment of claims for patent infringement (i.e., from the employer to the present plaintiff), and the court reasoned if a third party was the lawful title holder, then the present plaintiff could not recover from the Government. *Dorr-Oliver*, 432 F.2d at 451, 165 U.S.P.Q. (BNA) at 519.

193. *FilmTec*, 982 F.2d at 1550, 25 U.S.P.Q.2d (BNA) at 1287.

194. See Saline Water Conversion Act of 1971, Pub. L. No. 92-60, § 6(d), 85 Stat. 159, 162 (stating that "[a]ll research . . . contracted for, sponsored, cosponsored, or authorized under authority of this Act . . . will . . . be available to the general public"), *repealed by* Water Research and Development Act of 1978, § 410(a), 92 Stat. 1305, 1316.

195. *FilmTec*, 982 F.2d at 1551, 25 U.S.P.Q.2d (BNA) at 1287.

title to the invention actually vested in the United States.¹⁹⁶ Reviewing the conception issue de novo, the Federal Circuit held that the district court erroneously resolved the ownership/conception issue according to only the claims of the patent at issue rather than according to the terms of the government contract.¹⁹⁷ Under the contract, the Government obtained title to inventions that Cadotte conceived of or actually reduced to practice and that were within the field of funded research under MRI's contract. The resolution of this issue turned on whether the invention was conceived while the inventor was at MRI.¹⁹⁸ The court held that Cadotte's experiments at MRI resulted in conception because the key limitations in the claims that distinguished the present invention from the prior art were combined while Cadotte was at MRI, and the results of the experiments were sufficient to show that the invention went beyond the minimum requirements of operability.¹⁹⁹ The court rejected FilmTec's arguments that the claimed invention included narrow performance limitations that were not present during the experiments at MRI, and therefore there was no conception while Cadotte was at MRI.²⁰⁰ The court specifically dismissed this argument with the observation that the claim limitations Cadotte relied on during patent prosecution to distinguish prior art were present in the membrane he developed under the contract while at MRI.²⁰¹ The Federal Circuit stated that "[t]he fact that the materials may not have met the performance recitations of the claims is . . . not conclusive. The membranes were surely within the structural scope of the claims."²⁰² The court therefore held that title vested with the United States and that FilmTec lacked standing to sue on the patent at issue.²⁰³

D. General Civil Procedure Issues

In 1992, the Federal Circuit continued to identify those procedural issues that are not peculiar to substantive patent law.²⁰⁴ The

196. *Id.* at 1550-51, 25 U.S.P.Q.2d (BNA) at 1287.

197. *Id.* at 1551, 25 U.S.P.Q.2d (BNA) at 1288.

198. *Id.* at 1551-54, 25 U.S.P.Q.2d (BNA) at 1288-90.

199. *Id.* at 1552, 25 U.S.P.Q.2d (BNA) at 1289.

200. *Id.* at 1551-54, 25 U.S.P.Q.2d (BNA) at 1288-90.

201. *Id.* at 1552, 25 U.S.P.Q.2d (BNA) at 1289.

202. *Id.* The court noted that the inclusion of performance limitations removing the claimed invention from the operation of the contract would defeat a finding that the parties had the intent to contract. *Id.*

203. *See id.* at 1554, 25 U.S.P.Q.2d (BNA) at 1290 (rejecting FilmTec's argument that Cadotte was not bound by contract and pointing out that "[u]nder the FNERDA, title to inventions made by an employee hired to perform that research automatically vested in the United States").

204. In resolving procedural issues of general applicability and not particular to patent

Federal Circuit held, for example, that questions regarding the applicability of judicial estoppel, inconsistent jury findings, modification of consent decrees, and delays in amending a complaint were procedural issues not unique to patent law.²⁰⁵

1. *Waiver of inconsistent jury findings*

In *Arachnid, Inc. v. Medalist Marketing Corp.*,²⁰⁶ a district court denied a motion by Arachnid for a judgment notwithstanding the verdict (JNOV) to overturn jury findings that the defendant, Medalist, was not liable under the Washington Consumer Protection Act (WCPA).²⁰⁷ Arachnid did not challenge the JNOV under rule 49(b) of the Federal Rules of Civil Procedure at that time before the district court in any post-trial motions.²⁰⁸ In its Federal Circuit appeal, however, Arachnid did challenge the denial of its JNOV motion under rule 49(b) of the Federal Rules of Civil Procedure.²⁰⁹ Rule 49(b) allows a district court to grant JNOV when there are certain inconsistencies between a jury's general verdict and the jury's answers to special interrogatories.²¹⁰ Relying on *Nordstrom, Inc. v.*

law, the Federal Circuit typically refers to the law of the applicable regional circuit court of appeals. See *Woodward v. Sage Prods., Inc.*, 818 F.2d 841, 844, 2 U.S.P.Q.2d (BNA) 1649, 1651 (Fed. Cir. 1987) (acknowledging propriety of Federal Circuit's deference to circuit in which district court is located on some matters of procedural and substantive law); cf. *supra* note 15 and accompanying text (stating that while law of regional circuit in which district court sits will apply in some matters of procedure, such deference is inappropriate in matters of court's appellate jurisdiction).

205. See, e.g., *W.L. Gore & Assocs. v. C.R. Bard, Inc.*, 977 F.2d 558, 561 n.3, 24 U.S.P.Q.2d (BNA) 1451, 1453 n.3 (Fed. Cir. 1992) (acknowledging that application of rule 60(b) of Federal Rules of Civil Procedure should follow forum law, as Federal Circuit does not have exclusive jurisdiction); *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1304, 23 U.S.P.Q.2d (BNA) 1947, 1950 (Fed. Cir. 1992) (citing *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1550, 13 U.S.P.Q.2d (BNA) 1301, 1303 (Fed. Cir. 1989)) (holding that because issue of inconsistent jury findings is procedural matter not unique to patent law, discernable law of forum is applicable); *Datascope Corp. v. SMEC, Inc.*, 962 F.2d 1043, 1045, 22 U.S.P.Q.2d (BNA) 1573, 1575 (Fed. Cir. 1992) (citing *Kalman v. Berlyn Corp.*, 916 F.2d 1473, 1480, 16 U.S.P.Q.2d (BNA) 1093, 1098 (Fed. Cir. 1990)) (finding that decision whether to permit party to amend complaint after long delay should be made according to law of forum); *Wang Lab., Inc. v. Applied Computer Sciences, Inc.*, 958 F.2d 355, 358, 22 U.S.P.Q.2d (BNA) 1055, 1058 (Fed. Cir. 1992) (citing *Panduit Corp. v. All States Plastic Mfg. Co.*, 744 F.2d 1564, 1575, 223 U.S.P.Q. (BNA) 468, 472 (Fed. Cir. 1984)) (holding that question of applicability of judicial estoppel should be resolved according to applicable regional circuit law).

206. 972 F.2d 1300, 23 U.S.P.Q.2d (BNA) 1947 (Fed. Cir. 1992); see also *infra* notes 241-46 and accompanying text (discussing case with regard to general-verdict-multiple-defense issue); *infra* notes 856-61 and accompanying text (discussing case with regard to prosecution history and estoppel issue).

207. *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1301, 23 U.S.P.Q.2d (BNA) 1947, 1948 (Fed. Cir. 1992).

208. *Id.* at 1300, 23 U.S.P.Q.2d (BNA) at 1950.

209. *Id.*

210. *Id.* at 1301, 23 U.S.P.Q.2d (BNA) at 1949.

Tampourlos,²¹¹ Arachnid asserted that rule 49(b) required the district court to grant its motion for JNOV because the jury's general verdict in favor of Medalist on the WPCA claim was inconsistent with the special interrogatory answers that each supported Arachnid's trademark claim.²¹²

The Federal Circuit, however, following case law of the U.S. Court of Appeals for the Ninth Circuit, held that Arachnid waived its right to challenge the jury verdict on appeal when it failed to present its rule 49(b) argument to the district court.²¹³ According to the Federal Circuit, appellate review of a jury trial is limited when no post-trial motions have been made.²¹⁴ The court recited the well-established principle that an appellant may not present arguments to an appellate court that the appellant did not properly raise in the court below.²¹⁵

2. *Amending a complaint*

A plaintiff is generally permitted under rule 15(a) and rule 21 of the Federal Rules of Civil Procedure to amend its complaint to add a party.²¹⁶ The grant or denial of leave to amend, however, is within the discretion of the district court.²¹⁷ While leave to amend is generally "freely given," it may be denied where amending the complaint to add a party would result in undue delay, is in bad faith or a result of a dilatory motive on the movant's part, or would cause undue prejudice to the opposing party.²¹⁸

In *Datascope Corp. v. SMEC, Inc.*,²¹⁹ the Federal Circuit relied on

211. 733 P.2d 208, 210 (Wash. 1987) (discussing extent of overlap between trade name infringement and WCPA).

212. *Arachnid*, 972 F.2d at 1304, 23 U.S.P.Q.2d (BNA) at 1950.

213. *See id.* (observing that, normally, party may not raise argument on appeal that was not properly raised in court below).

214. *Id.* (citing *Johnson v. New York, N.H. & H.R. Co.*, 344 U.S. 48, 54 (1952), which held that party failing to move for JNOV following verdict is entitled only to new trial, not to judgment in its favor; also citing *Globe Liquor Co. v. San Roman*, 332 U.S. 571, 574 (1948), which held that JNOV decision should be made by judge who presided over case because transcript alone cannot import sufficient feel for case to enable appellate judge to render sound decision).

215. *Id.* (citing *Rothman v. Hospital Serv.*, 510 F.2d 956, 960 (9th Cir. 1975)).

216. *See* FED. R. CIV. P. 15(a) (providing that leave to amend shall be freely granted as justice requires); FED. R. CIV. P. 21 (authorizing court to add or drop parties to action on motion or on its own motion).

217. *See Zenith Radio Corp. v. Hazeltine Research, Inc.*, 401 U.S. 321, 330 (1971) (observing that settled law gives trial court ability to grant or refuse permission to amend pleadings).

218. *See Foman v. Davis*, 371 U.S. 178, 182 (1962) (enumerating acceptable bases for denial of leave to amend pleadings as including undue delay, bad faith or dilatory motive, repeated failure to cure deficiencies by amendments previously allowed, undue prejudice to opposing party, and futility of amendment, and holding that trial court's refusal to grant leave without reason constitutes abuse of discretion).

219. 962 F.2d 1043, 22 U.S.P.Q.2d (BNA) 1573 (Fed. Cir. 1992).

the "undue delay" exception to the otherwise liberal standard of rule 15 and affirmed a district court's denial of a plaintiff's motion for leave to amend.²²⁰ In an effort to find a solvent defendant, Datascope sought leave to amend its complaint to add Peter Schiff, the president and principal stockholder of SMEC, as a defendant in its patent infringement suit against SMEC.²²¹ Datascope, however, did not make its motion until almost nine years after first filing its complaint, after the trial on the merits had taken place, and after Datascope obtained a damages award in excess of four million dollars.²²² The Federal Circuit noted that Datascope was aware for a number of years that Schiff played a predominant role in SMEC.²²³ The court upheld the undue delay finding in adding Schiff at such a late date because Datascope must have known from the outset of the litigation that if it recovered lost profits, the damages would exceed SMEC's ability to pay.²²⁴

The Federal Circuit rejected Datascope's contention that there was no undue delay in adding Schiff.²²⁵ Datascope asserted that part way through the litigation it became aware of a letter of intent from a third party to purchase SMEC's entire product line, and that substantial funds secured the purchase.²²⁶ Datascope asserted that it was therefore justified in concluding that SMEC's assets would be sufficient to satisfy any judgment.²²⁷ The Federal Circuit, however, observed that Datascope had no reason to assume that SMEC would retain the funds and not distribute them as dividends to its stockholders.²²⁸ In further support of its argument, Datascope cited *Fromson v. Cityplate, Inc.*,²²⁹ which permitted a plaintiff to amend the

220. See *Datascope Corp. v. SMEC, Inc.*, 962 F.2d 1043, 1045, 22 U.S.P.Q.2d (BNA) 1573, 1575 (Fed. Cir. 1992) (agreeing with district court that plaintiff neglected timely opportunities to move to amend complaint).

221. *Id.* at 1044, 22 U.S.P.Q.2d (BNA) at 1575.

222. See *id.* (noting that Datascope sought to add Schiff because 10 days after judgment was entered, SMEC filed petition under chapter 11 of Bankruptcy Act). Datascope alleged that SMEC "was truly a one man show, founded, controlled, managed, and operated by Peter Schiff." *Id.*

223. See *id.* at 1045, 22 U.S.P.Q.2d (BNA) at 1575 (reporting Datascope's admission in its motion to amend of its awareness based on pretrial discovery of Schiff's significant role in managing and running SMEC).

224. *Id.* at 1046, 22 U.S.P.Q.2d (BNA) at 1576. In 1984, two years after the suit was filed, SMEC's net worth was valued at \$793,201.14, which dropped to \$487,891.53 by 1985. *Id.* The court also observed that Datascope had previously successfully appealed a \$113,000 damages award on the ground that those damages were inadequate. *Id.*

225. *Id.*

226. See *id.* (arguing that recent sale of business similar to SMEC for \$8 million also justified reliance on SMEC's financial integrity).

227. *Id.*

228. *Id.*

229. 886 F.2d 1300, 12 U.S.P.Q.2d (BNA) 1299 (Fed. Cir. 1989).

complaint to add defendants after trial.²³⁰ The Federal Circuit, however, chose to distinguish *Fromson* in ultimately ruling against Datascope, explaining that in *Fromson* the district court permitted amendment after trial when it was discovered that the corporate defendant's prior assertion that it was financially secure was false.²³¹ The court in *Fromson* did not consider the propriety of the amendment, but rather whether the amendment to the complaint related back to the original complaint in compliance with rule 15(c).²³² The Federal Circuit therefore held that the district court in *Datascope* did not abuse its discretion in denying the belated motion to amend the complaint.²³³

3. Law of the case doctrine

In *In re Regents of the University of California*,²³⁴ the Federal Circuit held that the law of the case doctrine did not bar pretrial coordination in accordance with 28 U.S.C. § 1407.²³⁵ The California district court denied a motion to transfer two related patent cases pending before it to an Indiana district court where three additional patent cases were pending.²³⁶ The Federal Circuit rejected the assertion that the California district court's denial of a motion to transfer to Indiana became the law of the case and as such would be violated if consolidation proceeded pursuant to the JPMDL's consolidation order.²³⁷ The court observed that in ruling on the transfer motion, the California district court did not reach the question of whether discovery in the California actions should be coordinated with the

230. See *Fromson v. Cityplate, Inc.*, 886 F.2d 1300, 1303-04, 12 U.S.P.Q.2d (BNA) 1299, 1303 (Fed. Cir. 1989) (holding that district court did not abuse its discretion in permitting plaintiff to amend complaint to add defendant after trial when initial request before trial was denied based on defendant's misrepresentation that it was in sound financial condition).

231. *Datascope*, 962 F.2d at 1047, 22 U.S.P.Q.2d (BNA) at 1577.

232. *Id.*

233. *Id.* The Federal Circuit also distinguished *Kalman v. Berlyn Corp.*, 914 F.2d 1473, 1480, 16 U.S.P.Q.2d (BNA) 1043, 1047 (Fed. Cir. 1990), which held that a district court abused its discretion in refusing to permit a plaintiff to amend its complaint to add a co-plaintiff corporation in which plaintiff and his brother were each 50% stockholders. *Id.* According to the Federal Circuit, the facts in *Kalman* were so different from *Datascope* that *Kalman* provided no support for Datascope's claim that the district court abused its discretion in refusing to permit amendment. *Id.*

234. 964 F.2d 1128, 22 U.S.P.Q.2d (BNA) 1748 (Fed. Cir. 1992).

235. See *In re Regents of the Univ. of Cal.*, 964 F.2d 1128, 1131-33, 22 U.S.P.Q.2d (BNA) 1748, 1751-53 (Fed. Cir. 1992) (reviewing decisions relating to law of case doctrine and finding that none of decisions treated question that was before multidistrict panel in this case).

236. See *id.* at 1133, 22 U.S.P.Q.2d (BNA) at 1753 (noting that California district court deemed transfer inappropriate because California law governed contract and trade secret issues and because two of three parties involved, as well as many witnesses, were located in California); *supra* notes 43-47 and accompanying text (considering petition by University of California to Federal Circuit for extraordinary writ to vacate JPMDL order, which consolidated five pending lawsuits in U.S. District Court for Southern District of Indiana).

237. *Id.* at 1133, 22 U.S.P.Q.2d (BNA) at 1752.

Indiana cases.²³⁸ Moreover, the court pointed out that the considerations pertinent to a motion to transfer are not the same as those pertinent to coordination of pretrial proceedings in multiple cases involving common parties.²³⁹ Finally, the Federal Circuit concluded that the University of California's concerns that coordination would offer Genentech and Lilly, the opponents of the University's petition for extraordinary writ, an opportunity to reopen various matters already decided in California were insufficient to invoke the law of the case doctrine and justify reversal of the consolidation order.²⁴⁰

4. *Timeliness of general-verdict-multiple-defense argument*

In *Arachnid, Inc. v. Medalist Marketing Corp.*,²⁴¹ the First Circuit held that Arachnid was precluded from raising a "general-verdict-multiple-defense" argument to support its patent infringement claim because Arachnid waited until five months after filing its post-trial motions before raising that defense.²⁴² The Federal Circuit refused to extend the holding of *Roy v. Volkswagenwerk Aktiengesellschaft*²⁴³ to allow Arachnid to raise the defense at such a late date.²⁴⁴ Arachnid first filed its motion for a new trial in a footnote to its motion for JNOV.²⁴⁵ According to the court, *Roy* should not be read to require a district court to consider as timely arguments raised by Arachnid five months after its original new trial motion, which seem to be raised as an afterthought.²⁴⁶

E. *Judicial Estoppel and Settlement Estoppel*

In *Wang Laboratories, Inc. v. Applied Computer Sciences, Inc.*,²⁴⁷ following First Circuit law, the Federal Circuit reversed the district court's

238. *Id.*

239. *Id.* (citing *In re American Fin. Corp. Litig.*, 434 F. Supp. 1232, 1234 (J.P.M.L. 1977)). The Federal Circuit also noted that this view was in accord with the congressional intent behind § 1407. *Id.* (citing H.R. REP. No. 1130, 90th Cong., 2d Sess. 4, reprinted in 1968 U.S.C.C.A.N. 1898, 1900).

240. *See id.* (stating that possibility that Genentech and Lilly would reopen various matters that had already been decided could not be evaluated in abstract).

241. 972 F.2d 1300, 23 U.S.P.Q.2d (BNA) 1947 (Fed. Cir. 1992).

242. *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1302-03, 23 U.S.P.Q.2d (BNA) 1947, 1949-50 (Fed. Cir. 1992) (explaining that under general-verdict-multiple-defense argument, even if most of possible grounds for invalidity/unenforceability verdict are supported by substantial evidence, new trial must be ordered on invalidity issue if any one of possible grounds is unsupported by substantial evidence).

243. 781 F.2d 670 (9th Cir. 1985).

244. *Arachnid*, 973 F.2d at 1303, 23 U.S.P.Q.2d (BNA) at 1949; cf. *Roy v. Volkswagenwerk Aktiengesellschaft*, 781 F.2d 670, 671 (9th Cir. 1985) (holding that trial judge may grant new trial based on documents that elaborate on grounds stated in new trial motion, even if those documents are submitted after 10-day time limit for filing new motions).

245. *Arachnid*, 973 F.2d at 1303, 23 U.S.P.Q.2d (BNA) at 1949.

246. *Id.*

247. 958 F.2d 355, 22 U.S.P.Q.2d (BNA) 1055 (Fed. Cir. 1992).

holding that ACS was judicially estopped from asserting that the parties had not consummated settlement of a consolidated contempt and breach of license action.²⁴⁸ The court explained that in order to be subject to judicial estoppel, the party "having obtained a litigation benefit, must have attempted to invoke the authority of one tribunal to override a bargain with another."²⁴⁹ The court held that ACS did not obtain a litigation benefit by the dismissal of the consolidated action nor was ACS attempting to invoke the authority of one tribunal to override a bargain made with another,²⁵⁰ because by informing the district court of the parties' agreement to settle, ACS intended to benefit both the parties and the district court, not to advantage one party over another.²⁵¹ There was therefore no basis for judicial estoppel.

The Federal Circuit also held that the district court erred in enforcing the unexecuted settlement agreement.²⁵² The Federal Circuit found it inconceivable that ACS and Wang intended the unexecuted agreement to be a binding contract, especially since both corporations were sophisticated in contractual matters and had engaged in extended negotiations over a multipage draft of the settlement agreement.²⁵³ The court thus concluded that the execution by an authorized representative must have been critical to the parties because counsel had advised the district court on three separate occasions that the draft agreement had not been executed and was not final.²⁵⁴ Because Wang and ACS never in fact reached final agreement on the terms and conditions of a settlement, the Federal Circuit held that the district court erred in enforcing the unexecuted draft settlement agreement.²⁵⁵

248. *Wang Lab., Inc. v. Applied Computer Sciences, Inc.*, 958 F.2d 355, 359, 22 U.S.P.Q.2d (BNA) 1055, 1058 (Fed. Cir. 1992); see *supra* notes 6-12 and accompanying text (discussing facts of *Wang*).

249. *Id.* at 358, 22 U.S.P.Q.2d (BNA) at 1058 (citing *United States v. Levasseur*, 846 F.2d 786, 793 (1st Cir.), *cert. denied*, 488 U.S. 894 (1988)). The court, citing *Davis v. Wakelee*, 156 U.S. 680, 689 (1895), explained that as a general proposition, judicial estoppel means that "where a party assumes a certain position in a legal proceeding . . . he [or she] may not thereafter, simply because his [or her] interests have changed, assume a contrary position." *Id.*

250. See *id.* at 359, 22 U.S.P.Q.2d (BNA) at 1059 (stating that doctrine of judicial estoppel is intended to protect integrity of judicial process and that ACS's representation of intent to settle was fair and not offensive to doctrine of judicial estoppel).

251. See *id.*, 22 U.S.P.Q.2d (BNA) at 1058 (concluding that "[b]y informing the clerk's office that it intended to settle the litigation, ACS was not playing 'fast and loose' with the court").

252. *Id.* at 359-60, 22 U.S.P.Q.2d (BNA) at 1058-59.

253. *Id.*

254. *Id.*

255. *Id.* at 359-60, 22 U.S.P.Q.2d (BNA) at 1059.

F. Standard of Review for Rule 50(b) Motions

In a series of 1992 decisions, the Federal Circuit continued to apply the two-prong test set forth in *Perkin-Elmer Corp. v. Computervision Corp.*²⁵⁶ to determine whether a motion for JNOV should have been granted by the district court.²⁵⁷ The first prong requires that the party opposing the jury verdict show that the jury's express or presumed findings pertaining to disputed material factual issues are not supported by substantial evidence.²⁵⁸ Generally, a finding of fact must stand unless the appellant shows that on the entirety of the evidence of record, and taking into account the quantum of proof, no reasonable juror could have made such a finding.²⁵⁹ Under the second prong of the *Perkin-Elmer* test, the party opposing the verdict must show that the legal conclusion implied from the jury's verdict cannot be supported by the jury's findings.²⁶⁰ This prong requires that the court review the issues of law that are necessary to the verdict and determine whether the jury's conclusion is supported by applicable law.²⁶¹

G. Jury Trials—Seventh Amendment

In *Joy Technologies, Inc. v. Manbeck*,²⁶² the Federal Circuit reaffirmed its holding in *Patlex Corp. v. Mossinghoff*²⁶³ in light of two re-

256. 732 F.2d 888, 221 U.S.P.Q. (BNA) 669 (Fed. Cir.), *cert. denied*, 469 U.S. 857 (1984).
 257. See *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 U.S.P.Q. (BNA) 669, 673 (Fed. Cir.) (in banc) (setting forth two-prong requirement, at least one prong of which party must satisfy in order to overturn jury verdict), *cert. denied*, 469 U.S. 857 (1984). For examples of the Federal Circuit's continuation of the *Perkin-Elmer* test, see *In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 1528-31, 25 U.S.P.Q.2d (BNA) 1241, 1243-47 (Fed. Cir. 1992) (affirming district court's denial of JNOV based on analysis of *Perkin-Elmer* test); *Braun Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 819-20, 24 U.S.P.Q.2d (BNA) 1121, 1124 (Fed. Cir. 1992) (affirming in part and reversing in part district court's denial of appellant's motion for JNOV under first prong of *Perkin-Elmer* test); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 825, 23 U.S.P.Q.2d (BNA) 1426, 1434 (Fed. Cir. 1992) (reversing district court's denial of appellant's motion for JNOV because under first prong of *Perkin-Elmer* test, substantial evidence did not support jury's verdict of infringement under correct legal standard); *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1207-08, 23 U.S.P.Q.2d (BNA) 1284, 1290 (Fed. Cir. 1992) (holding that appellant was entitled to JNOV because under first prong of *Perkin-Elmer* test there was not substantial evidence to support jury's verdict).

258. *Perkin-Elmer*, 732 F.2d at 893, 221 U.S.P.Q. (BNA) at 673.

259. See *Read*, 970 F.2d at 821, 23 U.S.P.Q.2d (BNA) at 1431 (noting that entirety of record includes consideration of evidence that detracts from weight of favorable evidence).

260. *Perkin-Elmer*, 732 F.2d at 893, 221 U.S.P.Q. (BNA) at 673.

261. See *Braun*, 975 F.2d at 978 n.4, 24 U.S.P.Q.2d (BNA) at 1124 n.4 (observing that there is no difference between reviewing district court's denial of JNOV motion and reviewing jury determinations themselves because same standard is applicable to both).

262. 959 F.2d 226, 22 U.S.P.Q.2d (BNA) 1153 (Fed. Cir.), *cert. denied*, 113 S. Ct. 90 (1992).

263. 758 F.2d 594, 604, 225 U.S.P.Q. (BNA) 243, 250, *modified on reh'g*, 771 F.2d 480, 226 U.S.P.Q. (BNA) 985 (Fed. Cir. 1985) (holding that even when applied retroactively, reexamination statute does not violate Fifth Amendment Due Process Clause, Seventh Amendment right to jury trial, or Article III of U.S. Constitution).

cent Supreme Court cases, *Granfinanciera v. Nordberg*²⁶⁴ and *Tull v. United States*.²⁶⁵ Joy Technologies challenged the vitality of the *Patlex* decision in its appeal from a district court's holding that the reexamination statute did not unconstitutionally deprive a patentee of a jury trial.²⁶⁶ In *Patlex*, the Federal Circuit held that the issuance of a valid patent primarily involves "public rights," which can only be conferred by the Government despite the fact that validity is often brought into question in disputes between private parties.²⁶⁷ Upon reviewing *Patlex* in light of *Granfinanciera*, the Federal Circuit affirmed the district court's decision in the Joy Technologies dispute.²⁶⁸ The Federal Circuit found nothing in *Granfinanciera* that casted doubt on the court's holding in *Patlex* that issuing a valid patent involves public rights.²⁶⁹ In fact, the Federal Circuit noted that *Granfinanciera* affirmed the basic underpinning of *Patlex*, namely that as a "public right" case, patentability issues can be adjudicated by legislative courts and administrative agencies without violating the Seventh Amendment right to a jury trial.²⁷⁰ The Federal Circuit in *Manbeck* also held that the Supreme Court's decision in *Tull* did not disturb the *Patlex* holding.²⁷¹ In *Tull*, the Supreme Court held that the Seventh Amendment preserves the right to a jury trial in actions analogous to "suits at common law."²⁷² The Federal Circuit held that because a reexamination proceeding is not an action analogous to a "suit at common law," there is no right to a jury trial in an appeal to a district court from an adverse agency decision in a reex-

264. 492 U.S. 33, 51 (1988) (holding that parties who had not submitted claim against bankruptcy estate had right to jury trial when sued by trustee in bankruptcy to recover allegedly fraudulent monetary transfer notwithstanding congressional delegation of fraudulent conveyance actions as core proceedings).

265. 481 U.S. 412, 417 (1987) (holding that Seventh Amendment guarantees jury trial to determine liability in actions by Government seeking civil penalties and injunctive relief under Clean Air Act).

266. See *Joy Technologies, Inc. v. Quigg*, 12 U.S.P.Q.2d (BNA) 1112, 1114 (D.D.C. 1989) (reporting that Joy originally filed complaint against Commissioner of Patents and Trademarks demanding jury trial). Joy took exception to the allowance of a reexamination initiated by National Mine Service, Inc., with whom Joy previously settled an infringement action. *Id.* Joy also contested a rejection under 35 U.S.C. § 103 made during reexamination that invalidated nearly half of Joy's original claims. *Id.*

267. See *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 604, 225 U.S.P.Q. (BNA) 243, 250, modified on reh'g, 771 F.2d 480, 226 U.S.P.Q. (BNA) 985 (Fed. Cir. 1985) (stating that threshold question usually is whether PTO, within its congressionally granted authority, properly issued patent, which is right that can only be conferred by Government).

268. *Joy Technologies, Inc. v. Manbeck*, 959 F.2d 226, 227, 22 U.S.P.Q.2d (BNA) 1153, 1156 (Fed. Cir.), cert. denied, 113 S. Ct. 90 (1992).

269. *Id.* at 228-29, 22 U.S.P.Q.2d (BNA) at 1155.

270. *Id.* at 228, 22 U.S.P.Q.2d (BNA) at 1155.

271. *Id.* at 229, 22 U.S.P.Q.2d (BNA) at 1155 (citing *Tull v. United States*, 481 U.S. 412, 417-25 (1987)).

272. *Tull*, 481 U.S. at 417.

amination proceeding.²⁷³

H. *The Attorney-Client Privilege*

The attorney-client privilege protects certain communications between a client and the client's attorney when those communications are made in the context of legal representation with an expectation of confidentiality and when the privilege has not been waived.²⁷⁴ In *Shearing v. Iolab Corp.*,²⁷⁵ the Federal Circuit held that statements made by a third-party witness to an attorney, for whose client the witness had testified in an earlier legal proceeding, did not constitute attorney-client privileged communications because the witness did not have an attorney-client relationship with the attorney at the time the statements were made.²⁷⁶

In his breach of license suit against Iolab, the plaintiff, Dr. Shearing, sought to discredit Dr. Simcoe, a defense witness.²⁷⁷ Dr. Simcoe had testified that the Shearing patent was invalid because Dr. Simcoe had invented and practiced the claimed process prior to Dr. Shearing.²⁷⁸ To discredit Dr. Simcoe, an attorney testified that Dr. Simcoe had not in fact conducted the claimed process prior to Dr. Shearing's invention.²⁷⁹ The attorney based his testimony about Dr. Simcoe's activities on his interviews with Dr. Simcoe in a prior legal proceeding in which Dr. Simcoe appeared as a witness for the attorney's corporate client.²⁸⁰ At the time, the attorney did not represent Dr. Simcoe.²⁸¹

Despite Iolab's arguments to the contrary, the Federal Circuit held that the attorney's testimony about Dr. Simcoe's prior inconsistent statements was not protected by the attorney-client privilege because at the time Dr. Simcoe made the statements he was not the

273. See *Manbeck*, 959 F.2d at 229, 22 U.S.P.Q.2d (BNA) at 1155-56 (arguing that reexamination proceeding should be construed as most like declaratory judgment action begun by PTO, where PTO is seeking determination that Joy's patent is invalid). Joy, however, admitted that such a suit could never be brought. *Id.* at 229, 22 U.S.P.Q.2d (BNA) at 1155.

274. See 4 JAMES W. MOORE ET AL., *MOORE'S FEDERAL PRACTICE* ¶ 26.60[2] (2d ed. 1991) (discussing scope of attorney-client privilege limitation on discovery); 8 JOHN H. WIGMORE, *WIGMORE ON EVIDENCE* §§ 2290-2329 (1961) (describing attorney-client privilege evidentiary limitation).

275. 975 F.2d 1541, 24 U.S.P.Q.2d (BNA) 1133 (Fed. Cir. 1992); see also *infra* notes 440-47 and accompanying text (discussing case with regard to jury findings with respect to patent validity issue); *infra* notes 595-608 and accompanying text (discussing case with regard to best-mode issue).

276. *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1546, 24 U.S.P.Q.2d (BNA) 1133, 1138 (Fed. Cir. 1992).

277. *Id.* at 1544, 24 U.S.P.Q.2d (BNA) at 1135-36.

278. *Id.* at 1543-44, 24 U.S.P.Q.2d (BNA) at 1135.

279. *Id.* at 1544, 24 U.S.P.Q.2d (BNA) at 1136.

280. *Id.*

281. *Id.*

attorney's client.²⁸² Therefore, Iolab could not invoke the attorney-client privilege to bar the attorney's testimony.²⁸³ The Federal Circuit also held that the attorney-client privilege was inapplicable because Iolab failed to object to the attorney as a witness when Dr. Shearing identified him on his witness list two years prior to the trial.²⁸⁴ Moreover, Iolab had itself listed the attorney as a potential witness and did not object to the testimony until two days after it was given.²⁸⁵ According to the Federal Circuit, "[t]he absence of prompt objection undercuts Iolab's assertion of an attorney-client privilege."²⁸⁶

I. Sovereign Immunity—Eleventh Amendment

In a ruling now largely of historical interest following a change in law,²⁸⁷ the Federal Circuit in *In re Regents of the University of California*²⁸⁸ held that a consolidation order of the JPMDL did not violate the Eleventh Amendment.²⁸⁹ The court explained that the "Eleventh Amendment is not designed to give procedural advantage to State litigants, but to shield States from unconsented actions against them."²⁹⁰ The consolidation order merely coordinated in one court, before one judge, the pretrial procedures of existing actions in the interest of efficiency.²⁹¹ It did not require the State of California, indirectly through the University, to appear in actions to

282. *Id.* at 1547, 24 U.S.P.Q.2d (BNA) at 1139.

283. *Id.* at 1546, 24 U.S.P.Q.2d (BNA) at 1138.

284. *Id.* at 1547, 24 U.S.P.Q.2d (BNA) at 1138.

285. *Id.*

286. *Id.*

287. This case may only be important for its historical significance because recently passed legislation specifically abrogated the state's Eleventh Amendment sovereign immunity for infringement. *See* Patent and Plant Variety Protection Remedy Clarification Act, Pub. L. No. 102-560, 106 Stat. 4230 (1992) (to be codified at scattered sections of 7 U.S.C.) (putting end to immunity for states under Patent Act, Plant Variety Protection Act, and Lanham Act).

288. 964 F.2d 1128, 22 U.S.P.Q.2d (BNA) 1748 (Fed. Cir. 1992).

289. *In re Regents of the Univ. of Cal.*, 964 F.2d 1128, 1133-34, 22 U.S.P.Q.2d (BNA) 1748, 1753-54 (Fed. Cir. 1992). The University of California had appealed the consolidation order, arguing that the order violated the Eleventh Amendment of the U.S. Constitution. *Id.* at 1134, 22 U.S.P.Q.2d (BNA) at 1753; *see also* U.S. CONST. amend. XI (providing that "the judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by Citizens of another State, or by Citizens or Subjects of any Foreign State"). The Federal Circuit stated that the Eleventh Amendment "embodies principles of sovereign immunity, implementing the principles of federalism underlying the Constitutional plan." *Regents*, 964 F.2d at 1134, 22 U.S.P.Q.2d (BNA) at 1754 (citing *Welch v. Texas Dep't of Highways & Pub. Transp.*, 483 U.S. 468, 486 (1987)); *Pennhurst State Sch. & Hosp. v. Halderman*, 465 U.S. 89, 100 (1984)). These principles thus prohibit federal courts from entertaining suits brought by private parties against one of the United States without that State's consent. *Id.* (citing *Ex parte State of New York*, 256 U.S. 490, 497 (1921)).

290. *Regents*, 964 F.2d at 1134, 22 U.S.P.Q.2d (BNA) at 1754.

291. *Id.* The Federal Circuit previously held that Congress had not abrogated the States' Eleventh Amendment immunity by giving federal courts exclusive jurisdiction over such suits.

which it was not a party, nor did it require the University of California to defend against claims to which it was not otherwise subject.²⁹² Moreover, the Federal Circuit noted that coordinating trials for pre-trial purposes avoids inconsistent and duplicative demands on the parties, witnesses, and judges and does not enlarge California's liability or involve the federal judicial power beyond that already sought by California.²⁹³

On the issue of waiver of sovereign immunity, the Federal Circuit held that the University of California could not limit the waiver to only the venue of the U.S. District Court for the Northern District of California.²⁹⁴ Having initiated suits in federal court, the University of California became subject to the Federal Rules, including the procedural efficiencies administered by the JPMDL.²⁹⁵ To support its limited waiver theory, the University of California relied on the Supreme Court decision of *Port Authority Trans-Hudson Corp. v. Feeney*,²⁹⁶ in which the Supreme Court recognized that sovereign immunity encompasses not only *whether* a State may be sued, but also *where* it may be sued.²⁹⁷ The Federal Circuit, however, found *Port Authority* inapplicable because the suits brought by the University of California were not suits "commenced or prosecuted against one of the United States" as stated in the Eleventh Amendment.²⁹⁸

J. Frivolous Appeals Under Rule 38 of the Federal Rules of Appellate Procedure

*Cambridge Products, Ltd. v. Penn Nutrients, Inc.*²⁹⁹ is yet another deci-

Chew v. California, 893 F.2d 331, 335-36, 13 U.S.P.Q.2d (BNA) 1393, 1395-96 (Fed. Cir.), cert. denied, 498 U.S. 810 (1990).

292. See *Regents*, 964 F.2d at 1134, 22 U.S.P.Q.2d (BNA) at 1753 (describing University of California's argument that consolidation order violated Eleventh Amendment by forcing University, and hence State of California, to participate in trials in Indiana to which it had not consented); see also *supra* note 12 (stating that University is instrumentality of State of California).

293. *Regents*, 964 F.2d at 1134, 22 U.S.P.Q.2d (BNA) at 1753.

294. See *id.* (reporting University of California's argument that initiation of action only in Northern District of California limited its waiver of sovereign immunity to that venue, and transfer of even part of action would thus violate Eleventh Amendment).

295. *Id.* at 1135, 22 U.S.P.Q.2d (BNA) at 1754.

296. 495 U.S. 299 (1990).

297. See *Port Authority Trans-Hudson Corp. v. Feeney*, 495 U.S. 299, 307 (1990) (holding that issues of venue are closely related to those concerning sovereign immunity).

298. *Regents*, 964 F.2d at 1135, 22 U.S.P.Q.2d (BNA) at 1754 (quoting U.S. CONST. amend. XI). Instead, these suits were brought by the State of California, indirectly through the University, in order to seek adjudication by the court. *Id.* The Federal Circuit concluded that "[h]aving invoked the jurisdiction of the court . . . the state accepted the authority of the court." *Id.* (citing *State of Iowa v. Union Asphalt & Rd. Oils, Inc.*, 409 F.2d 1239, 1244 (8th Cir. 1969)).

299. 962 F.2d 1048, 22 U.S.P.Q.2d (BNA) 1577 (Fed. Cir. 1992); see also *infra* note 1102 and accompanying text (discussing case with regard to attorney's fees issue).

sion in which the Federal Circuit reconfirmed its practice of vigorously enforcing sanctions under rule 38 of the Federal Rules of Appellate Procedure against frivolously prosecuted appeals, indicating its distaste for "satellite litigation" that clogs the judicial system.³⁰⁰ In *Cambridge*, the district court granted a motion by the patent holder, Cambridge, for a voluntary dismissal with prejudice.³⁰¹ A month later, Penn filed a motion for sanctions under rule 11 of the Federal Rules of Civil Procedure and under 35 U.S.C. § 285.³⁰² Penn appealed the district court's denial of its motion,³⁰³ and Cambridge responded that Penn's appeal was frivolous under appellate rule 38.³⁰⁴

The Federal Circuit found that arguments by Penn's counsel materially misrepresented the record, misrepresented the district court's order from which the appeal was taken, contained marked inconsistencies, and hardly illustrated the plaintiff's professed "scrupulous care" in presenting the record to the court.³⁰⁵ Not surprisingly, the Federal Circuit held that Penn's counsel willfully abused the judicial process by filing an appeal that was "frivolous as argued," and thus invoked its inherent power to hold Penn's coun-

300. *Cambridge Prods., Ltd. v. Penn Nutrients, Inc.*, 962 F.2d 1048, 1052, 22 U.S.P.Q.2d (BNA) 1577, 1580 (Fed. Cir. 1992); see also Fed. R. App. P. 38 (stating that "[i]f a court of appeals shall determine that an appeal is frivolous, it may award just damages and single or double costs to the appellee").

301. See *Cambridge*, 962 F.2d at 1049, 22 U.S.P.Q.2d (BNA) at 1578 (indicating that Pennsylvania district court entered unpublished order on February 28, 1990 that granted motion and dismissed action with prejudice).

302. *Cambridge Prods., Ltd. v. Penn Nutrients, Inc.*, 131 F.R.D. 464, 465 (E.D. Pa. 1990); see also Fed. R. Civ. P. 11 (prescribing sanctions for filing of pleadings, motions, and other papers that are not well grounded in fact and warranted by existing law or good faith argument for extension, modification, or reversal of existing law); 35 U.S.C. § 285 (1988) (permitting court award of reasonable attorney's fees in exceptional cases).

303. See *Cambridge*, 962 F.2d at 1050-51, 22 U.S.P.Q.2d (BNA) at 1579 (reporting Federal Circuit's conclusion that Cambridge met its obligations under rule 11 by conducting reasonable prelawsuit investigation to determine whether Penn infringed patented method). Penn's naked assertion that this case was exceptional under 35 U.S.C. § 285 was insufficient without additional proof to establish by clear and convincing evidence that Cambridge pursued the litigation in bad faith. *Id.* at 1051, 22 U.S.P.Q.2d (BNA) at 1580.

The Federal Circuit also affirmed the district court's denial of rule 11 sanctions against the defendant in *In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 1528, 25 U.S.P.Q.2d (BNA) 1241, 1243 (Fed. Cir. 1992), where the plaintiff sought reimbursement under rule 11 for the cost of having a witness testify against an unfounded affirmative defense. The district court denied the request on the grounds that the witness was important to the plaintiff for other reasons and that the attorney's conduct did not meet the threshold for imposition of rule 11 sanctions. *In re Hayes Microcomputer Prods., Inc.*, 766 F. Supp. 818, 828, 20 U.S.P.Q.2d (BNA) 1836, 1844 (N.D. Cal. 1991), *aff'd*, 982 F.2d 1527, 25 U.S.P.Q.2d (BNA) 1241 (Fed. Cir. 1992). The Federal Circuit stated that although it deplored the defendant's unfounded accusations, the district court's denial of rule 11 sanctions was not an abuse of discretion. *Hayes*, 982 F.2d at 1537-38, 25 U.S.P.Q.2d (BNA) at 1255-56.

304. *Cambridge*, 962 F.2d at 1051-52, 22 U.S.P.Q.2d (BNA) at 1580.

305. *Id.*

sel personally liable.³⁰⁶

In contrast to *Cambridge*, the Federal Circuit in *Morton International, Inc. v. Cardinal Chemical Co.*³⁰⁷ refused to sanction Morton or find that its appeal was frivolous.³⁰⁸ Morton argued unsuccessfully on appeal that the district court misconstrued its patent claims by restricting the type of evidence Morton could use to prove the existence of the claimed compound in Cardinal's accused composition.³⁰⁹ Although the Federal Circuit agreed with the district court that Cardinal did not infringe Morton's patent, the court held that Morton had a new argument on appeal that Morton was apparently unable to raise in earlier litigation and that Morton's appeal was, therefore, not frivolous.³¹⁰

K. *Modifying Consent Decrees*

Courts are generally reluctant to grant motions modifying consent decrees because such decrees embody a deliberate choice by the parties to end litigation.³¹¹ Courts can, and do, modify consent decrees under rule 60(b) of the Federal Rules of Civil Procedure where appropriate exceptional circumstances exist, such as, for example, "where absent such relief an extreme and unexpected hardship will result."³¹² In *W.L. Gore & Associates v. C.R. Bard, Inc.*,³¹³ C.R. Bard sought to modify a consent decree because of a change in the statutory law regarding the definition of infringement.³¹⁴ The Federal Circuit affirmed the district court's denial of the requested modifications.³¹⁵ In 1984, W.L. Gore sued C.R. Bard for patent in-

306. *Id.* Even though an appeal presents appealable issues, an "appellant's misconduct in arguing the appeal may be such as to justify holding the appeal to be 'frivolous as argued.'" *Id.* at 1051, 22 U.S.P.Q.2d (BNA) at 1580 (quoting *Romala Corp. v. United States*, 927 F.2d 1219, 1222 (Fed. Cir. 1991)).

307. 959 F.2d 948, 22 U.S.P.Q.2d (BNA) 1231 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992).

308. *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 950, 22 U.S.P.Q.2d (BNA) 1231, 1234 (Fed. Cir.), *cert. granted*, 113 S. Ct. 52 (1992).

309. *Id.* at 952, 22 U.S.P.Q.2d (BNA) at 1235 (reporting that court also did not find case "exceptional" under 35 U.S.C. § 285). Appellate review of district court decisions regarding "exceptional cases" under 35 U.S.C. § 285 proceeds under a clearly erroneous standard. *Id.*

310. *See id.* (indicating that Morton was unable to raise argument previously because patent in suit had been subject of earlier litigation in which invalidity judgment was vacated).

311. *See, e.g., United States v. Swift & Co.*, 286 U.S. 106, 119 (1932) (stating that party seeking relief from consent decree bears heavy burden of showing circumstances so changed that "dangers, once substantial, have attenuated to a shadow"); *Mayberry v. Maroney*, 558 F.2d 1159, 1163 (3d Cir. 1977) (holding that although language of rule 60(b) is broad, it does not present court with standardless residual discretionary power to set aside judgments).

312. *Swift*, 286 U.S. at 119 (1932); *see also* FED. R. CIV. P. 60(b) (prescribing relief from judgment or order).

313. 977 F.2d 558, 24 U.S.P.Q.2d (BNA) 1451 (Fed. Cir. 1992).

314. *W.L. Gore & Assocs. v. C.R. Bard, Inc.*, 977 F.2d 558, 560, 24 U.S.P.Q.2d (BNA) 1451, 1453 (Fed. Cir. 1992).

315. *Id.* at 563, 24 U.S.P.Q.2d (BNA) at 1455.

fringement after C.R. Bard admitted to the FDA that its vascular prosthesis, which was made of porous polytetrafluoroethylene, was "substantially equivalent" to W.L. Gore's patented prosthesis.³¹⁶ W.L. Gore and C.R. Bard avoided a trial and settled their differences, and on April 12, 1984, the district court entered a consent decree that enjoined C.R. Bard from infringing or inducing infringement of W.L. Gore's patent.³¹⁷

In September 1984, Congress enacted 35 U.S.C. § 271(e) which was later amended in 1988 to include nonbiotechnology-based animal drugs and veterinary biological products.³¹⁸ Section 271(e)(1) now provides that the making, using, or selling of a patented invention solely for uses reasonably related to the development and submission of information under a federal law that regulates the making, using, or selling of a drug are within a statutory experimental use exception to infringement. In 1990, the Supreme Court in *Eli Lilly & Co. v. Medtronic, Inc.*,³¹⁹ interpreted 35 U.S.C. § 271(e)(1) to include medical devices.³²⁰

After the Supreme Court's *Medtronic* decision, C.R. Bard moved to amend the consent decree under rule 60(b) to permit it to engage in activities exempt from infringement liability by virtue of 35 U.S.C. § 271(e)(1),³²¹ but the district court denied C.R. Bard's motion.³²² The Federal Circuit affirmed the district court decision, holding that the district court did not abuse its discretion in denying the motion to modify the consent decree and properly balanced the equities of granting modification with the need for finality of judgments.³²³ The court noted that because C.R. Bard deliberately chose to settle the suit, its burden of proof to justify the rule 60(b) modification of

316. *Id.* at 559, 24 U.S.P.Q.2d (BNA) at 1452 (observing that C.R. Bard made this admission for purpose of obtaining FDA approval of its prosthesis, knowing that FDA had previously approved W.L. Gore's prosthesis).

317. *Id.*

318. 35 U.S.C. § 271(e) (1988). Section 271(e) was enacted by Congress in response to the Federal Circuit's decision in *Roche v. Bolar*, 733 F.2d 858, 221 U.S.P.Q. (BNA) 937 (Fed. Cir.), *cert. denied*, 469 U.S. 856 (1984), which held that the experimental use exception to patent infringement did not exculpate Bolar's making, using, and selling of the patented invention to comply with the Food and Drug Administration's approval requirements. *Roche*, 733 F.2d at 863-64, 221 U.S.P.Q. (BNA) at 941.

319. 496 U.S. 661 (1990).

320. *See Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 665-66 (1990) (interpreting § 271(e)(1) as applicable to medical devices that are regulated by Federal laws that also govern drug approval).

321. *W.L. Gore & Assocs. v. C.R. Bard, Inc.*, 761 F. Supp. 376, 378, 19 U.S.P.Q.2d (BNA) 1621, 1633 (D.N.J. 1991), *aff'd*, 977 F.2d 558, 24 U.S.P.Q.2d (BNA) 1451 (Fed. Cir. 1992).

322. *See id.* (stating that so long as continuation of challenged provision in consent decree is neither illegal nor against public policy, agreement should be upheld notwithstanding subsequent changes in law).

323. *W.L. Gore & Assocs. v. C.R. Bard, Inc.*, 977 F.2d 558, 559-63, 24 U.S.P.Q.2d (BNA) 1451, 1451-55 (Fed. Cir. 1992).

the consent decree was particularly heavy, “ ‘perhaps even more formidable than had [it], litigated and lost.’ ”³²⁴ The court stated that to modify a consent decree, not only must the circumstances have changed, but unexpected hardship and inequity must have resulted from the changes.³²⁵ Compliance with these conditions ensures the enforcement of policies encouraging finality of judgments and ending of litigation.³²⁶ The Federal Circuit also analogized the settlement agreement to a contract, noting that there is no basis for a court to intervene in a voluntary contract merely because the contract turns out to be less or more favorable to one of the parties.³²⁷

In reaching its conclusion, the Federal Circuit stated that an intervening change in the law is but one factor to be considered in the exercise of a court’s discretion in deciding whether to modify a consent decree.³²⁸ In a prelude to its conclusion, the Federal Circuit distinguished several cases, including Supreme Court cases, that permitted a party to modify a consent decree.³²⁹ The Federal Circuit categorized these decisions as “institutional reform” cases involving public or service institutions that had been affected by a change of law relating to the institutions.³³⁰ According to the Federal Circuit, the institutional reform cases involved consent decrees that imposed or restrained action without regard to the persons involved and that presented considerations not found in consent decrees that settle commercial disputes.³³¹ Institutional reform situations must, therefore, “ ‘be open to adaptation when unforeseen obstacles present themselves, to improvement when a better understanding of the problem emerges, and to accommodation of a wider constellation of interests that is presented in the . . . courtroom.’ ”³³² In contrast, commercial decrees affect only those par-

324. *Id.* at 561, 24 U.S.P.Q.2d (BNA) at 1453 (quoting Philadelphia Welfare Rights Org. v. Shapp, 602 F.2d 1114, 1119-20 (3d Cir. 1979), *cert. denied*, 444 U.S. 1026 (1980)).

325. *Id.*

326. *Id.*

327. *Id.*

328. *Id.* at 562, 24 U.S.P.Q.2d (BNA) at 1454-55.

329. *See, e.g.*, System Fed’n No. 91 Ry. Employees Dep’t v. Wright, 364 U.S. 642, 653 (1961) (allowing modification of decree forbidding railroads and unions from discriminating against employees on basis of their refusal to join union, due to change in law making “union shops” legal); Williams v. Butz, 843 F.2d 1335, 1339 (11th Cir.) (holding that change in regulations allowed Farmer’s Home Administration to act in manner inconsistent with existing consent decree), *cert. denied*, 488 U.S. 956 (1988); Williams v. Atkins, 786 F.2d 457, 463 (1st Cir. 1986) (stating that change in law pertaining to state welfare agency allowed agency to act in manner conflicting with existing consent decree); Jordan v. School Dist., 548 F.2d 117, 122 (3d Cir. 1977) (holding that intervening Supreme Court decision allowed modification of procedures set out in consent decree).

330. *C.R. Bard*, 977 F.2d at 562, 24 U.S.P.Q.2d (BNA) at 1454.

331. *Id.*

332. *Id.* (quoting New York State Ass’n for Retarded Children, Inc. v. Carey, 706 F.2d 956, 970 n.17 (2d Cir.), *cert. denied*, 464 U.S. 915 (1983)).

ties to the particular suit.³³³

The Federal Circuit was not persuaded by C.R. Bard's additional argument that it would be at a competitive disadvantage compared to W.L. Gore's other competitors upon expiration of W.L. Gore's patent in April 1993.³³⁴ The court explained that the district court considered this possibility in denying C.R. Bard's motion to modify the consent decree and balanced it against the public policy considerations favoring finality of judgments.³³⁵ The district court also observed that the settlement was negotiated, that C.R. Bard obtained a substantial reduction in the damages asserted by W.L. Gore, and that each side agreed to various actions.³³⁶ The Federal Circuit therefore held that the district court did not abuse its discretion by declining to undo the agreed upon consent decree.³³⁷

II. PATENTABILITY AND VALIDITY

A. Patentable Subject Matter—35 U.S.C. § 101

In *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*,³³⁸ the Federal Circuit clarified the application of the two-step *Freeman-Walter-Abele* test³³⁹ for patentability of claims that involve mathematical algorithms.³⁴⁰ The court stated that this test is satisfied when an

333. *Id.* In his concurring opinion, Judge Rader emphasized that the Federal Circuit cannot disregard Supreme Court precedent, and thus the court's attempt to "limit strictly" the Supreme Court's decision in *Wright* is mere dicta. *Id.* at 564, 24 U.S.P.Q.2d (BNA) at 1455-56 (Rader, J., concurring) (citing *Wright*, 364 U.S. at 647). Judge Rader took exception to the court's attempt to set a different standard for "public or service institutions" from commercial cases because both W.L. Gore and C.R. Bard undoubtedly consider themselves "service institutions" in the same sense that the private entities in *Wright* (a railroad and a union) are considered "service institutions." *Id.* at 564, 24 U.S.P.Q.2d (BNA) at 1456.

334. *Id.* at 562-63, 24 U.S.P.Q.2d (BNA) at 1454. Bard argued that the change in law made it unnecessary to show hardship in order to modify a consent decree under rule 60(b). *Id.* at 563, 24 U.S.P.Q.2d (BNA) at 1455. The Federal Circuit found no discernable support for that proposition. *Id.*

335. *Id.*

336. *Id.*

337. *Id.*

338. 958 F.2d 1053, 22 U.S.P.Q.2d (BNA) 1033 (Fed. Cir. 1992).

339. The *Freeman-Walter-Abele* test derives its name from *In re Abele*, 684 F.2d 902, 214 U.S.P.Q. (BNA) 682 (C.C.P.A. 1982), *In re Walter*, 618 F.2d 758, 214 U.S.P.Q. (BNA) 682 (C.C.P.A. 1980), and *In re Freeman*, 573 F.2d 1237, 197 U.S.P.Q. (BNA) 464 (C.C.P.A. 1978). Under this test, the court first determines "whether a mathematical algorithm is recited directly or indirectly in the claim." *Arrhythmia*, 958 F.2d at 1058, 22 U.S.P.Q.2d (BNA) at 1037. If a mathematical algorithm is involved in the claim, the court next determines "whether the claimed invention as a whole is no more than the algorithm itself; that is whether the claim is directed to a mathematical algorithm that is not applied to or limited by physical elements or process steps." *Id.* If so, the claim is nonstatutory subject matter. *Id.* The court further pointed out that "when the mathematical algorithm is applied in one or more steps of an otherwise statutory process claim, or one or more elements of an otherwise statutory apparatus claim, the requirements of section 101 are met." *Id.*

340. *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1059, 22 U.S.P.Q.2d (BNA) 1033, 1038 (Fed. Cir. 1992).

otherwise statutory process or apparatus claim includes mathematical procedures applied to physical process steps.³⁴¹ Arrhythmia owned a patent for monitoring and analyzing electrocardiographic signals from a heart attack victim.³⁴² The patent included method claims³⁴³ and apparatus claims, the apparatus claims being described exclusively using "means-plus-function" limitations according to 35 U.S.C. § 112, ¶ 6.³⁴⁴ Arrhythmia sued Corazonix for patent infringement.³⁴⁵ The district court granted Corazonix's summary judgment motion and held Arrhythmia's patent did not claim patentable subject matter under 35 U.S.C. § 101.³⁴⁶

After reviewing the history of the patentability of mathematical algorithms, the Federal Circuit applied the two-step *Freeman-Walter-*

341. *Arrhythmia*, 958 F.2d at 1059, 22 U.S.P.Q.2d (BNA) at 1038.

342. *Id.* at 1054, 22 U.S.P.Q.2d (BNA) at 1034 (indicating Arrhythmia's ownership of U.S. Patent No. 4,422,459). The invention is useful in detecting those heart attack victims who are at high risk for ventricular tachycardia. *Id.* at 1055, 22 U.S.P.Q.2d (BNA) at 1034. With the aid of a computer, electrocardiographic signals are converted to digital values that are averaged to form a composite digital representation. *Id.* A high pass filter processes the composite representation in reverse time order and the root mean square of the reverse time filtered signal is then calculated and compared to a predetermined level. *Id.* If the output is less than the predetermined value, a higher risk of ventricular tachycardia is present. *Id.*

343. *Id.* Claim 1 reads:

A method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal, comprising the steps of:

converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time;

applying a portion of said time segments in reverse time order to high pass filter means;

determining an arithmetic value of the amplitude of the output of said filter; and comparing said value with said predetermined level.

Id.

344. *See id.* (reporting apparatus claim contained in claim 7 of patent). Claim 7 reads:

Apparatus for analyzing electrocardiograph signals to determine the level of high frequency energy in the late QRS signal comprising:

means for converting X, Y, and Z lead electrocardiographic input signals to digital valued time segments;

means for examining said X, Y, and Z digital valued time segments and selecting therefrom the QRS waveform portions thereof;

means for signal averaging a multiplicity of said selected QRS waveforms for each of said X, Y, and Z inputs and providing composite, digital X, Y, and Z QRS waveforms;

high pass filter means;

means for applying to said filter means, in reverse time order, the anterior portion of each said digital X, Y, and Z waveform; and

means for comparing the output of said filter means with a predetermined level to obtain an indication of the presence of a high frequency, low level, energy component in the filter output of said anterior portions.

Id.

345. *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, No. CA 3-8-1745-AJ (N.D. Tex. Oct. 3, 1990) (unpublished opinion), *rev'd and remanded*, 958 F.2d 1053 (Fed. Cir. 1992).

346. *Id.*

Abele test separately to the method and apparatus claims.³⁴⁷ The Federal Circuit held that the claimed method met the first step of the test by assuming that a mathematical algorithm was included in the patentable subject matter of the method claim based on the fact that some claimed steps were described in the specification by mathematical formulae.³⁴⁸ Turning to the second step, the Federal Circuit held that the claimed process was properly viewed as a method of analyzing electrocardiograph signals to determine specific heart activity rather than a mere manipulation of numbers.³⁴⁹ The court stated that “the view that there is nothing necessarily physical about the ‘signals’ is incorrect.”³⁵⁰ Indeed, the court recognized that the electrocardiograph input signals are not abstractions but are integrally related to a patient’s heart function,³⁵¹ and “[t]he resultant output number is not an abstract number but is a signal related to the patient’s heart activity.”³⁵² Moreover, the court noted that the claimed steps of “converting,” “applying,” “determining,” and “comparing” were “physical process steps that transform one physical, electrical signal into another.”³⁵³ In short, the second step of the *Freeman-Walter-Abele* test was satisfied because the steps of the claimed method “comprise an otherwise statutory process whose mathematical procedures are applied to physical process steps.”³⁵⁴ Furthermore, the claims did not encompass subject matter beyond what the inventor actually invented.³⁵⁵

The Federal Circuit also held that the apparatus claims constituted statutory subject matter under the *Freeman-Walter-Abele* test.³⁵⁶ The court noted that because the apparatus claim elements were in “means-plus-function” form, the scope of the claim should be determined by reference to the structure in the specifications, as re-

347. *Arrhythmia*, 958 F.2d at 1055-58, 22 U.S.P.Q.2d (BNA) at 1035-37. Although the court emphasized that *Freeman-Walter-Abele* was not the only test for statutory subject matter, it concluded that the test was best suited to analyze the patent in dispute. *Id.* (citing *In re Meyer*, 688 F.2d 789, 796, 215 U.S.P.Q. (BNA) 193, 198 (C.C.P.A. 1982)).

348. *Id.* at 1058-59, 22 U.S.P.Q.2d (BNA) at 1037-38 (citing *In re Johnson*, 589 F.2d 1070, 1078, 200 U.S.P.Q. (BNA) 199, 208 (C.C.P.A. 1979)).

349. *Id.* at 1059, 22 U.S.P.Q.2d (BNA) at 1038.

350. *Id.* (citing *In re Taner*, 681 F.2d 787, 790, 214 U.S.P.Q. (BNA) 678, 681 (C.C.P.A. 1982)).

351. *Id.*

352. *Id.*

353. *Id.*

354. *Id.* The court also analogized this case to *Diamond v. Diehr*, 450 U.S. 175, 187 (1981), to conclude that the applicants did not seek to patent a mathematical formula, but rather sought to prevent others from using that formula in conjunction with all of the other steps in their claimed process. *Id.* at 1059-60, 22 U.S.P.Q.2d (BNA) at 1038.

355. *Id.* at 1059, 22 U.S.P.Q.2d (BNA) at 1038.

356. *Id.* at 1060, 22 U.S.P.Q.2d (BNA) at 1039.

quired by ¶ 6 of 35 U.S.C. § 112.³⁵⁷ Noting that the specification described specific physical devices as the various means set forth in the apparatus claim, the court concluded that “‘[t]he claimed invention . . . converts one physical thing into another physical thing just as any other electrical circuitry would do.’”³⁵⁸ Furthermore, the mere use of mathematical representations to describe the structure and operation of an apparatus does not necessarily make the apparatus nonstatutory.³⁵⁹ According to the court, “[w]hen mathematical formulae are the standard way of expressing certain functions or apparatus, it is appropriate that mathematical terms be used.”³⁶⁰

Finally, the Federal Circuit was unpersuaded by Corazonix’s argument that there was insufficient postsolution activity to render the claim patentable.³⁶¹ The court noted that the number obtained was not a mathematical abstraction, but rather a measure in microvolts of a specified heart activity that indicated the patient’s risk of heart disease.³⁶² The court stressed that whether the claim is directed to statutory subject matter does not depend on whether the product obtained is numerical.³⁶³ Moreover, the so-called “negative rules” of patentability “were not intended to be separate tests for determining whether a claim recites statutory subject matter.”³⁶⁴

Seeking to avoid reliance on the *Freeman-Walter-Abele* test because of its inherent difficulty of application, the concurring opinion concluded that the Arrhythmia patent did claim patentable subject matter on an analysis of the language of the patent statute.³⁶⁵ “[T]he Act, by its terms, extends patent protection to ‘any’ machine or pro-

357. *Id.*, 22 U.S.P.Q.2d (BNA) at 1038.

358. *Id.*, 22 U.S.P.Q.2d (BNA) at 1038-39 (quoting *In re Sherwood*, 613 F.2d 809, 819, 204 U.S.P.Q. (BNA) 537, 546 (C.C.P.A. 1980), *cert. denied*, 450 U.S. 994 (1981)); *see also id.* (noting that specification described means for converting electrocardiograph signals to digital form as conventional analog-to-digital converter and minicomputer as means of calculating composite digital time segments of QRS waveform).

359. *Id.* (citing *In re Iwahashi*, 888 F.2d 1370, 1375, 12 U.S.P.Q.2d (BNA) 1908, 1911-12 (Fed. Cir. 1989)).

360. *Id.* at 1060, 22 U.S.R.Q.2d (BNA) at 1039 (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1556, 220 U.S.P.Q. (BNA) 303, 315 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Bernhart*, 417 F.2d 1395, 1399, 163 U.S.P.Q.2d (BNA) 611, 616 (C.C.P.A. 1969)).

361. *Id.* at 1060-61, 22 U.S.P.Q.2d (BNA) at 1039. If the output of a device is a number, the device is not patentable. *See Parker v. Flook*, 437 U.S. 584, 590-92 (1978) (holding that to be patentable, postsolution activity limitations are required such that number is no longer final product of claimed invention); *Gottschalk v. Benson*, 409 U.S. 63, 68-73 (1972) (holding that computerized process for converting binary-coded decimal numbers into pure binary numbers is not patentable).

362. *Arrhythmia*, 958 F.2d at 1060, 22 U.S.P.Q.2d (BNA) at 1039.

363. *Id.* at 1060-61, 22 U.S.P.Q.2d (BNA) at 1039 (citing *In re Meyer*, 699 F.2d 789, 796 n.4, 215 U.S.P.Q. (BNA) 193, 198 n.4 (C.C.P.A. 1982)).

364. *Id.* (quoting *Meyer*, 699 F.2d at 796 n.4, 215 U.S.P.Q. (BNA) at 198 n.4).

365. *Id.* at 1061-66, 22 U.S.P.Q.2d (BNA) at 1039-44 (Rader, J., concurring); *see also id.* at 1063, 22 U.S.P.Q.2d (BNA) at 1041 (stating that term “mathematical algorithm” in first step

cess which satisfies the other conditions of patentability.”³⁶⁶ The concurrence reasoned that the patent claims, rather than disclosing mere abstract ideas, instead delineated a practical and potentially life-saving process, the steps of which satisfy § 101 regardless of whether the steps are performed by computer.³⁶⁷

B. Anticipation—35 U.S.C. § 102

1. Public use and on-sale bars

A statutory bar to patentability exists under 35 U.S.C. § 102(b) to preclude an applicant from obtaining a patent on any invention which was in public use or was on sale in the United States more than one year prior to the United States' filing date of the application.³⁶⁸ An exception to the on-sale statutory bar, however, is the sale or offer for sale of the invention for purely experimental purposes.³⁶⁹ In 1992, the Federal Circuit addressed the applicability of the on-sale bar and the experimental use exception. In *Atlantic Thermoplastics Co. v. Faytex Corp.*,³⁷⁰ the defendant raised an on-sale bar to challenge the validity of the plaintiff's patent.³⁷¹ In *Sinskey v. Pharmacia Ophthalmics Inc.*³⁷² and *LaBounty Manufacturing, Inc. v. United States International Trade Commission*,³⁷³ the patentees sought to avoid an on-sale bar by relying on the experimental use exception.³⁷⁴

In *Atlantic Thermoplastics*, Faytex, the defendant, unsuccessfully raised an on-sale bar defense to the validity of Atlantic's patent

is vague and obscure, and second step of test does not suggest how many physical steps must be present in claim to escape fatal "mathematical algorithm" category).

366. *Id.* at 1062, 22 U.S.P.Q.2d (BNA) at 1040.

367. *Id.* at 1066, 22 U.S.P.Q.2d (BNA) at 1043.

368. 35 U.S.C. § 102(b) (1988).

369. *See, e.g.,* *Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 133-37 (1878) (stating that use of invention by inventor solely for experimental purposes does not constitute public use of invention within meaning of patent law); *Pennwalt Corp. v. Akzona Inc.*, 740 F.2d 1573, 1580, 222 U.S.P.Q. (BNA) 833, 838 (Fed. Cir. 1984) (citing *Elizabeth*, 97 U.S. at 137) (stating that use or sale is experimental for purposes of § 102(b) if it represents bona fide effort to perfect invention or to ascertain whether invention will answer its intended purpose); *In re Smith*, 714 F.2d 1127, 1134 (Fed. Cir. 1983) (citing *Smith & Griggs Mfg. Co. v. Sprague*, 123 U.S. 249, 266 (1887)) (holding that experiment to improve and perfect invention does not constitute public use if such experimental use is real purpose and is not merely incidental and subsidiary).

370. 970 F.2d 834, 23 U.S.P.Q.2d (BNA) 1481 (Fed. Cir. 1992).

371. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 836, 23 U.S.P.Q.2d (BNA) 1481, 1483 (Fed. Cir. 1992).

372. 982 F.2d 494, 25 U.S.P.Q.2d (BNA) 1290 (Fed. Cir. 1992).

373. 958 F.2d 1066, 22 U.S.P.Q.2d (BNA) 1025 (Fed. Cir. 1992).

374. *Sinskey v. Pharmacia Ophthalmics Inc.*, 982 F.2d 494, 496, 25 U.S.P.Q.2d (BNA) 1290, 1292 (Fed. Cir. 1992); *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071, 22 U.S.P.Q.2d (BNA) 1025, 1029 (Fed. Cir. 1992).

before the district court.³⁷⁵ Without providing any findings of fact or analysis for its conclusion, the district court found that Atlantic had not made an offer to sell before the critical date.³⁷⁶ The Federal Circuit vacated the district court's judgment that there was no on-sale bar and remanded the case³⁷⁷ because the district court failed to set forth findings of fact upon which it could have relied to justify its judgment.³⁷⁸ Without findings of fact or analysis, there was no basis under rule 52(a) of the Federal Rules of Civil Procedure for the Federal Circuit to determine whether the district court properly considered the evidence presented and applied the correct legal standard.³⁷⁹ The court therefore remanded the case "for a proper on-sale analysis."³⁸⁰

In *LaBounty*, the Federal Circuit affirmed the decision of the International Trade Commission (ITC) that commercial activities of the patentee, LaBounty, more than one year before the filing of its patent application for shears, were not within the experimental use exception to an on-sale bar provision.³⁸¹ The ITC held that the LaBounty patent was unenforceable for inequitable conduct because LaBounty had intentionally withheld material prior art from the PTO by failing to disclose that it had placed the claimed shears on sale more than one year before filing its application.³⁸² On appeal, LaBounty based its argument that it was not guilty of withholding material prior art on its assertion that the sale of the claimed shears was not prior art for patentability purposes because the sale was for experimental purposes only.³⁸³

375. *Atlantic Thermoplastics*, 970 F.2d at 836-37, 23 U.S.P.Q.2d (BNA) at 1483.

376. *Atlantic Thermoplastics Co. v. Faytex Corp.*, No. 88-0210-H, 1990 U.S. Dist. LEXIS 20050, at *15-16 (D. Mass. July 27, 1990), *vacated*, 970 F.2d 834, 23 U.S.P.Q.2d (BNA) 1481 (Fed. Cir. 1992).

377. *Atlantic Thermoplastics*, 970 F.2d at 835, 23 U.S.P.Q.2d (BNA) at 1482. An on-sale bar determination is a question of law and requires *de novo* review by the appellate court. *Id.* at 836, 23 U.S.P.Q.2d (BNA) at 1483 (citing *U.S. Envtl. Prods. v. Westall*, 911 F.2d 713, 715, 15 U.S.P.Q.2d (BNA) 1898, 1900 (Fed. Cir. 1990)). The factual findings underlying the on-sale bar determination must be reviewed under the clearly erroneous standard. *Id.* (citing *Manville Sales Corp. v. Paramount Sys.*, 917 F.2d 544, 549, 16 U.S.P.Q.2d (BNA) 1587, 1591 (Fed. Cir. 1990); *Moleculon Research v. CBS, Inc.*, 793 F.2d 1261, 1266, 229 U.S.P.Q. (BNA) 805, 808 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1030 (1987)).

378. *Atlantic Thermoplastics*, 970 F.2d at 837, 23 U.S.P.Q.2d (BNA) at 1483.

379. *Id.*; see also FED. R. CIV. P. 52(a) (requiring court, in all actions tried on facts without jury, to find facts specially and state separately its conclusions of law thereon).

380. *Atlantic Thermoplastics*, 970 F.2d at 837, 23 U.S.P.Q.2d (BNA) at 1483.

381. *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1074, 22 U.S.P.Q.2d (BNA) 1025, 1031 (Fed. Cir. 1992).

382. *Id.* at 1071, 22 U.S.P.Q.2d (BNA) at 1028 (discussing standard for finding of inequitable conduct, which would render patent unenforceable).

383. See *id.* at 1069-71, 22 U.S.P.Q.2d (BNA) at 1027-28 (indicating that activities at issue consisted of use of Adamo/Dodge shears by John Adamo at Dodge plant in Michigan, and delivery of Adamo/Dodge shear to United Scrap, Ace shear to Ace Demolition Plant in Pennsylvania, and Ace shear to Laro Coal).

The Federal Circuit began its analysis by summarizing the experimental use exception as follows:

“[A] use or sale is experimental for purposes of section 102(b) if it represents a bona fide effort to perfect the invention or to ascertain whether it will answer its intended purpose. . . . If any commercial exploitation does occur, it must be merely incidental to the primary purpose of experimentation to perfect the invention.”³⁸⁴

The court emphasized that an inventor’s subjective intent to experiment is irrelevant, especially when expressed for the first time during litigation.³⁸⁵ When sales occur in a commercial setting, and the inventor surrenders control over the goods, an inventor’s secret subjective intent concerning experimentation is unavailing without objective evidence to support the contention.³⁸⁶ Furthermore, to establish experimental use in such a case, at a minimum, the customer or user must be made aware of the experimental nature of the device.³⁸⁷ The court then extensively quoted the administrative law judge’s (ALJ) findings of fact, which summarized the commercial nature of LaBounty’s activities, and agreed with the ITC’s conclusion that all of the activities in question resembled ordinary commercial-type transactions and not transactions for experimental purposes.³⁸⁸

A persuasive factor weighing against LaBounty’s assertion of experimental use was that the sales were not for the benefit of the inventor, but rather were for the benefit of potential customers in determining whether to purchase large quantities of the LaBounty shears.³⁸⁹ In no instance did LaBounty follow procedures relevant to testing or experimentation aimed at perfecting the invention.³⁹⁰ LaBounty imposed no strictures of secrecy or confidentiality on its

384. *Id.* at 1071, 22 U.S.P.Q.2d (BNA) 1029 (quoting *Pennwalt Corp. v. Akzona Inc.*, 740 F.2d 1573, 1580-81, 222 U.S.P.Q. (BNA) 833, 838 (Fed. Cir. 1984)).

385. *Id.* at 1071-72, 22 U.S.P.Q.2d (BNA) at 1029 (citing *In re Brigrance*, 792 F.2d 1103, 1108, 229 U.S.P.Q. (BNA) 988, 991 (Fed. Cir. 1986); *TP Lab. v. Professional Positioners, Inc.*, 724 F.2d 965, 972, 220 U.S.P.Q. (BNA) 577, 583 (Fed. Cir.), *cert. denied*, 469 U.S. 826 (1984); *Harrington Mfg. Co. v. Powell Mfg. Co.*, 815 F.2d 1478, 1481 n.3, 2 U.S.P.Q.2d (BNA) 1364, 1366 n.3 (Fed. Cir. 1986)).

386. *Id.* (citing *In re Brigrance*, 792 F.2d at 1108, 229 U.S.P.Q.2d (BNA) at 991).

387. *Id.* (citing *In re Dybel*, 524 F.2d 1393, 1401, 187 U.S.P.Q. (BNA) 593, 599 (C.C.P.A. 1975)).

388. *Id.* at 1072-74, 22 U.S.P.Q.2d (BNA) at 1029-31.

389. *Id.* at 1071, 22 U.S.P.Q.2d (BNA) at 1029.

390. *Id.* The Federal Circuit emphasized that LaBounty kept no records of the sales, did not inform its customers that the devices were experimental, did not keep the devices secret, and made them available for viewing by others in the industry. *Id.* at 1074, 22 U.S.P.Q.2d (BNA) at 1031. Furthermore, the court found LaBounty’s argument that “testing” of the device occurred, albeit in the facilities of others, irrelevant because LaBounty did not set up any testing arrangement with its customers. *Id.*

customers regarding their use of the shears.³⁹¹ Nevertheless, LaBounty argued that the on-sale bar was inapplicable because the customers found the shears unsatisfactory for some uses and because LaBounty offered a "money back guarantee."³⁹² The Federal Circuit rejected these arguments, stressing that testing by a customer before deciding whether to purchase a product constitutes commercial activity that is not within the experimental use exception and that a "money back guarantee" is an everyday commercial marketing ploy.³⁹³ Accordingly, the Federal Circuit affirmed the ITC's determination of a § 102(b) "public use and on-sale" bar to the patentability of the LaBounty shears.³⁹⁴

In *Sinskey*, the Federal Circuit affirmed a district court's holding that a plaintiff was not entitled to an experimental use exception to a patent-invalidating public use bar.³⁹⁵ Dr. Sinskey owned a U.S. patent directed to an interocular lens for the human eye, the application for which was filed on February 24, 1981.³⁹⁶ In its defense to Dr. Sinskey's infringement allegation, Pharmacia moved for a summary judgment that Dr. Sinskey's patent was invalid under 35 U.S.C. § 102(b) because Dr. Sinskey publicly used the claimed interocular lens prior to the critical date of February 24, 1980.³⁹⁷ In response, Dr. Sinskey argued that the activity at issue constituted experimental use and thus was an exception to the statutory bar of § 102(b).³⁹⁸ Prior to February 24, 1980, Iolab produced a sterile Model 103J lens based on Dr. Sinskey's design.³⁹⁹ Dr. Sinskey purchased at least three 103J lenses and ordered other lenses from Iolab before the critical date.⁴⁰⁰ In addition, Dr. Sinskey successfully implanted a total of eleven 103J lenses under normal hospital procedures prior to February 24, 1980.⁴⁰¹ The district court held that Dr. Sinskey had raised no genuine issue of material fact to support a defense of experimental use and issued a summary judgment in favor of Pharmacia.⁴⁰²

The Federal Circuit affirmed the district court decision and held

391. *Id.*

392. *Id.*

393. *Id.*

394. *Id.*

395. *Sinskey v. Pharmacia Ophthalmics Inc.*, 982 F.2d 494, 496, 25 U.S.P.Q.2d (BNA) 1290, 1291 (Fed. Cir. 1992).

396. *Id.*, 25 U.S.P.Q.2d (BNA) at 1292.

397. *Id.*, 25 U.S.P.Q.2d (BNA) at 1291.

398. *Id.*, 25 U.S.P.Q.2d (BNA) at 1292.

399. *Id.*

400. *Id.* at 497, 25 U.S.P.Q.2d (BNA) at 1292.

401. *Id.*

402. *Id.*, 25 U.S.P.Q.2d (BNA) at 1291.

that once an alleged infringer has established a prima facie case of public use under § 102(b), the patentee must respond with evidence sufficient to raise a genuine issue of material fact in order to defeat a motion for summary judgment.⁴⁰³ The patentee cannot merely rest on the presumption of patent validity. The Federal Circuit rejected Dr. Sinskey's arguments that his declaration—that the public uses were for experimental purposes—raised a genuine issue of material fact because, by itself, after-the-fact testimony of an inventor's subjective "experimental intent" is entitled to little weight.⁴⁰⁴

The Federal Circuit held that the objective evidence of record did not support Dr. Sinskey's assertions that the public uses were for experimental purposes.⁴⁰⁵ Dr. Sinskey charged his usual surgical fee for each implant, did not inform the patients that they were being treated with an experimental lens, and did not obtain any kind of secrecy agreement with the patients or hospital staff where the implants took place.⁴⁰⁶ Furthermore, none of the hospital records referred to the 103J lens as "experimental."⁴⁰⁷ Indeed, Dr. Sinskey's lens was described in an application for FDA approval as equivalent in design, use, and function to an existing lens.⁴⁰⁸ Finally, the court did not find corroborating evidence of experimentation contemporaneous with the implantations, the presence of which the court concluded would be likely if the lens implants had in fact been for experimental purposes.⁴⁰⁹

403. *Id.* at 498, 25 U.S.P.Q.2d (BNA) at 1293 (citing *Harrington Mfg. Co. v. Powell Mfg. Co.*, 815 F.2d 1478, 1480, 2 U.S.P.Q.2d (BNA) 1364, 1367 (Fed. Cir. 1986)).

404. *Id.* at 499, 25 U.S.P.Q.2d (BNA) at 1293 (citing *In re Smith*, 714 F.2d 1127, 1135, 218 U.S.P.Q. (BNA) 976, 983 (Fed. Cir. 1983)). The court noted that Dr. Sinskey's declaration directly conflicted with the deposition testimony he gave under oath. *Id.* at 499, 25 U.S.P.Q.2d (BNA) at 1293. During Dr. Sinskey's deposition, he testified that no testing of the 103J lens was necessary. *Id.* at 497, 25 U.S.P.Q.2d (BNA) at 1292. In his declaration, however, he stated that the first 11 implants in question were experimental. *Id.* at 498, 25 U.S.P.Q.2d (BNA) at 1293. According to the court, "[a] party cannot create an issue of fact by supplying an affidavit contradicting his [or her] prior deposition testimony, without . . . attempting to resolve the disparity." *Id.* at 498, 25 U.S.P.Q.2d (BNA) at 1292; *see also* *Chore-Time Equip., Inc. v. Cumberland Corp.*, 713 F.2d 774, 779, 218 U.S.P.Q. (BNA) 673, 676 (Fed. Cir. 1983) (noting that no legitimate issue of fact was created by affidavits contradicting admissions by patent owner and inventors).

405. *Id.*

406. *Id.*

407. *Id.*

408. *Id.*

409. *Sinskey*, 982 F.2d at 499, 25 U.S.P.Q.2d (BNA) at 1294. Whether a use is experimental is a very fact-specific inquiry, and the court's determinations of experimental use are not altogether predictable. For example, the Federal Circuit has held that three uses of an orthodontic appliance were experimental even though the dentist charged the regular fee and no secrecy arrangement was made with the patients. *See TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 971-73, 220 U.S.P.Q. (BNA) 577, 582-84 (Fed. Cir.) (basing public use analysis on entirety of evidence presented), *cert. denied*, 469 U.S. 826 (1984).

2. *Prior printed publication*

In *In re Schoenwald*,⁴¹⁰ the Federal Circuit reaffirmed the well-known principle that a reference need not disclose a utility of a compound to be an effective anticipatory reference under 35 U.S.C. § 102(b).⁴¹¹ A reference is anticipatory so long as it satisfies the date requirement of § 102(b), and both identically and enablingly describes the claimed invention.⁴¹² Therefore, the court held that Schoenwald's claims to old chemical compounds, which were described in prior printed publications, were unpatentable despite the fact that he had discovered an unknown use for the old compounds.⁴¹³ Schoenwald argued that the Board of Patent Appeals and Interferences incorrectly relied on statements from *In re Hafner*⁴¹⁴ that at best were mere dicta.⁴¹⁵ The Federal Circuit was unpersuaded by Schoenwald's arguments, however, and affirmed the judgment that Schoenwald's compound claims were not novel.⁴¹⁶

3. *Identity of invention and claim interpretation*

To establish anticipation under 35 U.S.C. § 102, the claimed invention must be disclosed in a single prior art reference or event;⁴¹⁷ this is commonly referred to as identity of invention.⁴¹⁸ In *Minnesota*

410. 964 F.2d 1122, 22 U.S.P.Q.2d (BNA) 1671 (Fed. Cir. 1992).

411. *In re Schoenwald*, 964 F.2d 1122, 1124, 22 U.S.P.Q.2d (BNA) 1671, 1673 (Fed. Cir. 1992); see also 35 U.S.C. § 102(b) (1988) (providing in pertinent part that "[a] person shall be entitled to a patent unless . . . (b) the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application").

412. *Schoenwald*, 964 F.2d at 1124, 22 U.S.P.Q.2d (BNA) at 1673 (citing *In re Hafner*, 410 F.2d 1403, 1408, 161 U.S.P.Q. (BNA) 783, 785 (C.C.P.A. 1969), which held that prior art that does not disclose utility but otherwise describes claimed invention can still anticipate).

413. *Id.* The Federal Circuit noted that Schoenwald had already received a method patent for the method of use. *Id.* "Their contribution was finding a use for the compound itself. Therefore they are being rewarded fully for their contribution; any more would be gratuity." *Id.*

414. 410 F.2d 1403, 161 U.S.P.Q. (BNA) 783 (C.C.P.A. 1969).

415. *Schoenwald*, 964 F.2d at 1123-24, 22 U.S.P.Q.2d (BNA) at 1673. Schoenwald argued that the statements in *Hafner* that were contrary to its position were mere dicta, that *Hafner* dealt with 35 U.S.C. § 112, ¶ 1 and not 35 U.S.C. § 102(b), and that *Hafner* was simply wrong. *Id.* at 1123, 22 U.S.P.Q.2d (BNA) at 1673.

416. *Id.* at 1123-24, 22 U.S.P.Q.2d (BNA) at 1673. According to the court, "it is beyond argument that no utility need be disclosed for a reference to be anticipatory of a claim to an old compound." *Id.* at 1124, 22 U.S.P.Q.2d (BNA) at 1673.

417. See *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 U.S.P.Q.2d (BNA) 781, 789 (Fed. Cir. 1983) (observing that "one who seeks such a finding must show that each element of the claim in issue is found, either expressly described or under principles of inherency, in a single prior art reference, or that the claimed invention was previously known or embodied in a single prior art reference or device"), cert. denied, 465 U.S. 1026 (1984).

418. See *Tyler Refrig. v. Kysor Indus. Corp.*, 777 F.2d 687, 690, 227 U.S.P.Q. (BNA) 845, 847 (Fed. Cir. 1985) (noting that identity of invention is question of fact, reviewable under clearly erroneous standard).

Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.,⁴¹⁹ the Federal Circuit resolved an identity of invention issue by applying the traditional two-step analysis for establishing identity of invention,⁴²⁰ and affirmed the district court's holding that the claims of the Minnesota Mining & Manufacturing (3M) patents were not anticipated.⁴²¹ 3M sued Johnson & Johnson Orthopaedics (JJO) for infringement of four patents⁴²² pertaining to synthetic casting tapes designed to replace plaster of paris casts.⁴²³ The district court adopted the findings of a special master and held that the 3M patents were valid and infringed by JJO.⁴²⁴ In particular, the master held that the 3M patent labeled the "Scholz patent" was not anticipated by the prior art.⁴²⁵ JJO had argued that the prior art antici-

419. 976 F.2d 1559, 24 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1992); *see also infra* notes 836-43 and accompanying text (discussing case with regard to defining claim terms based on specification issue); *infra* notes 912-28 and accompanying notes (discussing case with regard to evidentiary considerations issue); *infra* notes 1077-95 and accompanying text (discussing case with regard to lost profits issue); *infra* notes 1131-43 and accompanying text (discussing case with regard to willful infringement and increased damages issues).

420. Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1565-69, 24 U.S.P.Q.2d (BNA) 1321, 1326-30 (Fed. Cir. 1992) (providing that in first step, claims are interpreted, and in second step, claims are compared with prior art).

421. *Id.* at 1569, 1572, 24 U.S.P.Q.2d (BNA) at 1328, 1330. The Federal Circuit affirmed a judgment of "noninvalidity" under 35 U.S.C. § 102 for the patents labeled the "Scholz patent" and the "Garwood patent." The reasons for the latter affirmance were rather perfunctory because the allegedly anticipatory reference did not sufficiently describe the Garwood patent's claimed invention. *Id.* at 1564, 24 U.S.P.Q.2d (BNA) at 1326.

422. The four patents at issue were the Garwood, Reed, Scholz, and Scholz II patents. *Id.* at 1563, 24 U.S.P.Q.2d (BNA) at 1325. Each patent is named after its respective inventor. *Id.* at 1564, 24 U.S.P.Q.2d (BNA) at 1325-26.

423. *Id.* at 1563, 24 U.S.P.Q.2d (BNA) at 1325. These tapes were resin-based casting tapes that were designed to be lighter, water resistant, easy to work with, and porous, allowing the skin to breathe. *See id.* at 1563-64, 24 U.S.P.Q.2d (BNA) at 1325-26 (discussing characteristics of four 3M patents).

424. *Id.* (citing master's decision in Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., No. 4-86-359, 1991 U.S. Dist. LEXIS 11451, 14823 (D. Minn. Apr. 30, 1991)).

425. *Minnesota Mining*, 22 U.S.P.Q.2d (BNA) 1401, 1405 (D. Minn. 1991); *see also Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565, 24 U.S.P.Q.2d (BNA) 1321, 1326 (Fed. Cir. 1992) (referring to U.S. Patent No. 4,667,661 issued to Scholz and owned by 3M). JJO argued that claims 12 and 17 of the Scholz patent were anticipated by a number of prior art commercial casting tape products in the United States and Japan. *Minnesota Mining*, 976 F.2d at 1565, 24 U.S.P.Q.2d (BNA) at 1326. Claims 12 and 17 in the Scholz patent read:

12. An article comprising a curable resin-coated sheet having a lubricant at a major surface of the coated sheet, wherein said lubricant comprises an additive which is a mixture of any of the compositions selected from the group consisting of a surfactant, a polymer comprised of a plurality of hydrophilic groups, and a polysiloxane, and wherein said lubricant is present in an amount such that the kinetic coefficient of friction of the coated surface of the sheet material is less than about 1.2

17. An article comprising a pre-lubricated curable resin-coated sheet wherein the curable resin is a water-curable isocyanate-functional prepolymer which is a derivative of an aromatic polyisocyanate and wherein a major surface of the sheet exhibits a kinetic coefficient of friction of less than about 1.2.

Id.

pated the Scholz patent because the prior art casts contained the known lubricants silicon and polyethylene and the Scholz patent claimed the use of lubricants.⁴²⁶ The master disagreed, however, finding no anticipation because the Scholz patent disclosed the use of a lubricant in a curable resin coat that required some degree of slipperiness, whereas the prior art disclosed a tacky, and not a slippery, curable resin-coated material.⁴²⁷

On appeal, the Federal Circuit held that there was no clear error in interpreting "lubricant" and "pre-lubricated" in the Scholz patent claims to mean "slippery," even though the latter term was not expressly stated in the claims.⁴²⁸ In the court's view, when read in conjunction with the specification, the respective meanings of "lubricant" and "pre-lubricated" in claims 12 and 17 supported the master's claim interpretation.⁴²⁹ Indeed, the goal of the Scholz invention was the production of a nontacky but curable resin coating.⁴³⁰ The Federal Circuit disagreed with JJO's assertion that this interpretation rendered the claims indefinite because the amount of slipperiness was not specified in the patent.⁴³¹ According to the Federal Circuit, the master merely interpreted the claim term "lubricated" to mean "slippery" enough to achieve the fundamental purpose of the invention and therefore the claim was not indefinite.⁴³² The court further remarked that this construction was readily ascertainable from the Scholz patent specification.⁴³³ Therefore, it was not clearly erroneous to interpret "lubricant" or "pre-lubricated" as meaning a slippery feel or slippery surface.⁴³⁴

The Scholz patent claims also required a certain kinetic coefficient of friction (KCOF) value.⁴³⁵ JJO argued that the master erroneously

426. *Id.*

427. *Minnesota Mining*, No. 4-86-359, 1991 U.S. Dist. LEXIS 11451, at *198.

428. *Minnesota Mining*, 976 F.2d at 1567, 24 U.S.P.Q.2d (BNA) at 1330.

429. *Id.*

430. *Id.* The Federal Circuit referred to the background section of the specification to show that slipperiness was an element of the Scholz patent. *Id.* at 1566, 24 U.S.P.Q.2d (BNA) at 1327. In the background, the disadvantages of tacky resin coating were discussed. *Id.* The specification went on to state that the problems associated with tacky resin coats were solved by using a resin that became slippery when contacted with water. *Id.* at 1566-67, 24 U.S.P.Q.2d (BNA) at 1327-28.

431. *Id.*

432. *See id.* (recognizing that fundamental purpose of invention is "the ability to smooth and rub the casting materials during molding without the resin and tape sticking to the applicator's hands"). The court also pointed out that the JJO's argument was improperly framed because the term "slippery" was not used in the claims.

433. *Id.*

434. *Id.*

435. *See H.J. GRAY & ALAN ISAACS, A NEW DEFINITION OF PHYSICS 224 (1975)* (explaining that KCOF is function of tackiness or roughness of surface of substrate or resin that forms part of cast).

required a standard substrate in calculating the KCOF.⁴³⁶ The Federal Circuit noted that contrary to JJO's assertions, the master did not require that the KCOF be determined on a particular substrate in order to find infringement or anticipation.⁴³⁷ The master's comments cited by JJO pertained instead to inequitable conduct, and JJO had taken the comments out of context.⁴³⁸ After affirming the district court's and the master's interpretation of the Scholz patent claims, the Federal Circuit then compared the claims to the prior art and upheld the findings below that the prior art lubricants did not anticipate the Scholz patent because in the prior art, the alleged lubricants were either used in the wrong form or in too small an amount to function as lubricants in the manner required by the claims.⁴³⁹

4. *Jury findings with respect to patent validity*

In *Shearing v. Iolab Corp.*,⁴⁴⁰ the Federal Circuit considered whether substantial evidence supported the jury's conclusion that Iolab did not overcome the presumption of validity accorded to the Shearing patent.⁴⁴¹ After considering the evidence supporting the jury's verdict, the Federal Circuit held that there was substantial evidence in the record to show that a reasonable jury could have found Dr. Shearing invented the lens implantation process and that a jury could have reasonably resolved the credibility issues against Iolab.⁴⁴² Iolab offered testimony that Dr. Simcoe's work predated the Shearing patent.⁴⁴³ In addition, a witness testified to seeing a home-movie at a meeting of the American Academy of Ophthalmology that allegedly showed Dr. Simcoe performing the implantation technique taught by the Shearing patent.⁴⁴⁴

The Federal Circuit held that substantial evidence supported the jury verdict because, for example, no such movie was introduced as evidence, and the testimony of other witnesses brought the movie's

436. *Minnesota Mining*, 976 F.2d at 1567-68, 24 U.S.P.Q.2d (BNA) at 1328-29.

437. *Id.*

438. *See id.* at 1568, 24 U.S.P.Q.2d (BNA) at 1329 (stating that master merely used KCOF to compare relative slipperiness of resins, which master then used to address question of whether 3M was guilty of inequitable conduct).

439. *See id.*, at 1569, 24 U.S.P.Q.2d (BNA) at 1330 (indicating that allegedly anticipatory resins were not in same form and did not function or act as lubricants in those forms, and that amount of silicon lubricant needed to serve as antifoaming agent was insufficient to allow it to function also as lubricant).

440. 975 F.2d 1541, 24 U.S.P.Q.2d (BNA) 1133 (Fed. Cir. 1992).

441. *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1544-45, 24 U.S.P.Q.2d (BNA) 1133, 1136-37 (Fed. Cir. 1992).

442. *Id.*

443. *Id.*

444. *Id.*

date and contents into question.⁴⁴⁵ The reasonableness of Iolab's reliance on two hospital medical records to establish that Dr. Simcoe performed lens implantation before Dr. Shearing filed his patent was questionable because of inconsistencies in the hospital records.⁴⁴⁶ Moreover, many of Iolab's witnesses suffered from credibility problems, with some witnesses adding details in their trial testimony that had not been previously mentioned in their depositions, and with other witnesses who were originally portrayed as disinterested being in fact personally or financially tied to Dr. Simcoe.⁴⁴⁷

5. *Foreign patents as prior art*

In a case of first impression, the Federal Circuit in *In re Carlson*,⁴⁴⁸ held that a German design patent was a "foreign patent" under 35 U.S.C. § 102(a) and thus a valid prior art reference in an obviousness rejection.⁴⁴⁹ During a reexamination of Carlson's design patent for a dual compartment bottle, a German Geschmacksmuster (GM) was cited to the patent examiner as previously unconsidered prior art.⁴⁵⁰ Both the examiner and the Board rejected Carlson's claims as obvious under 35 U.S.C. § 103 over the GM in view of two other previously unconsidered references.⁴⁵¹ Carlson challenged the legal characterization of the GM as a foreign patent under § 102(a)⁴⁵² despite a prior Court of Customs and Patent Appeals decision holding that a GM was a foreign patent under § 102(d).⁴⁵³ To distinguish this prior precedent, Carlson argued that what constitutes a foreign patent under § 102(a) is different than that under

445. *Id.* at 1545, 24 U.S.P.Q.2d (BNA) at 1137.

446. *See id.* (reporting inconsistencies such as notations made in different ink than that used in Dr. Simcoe's signature, records describing implantation in pupil of eye rather than proper implant location in posterior chamber of eye, and discovery upon exhumation that deceased patient had not in fact received Dr. Simcoe's implants).

447. *Id.*

448. 983 F.2d 1032, 25 U.S.P.Q.2d (BNA) 1207 (Fed. Cir. 1992), *amended on reh'g*, 1993 U.S. App. LEXIS 1665 (Fed. Cir. Feb. 1, 1993); *see also infra* notes 450-60 and accompanying text (discussing case with regard to design patent issue).

449. *In re Carlson*, 983 F.2d 1032, 1038, 25 U.S.P.Q.2d (BNA) 1207, 1211-12 (Fed. Cir. 1992), *amended on reh'g*, 1993 U.S. App. LEXIS 1665 (Fed. Cir. Feb. 1, 1993).

450. *Id.* at 1035, 25 U.S.P.Q.2d (BNA) at 1208. A GM is a German design registration that is obtained by filing with a local courthouse an application that includes a drawing, photograph, or sample of the patented product. *Id.* A Federal Gazette publishes certain particulars of each registration, but one can only obtain all the details of a particular design by getting a certified copy of the GM from the courthouse where it was filed. *Id.* at 1034, 25 U.S.P.Q.2d (BNA) at 1208-09.

451. *Id.* at 1035, 25 U.S.P.Q.2d (BNA) at 1209.

452. *Id.*

453. *See In re Talbott*, 443 F.2d 1397, 1398-99, 170 U.S.P.Q. (BNA) 281, 282 (C.C.P.A. 1971) (finding that registration under German law satisfies recognized foreign patent requirements under § 102(d)).

§ 102(d).⁴⁵⁴ While recognizing the different purposes of § 102(a) and § 102(d), the Federal Circuit did not agree with Carlson that this distinction necessarily disqualified a GM from being a foreign patent under § 102(a).⁴⁵⁵

Carlson also argued that the GM, even if a "foreign patent," was not prior art under § 102(a) because it was not disclosed in a "readily accessible fashion."⁴⁵⁶ The court disagreed and held that the GM protected design need only be available to the public to be considered prior art under § 102(a).⁴⁵⁷ In the court's view, "the protected design [was] completely 'available to the public' through the certified copy of the Geschmacksmuster."⁴⁵⁸ Although the Federal Circuit recognized that its holding creates a burden on potential patentees to discover what is registered under German law, the court noted nonetheless that "[s]uch a burden . . . is by law imposed upon the hypothetical person of ordinary skill in the art who is charged with knowledge of all the contents of the relevant prior art."⁴⁵⁹ Moreover, actual knowledge of the GM was not necessary for it to be considered prior art because "a hypothetical person is presumed to know all the pertinent prior art."⁴⁶⁰

C. Obviousness—35 U.S.C. § 103

1. Analogous prior art

In two 1992 decisions, the Federal Circuit reversed obviousness determinations by the Board because the references cited by the Board were not analogous prior art under 35 U.S.C. § 103.⁴⁶¹ In both cases, the Federal Circuit held that prior art is analogous only

454. *Carlson*, 983 F.2d at 1036-37, 25 U.S.P.Q.2d (BNA) at 1211.

455. *Id.* at 1037, 25 U.S.P.Q.2d (BNA) at 1210-11 (holding that there is no reason to distinguish between §§ 102(a) and 102(d) in determining what constitutes foreign patent).

456. *Id.* *Carlson* argued that the GM did not disclose the invention in a widely disseminated medium. *Id.* *Carlson* further argued that because the Federal Gazette entry at issue did not explicitly refer to a dual compartment container, it did not provide adequate notice of the GM cited against his invention. *Id.*

457. *Id.* (citing *In re Ekenstam*, 256 F.2d 321, 324-25, 118 U.S.P.Q. (BNA) 349, 351, 353 (C.C.P.A. 1958) (stating that "inventions protected by secret/private patents do not qualify as patented abroad under U.S. law")); see also *In re Wyer*, 655 F.2d 221, 227, 210 U.S.P.Q. (BNA) 790, 795 (C.C.P.A. 1981) (holding that Australian patent application available on microfiche in Australian Patent Office was available to public).

458. *Carlson*, 982 F.2d at 1037, 25 U.S.P.Q.2d (BNA) at 1211. The court also noted that the Federal Gazette alerted the public to the dual compartment design because it referred to a single package incorporating multiple bottles. *Id.*

459. *Id.*

460. *Id.* at 1038, 25 U.S.P.Q.2d (BNA) at 1211 (citing *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d (BNA) 1500, 1502 (Fed. Cir. 1988)).

461. *In re Oetiker*, 977 F.2d 1443, 1445-46, 24 U.S.P.Q.2d (BNA) 1443, 1445-46 (Fed. Cir. 1992); *In re Clay*, 966 F.2d 656, 658-59, 23 U.S.P.Q.2d (BNA) 1058, 1060-61 (Fed. Cir. 1992).

if the reference is from the same field of endeavor or is reasonably pertinent to the particular problem that the inventor is attempting to solve.⁴⁶²

In *In re Clay*,⁴⁶³ the Federal Circuit reversed the Board's finding that Clay's invention for storing refined liquid hydrocarbon product in a storage tank having a dead volume between the tank bottom and its outlet port was obvious in light of two prior art references.⁴⁶⁴ The first reference, the Hetherington patent, disclosed an apparatus for displacing liquid in the dead volume of a storage tank using impervious bladders.⁴⁶⁵ Even though the Hetherington reference was clearly analogous art, it did not, standing alone, obviate Clay's invention because it described a different method for displacing dead volume.⁴⁶⁶

The second reference, the Sydansk patent, disclosed a process for reducing the permeability of hydrocarbon-bearing formations using a gel similar to that used in Clay's invention.⁴⁶⁷ The Federal Circuit held that this reference was not analogous art from the same field of endeavor.⁴⁶⁸ Furthermore, the Sydansk patent was not analogous prior art reasonably pertinent to the particular problem with which Clay was involved.⁴⁶⁹ Hence, the court concluded that the Sydansk patent was improperly considered by the Board in its obviousness determination.⁴⁷⁰

462. See *Oetiker*, 977 F.2d at 1447, 24 U.S.P.Q.2d (BNA) at 1445-46 (citing, in support of holding, *In re Deminski*, 796 F.2d 436, 442, 230 U.S.P.Q. (BNA) 313, 315 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036, 202 U.S.P.Q. (BNA) 171, 174 (C.C.P.A. 1979)); *Clay*, 966 F.2d at 658-59, 23 U.S.P.Q.2d (BNA) at 1060 (same).

463. 966 F.2d 656, 23 U.S.P.Q.2d (BNA) 1058 (Fed. Cir. 1992).

464. *In re Clay*, 966 F.2d 656, 657, 660, 23 U.S.P.Q.2d (BNA) 1058, 1059, 1061 (Fed. Cir. 1992). In Clay's invention, a gelation solution is placed in the dead volume that sets to produce a rigid gel substantially filling the dead volume. *Id.* at 657-58, 23 U.S.P.Q.2d (BNA) at 1059. The gel and the hydrocarbon product do not mix. *Id.* at 658, 23 U.S.P.Q.2d (BNA) at 1059. To remove the gel from the tank a gel-degrading agent such as hydrogen peroxide may be added to the gel to convert it to a flowing solution.

465. See *id.* (describing U.S. Patent No. 4,664,294 issued to Hetherington).

466. *Id.*

467. See *id.* at 658, 23 U.S.P.Q.2d (BNA) at 1060 (describing U.S. Patent No. 4,683,949 issued to Sydansk). Sydansk's gel fills anomalies in underground formations, forcing entrained petroleum to flow in a desired direction. *Id.* at 659-60, 23 U.S.P.Q.2d (BNA) at 1061. The Sydansk process operates at high temperatures and pressures. *Id.*

468. *Id.* at 659, 23 U.S.P.Q.2d (BNA) at 1060 (noting that second reference "cannot be considered to be within Clay's field of endeavor merely because both relate to the petroleum industry" because "Clay's field of endeavor is the storage of refined . . . hydrocarbons" while "field of endeavor of Sydansk's invention is the extraction of crude petroleum").

469. *Id.* at 659-60, 23 U.S.P.Q.2d (BNA) at 1061 (stating that "the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve" and that "[a] person having ordinary skill in the art would not reasonably have expected to solve the problem of dead volume in tanks for storing refined petroleum by considering a reference dealing with plugging underground formation anomalies").

470. *Id.* at 660, 23 U.S.P.Q.2d (BNA) at 1061.

The Federal Circuit also reversed the Board's decision in *In re Oetiker*.⁴⁷¹ As in *Clay*, the Board in *Oetiker* based its rejection on art that the Federal Circuit later held to be nonanalogous.⁴⁷² Oetiker's invention was an improvement for a metal hose clamp with a hook that maintained the preassembly condition of the clamp and disengaged automatically when the clamp was tightened.⁴⁷³ The prior art cited by the Board to reject Oetiker's application was Oetiker's own earlier issued patent that covered the basic clamp and a patent issued to Lauro that described a plastic hook and eye fastener for use in garments.⁴⁷⁴

Oetiker's earlier patent was clearly analogous prior art.⁴⁷⁵ The Board held that although not within Oetiker's field of endeavor, the Lauro reference was also analogous art because, like Oetiker's invention, the Lauro reference related to a hooking problem.⁴⁷⁶ The Federal Circuit, however, agreed with Oetiker that Lauro was not analogous prior art because Lauro was not reasonably pertinent to the particular problem with which Oetiker was concerned.⁴⁷⁷ The court pointed out that while examination of patents necessarily requires hindsight, a prima facie case of obviousness should not be made using only the benefit of hindsight and the fact that the invention is relatively simple.⁴⁷⁸ The reality of the circumstances and common sense must also be used to determine which fields a person of ordinary skill would reasonably be expected to turn to for a solution to the problem.

2. Suggestion to combine or modify the prior art

The Federal Circuit continues to require that there be some suggestion or motivation in the prior art to combine or modify references for a finding of obviousness. Application of this concept has

471. 977 F.2d 1443, 1447, 24 U.S.P.Q.2d (BNA) 1443, 1446 (Fed. Cir. 1992).

472. *In re Oetiker*, 977 F.2d 1443, 1447, 24 U.S.P.Q.2d (BNA) 1443, 1446 (Fed. Cir. 1992). Oetiker initially argued that a holding by the Board of prima facie obviousness was a new rejection. *Id.* at 1445, 24 U.S.P.Q.2d (BNA) at 1444. Oetiker argued that he should therefore be permitted to file evidence to rebut this finding, *id.*, but the Federal Circuit rejected his argument. *Id.* at 1446, 24 U.S.P.Q.2d (BNA) at 1445. Although the Board's use of the term "prima facie obvious" was imprecise, the Federal Circuit found it clear from the record that the Board did not make a new rejection. *Id.*; *see id.* at 1448-49, 24 U.S.P.Q.2d (BNA) at 1447 (Plager, J., concurring) (addressing difficulties encountered by use of term "prima facie obvious").

473. *Oetiker*, 977 F.2d at 1446, 24 U.S.P.Q.2d (BNA) at 1445.

474. *Id.*

475. *See id.* at 1446, 24 U.S.P.Q.2d (BNA) at 1445 (describing Oetiker's invention as improvement on his earlier patent, which was simply metal hose clamp without hook).

476. *Id.*

477. *Id.* at 1447, 24 U.S.P.Q.2d (BNA) at 1445-46.

478. *Id.*, 24 U.S.P.Q.2d (BNA) at 1446 (stating that "[s]implicity is not inimical to patentability").

depended on the facts of a particular case and thus has varied widely. In *In re Fritch*,⁴⁷⁹ the Federal Circuit held that the mere fact that prior art may be modified to produce the claimed invention does not make the modification obvious unless the prior art suggested the desirability of the modification.⁴⁸⁰ Fritch invented a landscaping edging device, which consisted of a flexible planar base portion whose bottom surface was conformable to varying sloped ground, for use as a retainer to separate unmowable landscape from mowable lawn.⁴⁸¹ The Board held that Fritch's invention was prima facie obvious based on the combination of two prior art references, the Wilson patent⁴⁸² and the Hendrix patent.⁴⁸³

The Federal Circuit noted that "under [35 U.S.C.] § 103, teachings of references can be combined only if there is some suggestion or incentive to do so."⁴⁸⁴ The court found no suggestion in either reference to combine the attributes of each.⁴⁸⁵ Although the examiner couched the rejection in terms of an obvious modification, the Federal Circuit held that the same logic applies to modifications as to combinations of prior art references.⁴⁸⁶ Nothing in Wilson suggested flexibility over the length of the device and nothing in Hendrix suggested that its flexible features could be possible modifications of Wilson.⁴⁸⁷

In *In re Gal*,⁴⁸⁸ the Federal Circuit also reversed the Board's obviousness rejection, holding that general knowledge of the prior art did not teach, suggest, or motivate someone to modify the prior art to achieve Gal's claimed invention.⁴⁸⁹ Gal invented an improved semiconductor chip in which minor logic errors could be easily corrected.⁴⁹⁰ Semiconductor chips typically consist of cells patterned

479. 972 F.2d 1260, 23 U.S.P.Q.2d (BNA) 1780 (Fed. Cir. 1992).

480. *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d (BNA) 1780, 1783 (Fed. Cir. 1992) (reversing Board's rejection of patent for obviousness).

481. *Id.* at 1261, 23 U.S.P.Q.2d (BNA) at 1781.

482. *Id.* at 1263, 23 U.S.P.Q.2d (BNA) at 1781 (citing as prior art U.S. Patent No. 3,485,449 issued to Wilson). Wilson teaches a grass edging and watering device with an anchoring leg to secure the device to the ground. *Id.* at 1265, 23 U.S.P.Q.2d (BNA) at 1783. The anchoring leg prohibits flexibility and conformability over the length of the device. *Id.*

483. *Id.* at 1263, 23 U.S.P.Q.2d (BNA) at 1782 (citing as prior art U.S. Patent No. 4,349,596 issued to Hendrix). Hendrix discloses a flexible retainer strip that is able to conform to the ground surface. *Id.*

484. *Id.* at 1266, 23 U.S.P.Q.2d (BNA) at 1783 (citing *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. (BNA) 929, 933 (Fed. Cir. 1984)).

485. *Id.* at 1266, 23 U.S.P.Q.2d (BNA) at 1784.

486. *Id.*, 23 U.S.P.Q.2d (BNA) at 1783-84 (noting that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification").

487. *Id.* at 1265-66, 23 U.S.P.Q.2d (BNA) at 1783.

488. 980 F.2d 717, 25 U.S.P.Q.2d (BNA) 1076 (Fed. Cir. 1992).

489. *In re Gal*, 980 F.2d 717, 718, 25 U.S.P.Q.2d (BNA) 1076, 1077 (Fed. Cir. 1992).

490. *Id.*

in layers.⁴⁹¹ In a standard logic cell, each cell layer is formed from a mask and is capable of performing only a predetermined logic function. Therefore, correcting logic errors in a prototype semiconductor chip requires altering each mask.⁴⁹² By interspersing fast change logic cells among the standard logic cells in the chip, Gal eliminated the need to alter each mask to correct minor logic errors.⁴⁹³ In contrast to standard logic cells, which have uniquely tailored layers to perform different logic functions, the fast change logic cells described in the Gal patent possessed identical layers from the middle layer down.⁴⁹⁴ The fast change cells thus provided a logic function for correcting minor logic errors while altering only the masks forming the upper layers of the chip.⁴⁹⁵

The prior art, the Matsumura patent, disclosed an integrated circuit chip made entirely of basic cells, which consisted of four transistors capable of being connected in various patterns to achieve different logic functions.⁴⁹⁶ Each basic cell was identical in structure up to a certain fabrication level, the layers above which contained connections between the transistors that performed the different logic functions.⁴⁹⁷ The Board recognized that the Gal invention and the Matsumura patent disclosed similar means of correcting logical errors without alteration of every mask in the chip.⁴⁹⁸ The Board concluded that the structure of the Matsumura basic cell was a building block for Gal's scheme of standard logic and fast change logic cells and therefore held that Gal's standard logic cell and fast change logic cell combination was obvious in view of the comprehensive teachings of Matsumura.⁴⁹⁹

The Federal Circuit reversed the Board's decision, summarily stating that Gal's claimed invention and the prior art disclosed different structures that achieved different purposes.⁵⁰⁰ Whereas Gal's claimed invention incorporated standard logic cells with a unique pattern in each cell layer, Matsumura's basic cells had identical structures up to at least the fabrication level.⁵⁰¹ The Commissioner

491. *Id.*

492. *Id.*

493. *See id.* (noting that correction of logic errors previously required changing all masks, which are tailored to form each individual layer of semiconductor chip).

494. *Id.*

495. *Id.*

496. *See id.* at 719, 25 U.S.P.Q.2d (BNA) at 1078 (discussing U.S. Patent No. 4,412,237 issued to Matsumura).

497. *Id.*

498. *Id.*

499. *Id.*

500. *Id.*

501. *Id.*

argued on appeal that Gal's claimed invention was obvious because the operation of the functional circuits (e.g., NAND and OR functions) were the same regardless of the shape of each layer of the functional circuits.⁵⁰² The Federal Circuit pointed out, however, that the Commissioner's reasoning "ignores the claimed structure and the functions it performs."⁵⁰³ The court concluded that the § 103 rejection was improper because there was no motivation to modify Matsumura's homogenous basic logic cell arrangement to achieve Gal's invention.⁵⁰⁴ Despite the absence of any reference in the Gal application to the irregular shape of its standard logic cell in claim 6, the Federal Circuit also reversed the Board's legal conclusion that Gal's claimed invention was obvious in view of Matsumura.⁵⁰⁵ Gal's claim 6 required all the transistors in the standard logic cells to be interconnected within the cell, whereas admittedly all the transistors in Matsumura's basic cell were not likely to be connected.⁵⁰⁶

In contrast to the above cases, the Federal Circuit affirmed an obviousness rejection in *In re Beattie*.⁵⁰⁷ Beattie's invention was a marker intended to rest on the keys of a piano to facilitate the reading and playing of music.⁵⁰⁸ The marker had a horizontal portion with the traditional musical scale *C D E F G A B* on it and a vertical portion with the numbers *0 1 2 3 4 5 6 7 8 9 10 11* on it to denote all the tones of a scale including sharps and flats.⁵⁰⁹

The patent examiner rejected Beattie's application as obvious in light of three prior art references for keyboard markers.⁵¹⁰ The first reference, the Barnes patent, disclosed a marker with the traditional alphabetical notation on the horizontal part and the traditional letters with attendant sharps and flats on the vertical portion.⁵¹¹ The second reference, the Eschemann patent, disclosed a marker with the traditional alphabetical notation on the horizontal part and the numbers one through seven on the vertical part with the attendant sharps and flats appearing as outlined numbers of the correspond-

502. *Id.*

503. *Id.* at 720, 25 U.S.P.Q.2d (BNA) at 1079.

504. *See id.* at 719, 25 U.S.P.Q.2d (BNA) at 1078 (indicating that claim 6 of Gal application provided that standard logic cells were prefabricated with desired logic function so as to achieve maximum number of functions in given amount of space).

505. *Id.* at 720, 25 U.S.P.Q.2d (BNA) at 1079.

506. *Id.*

507. 974 F.2d 1309, 24 U.S.P.Q.2d (BNA) 1040 (Fed. Cir. 1992).

508. *In re Beattie*, 974 F.2d 1309, 1310, 24 U.S.P.Q.2d (BNA) 1040, 1041 (Fed. Cir. 1992).

509. *Id.*

510. *Id.* at 1311, 24 U.S.P.Q.2d (BNA) at 1041.

511. *See id.* (citing as prior art U.S. Patent No. 1,725,844 issued to Barnes).

ing number keys of the octave.⁵¹² The third reference, the Guilford patent, disclosed a system of musical notation with the numbers one through twelve representing all tones of the scale including sharps and flats.⁵¹³

Beattie argued that there was no suggestion to combine Guilford's teachings with those of Barnes and Eschemann and that Guilford actually taught away from combining the traditional seven letter scale with the twelve number numerical scale.⁵¹⁴ The court rejected this argument and agreed with the Board that these references could be combined.⁵¹⁵ The court noted that as long as the suggestion to combine the references is present in the art taken as a whole, the law does not require that the reference be combined for the reasons contemplated by the inventor.⁵¹⁶ In this case, the prior art disclosure of the two numbering systems found in Beattie's application and of the concept of combining two systems on one marker rendered Beattie's invention obvious.⁵¹⁷

While generally relevant to the suggestion to combine, *In re Jones*⁵¹⁸ also addressed a narrower issue of obviousness of particular interest to chemical practitioners.⁵¹⁹ In *Jones*, the Federal Circuit reversed the Board's rejection of the claimed compound, which was a novel salt of 2-methoxy-3,6-dichlorobenzoic acid commonly known as "dicamba," as prima facie obvious merely because the claimed compound was within the scope of a broadly disclosed genus.⁵²⁰ In doing so, the court refused to endorse the Board's interpretation of *Merck & Co. v. Biocraft Laboratories, Inc.*⁵²¹ "that regardless of how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it."⁵²² In *Merck*, the claimed invention covered a pharmaceutical composition for oral administration that comprised the combination of amiloride hydrochloride and hydrochlorothiazide in certain weight ratios.⁵²³ The prior art refer-

512. See *id.* (citing as prior art U.S. Patent No. 566,388 issued to Eschemann).

513. See *id.* (citing as prior art U.S. Patent No. 608,771 issued to Guilford, who noted that traditional seven letter scale with sharps and flats was "perplexing and irrational").

514. *Id.* at 1312, 24 U.S.P.Q.2d (BNA) at 1042.

515. *Id.* at 1312-13, 24 U.S.P.Q.2d (BNA) at 1042.

516. *Id.*

517. *Id.*

518. 958 F.2d 347, 21 U.S.P.Q.2d (BNA) 1941 (Fed. Cir. 1992).

519. *In re Jones*, 958 F.2d 347, 349-51, 21 U.S.P.Q.2d (BNA) 1941, 1942-44 (Fed. Cir. 1992).

520. *Id.* at 348, 351, 21 U.S.P.Q.2d (BNA) at 1943-44.

521. 874 F.2d 804, 10 U.S.P.Q.2d (BNA) 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989).

522. *Jones*, 958 F.2d at 350, 21 U.S.P.Q.2d (BNA) at 1943.

523. *Merck & Co. v. Biocraft Lab., Inc.*, 874 F.2d 804, 805-06, 10 U.S.P.Q.2d (BNA) 1843, 1844-45 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989).

ence disclosed the specific combination of amiloride and hydrochlorothiazide as one of 1200 possible combinations of ingredients.⁵²⁴ Therefore, in *Merck*, given the prior art disclosure, the effort required to obtain the claimed combination of ingredients at the particular weight ratios was well within the level of skill of a person of ordinary skill in the art.⁵²⁵

In contrast, in *Jones* the claimed salt was not sufficiently similar in chemical structure to the salts specifically disclosed in the primary reference to establish a prima facie case of obviousness.⁵²⁶ Although some types of structural similarity have given rise to prima facie obviousness, none of those types of structural similarities were present in *Jones*.⁵²⁷ Moreover, the claimed salt was not specifically disclosed as among the "potentially infinite genus of 'substituted ammonium salts' of dicamba."⁵²⁸ The PTO also sought to justify combining the primary reference with secondary references on the ground that the prior art genus in the primary reference would motivate one of ordinary skill in the art to use the amines in the secondary references to obtain the claimed ammonium salt of dicamba.⁵²⁹ The Federal Circuit, however, rejected the PTO's arguments by finding no suggestion in the prior art to combine the references.⁵³⁰

524. *Id.* at 806, 10 U.S.P.Q.2d (BNA) at 1846.

525. *Id.* at 807, 10 U.S.P.Q.2d (BNA) at 1845-46 (noting that prior art patent instructed person of ordinary skill in art that any of combinations would produce useful diuretic formulation).

526. *Jones*, 958 F.2d at 350, 21 U.S.P.Q.2d (BNA) at 1942 (stating that "[t]he lack of close similarity of structure is not negated by the fact that the claimed salt is a member of the [prior art reference's] broadly disclosed genus of substituted ammonium salts of dicamba").

527. *Id.*; see, e.g., *In re Dillon*, 919 F.2d 688, 692-94, 16 U.S.P.Q.2d (BNA) 1897, 1900-02 (Fed. Cir. 1990) (noting that similar properties of tri-orthoesters and tetra-orthoesters in fuel oil creates expectation that they will have similar chemical reactions), *cert. denied*, 111 S. Ct. 1682 (1991); *In re Wilder*, 563 F.2d 457, 460-61, 195 U.S.P.Q. (BNA) 426, 429-30 (C.C.P.A. 1977) (holding obvious claim relating to single chemical compound useful as antidegradant in rubber because evidence revealed no difference in properties between claimed compound and prior art homologue); *In re Hoch*, 428 F.2d 1341, 1343-44, 166 U.S.P.Q. (BNA) 406, 409 (C.C.P.A. 1970) (finding disclosure of ethyl ester and its usefulness in treatment of plant diseases made structurally similar acid ester obvious when proposed for use as herbicide).

528. *Id.* at 350-51, 21 U.S.P.Q.2d (BNA) at 1943-44 (stating that primary prior art reference cited against *Jones* did not specifically disclose claimed novel salt of dicamba but rather disclosed genus of substituted ammonium salts of dicamba that encompassed claimed salt). *But see In re Petering*, 301 F.2d 676, 681-83, 133 U.S.P.Q. (BNA) 275, 279-81 (C.C.P.A. 1962) (involving potentially infinite prior art genus which, by preferences disclosed in that prior art, narrowed to very limited class of only 20 compounds, including isomers, which anticipated certain claims to compound within that narrowed class).

529. *Jones*, 958 F.2d at 351, 21 U.S.P.Q.2d (BNA) at 1944. The cited prior art included an article by Zorayan directed to shampoo additives, an article by Wideman teaching that the amine used to make the claimed compounds is a byproduct of the production of morpholine, and U.S. Patent No. 3,013,054 issued to Richter that disclosed the broad genus. *Id.* at 349, 21 U.S.P.Q.2d (BNA) at 1942.

530. *Id.* at 351, 21 U.S.P.Q.2d (BNA) at 1944 (citing *In re Lalu*, 747 F.2d 703, 705, 223 U.S.P.Q. (BNA) 1257, 1258 (Fed. Cir. 1984), which held that "[t]he prior art must provide

3. Secondary considerations

In *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*,⁵³¹ the Federal Circuit reaffirmed the importance of "secondary considerations" in determining whether an invention is obvious under 35 U.S.C. § 103.⁵³² The court specifically cited long-felt need, the failure of others to meet that need, and the commercial success of the invention as objective evidence that a 3M patent pertaining to an orthopaedic casting material formed by combining a fiberglass substrate with a polyurethane resin was not obvious in view of the prior art.⁵³³ JJO argued that the prior art disclosed the resin and fiberglass substrate and that an article published in a trade journal also suggested the resin-fiberglass substrate combination.⁵³⁴

The Federal Circuit dismissed the trade journal article as having only disclosed in a "very general fashion" the use of fiberglass as a possible substrate.⁵³⁵ The court then referred to secondary considerations as persuasive evidence of the nonobviousness of the 3M patent.⁵³⁶ First, the court concluded that there was a long-felt need in the industry for a substitute to plaster-based casting systems, which were slow to harden, heavy, nonporous, and which readily broke down in water.⁵³⁷ Second, the major players in the casting field had repeatedly attempted but failed to develop a fiberglass-based cast substitute.⁵³⁸ Problems such as that of excessive foaming were not solved until the 3M patent.⁵³⁹ Finally, JJO and others had acknowledged market preference for 3M's patented fiberglass cast, and evidence presented at trial established that 3M's fiberglass casts were a commercial success even though they were more expensive than competing plaster casts.⁵⁴⁰ The Federal Circuit held that these

one of ordinary skill in the art the motivation to make the proposed molecular modifications needed to arrive at the claimed compound").

531. 976 F.2d 1559, 24 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1992).

532. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1574-75, 24 U.S.P.Q.2d (BNA) 1321, 1333-35 (Fed. Cir. 1992). *See also infra* note 551 and accompanying text (giving example of Federal Circuit referring to secondary consideration as supporting, at least in part, its holding).

533. *See id.* (discussing U.S. patent issued to Garwood and owned by 3M).

534. *Id.* at 1573, 24 U.S.P.Q.2d (BNA) at 1333.

535. *See id.* (indicating court's view that "the article provides no guidance or detail as to how to solve the problems overcome by the Garwood invention or how to construct a fiberglass cast with the beneficial properties achieved by the Garwood invention").

536. *Id.* at 1575, 24 U.S.P.Q.2d (BNA) at 1335.

537. *Id.* at 1574, 24 U.S.P.Q.2d (BNA) at 1333.

538. *Id.* at 1563-64, 24 U.S.P.Q.2d (BNA) at 1325.

539. *See id.* at 1563-64, 1575, 24 U.S.P.Q.2d (BNA) at 1325, 1334 (observing abandonment by 3M's competitors of fiberglass as potential substrate because of inability to solve problem of excessive foaming, which results during curing process, thereby clogging pores of fiberglass).

540. *Id.*, 24 U.S.P.Q.2d (BNA) at 1334-35.

"real world" considerations of unsolved, long-felt need and commercial success established that 3M's patent would not have been obvious to one of ordinary skill in the art at the time of the invention.⁵⁴¹

4. Admissions as to obviousness

Courts may consider admissions made by an inventor either during prosecution or at trial in determining whether a claimed invention was obvious over the prior art. In *In re Hayes Microcomputer Products*,⁵⁴² the Federal Circuit rejected the argument of the accused infringer, Ven-Tel, that the inventor's trial testimony was an admission that the invention was obvious.⁵⁴³ The invention in question pertained to a communication modem capable of switching operational modes upon receiving a specific escape code sequence.⁵⁴⁴ The inventor, Heatherington, was asked at trial: "Is it your testimony . . . that if you just tell somebody skilled in the art that you wanted to have an escape sequence with a guardtime, it would be obvious for them how to build it?"⁵⁴⁵ Ven-Tel asserted that Heatherington's affirmative reply to this question was an admission of obviousness.⁵⁴⁶ The Federal Circuit disagreed, however, concluding that in the context of Heatherington's overall testimony, the statement at issue was hardly an admission of obviousness.⁵⁴⁷ The court also noted that Heatherington was addressing the adequacy of the disclosure and was not admitting that the invention was obvious.⁵⁴⁸

As additional support for its nonobviousness conclusion, the court made the following observations. First, Ven-Tel failed to present evidence of similarities between the prior art and the claims at issue.⁵⁴⁹ Second, Ven-Tel did not cite any suggestions in the prior art that modems be modified to detect the escape signal code of the claimed invention.⁵⁵⁰ Finally, the commercial success, the

541. *Id.*, 24 U.S.P.Q.2d (BNA) at 1335.

542. 982 F.2d 1527, 25 U.S.P.Q.2d (BNA) 1241 (Fed. Cir. 1992).

543. *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1540, 25 U.S.P.Q.2d (BNA) 1241, 1250 (Fed. Cir. 1992) (stating that inventor's testimony was "hardly an admission of obviousness").

544. *See id.* at 1531-32, 25 U.S.P.Q.2d (BNA) at 1243-44 (referring to U.S. Patent No. 4,549,302 owned by Hayes, and describing specific escape code sequence as consisting of one second of guardtime, in which no data is sent, followed by escape code, and followed by another second of guardtime).

545. *Id.* at 1540, 25 U.S.P.Q.2d (BNA) at 1250.

546. *Id.*

547. *Id.*

548. *Id.*

549. *Id.* at 1540, 25 U.S.P.Q.2d (BNA) at 1250-51.

550. *Id.*, 25 U.S.P.Q.2d (BNA) at 1251.

failure of others, and the fact that Hayes' escape code became the industry standard suggested that the claimed invention was not obvious.⁵⁵¹

5. *Design patents*

In *In re Carlson*,⁵⁵² the Federal Circuit considered a design patent for a symmetrical dual compartment bottle and held that the prior art, which emphasized asymmetry, also encompassed symmetrically designed dual compartment bottles and thus rendered the claimed design obvious.⁵⁵³ The first prior art reference showed a bottle design consisting of two attached containers divided by an asymmetrical zig-zag line.⁵⁵⁴ A second reference showed a flask and drinking glass holder combination contained within a smooth-walled holder.⁵⁵⁵ The second reference was asymmetrical in that the neck heights of the flask and glass holder were different.⁵⁵⁶ The Federal Circuit rejected Carlson's argument that his symmetrical design was nonobvious because the prior art stressed asymmetry.⁵⁵⁷ The court pointed out that since in this field of art bottles are deliberately designed to be asymmetrical in order to create a distinctive, memorable image, the "normal" or expected design is one of symmetry.⁵⁵⁸ In short, the Federal Circuit remained unconvinced that the difference in the design of a smooth-walled container and one with a visible line of demarcation was a difference sufficient to establish the unobviousness of Carlson's design as a whole.

D. Enablement, Written Description, Best Mode—35 U.S.C. § 112

The first paragraph of 35 U.S.C. § 112 requires that a patent specification contain a written description sufficient to enable a person of ordinary skill in the art to practice the claimed invention.⁵⁵⁹ The specification must also disclose the best mode contemplated by the inventor for carrying out the invention.⁵⁶⁰ In 1992, the Federal Cir-

551. *Id.*

552. 983 F.2d 1032, 25 U.S.P.Q.2d (BNA) 1207 (Fed. Cir. 1992), *amended on reh'g*, 1993 U.S. App. LEXIS 1665 (Fed. Cir. Feb. 1, 1993).

553. *In re Carlson*, 983 F.2d 1032, 1038, 25 U.S.P.Q.2d (BNA) 1207, 1212 (Fed. Cir. 1992), *amended on reh'g*, 1993 U.S. App. LEXIS 1665 (Fed. Cir. Feb. 1, 1993) (citing *In re Cho*, 813 F.2d 378, 382, 1 U.S.P.Q.2d (BNA) 1662, 1663-64 (Fed. Cir. 1987) for proposition that design patent application should be rejected under 35 U.S.C. § 103 when teachings of references suggested overall appearance of claimed ornamental design).

554. *Id.* at 1034, 25 U.S.P.Q.2d (BNA) at 1209.

555. *Id.*

556. *Id.* at 1035, 25 U.S.P.Q.2d (BNA) at 1209.

557. *Id.* at 1038-39, 25 U.S.P.Q.2d (BNA) at 1212.

558. *Id.*

559. 35 U.S.C. § 112, ¶ 1 (1988).

560. *Id.*

cuit addressed these requirements, as well as their relationship to ¶ 6 of § 112.⁵⁶¹

1. *Written description*

The Federal Circuit has stated that to satisfy the written description requirement a specification “must be sufficiently clear that persons of skill in the art will recognize that [the patentee] made the invention having [the claimed] limitations.”⁵⁶² The Federal Circuit held that the patentee satisfied this test in both *In re Hayes Microcomputer Products*⁵⁶³ and *In re Spina*.⁵⁶⁴

In *Hayes*, the patent at issue pertained to a communication modem having an improved escape sequence recognition capability.⁵⁶⁵ The claims of the Hayes patent defined the modem as having a “timing means for detecting each occurrence of a passage of a predetermined period of time” and a “means, operative . . . for detecting . . . [a] predetermined sequence of . . . data signals and for causing said modem to switch to said command mode.”⁵⁶⁶ The specification disclosed that a microprocessor was used in the modem and that the escape sequence that caused the modem to switch between modes of operation consisted of one full second of guardtime in which no data is sent, followed by a predetermined escape command, followed by another second of guardtime.⁵⁶⁷ After Hayes sent the accused infringer, Ven-Tel, and other modem manufacturers a notice of infringement of the Hayes patent, Ven-Tel filed a declaratory judgment action for invalidity and noninfringement of the Hayes patent.⁵⁶⁸ Hayes counterclaimed for infringement.⁵⁶⁹ A jury returned a verdict for Hayes, and the district court denied Ven-Tel’s motion for JNOV.⁵⁷⁰ Ven-Tel appealed the denial of its motion for JNOV on the ground that the “timing means” and “means, operative” were not disclosed in the specification as required by 35 U.S.C.

561. 35 U.S.C. § 112, ¶ 6 (1988); see *infra* note 618 (relating text of § 112, ¶ 6).

562. *Martin v. Mayer*, 823 F.2d 500, 505, 3 U.S.P.Q.2d (BNA) 1333, 1337 (Fed. Cir. 1987); see *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562-63, 16 U.S.P.Q.2d (BNA) 1111, 1115-16 (Fed. Cir. 1991) (providing that whether written description requirement is met is question of fact).

563. 982 F.2d 1527, 1536, 25 U.S.P.Q.2d (BNA) 1241, 1247 (Fed. Cir. 1992) (holding that sufficient evidence exists to support conclusion that drawings were sufficient for skilled artisan to understand subject matter of claimed invention).

564. 975 F.2d 854, 857, 24 U.S.P.Q.2d (BNA) 1142, 1144-45 (Fed. Cir. 1992).

565. *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1531, 25 U.S.P.Q.2d (BNA) 1241, 1243 (Fed. Cir. 1992).

566. *Id.*

567. *Id.* at 1531-32, 25 U.S.P.Q.2d (BNA) at 1244.

568. *Id.*

569. *Id.*

570. *Id.*

§ 112, ¶ 1.⁵⁷¹

The Federal Circuit upheld the jury's verdict that the Hayes patent specification met the written description requirement of § 112.⁵⁷² According to the court, substantial evidence (namely the testimony of the inventor) supported the conclusion that one skilled in the art would understand that the timing means was performed by the microprocessor.⁵⁷³ The court also rejected Ven-Tel's argument that to satisfy the written description requirement the specification must list the actual program or firmware for implementing the timing means.⁵⁷⁴ The court observed that the specification sufficiently disclosed the function of the firmware so that one of ordinary skill in the art would know how to implement the microprocessor timing means without the actual firmware listing.⁵⁷⁵ The Federal Circuit also concluded that substantial evidence supported the jury's conclusion that the "means, operative" limitation in the claims was supported by the specification,⁵⁷⁶ based on the testimony of Hayes' expert witness that the specification disclosed that a microprocessor performs the "means, operative" function.⁵⁷⁷ In addition, a portion of the specification discussed the microprocessor's programmed functions.⁵⁷⁸

In *In re Spina*,⁵⁷⁹ the Federal Circuit held that the Board erred in interpreting claims drafted in means-plus-function form.⁵⁸⁰ During prosecution, Spina copied a claim from the Barron patent to pro-

571. *Id.* at 1533, 25 U.S.P.Q.2d (BNA) at 1245. Ven-Tel also alleged that the "means, operative" limitation did not satisfy § 112, ¶ 6, which requires means-plus-function claims to have some structural support in the specification. *Id.*

572. *Id.*

573. *See id.* at 1533-34, 25 U.S.P.Q.2d (BNA) at 1245-46 (stating that "[d]isclosing a microprocessor capable of performing certain functions is sufficient to satisfy the requirement of section 112, first paragraph, when one skilled in the art would understand what is intended and know how to carry it out").

574. *Id.* at 1534, 25 U.S.P.Q.2d (BNA) at 1245 (reporting Ven-Tel's argument that microprocessor alone, without firmware, has no special functionality and thus does not sufficiently describe invention).

575. *Id.* Ven-Tel noted that the heart of the claimed invention was described in the specification in just 27 lines. *Id.* The Federal Circuit dismissed Ven-Tel's implication, however, noting that no length requirement exists for a disclosure because the adequacy of the description depends on its contents, not its length. *Id.*

576. *Id.* at 1535, 25 U.S.P.Q.2d (BNA) at 1246 (citing *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1574, 225 U.S.P.Q. (BNA) 236, 238 (Fed. Cir. 1985)) (holding that although some structure for means-plus-function limitation must be disclosed in specification, inventor need not disclose every means for implementing stated function).

577. *Id.*, 25 U.S.P.Q.2d (BNA) at 1247.

578. *Id.*, 25 U.S.P.Q.2d (BNA) at 1246-47.

579. 975 F.2d 854, 24 U.S.P.Q.2d (BNA) 1142 (Fed. Cir. 1992).

580. *In re Spina*, 975 F.2d 854, 858, 24 U.S.P.Q.2d (BNA) 1142, 1145 (Fed. Cir. 1992). Whether the specification contains a written description of the claimed invention is a question of fact, subject to review under the clearly erroneous error standard. *Id.* at 857, 24 U.S.P.Q.2d (BNA) at 1144 (citing *Utter v. Hiraga*, 845 F.2d 993, 998, 6 U.S.P.Q.2d (BNA) 1709, 1714 (Fed. Cir. 1988)).

voke an interference proceeding.⁵⁸¹ The examiner and the Board rejected Spina's claim on the ground that Spina's specification did not sufficiently describe the additional structure necessary to support the "connecting means" limitation of the copied claim.⁵⁸² Comparing Spina's disclosure of the "connecting means" with Barron's disclosure, the court concluded that the Barron patent's support for the means-plus-function limitation in question was not significantly different from that in Spina's specification and that Spina's disclosure was equivalent to Barron's "connecting means."⁵⁸³ The Federal Circuit therefore reversed the Board's finding, noting that "[a] claim is not interpreted one way in light of the specification in which it originally was granted, and another way in light of the specification into which it is copied as a proposed interference count."⁵⁸⁴

2. *Enablement*

To satisfy the § 112, ¶ 1 enablement requirement, the specification must disclose enough information to allow "someone skilled in the art to make and use" the claimed invention.⁵⁸⁵ In *Brooktree Corp. v. Advanced Micro Devices, Inc.*,⁵⁸⁶ the defendant, Advanced Micro Devices (AMD), alleged that the Brooktree patent was invalid because its disclosure was not enabling.⁵⁸⁷ AMD offered testimony from an expert witness that the operation of the distributive capacitances across the junctions of the transistor described in the specification and shown in the figures of the Brooktree patent were "physically impossible."⁵⁸⁸ Brooktree's expert witness testified, however, that although the figures depicted capacitors across the transistor's junctions, no capacitors were actually present.⁵⁸⁹ Brooktree's expert explained that the capacitors were shown in the figures merely for the purpose of presenting a model of the operation of the claimed circuit for two reasons, namely because a capacitance across the junc-

581. See *id.* at 855, 24 U.S.P.Q.2d (BNA) at 1143 (referring to U.S. Patent No. 4,844,252 issued to Barron).

582. *Id.* at 856, 24 U.S.P.Q.2d (BNA) at 1143.

583. *Id.* at 857-58, 24 U.S.P.Q.2d (BNA) at 1145.

584. *Id.* at 858, 24 U.S.P.Q.2d (BNA) at 1145.

585. 35 U.S.C. § 112, ¶ 1 (1988).

586. 977 F.2d 1555, 24 U.S.P.Q.2d (BNA) 1401 (Fed. Cir. 1992).

587. See *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571-72, 24 U.S.P.Q.2d (BNA) 1401, 1412 (Fed. Cir. 1992) (involving U.S. Patent No. 4,831,282, owned by Brooktree, and pertaining to digital-to-analog conversion circuitry using P-type MOS transistor).

588. *Id.* at 1571, 24 U.S.P.Q.2d (BNA) at 1412. AMD also alleged that Brooktree's patent lacked utility under 35 U.S.C. § 101 because the patent was totally incapable of achieving a useful result. *Id.*

589. *Id.* at 1572-73, 24 U.S.P.Q.2d (BNA) at 1413.

tions was inherent in that type of transistor, and because it was otherwise impossible to solve the circuit's operation mathematically.⁵⁹⁰ The jury returned a verdict that the specification was enabling.⁵⁹¹ The Federal Circuit held that the issues of utility and enablement in this case involved complex scientific principles that should be determined by the trier of fact.⁵⁹² Reviewing the testimony of the respective expert witnesses and the totality of the evidence presented, the court concluded that there was substantial evidence on which a reasonable jury could have held the Brooktree patent valid.⁵⁹³

3. *Best mode*

To establish that an inventor failed to disclose the best mode for practicing an invention, the Federal Circuit requires a subjective determination that the inventor contemplated a best mode of practicing the invention at the time of patent application filing and an objective determination that the specification concealed this best mode.⁵⁹⁴ In 1992, the Federal Circuit in *Shearing v. Iolab Corp.*⁵⁹⁵ and *In re Hayes Microcomputer Products*⁵⁹⁶ considered whether there was substantial evidence from which a reasonable jury could find that the patentee met the § 112 best mode requirement.

In *Shearing*, the patent pertained to a method of inserting into the posterior chamber of the human eye an artificial lens equipped with resilient curved strands (J-loops) for holding the lens in place behind the pupil.⁵⁹⁷ Two methods were known for implanting an artificial lens into the eye, "inferior loop compression" and "superior loop compression."⁵⁹⁸ Iolab argued that Shearing concealed the best mode for carrying out the claimed method by disclosing only "inferior loop compression" and not the better method of "superior loop compression," which Shearing in fact knew of and had used.⁵⁹⁹

590. *Id.*

591. *Id.*

592. *Id.*

593. *Id.*

594. *See Chemcast Corp. v. Arco Indus.*, 913 F.2d 923, 927, 16 U.S.P.Q.2d (BNA) 1033, 1036 (Fed. Cir. 1990) (holding that best mode disclosure is question of fact requiring consideration of subjective and objective components).

595. 975 F.2d 1541, 24 U.S.P.Q.2d (BNA) 1133 (Fed. Cir. 1992).

596. 982 F.2d 1527, 25 U.S.P.Q.2d (BNA) 1241 (Fed. Cir. 1992).

597. *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1542, 24 U.S.P.Q.2d (BNA) 1133, 1135 (Fed. Cir. 1992).

598. *See id.* at 1546, 24 U.S.P.Q.2d (BNA) 1135 (defining "inferior loop compression" to mean that only bottom (inferior) open-loops are bent in order to insert artificial lens into recipient's eye, whereas "superior loop compression" means that top (superior) open-loops as well as bottom open-loops are bent in order to insert artificial lens into eye).

599. *Id.*

The jury returned a verdict in favor of Shearing, and the district court denied Iolab's motion for JNOV.⁶⁰⁰

The Federal Circuit affirmed the district court's denial of Iolab's JNOV motion, holding that the record contained substantial evidence supporting the jury's verdict of no best mode violation.⁶⁰¹ The court noted that Dr. Shearing's testimony established that he had not conceived of a better way to practice the invention.⁶⁰² Dr. Shearing testified that when he filed the patent application he had contemplated any method that would result in a correctly positioned lens and did not consider one method better than any other.⁶⁰³ Dr. Shearing also testified that he did not exclusively use superior loop compression during the series of implantations prior to filing the application.⁶⁰⁴ The Federal Circuit also noted that the specification contained disclosure which suggested the superior loop compression method.⁶⁰⁵ The court held that based on this evidence, a reasonable jury could have found no best mode violation, thereby justifying the district court's denial of Iolab's motion for JNOV.⁶⁰⁶ By concluding that a best mode attack may be blunted by showing that the applicant did not know of or consider one method of practicing the invention better than any other,⁶⁰⁷ the court gave credence to the proposition that an inventor's subjective intent can play a critical role in the best mode analysis.⁶⁰⁸

Like its decision in *Shearing*, the Federal Circuit in *Hayes* indicated that an inventor's subjective belief that one mode of practicing an invention is no better than any other can be sufficient to rebut a best mode attack.⁶⁰⁹ In *Hayes*, the accused infringer, Ven-Tel, alleged that the inventor, Heatherington, did not disclose the best way of implementing the Hayes patent by failing to disclose the details of the firmware.⁶¹⁰ While the Federal Circuit agreed that Heatherington contemplated that the best mode for carrying out the inven-

600. *Id.*

601. *Id.*

602. *Id.*

603. *Id.*

604. *Id.*

605. *Id.*

606. *Id.*, 24 U.S.P.Q.2d (BNA) at 1138.

607. *Id.*, 24 U.S.P.Q.2d (BNA) at 1135.

608. *See id.* (weighing heavily Shearing's testimony that he did not conceive that superior loop compression was best mode of implementation).

609. *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1537, 25 U.S.P.Q.2d (BNA) 1241, 1248 (Fed. Cir. 1992) (relying on subjective inquiry into inventor's knowledge of best mode of implementation).

610. *Id.* at 1536-37, 25 U.S.P.Q.2d (BNA) at 1247-48 (indicating Ven-Tel's further allegations that 11 features of commercial embodiment of Hayes patent were not disclosed in specification and were concealed as trade secrets).

tion included storing a firmware code listing to run the microprocessor, the court disagreed that disclosing the specific firmware listing was necessary to satisfy the best mode requirement.⁶¹¹ Heatherington testified that he considered the best mode of practicing the invention to be the storing of a firmware listing, although not necessarily a listing of the instructions he actually used, and that he did not consider one firmware program to be better than any other program.⁶¹² Consequently, the court held that a specific firmware listing was not needed to satisfy the best mode requirement.⁶¹³

Similarly, the court rejected Ven-Tel's argument that Heatherington failed to disclose the use of a software timer as the best mode for implementing the timing means of the Hayes patent.⁶¹⁴ The court noted that both hardware and software timers were disclosed in the specification and that the inventor did not consider either type of timer to be better than the other.⁶¹⁵ Lastly, the court rejected Ven-Tel's argument that Heatherington's failure to disclose the specific details of the escape command violated the best mode requirement.⁶¹⁶ The Federal Circuit found persuasive Heatherington's testimony that the specific details of the escape command, such as the "-+ + +-" used to describe the escape code, were arbitrarily selected and therefore not considered part of the best mode.⁶¹⁷

4. *Means-plus-function claims*

Paragraph six of § 112 permits an element or limitation in a claim to be expressed as a means for performing a function without reciting the corresponding structure.⁶¹⁸ The interpretation of this paragraph has sparked a conflict between the Federal Circuit and the

611. *Id.* at 1537-38, 25 U.S.P.Q.2d (BNA) at 1248-49.

612. *Id.*

613. *See id.* at 1537, 25 U.S.P.Q.2d (BNA) at 1248 (citing *In re Sherwood*, 613 F.2d 809, 816-17, 204 U.S.P.Q. (BNA) 537, 544 (C.C.P.A. 1980), *cert. denied*, 450 U.S. 994 (1981), which stated that specific computer program need not be disclosed so long as specification reasonably outlines elements necessary to communicate concepts of particular program to one having ordinary skill in art).

614. *Id.* at 1538, 25 U.S.P.Q.2d (BNA) at 1249.

615. *Id.*

616. *Id.* at 1538-39, 25 U.S.P.Q.2d (BNA) at 1249-50.

617. *Id.*

618. Paragraph 6 of § 112 provides as follows:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6 (1988).

PTO. In a recent series of cases involving appeals from the PTO, the Federal Circuit has reversed the Board's interpretation of means-plus-function clauses, holding that such claims cover the corresponding structure described in the specification and the equivalents thereof.⁶¹⁹ Notwithstanding Federal Circuit jurisprudence, the PTO asserts that, for patentability purposes, means-plus-function clauses cover any structure capable of performing the stated function.⁶²⁰

In 1992, two Federal Circuit opinions addressed § 112, ¶ 6, as it applies to means-plus-function claims, but neither attempted to resolve the ongoing Federal Circuit-PTO conflict. In *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*,⁶²¹ the Federal Circuit considered the patentability of "means for" claims containing mathematical algorithms and stated that "the statutory nature *vel non* of [such] claims is determined with reference to the description [of the invention] in the . . . patent specification."⁶²² While the holding in *Arrhythmia* is consistent with existing Federal Circuit case law,⁶²³ it

619. See, e.g., *In re Bond*, 910 F.2d 831, 833, 15 U.S.P.Q.2d (BNA) 1566, 1568 (Fed. Cir. 1990) (interpreting means-plus-function limitation to cover corresponding structure, material, or acts described in specification and holding that Board failed to find that means of petitioner's claim and means embodied in earlier device were structurally equivalent); *In re Iwahashi*, 888 F.2d 1370, 1375, 12 U.S.P.Q.2d (BNA) 1908, 1911-12 (Fed. Cir. 1989) (holding that each means-plus-function claim is construed to cover corresponding structure and equivalents thereof described in the specification). This is the same test the Federal Circuit uses to determine the scope of means-plus-function claims for literal infringement purposes. See, e.g., *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1540-41, 25 U.S.P.Q.2d 1241, 1251 (Fed. Cir. 1992) ("Literal infringement may be found when an accused device falls within the asserted claims as properly construed."); *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 25 U.S.P.Q.2d (BNA) 236, 239 (Fed. Cir. 1985) (finding that sole question is whether single means used is same as or equivalent of corresponding structure in patentee's specification).

620. After the Federal Circuit's decision in *In re Bond*, the PTO issued a directive making clear that the Office interprets means clauses to cover any means for performing the recited function, without regard to the structure disclosed in the specification. See Harry F. Manbeck, Jr., *Applicability of the Last Paragraph of 35 U.S.C. § 112 to Patentability Determinations Before the Patent and Trademark Office*, 1134 TRADEMARKS OFFICIAL GAZETTE 633, 637-38 (Jan. 7, 1992). The Patent Office reasoned that despite *In re Bond*, the sixth paragraph of § 112 does not apply in proceeding before the Patent Office, and even if it does, it does not limit pending claims to the specification and equivalents thereof, because the Patent Office is required to give claims their broadest reasonable interpretation. *Id.* at 633.

621. 958 F.2d 1053, 22 U.S.P.Q.2d (BNA) 1033 (Fed. Cir. 1992).

622. *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1060, 22 U.S.P.Q.2d (BNA) 1033, 1038 (Fed. Cir. 1992) (citing *In re Iwahashi*, 888 F.2d 1370, 1375, 12 U.S.P.Q.2d (BNA) 1908, 1911-12 (Fed. Cir. 1989)).

623. *Compare Arrhythmia*, 958 F.2d at 1060-61, 22 U.S.P.Q.2d (BNA) at 1037-39 (reversing invalidity of patent because use of mathematical formulae to describe structure and operation of apparatus does not make it nonstatutory) with *In re Bond*, 910 F.2d 831, 833, 15 U.S.P.Q.2d (BNA) 1566, 1568-69 (Fed. Cir. 1990) (stating that statute requires that means-plus-function limitation be construed to cover structure and equivalents) and *In re Iwahashi*, 888 F.2d 1370, 1375, 12 U.S.P.Q.2d (BNA) 1908, 1912 (Fed. Cir. 1989) ("[E]ach means-plus-function definition shall be construed to cover the corresponding structure . . . and equivalents.").

remains to be seen how the decision will influence current PTO practice.

In a second case, *In re Spina*,⁶²⁴ the Federal Circuit considered the interpretation of a means-plus-function claim copied to provoke an interference, and reversed the Board's decision for failing to properly construe such a claim.⁶²⁵ The Board had held that the claim that Spina copied from the Barron patent to provoke an interference was invalid because the claim was not supported by the specific structure disclosed in Spina's specification.⁶²⁶ Rather than overturning the Board for an overly broad interpretation of a means-plus-function clause, however, the Federal Circuit reversed the Board for an overly narrow interpretation of the means-plus-function claim at issue.⁶²⁷ The Federal Circuit held that because the Board considered only the precise structures shown in the Spina and Barron patents, the Board's interpretation of "connecting means" was an improperly restrictive application of § 112, ¶ 6.⁶²⁸ The court concluded that the Board failed to consider structures equivalent to those shown in Spina's application.⁶²⁹

The Federal Circuit has meanwhile agreed to *in banc* hearings in two *ex parte* appeals from the PTO in which the interpretation of § 112, ¶ 6 for patentability purposes is at issue.⁶³⁰ It remains to be seen whether these decisions will resolve the conflict between the Federal Circuit and the PTO.⁶³¹

624. 975 F.2d 854, 24 U.S.P.Q.2d (BNA) 1142 (Fed. Cir. 1992).

625. *In re Spina*, 975 F.2d 854, 856, 24 U.S.P.Q.2d (BNA) 1142, 1144-45 (Fed. Cir. 1992).

626. *Id.* The Board held that Spina's specification lacked structure supporting the "connecting means" limitation present in the copied claim. *Id.* In response, Spina argued that a lip that was shown in the figures served as the connecting means that held the parts of the apparatus together. *Id.*

627. *Id.*, 25 U.S.P.Q.2d (BNA) at 1145.

628. *Id.*

629. *Id.*

630. See *In re Donaldson Co.*, 981 F.2d 1236, 1236 (Fed. Cir. 1992) (ordering hearing of appeal from decision by Board); *In re Alappat*, 980 F.2d 1439, 1439-40 (Fed. Cir. 1992) (setting issues to be addressed in rehearing involving interpretation of § 112, ¶ 6).

631. One commentator opines that the Federal Circuit might resolve the conflict by recognizing that different standards apply to means-plus-function claims depending on whether the issue is patentability or infringement, similar to its approach to product-by-process claims in *Atlantic Thermoplastics*. See Kenneth Adamo, *The Double Standard—In re Bond, The Office, 35 U.S.C. § 112, ¶ 6 and Atlantic Thermoplastics Co.*, 2 FED. CIR. B.J. 137, 179 (1992) (analyzing application of *Atlantic Thermoplastics'* double standard to means-plus-function patentability versus validity claims). In an analogous manner, another Federal Circuit panel recently explained that "equivalency" under § 112, ¶ 6 is different than under the doctrine of equivalence. See *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042-43, 25 U.S.P.Q.2d (BNA) 1451, 1454 (Fed. Cir. 1993). According to the court in *Valmont*, "[i]n the context of section 112, . . . an equivalent results from an insubstantial change which adds nothing of significance to the structure, material, or acts disclosed in the patent specification." *Id.* at 1043, 25 U.S.P.Q.2d (BNA) at 1455. Equivalency under the doctrine of equivalents involves the *Graver Tank* equitable tripartite function-way-result test in which equivalency results from an insubstantial change that adds nothing of significance to the claimed invention.

E. Inventorship and Derivation—35 U.S.C. § 116 and § 102(f)

1. Joint inventorship under 35 U.S.C. § 116

In *Kimberly-Clark Corp. v. Proctor & Gamble Distributing Co.*,⁶³² the Federal Circuit interpreted joint inventorship under 35 U.S.C. § 116 to include a collaboration requirement.⁶³³ Specifically, the court held that the 1984 amendments to § 116 did not eliminate the collaboration requirement in order for two or more individuals to be considered joint inventors.⁶³⁴ In *Kimberly-Clark*, P&G and K-C each claimed priority of invention for the interfering claims in their respective patents relating to disposable diapers.⁶³⁵ P&G had sought to antedate K-C's date of invention by arguing that the P&G patent, originally attributed to Lawson, was in fact jointly invented by Buell, Blevins, and Lawson, and thus entitled to an earlier invention date corresponding to Buell's work in March 1979 and February 1982.⁶³⁶ The district court, however, found that although Lawson, Buell, and Blevins had all worked for P&G at that time, Lawson worked alone and was unaware of the earlier work of Buell or Blevins and absent a showing of collaboration among the would-be co-inventors, P&G was not entitled to priority of invention.⁶³⁷

On appeal, P&G argued that the 1984 amendments to 35 U.S.C. § 116 defined inventorship broadly and eliminated any collaboration requirement.⁶³⁸ Therefore, according to P&G, two or more people could be joint inventors even though they did not know of each other's work.⁶³⁹ Referring to the legislative history of the 1984 amendments, the Federal Circuit held that Congress did not intend

Id. at 1043, 25 U.S.P.Q.2d (BNA) at 1455; *see infra* notes 940-54 and accompanying text (discussing Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605 (1950) and doctrine of equivalents).

632. 973 F.2d 911, 23 U.S.P.Q.2d (BNA) 1921 (Fed. Cir. 1992).

633. *Kimberly-Clark Corp. v. Proctor & Gamble Distrib. Co.*, 973 F.2d 911, 915-17, 23 U.S.P.Q.2d (BNA) 1921, 1925-26 (Fed. Cir. 1992); *see* 35 U.S.C. § 116 (1988). Section 116 provides:

When an invention is made by two or more persons jointly, they shall apply for patent jointly and each make the required oath, except as otherwise provided in this title. *Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.*

Patent Law Amendments Act of 1984, Pub. L. No. 98-622, § 104(a), 98 Stat. 3383, 3384 (codified as amended in 35 U.S.C. § 116 (1988)) (emphasis added to show text added by 1984 amendments).

634. *Kimberly-Clark*, 973 F.2d at 915-17, 23 U.S.P.Q.2d (BNA) at 1924-26.

635. *Id.* at 913, 23 U.S.P.Q.2d (BNA) at 1922-23.

636. *Id.* at 912-13, 23 U.S.P.Q.2d (BNA) at 1922-23.

637. *Id.*

638. *Id.* at 915, 23 U.S.P.Q.2d (BNA) at 1925.

639. *Id.*

to eliminate the collaboration requirement for joint inventorship.⁶⁴⁰ Rather, Congress intended the 1984 amendments to clarify the law of joint inventorship by codifying the principles stated in *Monsanto Co. v. Kamp*.⁶⁴¹ Despite P&G's arguments to the contrary, the Federal Circuit interpreted *Monsanto* as holding that joint inventorship requires that the invention be a product of the collaboration of two or more persons working toward the same end and producing the invention by their combined efforts.⁶⁴² The Federal Circuit also rejected P&G's argument that 35 U.S.C. § 103, ¶ 2, which accompanied the 1984 amendments to § 116, eliminated the collaboration requirement of § 116.⁶⁴³ The court held that § 103 was amended so that, under certain conditions, prior work by a coworker would not be treated as prior art under 35 U.S.C. § 102(f) and § 102(g) for purposes of § 103 with respect to a later invention by another coworker, but did not eliminate the collaboration requirement for joint inventorship.⁶⁴⁴ The court therefore affirmed the district court with the explanation that "individuals [simply] can not be joint inventors if they are completely ignorant of what each other has done until years after their individual independent efforts."⁶⁴⁵

2. Derivation of invention under 35 U.S.C. § 102(f)

In *New England Braiding Co. v. A.W. Chesterton Co.*,⁶⁴⁶ the Federal

640. *Id.* at 916-17, 23 U.S.P.Q.2d (BNA) at 1925-26; see Patent Law Amendments Act of 1984, S. REP. NO. 663, 98th Cong., 2d Sess. 8 (1984) (indicating desire to allow joint inventorship in accordance with modern team research and adopting rationale of *Monsanto Co. v. Kamp*, 269 F. Supp. 818, 154 U.S.P.Q. (BNA) 259 (D.D.C. 1967), which held that invention is joint if each makes some original, though partial contribution to final solution of problem, despite differences in roles and relative contribution to solution).

641. 269 F. Supp. 818, 154 U.S.P.Q. (BNA) 259 (D.D.C. 1967), cited in *Kimberly-Clark*, 973 F.2d at 916-17, 23 U.S.P.Q.2d (BNA) at 1925-26.

642. *Kimberly-Clark*, 973 F.2d at 916-17, 23 U.S.P.Q.2d (BNA) at 1925-26 (interpreting *Monsanto* as "clearly contemplat[ing] collaboration, working together, even if not physically").

643. *Id.*; see Patent Law Amendments Act of 1984, Pub. L. No. 98-622, § 104(a), 98 Stat. 3383, 3384 (amending 35 U.S.C. § 103 (1982) and precluding application of § 103 as bar to patentability for subject matter developed by another, which qualifies as prior art only under § 102(f) and (g)), where cited subject matter and claimed invention were owned by same person or subject to obligation of assignment to same person at time of invention).

644. See *Kimberly-Clark*, 973 F.2d at 917, 23 U.S.P.Q.2d (BNA) at 1926 (citing *Innovation and Patent Law Reform: Hearing on H.R. 3285, H.R. 3286 and H.R. 3605 Before the Subcomm. on Courts, Civil Liberties, and the Administration of Justice of the House Comm. on the Judiciary*, 98th Cong., 2d Sess. 26-27, 61-62, 71-72 (1984) (reporting statements and written testimony of G. Mossinghoff, Commissioner of Patents and Trademarks, and H. Manbeck, Jr., general counsel, General Electric Company, that amendment would foster collaborative research and development in accordance with *General Motors v. Toyota*, 667 F.2d 504 (6th Cir. 1981)); see also 130 CONG. REC. 28,071 (1984), reprinted in 1984 U.S.C.C.A.N. 5827, 5833-34 (describing congressional intent to encourage sharing of information among research teams by eliminating provision that nonpublic earlier inventions of coworkers can be considered prior art for purposes of § 103).

645. *Kimberly-Clark*, 973 F.2d at 917, 23 U.S.P.Q.2d (BNA) at 1926.

646. 970 F.2d 878, 23 U.S.P.Q.2d (BNA) 1622 (Fed. Cir. 1992).

Circuit addressed a derivation of invention issue in the context of an appeal from an order denying a preliminary injunction motion.⁶⁴⁷ The record established that Van Vleet, a Chesterton engineer, experimented with variously shaped braided packing used in sealing rotating shafts.⁶⁴⁸ Champlin, another engineer, who was also a Chesterton employee at that time, left Chesterton to start his own braided packing business and eventually obtained patents on a trapezoidal-shaped braided packing especially suited for preventing fluid leakage around rotating shafts.⁶⁴⁹ Champlin licensed his patents to the New England Braiding Company (NEBCO), who then sued Chesterton for infringement and moved for a preliminary injunction.⁶⁵⁰ In responding to the motion, Chesterton presented testimony that Van Vleet was in fact the first true inventor, that Champlin was involved with the development work while employed by Chesterton, and that Champlin stated that if Chesterton did not patent the packing, then he wanted to do so.⁶⁵¹ The district court denied NEBCO's motion, finding that Champlin likely derived the invention from Van Vleet.⁶⁵²

The Federal Circuit held that the district court was within its discretion when it made a credibility determination in finding Champlin was likely not the first true inventor.⁶⁵³ The court specifically noted that it did not address whether derivation was proved.⁶⁵⁴ Instead, the Federal Circuit was only concerned with whether the factual premise relied on by the district court was clearly erroneous and whether denying the preliminary injunction was an abuse of the district court's discretion.⁶⁵⁵

F. Double Patenting

1. Claim interpretation

Double patenting prevents an applicant from obtaining more than one patent on a claimed invention, or on obvious variants of a claimed invention, to thereby extend a patent term beyond the stat-

647. *New England Braiding Co. v. A.W. Chesterton Co.*, 970 F.2d 878, 884, 23 U.S.P.Q.2d (BNA) 1622, 1626 (Fed. Cir. 1992).

648. *New England Braiding*, 970 F.2d at 881, 23 U.S.P.Q.2d (BNA) at 1624.

649. *Id.*

650. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625.

651. *Id.* at 883-84, 23 U.S.P.Q.2d (BNA) at 1626.

652. *Id.* at 884, 23 U.S.P.Q.2d (BNA) at 1626.

653. *See id.* (stating that credibility determinations are well within court's discretion when ruling on preliminary injunction motion).

654. *Id.*

655. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625.

utory seventeen-year period.⁶⁵⁶ Because double patenting is concerned only with what a patent claims, the first step in determining whether a double patenting problem exists is to interpret the patent claims as a whole. In *General Foods Corp. v. Studiengesellschaft Kohle mbH*,⁶⁵⁷ the Federal Circuit reversed the district court's judgment of invalidity based on obviousness-type double patenting because the disclosure of the claims from the earlier-issued patent had been misapplied to the patent in suit.⁶⁵⁸ General Foods (GF) sought a declaration that the Studiengesellschaft Kohle mbH (SGK) patents pertaining to decaffeination of coffee were not infringed, invalid for obviousness-type double patenting, and unenforceable.⁶⁵⁹ The district court held claims 1 and 4 of SGK's U.S. Patent No. 4,260,639 (the '639 patent)⁶⁶⁰ invalid on the sole ground of obviousness-type double patenting over the step (a) in claim 1 in SGK's earlier issued and expired U.S. Patent No. 3,806,619 (the '619 patent).⁶⁶¹

The Federal Circuit reversed the district court,⁶⁶² holding that the district court failed to consider whether the claims as a whole were patentably distinct from each other.⁶⁶³ The court found the decaf-

656. See *In re Braat*, 937 F.2d 589, 592, 19 U.S.P.Q.2d (BNA) 1289, 1291-92 (Fed. Cir. 1991) (describing policy supporting judicially created doctrine against double patenting).

657. 972 F.2d 1272, 23 U.S.P.Q.2d (BNA) 1839 (Fed. Cir. 1992).

658. See *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1283, 23 U.S.P.Q.2d (BNA) 1839, 1847 (Fed. Cir. 1992) (finding that trial court misapplied law by focusing on information disclosed in first patent rather than determining what invention was defined in earlier claim).

659. See *id.* at 1274, 23 U.S.P.Q.2d (BNA) at 1840 (describing initiation of GF lawsuit that took place after GF's status as exclusive licensee of number of SGK's U.S. patents pertaining to decaffeination of raw coffee was modified to nonexclusive licensee 10 years after start of license agreement for reasons not set forth in court's opinion).

660. See *id.* at 1276, 23 U.S.P.Q.2d (BNA) at 1841 (providing claims of U.S. Patent No. 4,260,639). Claims 1 and 4 of the '639 patent read as follows:

1. A process for the decaffeination of raw coffee which comprises contacting the raw coffee with water-moist carbon dioxide above its critical temperature and critical pressure to effect removal of caffeine therefrom and recovering a substantially decaffeinated coffee, the amount of water in the carbon dioxide being sufficient to effectuate said removal of the caffeine from the coffee.

....

4. A process as claimed in claim 1, in which the contact with the moist carbon dioxide is effected for a period of from 5 to 30 hours.

Id.

661. *Id.* at 1273-74, 23 U.S.P.Q.2d (BNA) at 1839-40; see *id.* at 1277, 23 U.S.P.Q.2d (BNA) at 1842 (describing claims of U.S. Patent No. 3,806,619, which relates to efficient process for removing caffeine of 95% purity from supercritical carbon dioxide solvent that is used for extraction of caffeine from raw coffee). Claim 1 of the '619 patent reads, in pertinent part:

1. A process for obtaining caffein[e] from green coffee which comprises
 a. contacting moist carbon dioxide in supercritical state with the coffee in a caffein[e] absorption zone for absorption of caffein[e] by the moist carbon dioxide,
 b. withdrawing the moist carbon dioxide from the absorption zone and contacting it with water for extraction of caffein[e]

Id.

662. *Id.* at 1273, 23 U.S.P.Q.2d (BNA) at 1839.

663. See *id.* at 1278-79, 23 U.S.P.Q.2d (BNA) at 1843-44 (citing, in support of its holding,

feination process of the '639 patent to be patentably distinct from the caffeine recovery process of the '619 patent.⁶⁶⁴ The '639 patent claims 1 and 4 defined a process of decaffeinating raw coffee with supercritical water-moist carbon dioxide, but neither recited anything about what happens to the caffeine.⁶⁶⁵ In contrast, the '619 patent claim 1 defined a nine-step process aimed at recovering 95% pure caffeine from the coffee beans, or in other words, was directed specifically to what happens to the caffeine during the decaffeination process.⁶⁶⁶ The two claimed inventions were thus separate, patentably distinct inventions.⁶⁶⁷ The court stated that "[t]he fact that it may be desirable to use both inventions in the same commercial process does not result . . . in any recognized form of double patenting."⁶⁶⁸

Although the Federal Circuit resolved the double patenting issue by finding the two processes to be patentably distinct, the court also proceeded to explain how the district court went awry in its analysis of the obviousness-type double patenting issue.⁶⁶⁹ In misconstruing the claims, the district court failed to recognize that the inventions claimed in the later-granted '639 patent were not protected by the earlier-granted '619 patent claims because no '619 patent claim covered the 1639 decaffeination process.⁶⁷⁰ According to the Federal Circuit, the trial court's principal error was holding the '639 patent claims obvious from step (a) in claim 1 of the '619 patent.⁶⁷¹ The Federal Circuit explained that in double patenting determinations, a claim is to be read as a whole in ascertaining what invention it defines.⁶⁷² The district court also erred by using step (a) in claim 1 of the '619 patent as though it were a prior art disclosure being applied

In re Vogel, 422 F.2d 438, 441, 164 U.S.P.Q. (BNA) 619, 621-22 (C.C.P.A. 1970) (holding that there are two questions in double patenting: first, whether same invention is being claimed twice, and if not, second, whether any claim in application defines merely obvious variation of invention claimed in patent asserted as supporting double patenting); *In re Braat*, 937 F.2d 589, 594, 19 U.S.P.Q.2d (BNA) 1289, 1293 (Fed. Cir. 1991) (finding rejection based on double patenting to be in error if claims as whole are determined to be patentably distinct); *Symbol Technologies Inc. v. Opticon Inc.*, 935 F.2d 1569, 1580, 19 U.S.P.Q.2d (BNA) 1241, 1249 (Fed. Cir. 1991) (stating that ultimate inquiry in determining double patenting is whether claims as whole are patentably distinct); *In re Borah*, 354 F.2d 1009, 1017, 148 U.S.P.Q. (BNA) 213, 220 (C.C.P.A. 1966) (holding that crux of obviousness-type double patenting inquiry lies in comparison of claims)).

664. *General Foods*, 972 F.2d at 1278, 23 U.S.P.Q.2d (BNA) at 1843.

665. *Id.*

666. *Id.* at 1276, 23 U.S.P.Q.2d (BNA) at 1842.

667. *Id.* at 1278, 23 U.S.P.Q.2d (BNA) at 1844.

668. *Id.* at 1279, 23 U.S.P.Q.2d (BNA) at 1844.

669. *Id.* at 1280-81, 23 U.S.P.Q.2d (BNA) at 1845-46.

670. *Id.* at 1282, 23 U.S.P.Q.2d (BNA) at 1846-47.

671. *Id.* at 1280, 23 U.S.P.Q.2d (BNA) at 1845.

672. *See id.* (finding error by trial court in focusing on one step of patent claim, stating that "step 1(a) is not 'claimed' in the '619 patent, nor is it 'patented' or 'covered'. . . . What is

to support an obviousness rejection under 35 U.S.C. § 103.⁶⁷³ The Federal Circuit surveyed its precedent and explained that “the disclosure of a patent cited in support of a double patenting rejection cannot be used as though it were prior art, even where the disclosure is found in the claims.”⁶⁷⁴ Stated another way, “claims, being definitions which must be read as a whole, do not ‘claim’ or cover or protect all that their words may disclose.”⁶⁷⁵

2. Terminal disclaimers

To overcome an obviousness-type double patenting rejection, patent applicants frequently file terminal disclaimers shortening the term of a second patent to coincide with the term of the first issued patent over which the rejection lies. In *Ortho Pharmaceutical Corp. v. Smith*,⁶⁷⁶ the Federal Circuit reaffirmed the principle that a voluntarily filed terminal disclaimer does not act as an estoppel or admission that the claimed invention was obvious in view of a prior claimed invention.⁶⁷⁷ According to the Federal Circuit, a terminal disclaimer merely fixes an earlier date for the patent to expire.⁶⁷⁸ The disclaimer does not “tie the validity of . . . [one] patent with . . . any other patent.”⁶⁷⁹

An appellee, American Home Products (AHP), owned U.S. Patent No. 3,959,322 (the '322 patent), which pertained to chemical compounds used in oral contraceptives.⁶⁸⁰ The claims of the '322 patent defined a subgenus of the genus defined in the claims of the earlier issued U.S. Patent No. 3,850,911 (the '911 patent).⁶⁸¹ A ter-

patented in claim 1 of the '619 patent is a 9-step caffeine recovery process, nothing more and nothing less.”)

673. *Id.* at 1281, 23 U.S.P.Q.2d (BNA) at 1846.

674. *See id.*, 23 U.S.P.Q.2d (BNA) at 1846 (citing *In re Braat*, 937 F.2d 589, 594 n.5, 19 U.S.P.Q.2d (BNA) 1289, 1293 n.5 (Fed. Cir. 1991) (holding that patent disclosure must not be used as prior art); *In re Vogel*, 442 F.2d 438, 441, 164 U.S.P.Q. (BNA) 619, 622 (C.C.P.A. 1970) (same); *In re Plank*, 399 F.2d 241, 242, 158 U.S.P.Q. (BNA) 328, 329 (C.C.P.A. 1968) (same)).

675. *Id.* at 1274, 23 U.S.P.Q.2d (BNA) at 1840.

676. 959 F.2d 936, 22 U.S.P.Q.2d (BNA) 1119 (Fed. Cir. 1992); *see also infra* notes 1103-17 and accompanying text (discussing case with regard to attorney's fees issue); *infra* notes 1221-30 and accompanying text (discussing case with regard to modifying permanent injunctions issue).

677. *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 941-42, 22 U.S.P.Q.2d (BNA) 1119, 1123-24 (Fed. Cir. 1992) (citing *Quad Envtl. Technologies Corp. v. Union Sanitary Dist.*, 946 F.2d 870, 874, 20 U.S.P.Q.2d (BNA) 1392, 1394-95 (Fed. Cir. 1991) (holding that terminal disclaimer is not admission of obviousness for invention claimed in later-filed application)).

678. *Id.*, 22 U.S.P.Q.2d (BNA) at 1123.

679. *Id.*

680. *Id.* at 937, 22 U.S.P.Q.2d (BNA) at 1120-21 (describing as relevant, claims 5, 19, 40, and 43 of '322 patent, all of which define class of carbon-based chemical compounds with distinctive four-ring structure consisting of three hexagonal rings and one pentagonal ring).

681. *Id.* at 941, 22 U.S.P.Q.2d (BNA) at 1123 (reporting that in addition to '322 patent,

minal disclaimer set the claims of the '322 patent to expire concurrently with the '911 patent on November 26, 1991.⁶⁸² Ortho, the appellant, filed a declaratory judgment action against AHP to declare the '322 patent invalid, and AHP counterclaimed for infringement.⁶⁸³ After a bench trial, the district court held that Ortho failed to prove patent invalidity for double patenting or obviousness under 35 U.S.C. § 103.⁶⁸⁴

On appeal, the Federal Circuit held that a voluntarily filed terminal disclaimer was not an admission of obviousness-type double patenting.⁶⁸⁵ Ortho had argued that because the terminal disclaimer was an admission that the '322 patent claims were obvious variants of the '911 patent claims, the '322 patent claims were also obvious variants of, and thus invalid, over claims in another patent over which the '911 claims were invalid for double patenting.⁶⁸⁶ The Federal Circuit rejected Ortho's "indirect" obviousness-type double patenting defense, and held that the terminal disclaimer only shortened the term of the '322 patent to coincide with the '911 patent, nothing more.⁶⁸⁷ Therefore, even if the '911 patent claims were invalid for double patenting over claims in another Ortho patent, the '322 patent claims were not invalid under double patenting principles over claims in the other patent merely because the '322 patent was voluntarily terminally disclaimed to expire with the '911

four other patents: U.S. Patent Nos. 3,407,217, 3,547,909, 3,391,165, and 3,417,081, originated from the '911 patent).

682. *Id.*

683. *Id.* at 937, 22 U.S.P.Q.2d (BNA) at 1121 (describing declaratory judgment action by Ortho and Johnson & Johnson, Ortho's parent company and infringement counterclaims by AHP).

684. *Id.* at 938, 22 U.S.P.Q.2d (BNA) at 1121. Before trial, the district court granted AHP a preliminary injunction that prevented Ortho from further activity related to the making, using, or selling of Ortho's steroid, norgestimate. *Id.* The preliminary injunction prohibited Ortho from using any data generated from activity related to its norgestimate product, including the transmission of data to any foreign affiliates or any third party except the FDA for agency approval. *Id.* After trial, the district court granted AHP a permanent injunction. *Id.* The district court, however, refused to continue prohibiting Ortho from transmitting data generated from the use, sale, or manufacture of norgestimate-containing products to Ortho's foreign affiliates. *Id.* at 940, 22 U.S.P.Q.2d (BNA) at 1122. The district court also refused AHP's request to extend the injunction for two years past the expiration of the '322 patent. *Id.*

685. *Id.* at 941, 22 U.S.P.Q.2d (BNA) at 1123-24.

686. *Id.*, 22 U.S.P.Q.2d (BNA) at 1123 (stating that Ortho's estoppel argument relied on *Quad Envtl. Technologies Corp. v. Union Sanitary Dist.*, 17 U.S.P.Q.2d (BNA) 1667 (N.D. Cal. 1990) (holding that terminal disclaimer filed was admission that estopped patentee from arguing nonobviousness), *rev'd*, 946 F.2d 870, 20 U.S.P.Q.2d (BNA) 1392 (Fed. Cir. 1991)). The Federal Circuit announced its decision in *Quad Environmental* shortly after the oral argument in *Ortho*. *Ortho*, 959 F.2d at 941-42, 22 U.S.P.Q.2d (BNA) at 1124.

687. *Ortho*, 959 F.2d at 941-42, 22 U.S.P.Q.2d (BNA) at 1123-24 (citing *Quad Envtl. Technologies Corp. v. Union Sanitary Dist.*, 946 F.2d 870, 874, 20 U.S.P.Q.2d (BNA) 1392, 1394-95 (Fed. Cir. 1991), which held that filing terminal disclaimer raises neither presumption nor estoppel on merits of rejection).

patent.⁶⁸⁸

Citing *Gerber Garment Technology, Inc. v. Lectra Systems, Inc.*,⁶⁸⁹ Ortho also directly attacked claim 1 of the '322 patent on the basis that if one claim in a patent is held invalid for double patenting then, whether asserted or not, all claims residing in the same patent are also invalid.⁶⁹⁰ The Federal Circuit, however, held that *Gerber* was not controlling because in *Gerber*, only two claims were allegedly infringed, and each claim was invalid for double patenting, whereas in *Ortho* AHP was not asserting all of the '322 patent claims.⁶⁹¹ The court thus refused to extrapolate from *Gerber* the proposition that all claims are invalid when only one unasserted claim is found invalid for double patenting.⁶⁹² To do otherwise would flout 35 U.S.C. § 282, which states patent claims are presumed valid, and each claim is considered independently of the other claims in the same patent.⁶⁹³ Accordingly, even if unasserted claim 1 of the '322 patent was invalid because of double patenting, it would not necessarily require invalidating the remaining contested '322 patent claims.⁶⁹⁴ Ortho further asserted that the '322 patent specification included examples disclosing, as starting materials for the '322 claimed compounds, compounds claimed in still other AHP patents, and by doing so AHP admitted those starting materials were also claimed in the '322 patent.⁶⁹⁵ The court was not persuaded by this argument, however, because the claims, not the specification, define the invention for purposes of double patenting determinations.⁶⁹⁶

688. *Id.*

689. 916 F.2d 683, 16 U.S.P.Q.2d (BNA) 1436 (Fed. Cir. 1989).

690. *Ortho*, 959 F.2d at 942, 22 U.S.P.Q.2d (BNA) at 1124 (citing *Gerber Garment Technology, Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 686, 16 U.S.P.Q.2d (BNA) 1436, 1439 (Fed. Cir. 1989)). The Federal Circuit noted that AHP had not asserted claim 1 against Ortho. *Id.* Ortho sought to have claim 1 declared invalid for double patenting, asserting that if claim 1 is invalid then all claims of the '322 patent are invalid. *Id.*

691. *Id.* (citing *Gerber*, 916 F.2d at 685, 689, 16 U.S.P.Q.2d (BNA) at 1437, 1441).

692. *Id.* (citing *Gerber*, 916 F.2d at 689, 16 U.S.P.Q.2d (BNA) at 1441). In *Gerber*, the prior patent had already expired before the later-issued patent claims were held invalid for obvious-type double patenting. *Id.* The later-issued patent could not be saved by a terminal disclaimer. *Id.*

693. *Id.* (distinguishing effect of terminal disclaimer during patent prosecution when presumption of validity under 35 U.S.C. § 282 does not apply); see 35 U.S.C. § 282 (1988) (providing that patent shall be presumed valid and that each claim of patent shall be presumed valid independently of validity of other claims).

694. *Ortho*, 959 F.2d at 942, 22 U.S.P.Q.2d (BNA) at 1124 (interpreting 35 U.S.C. § 282 as requiring that each individual claim of patent stands alone, and finding that merely invalidating one claim would not invalidate remaining claims of patent).

695. *Id.* at 942-43, 22 U.S.P.Q.2d (BNA) at 1124-25 (referring to Ortho's assertion in separate actions of obviousness-type double patenting over other AHP patents in addition to '911 patent). The Federal Circuit affirmed the district court's holding that there was no suggestion in the art to modify the compounds claimed in the other AHP patents to achieve the compounds claimed in the '322 patent. *Id.* at 943, 22 U.S.P.Q.2d (BNA) at 1124-25.

696. *Id.*, 22 U.S.P.Q.2d (BNA) at 1125.

G. *New Matter—35 U.S.C. § 132*

Under 35 U.S.C. § 132, an applicant cannot introduce new matter into a patent application.⁶⁹⁷ The difficulty arises in determining exactly what constitutes new matter. In *Brooktree Corp. v. Advanced Micro Devices, Inc.*, the Federal Circuit, relying on the presumption of validity, held that language added to an application without the patent examiner's objection did not constitute new matter.⁶⁹⁸ Brooktree alleged that AMD infringed its patent that pertained to a device for simultaneously reading and writing data to a computer memory cell.⁶⁹⁹ In its defense, AMD challenged the validity of the Brooktree patent on the ground that the phrase "for video display" was new matter improperly added to the preamble of the claims of the Brooktree patent, because the application as originally filed nowhere disclosed the invention's use in video display.⁷⁰⁰ Brooktree explained, however, that the phrase "for video display" was merely explanatory and that the patent examiner had allowed the language without objection.⁷⁰¹

On appeal, the Federal Circuit considered whether the jury, in finding in favor of Brooktree, reasonably applied the law as explained in the uncontested instructions to the facts.⁷⁰² The court commenced its analysis with the comment that what constitutes "new matter" depends on the facts of each case.⁷⁰³ Of particular importance in this case was the fact that the examiner allowed the additional language without objection.⁷⁰⁴ The court then held that the presumption of patent validity clothes an examiner's decision to allow amendments without objections with "an especially weighty presumption of correctness."⁷⁰⁵ Therefore, a reasonable jury could have concluded that "for video display" was not new matter.⁷⁰⁶

697. See 35 U.S.C. § 132 (1988) ("No amendment [to a patent application] shall introduce new matter into the disclosure of the invention.").

698. *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1574-75, 24 U.S.P.Q.2d (BNA) 1401, 1414-15 (Fed. Cir. 1992).

699. *Id.* at 1561, 24 U.S.P.Q.2d (BNA) at 1404.

700. See *id.* at 1573-74, 24 U.S.P.Q.2d (BNA) at 1413-14 (describing invention as dual-port ten-transmitter SRAM core cell with two-stage sense amplifier that achieves operation at extremely high speeds by making possible simultaneous reading and writing of data to single ten-transistor memory cell).

701. *Id.* at 1573, 24 U.S.P.Q.2d (BNA) at 1414.

702. *Id.* at 1575, 24 U.S.P.Q.2d (BNA) at 1414-15.

703. *Id.* at 1574, 24 U.S.P.Q.2d (BNA) at 1414.

704. See *id.* (indicating that other relevant facts to consider include nature of disclosure, state of art, and nature of added matter).

705. *Id.* at 1574-75, 24 U.S.P.Q.2d (BNA) at 1414 (quoting *In re Smythe*, 480 F.2d 1376, 1385 n.5, 178 U.S.P.Q. (BNA) 279, 286 n.5 (C.C.P.A. 1973)).

706. *Id.* at 1575, 24 U.S.P.Q.2d (BNA) at 1414-15.

III. INTERFERENCES UNDER 35 U.S.C. § 135

A. *Application of Interference Rules*

In *Huston v. Ladner*,⁷⁰⁷ the Federal Circuit held that the Board did not abuse its discretion in finding that unsupported assertions of attorney negligence did not satisfy the required “good cause” under 37 C.F.R. § 1.617(b).⁷⁰⁸ According to the court, the PTO’s interference rules would become meaningless if an attorney’s negligence could constitute good cause for failing to meet a PTO requirement because “parties could regularly allege attorney negligence in order to avoid an unmet requirement.”⁷⁰⁹ Huston sought to provoke an interference with a patent issued to Ladner.⁷¹⁰ Huston’s then lead counsel submitted evidence under 37 C.F.R. § 1.608(b) to establish prima facie priority over Ladner.⁷¹¹ The examiner held that Huston’s evidence did not establish priority over Ladner, declared an interference, and concurrently issued a show cause order to Huston.⁷¹² Huston replaced its lead counsel and filed a response to the show cause order accompanied with additional declarations and affidavits under 37 C.F.R. § 1.617(b).⁷¹³ To satisfy the “good cause” requirement of 37 C.F.R. § 1.617(b), Huston asserted that his original attorney misrepresented his competence and ability in interference matters and was grossly negligent in filing the original

707. 973 F.2d 1564, 23 U.S.P.Q.2d (BNA) 1910 (Fed. Cir. 1992).

708. *Huston v. Ladner*, 973 F.2d 1564, 1567, 23 U.S.P.Q.2d (BNA) 1910, 1913 (Fed. Cir. 1992); see 37 C.F.R. § 1.617(b) (1992) (describing procedures for summary judgment against applicant by patent examiner, including provision that additional evidence will not be presented unless applicant can show “good cause” why evidence was not initially presented with evidence filed under 37 C.F.R. § 1.608(b)).

709. *Huston*, 973 F.2d at 1567, 23 U.S.P.Q.2d (BNA) at 1913. *But see id.* at 1572, 23 U.S.P.Q.2d (BNA) at 1917 (Newman, J., dissenting) (disagreeing that circumstances of this case, which judge characterized as extreme, would not open doors to careless litigants).

710. *Id.* at 1565, 23 U.S.P.Q.2d (BNA) at 1911.

711. See 37 C.F.R. § 1.608(b) (1992) (prescribing that applicant seeking declaration of interference between its application and issued patent and having effective filing date more than three months after effective filing date of patent must submit evidence demonstrating that applicant is prima facie entitled to judgment of priority relative to patentee); see also U.S. DEP’T OF COMMERCE, PATENT & TRADEMARK OFFICE MANUAL OF PATENT EXAMINING PROCEDURE § 2308.02 (5th ed. 1983) [hereinafter MPEP] (requiring applicant to state with particularity basis for priority judgment before interference will be declared).

712. *Huston*, 973 F.2d at 1565, 23 U.S.P.Q.2d (BNA) at 1912; see 37 C.F.R. § 1.617(a) (1992) (providing that if evidence submitted under 37 C.F.R. § 1.608(b) is insufficient to establish that applicant is entitled to prima facie priority judgment, then interference is declared and order requiring applicant to show cause why summary judgment should not be entered is concurrently issued); MPEP, *supra* note 711, § 2317, at 2300-29 (describing summary judgment procedures).

713. *Huston*, 973 F.2d at 1565, 23 U.S.P.Q.2d (BNA) at 1912; see 37 C.F.R. § 1.617(b) (1992) (stating that additional evidence on priority issue will not be considered unless applicant shows good cause why additional evidence was not previously submitted with original section 1.608(b) response); MPEP, *supra* note 711, § 2317, at 2300-29 (relating that PTO intends to use strict standard in requiring “good cause” showing and that ignorance by party or counsel of provisions of rules or requirements of law will not constitute “good cause”).

submission under 37 C.F.R. § 1.608(b).⁷¹⁴

The Board did not find "good cause" under § 1.617(b) based on the attorney's alleged misrepresentation of competence because Huston failed to put forth evidence supporting the claim that his first attorney was incompetent.⁷¹⁵ Relying on *Hahn v. Wong*,⁷¹⁶ the Board added that an attorney's ignorance of the law is not "good cause."⁷¹⁷ The Board then found that Huston's response to the examiner's show cause order did not include a showing that the additional evidence was unavailable at the time of the initial response, a showing that would have been a valid excuse.⁷¹⁸ On appeal, the Federal Circuit held that the Board did not err in interpreting the rules and rejected Huston's equity-based argument that because he did not knowingly and freely acquiesce to the attorney's conduct, he should not suffer as a result.⁷¹⁹ In doing so, the court cited *Link v. Wabash Railroad Co.*⁷²⁰ for the proposition that a party involved in litigation cannot avoid the consequences of the acts or omissions of its freely selected attorney.⁷²¹

The dissent argued that the Board's decision was an improperly punitive action, wrongly visited on the client.⁷²² According to the dissent, "[g]ood cause is an equitable term, and must be determined in light of all the circumstances, with due attention to justice."⁷²³ The dissent cited a number of authorities where "good cause" was established when an attorney intentionally misrepresented facts and the client justifiably relied on the misrepresentations to his or her detriment.⁷²⁴ Consequently, the dissent concluded that the Board

714. *Huston*, 973 F.2d at 1565, 23 U.S.P.Q.2d (BNA) at 1912.

715. *Id.* at 1566, 23 U.S.P.Q.2d (BNA) at 1912.

716. 892 F.2d 1028, 13 U.S.P.Q.2d (BNA) 1313 (Fed. Cir. 1989).

717. *Huston*, 973 F.2d at 1566, 23 U.S.P.Q.2d (BNA) at 1912 (citing *Hahn v. Wong*, 892 F.2d 1028, 1034, 13 U.S.P.Q.2d (BNA) 1313, 1319 (Fed. Cir. 1989), which held that failure by Hahn's counsel to fully appreciate need for corroborating evidence did not constitute good cause for failure to submit that evidence with initial filing). In her dissent, Judge Newman pointed out that the attorney was in fact not ignorant of the law, given that the examiner twice told the attorney what the law was. *Id.* at 1569, 23 U.S.P.Q.2d (BNA) at 1915 (Newman, J., dissenting) (concluding that Board's conclusion on this issue was in error as being contrary to evidence).

718. *Id.* at 1566, 23 U.S.P.Q.2d (BNA) at 1912-13. Judge Newman's dissent criticized the majority for apparently making good cause a predicate on a showing as to why evidence was unavailable when good cause should instead be interpreted more broadly by taking all the circumstances into consideration. *Id.* at 1571-72, 23 U.S.P.Q.2d (BNA) at 1917 (Newman, J., dissenting).

719. *Id.* at 1566-67, 23 U.S.P.Q.2d (BNA) at 1913.

720. 370 U.S. 626 (1962).

721. *Huston*, 973 F.2d at 1567, 23 U.S.P.Q.2d (BNA) at 1913 (citing *Link v. Wabash R.R. Co.*, 370 U.S. 626, 633-34 (1962), which held that attorney's failure to attend pretrial conference, resulting in dismissal of case by judge, did not impose unjust penalty on petitioner).

722. *Id.* at 1567-72, 23 U.S.P.Q.2d (BNA) at 1914-17 (Newman, J., dissenting).

723. *Id.* at 1571, 23 U.S.P.Q.2d (BNA) at 1917.

724. *Id.* at 1570-71, 23 U.S.P.Q.2d (BNA) at 1916-17; see, e.g., *Jackson v. Washington*

abused its discretion because Huston did not cause the errors and in fact acted to correct them, and because public policy favors resolution by litigation rather than default judgment, especially in cases where dismissal results in a forfeiture of property rights.⁷²⁵

In *Gerritsen v. Shirai*,⁷²⁶ the Federal Circuit considered whether the Board correctly held that Gerritsen violated 37 C.F.R. § 1.662(b)⁷²⁷ by failing to add a reissue application to an ongoing interference, even though the reissue application was filed after the close of the preliminary motion period.⁷²⁸ The court also considered whether the Board's sanction under 37 C.F.R. § 1.616 for this violation was appropriate.⁷²⁹

Applicant Shirai provoked an interference with the Gerritsen patent by copying a claim from the Gerritsen patent.⁷³⁰ Eleven days after the close of the preliminary motions period, Gerritsen filed a reissue application for the patent involved in the interference, adding thirteen claims to the original patent.⁷³¹ Gerritsen notified Shirai and the examiner-in-chief that he filed a reissue application, but failed to move to add the application to the interference.⁷³² When Gerritsen surrendered its patent for the reissue patent, the examiner-in-chief redeclared the interference and designated the thirteen reissue claims as additional claims corresponding to the interference count.⁷³³ The examiner-in-chief also determined that

Monthly Co., 569 F.2d 119, 122-23 (D.C. Cir. 1977) (holding that where client does not knowingly and freely acquiesce in his or her attorney's conduct but instead is led to believe that attorney is industrious, dismissal punishes client and not lawyer and therefore is not required); *In re Lonardo*, 17 U.S.P.Q.2d (BNA) 1455, 1458-59 (Comm'r Patents & Trademarks 1990) (holding that attorney conduct was not charged to applicant because attorney intentionally deceived applicant and petition to revise application was granted). The majority in *Huston* dismissed these cases as nonbinding precedent, however. *Huston*, 973 F.2d at 1567, 23 U.S.P.Q.2d (BNA) at 1913.

725. *Huston*, 973 F.2d at 1572, 23 U.S.P.Q.2d (BNA) at 1917.

726. 979 F.2d 1524, 24 U.S.P.Q.2d (BNA) 1912 (Fed. Cir. 1992).

727. 37 C.F.R. § 1.662(b) (1992). Section 1.662(b) states:

If a patentee involved in an interference files an application for reissue during the interference and omits all claims of the patent corresponding to the counts of the interference, judgment may be entered against the patentee. A patentee who files an application for reissue other than for the purpose of avoiding the interference shall timely file a preliminary motion under § 1.633(h), or show good cause why the motion could not have been timely filed or would not be appropriate.

Id.

728. *Gerritsen v. Shirai*, 979 F.2d 1524, 1526, 24 U.S.P.Q.2d (BNA) 1912, 1914 (Fed. Cir. 1992).

729. *Id.*; see also 37 C.F.R. § 1.16 (1992) (providing list of sanctions that Board may impose against party who fails to comply with regulations or any order entered by examiner-in-chief or Board).

730. *Gerritsen*, 979 F.2d at 1526, 24 U.S.P.Q.2d (BNA) at 1914.

731. *Id.*

732. *Id.*

733. *Id.*

Gerritsen violated § 1.662(b).⁷³⁴ Furthermore, upon final hearing, the Board ordered as a sanction under § 1.616 that Gerritsen was not entitled to the claims added to the reissue patent.⁷³⁵

The Federal Circuit affirmed the Board's holding that Gerritsen violated § 1.662(b) by failing to move to add the reissue application to the interference.⁷³⁶ Contrary to Gerritsen's argument, the Federal Circuit refused to construe § 1.662(b) narrowly as applicable to only reissue applications filed *during* the preliminary motions period.⁷³⁷ The rule, § 1.662(b), merely "requires a preliminary motion, timely or otherwise, to add a reissue application to an interference."⁷³⁸ Therefore, the court concluded that Gerritsen could and should have filed a belated preliminary motion to add the reissue application to the interference.⁷³⁹

Gerritsen argued that a belated preliminary motion would unduly delay the interference proceedings because the examiner-in-chief would have to set another preliminary motion period to allow Shirai to contest the patentability of the reissue claims.⁷⁴⁰ While the Federal Circuit conceded that such a scenario may result, it noted that the examiner-in-chief has the discretion to order a delay.⁷⁴¹ Gerritsen's failure to make a prompt though belated preliminary motion usurped the examiner-in-chief's discretionary authority.⁷⁴² The Federal Circuit also rejected Gerritsen's argument that the Board's interpretation of 37 C.F.R. § 1.662(b) unduly restricts the time in which a patentee may file a reissue application.⁷⁴³ According to the court, "[t]he Board merely required Gerritsen . . . to make a belated preliminary motion and good cause showing after they had filed an application for reissue. But the determination of when to file a reissue

734. *See id.* (indicating that examiner-in-chief also issued Gerritsen order to show cause why sanctions under 37 C.F.R. § 1.616 should not be imposed and found unresponsive Gerritsen's reply that timely motion to add reissue application to interference could not have been made because preliminary motions had closed).

735. *Id.* Shirai did not file a brief on appeal. *Id.* Instead, the Commissioner appeared as *amicus curiae* in favor of upholding the Board's sanctions. *Id.* Gerritsen argued that because Shirai did not file a brief, Gerritsen was entitled to a reversal of the Board's ruling on the ground that there was no longer any controversy between the parties. *Id.* The Federal Circuit, however, held that Shirai's failure to submit a responsive brief did not require that the Board's decision be reversed. *Id.* at 1527, 24 U.S.P.Q.2d (BNA) at 1915. The court stated that "[its] duty to review the case for reversible error does not turn on whether the appellees filed a brief." *Id.*

736. *Id.* at 1530-31, 24 U.S.P.Q.2d (BNA) at 1917-18.

737. *Id.* at 1529-30, 24 U.S.P.Q.2d (BNA) at 1917.

738. *Id.* at 1530, 24 U.S.P.Q.2d (BNA) at 1917.

739. *Id.*

740. *Id.*

741. *Id.*

742. *Id.*

743. *Id.*

sue application remains with the patentee.”⁷⁴⁴

The Federal Circuit next considered the appropriateness of the Board’s sanction.⁷⁴⁵ To do so, the Federal Circuit had to define, for the first time, its standard of review of a Board’s decision which selected and imposed sanctions under 37 C.F.R. § 1.616.⁷⁴⁶ The court held that the abuse of discretion standard was the appropriate standard of review.⁷⁴⁷ It based this conclusion on several factors. First, § 1.616, by its language, gives the examiner-in-chief and the Board discretionary authority to decide whether sanctions are appropriate and, if so, what the sanctions should be.⁷⁴⁸ Second, the court noted that this approach was consistent with the regulatory scheme for conducting interferences.⁷⁴⁹ The court reasoned that “[a] narrow standard of review would promote the efficient determination of interferences . . . [and] gives proper recognition to the interest of the Board and the examiner-in-chief in maintaining control over the . . . interference proceedings.”⁷⁵⁰ Third, the court noted that the abuse of discretion standard is consistent with settled law on judicial review of discretionary agency actions.⁷⁵¹ Finally, the court found support for its conclusion that the abuse of discretion standard was appropriate by analogizing its review of the Board’s discretionary decision with its appellate review of a district court’s discretionary decision.⁷⁵²

The Federal Circuit stated that the Board has abused its discretion when the Board’s decision: “(1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact findings; or (4) follows from a record that contains no evidence on which the Board could rationally base its decision.”⁷⁵³ Applying this abuse of discretion standard, the

744. *Id.* at 1531, 24 U.S.P.Q.2d (BNA) at 1917-18.

745. *Id.* at 1527, 24 U.S.P.Q.2d (BNA) at 1915.

746. *Id.*; *see also* 37 C.F.R. § 1.616 (1991) (providing that appropriate sanctions may include holding that certain facts have been established in interference, precluding party from filing motion or preliminary statement, precluding party from presenting or contesting particular issue, precluding party from requesting, obtaining, or opposing discovery, and granting summary judgment in interference).

747. *See Gerritsen*, 979 F.2d at 1527-28, 24 U.S.P.Q.2d (BNA) at 1915 (noting that when decision pursuant to permissive statute concerns only PTO practice, Federal Circuit uses abuse of discretion standard of review).

748. *Id.*

749. *Id.* at 1528, 24 U.S.P.Q.2d (BNA) at 1915.

750. *Id.*

751. *Id.*

752. *Id.*, 24 U.S.P.Q.2d (BNA) at 1916.

753. *Id.* at 1529, 24 U.S.P.Q.2d (BNA) at 1916 (citing *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1039, 22 U.S.P.Q.2d (BNA) 1321, 1333 (Fed. Cir. 1992) (stating that appellate court may find abuse of discretion if lower court’s decision “rests on an erroneous interpretation of the law or on clearly erroneous factual underpinnings”)); *Heat & Con-*

Federal Circuit held that the Board abused its discretion by relying on clearly erroneous findings of fact to support its choice of sanctions.⁷⁵⁴ The court noted, for example, that the Board found as a fact that Gerritsen attempted to circumvent the authority of the Board by obtaining a reissue patent with claims that defined the same invention as the interfering claims of the original patent without filing a motion to add the reissue application to the interference.⁷⁵⁵ This finding was clearly erroneous because Gerritsen sent copies of the reissue application to the examiner-in-chief and Shirai, which, in the court's view, was evidence that Gerritsen did not intend to obscure its actions or intentionally violate § 1.662(b).⁷⁵⁶ The Board's further finding that Shirai was substantially prejudiced by Gerritsen's nonfeasance was also clearly erroneous.⁷⁵⁷ Gerritsen's only sanctionable conduct was the failure to file a belated preliminary motion and, therefore, Shirai was prejudiced only to the extent that had the motion been filed and entered, Shirai would have had opportunity to challenge the reissue claims.⁷⁵⁸ It was clearly erroneous for the Board to find that Gerritsen's failure caused Shirai to miss the opportunity to raise issues with respect to the new reissue claims.⁷⁵⁹ Finally, the Board's conclusion that reopening the preliminary motions period was against public interest was also clearly erroneous.⁷⁶⁰ Had Gerritsen adhered to § 1.662(b) by making a belated motion and good cause showing, the Board may still have reopened the preliminary motions period, which was beyond Gerritsen's control.⁷⁶¹

The Federal Circuit found further support for its conclusion by comparing the Board's sanction with the dismissal of a civil action for discovery abuse under rule 37(b)(2)(C) of the Federal Rules of Civil Procedure.⁷⁶² The court noted that before appellate courts sustain a dismissal order, they have required a showing of egregious behavior such as willful misconduct, bad faith, or fraud.⁷⁶³ The rec-

trol, Inc. v. Hester Indus., Inc., 785 F.2d 1017, 1022, 228 U.S.P.Q. (BNA) 926, 930 (Fed. Cir. 1986) (citing same four factors of abuse of discretion as *Gerritsen* court, yet also discussing deference generally given to district court decisions).

754. *Id.* at 1532, 24 U.S.P.Q.2d (BNA) at 1918-19.

755. *Id.*, 24 U.S.P.Q.2d (BNA) at 1918.

756. *Id.*

757. *Id.*

758. *Id.*

759. *Id.*

760. *Id.*

761. *Id.*

762. *Id.*, 24 U.S.P.Q.2d (BNA) at 1919.

763. *Id.* (citing *Poulos v. Naas Foods, Inc.*, 959 F.2d 69, 75 (7th Cir. 1992) (holding that drastic sanctions require showing of "willfulness, bad faith, or fault"); *Minotti v. Lensink*, 895 F.2d 100, 103 (2d Cir. 1990) (requiring showing of willfulness to justify sanction of dismissal);

ord in *Gerritsen* contained no such evidence of egregious conduct.⁷⁶⁴ As a result, the court concluded that it could not uphold the Board's choice of sanctions.⁷⁶⁵

B. Preclusive Effect of Interference Judgments

It is generally recognized that a losing party to an interference proceeding cannot obtain a patent on a claim that is patentably indistinguishable from the subject matter of the lost interference count.⁷⁶⁶ This principle was called into question in *In re Deckler*,⁷⁶⁷ where the Federal Circuit decided whether the doctrine of *In re Hilmer*⁷⁶⁸ renders an interference judgment, which is based on an earlier-filed foreign patent application, applicable to bar the losing party from patenting the subject matter of the lost count. The Federal Circuit in *Deckler* rejected the view that the *Hilmer* doctrine was applicable. Instead, the court applied the principles of res judicata and collateral estoppel, and held that the losing party in an interference is not entitled to patent claims that are admittedly patentably indistinguishable from the claim involved in the interference, even when the interference judgment is based on an earlier-filed foreign patent application.⁷⁶⁹ Under the "old" interference rules, *Deckler* lost an interference to Grataloup, which was awarded priority based on its foreign priority patent application.⁷⁷⁰ A patent was subsequently issued to Grataloup with a claim corresponding to the interference count.⁷⁷¹ *Deckler's* application was returned to *ex parte* prosecution and *Deckler* presented claims patentably indistinguish-

Damiani v. Rhode Island Hosp., 704 F.2d 12, 15-16 (1st Cir. 1983) (discussing appropriateness of harsh sanctions for willful disobedience)).

764. *Gerritsen*, 979 F.2d at 1532, 24 U.S.P.Q.2d (BNA) at 1919.

765. *Id.*

766. See *Stoudt v. Guggenheim*, 651 F.2d 760, 764, 210 U.S.P.Q. (BNA) 359, 363 (C.C.P.A. 1981) (discussing res judicata effect of final decisions of PTO in interference proceeding); *Ex parte Tytgat*, 225 U.S.P.Q. (BNA) 907, 910-12 (Bd. Pat. App. & Int. 1985) (rejecting patent claim as indistinct from earlier claim to avoid subjecting winning party to repeated interference actions); *Blackford v. Wilder*, 28 App. D.C. 535, 542, 550-51 (1907) (holding that final judgment in interference is conclusive of all matters which were adjudicated and also of matters which might have been adjudicated).

767. 977 F.2d 1449, 24 U.S.P.Q.2d (BNA) 1448 (Fed. Cir. 1992).

768. 359 F.2d 859, 149 U.S.P.Q. (BNA) 480 (C.C.P.A. 1966) (*Hilmer I*); see also *In re Hilmer*, 424 F.2d 1108, 1112-13, 165 U.S.P.Q. (BNA) 255, 258-59 (C.C.P.A. 1970) (*Hilmer II*) (establishing *Hilmer* doctrine that for purposes of establishing U.S. patent as effective prior art under 35 U.S.C. § 102(e), patent's effective filing date is date it is filed in United States, not its foreign priority filing date).

769. See *In re Deckler*, 977 F.2d 1449, 1452-54, 24 U.S.P.Q.2d (BNA) 1448, 1449-51 (Fed. Cir. 1992) (rejecting view that *Hilmer* doctrine is applicable to determination in interference judgment).

770. *Id.* at 1452, 24 U.S.P.Q.2d (BNA) at 1450.

771. *Id.* at 1450, 24 U.S.P.Q.2d (BNA) at 1448.

able from the interference count lost to Grataloup.⁷⁷² The Board affirmed the examiner's rejection of several of Deckler's claims based on the preclusive effect of the interference judgment.⁷⁷³

Consistent with the policies effectuated by *res judicata* and collateral estoppel, the Federal Circuit held that the Board properly applied the interference judgment to Grataloup to reject Deckler's new claims defining the same patentable invention.⁷⁷⁴ According to the court, the Board's decision "constituted a permissible application of settled principles of *res judicata* and collateral estoppel" because that judgment decided which party was entitled to claim the patentable subject matter defined by the interference court.⁷⁷⁵ The court noted that it had previously applied interference estoppel to reject claims that were patentably indistinct from those in an interference that the applicant had lost.⁷⁷⁶ The Federal Circuit cautioned against the "unfortunate consequences" that would otherwise follow if the interference judgment was not given preclusive effect against Deckler.⁷⁷⁷ One such consequence would be the declaration of a second interference between the parties involving a priority contest over subject matter identical to the count in the original interference.⁷⁷⁸ The court rejected Deckler's assertions that the discretionary authority of the Commissioner under 35 U.S.C. § 135(a) to announce an interference would preclude this result, noting that the Commissioner had conclusively stated that a second interference would be declared.⁷⁷⁹

772. *Id.*

773. *Id.* Deckler conceded that the claims on appeal were not patentably distinct from the interference count. *Id.* at 1451, 24 U.S.P.Q.2d (BNA) at 1448.

774. *Id.* at 1450-51, 24 U.S.P.Q.2d (BNA) at 1448-49.

775. *See id.* at 1452, 24 U.S.P.Q.2d (BNA) at 1449 (providing that judgment in action precludes relitigation of claims on issues that were or could have been raised in that proceeding); *see also* Federated Dep't Stores, Inc. v. Moitie, 452 U.S. 394, 398 (1981) (asserting that final judgment on merits should stand to avoid creating uncertainty and confusion); *Montana v. United States*, 440 U.S. 147, 153-54 (1979) (holding that final judgment on merits bars further claim by parties based on same claim); *Foster v. Hallco Mfg. Co.*, 947 F.2d 469, 475-76, 20 U.S.P.Q.2d (BNA) 1241, 1246 (Fed. Cir. 1991) (holding that finality of judgments is essential to maintenance of social order).

776. *Deckler*, 977 F.2d at 1452, 24 U.S.P.Q.2d (BNA) at 1449 (citing *In re Kroekel*, 803 F.2d 705, 790-91, 231 U.S.P.Q. (BNA) 640, 643-44 (Fed. Cir. 1986) (finding that claim was properly rejected under doctrine of interference estoppel because patent applicant's claim was not patentably distinct from count lost in interference proceeding); *Woods v. Tsuchiya*, 754 F.2d 1571, 1579, 1580-82, 225 U.S.P.Q. (BNA) 11, 16, 17-18 (Fed. Cir.) (holding that estoppel by judgment prevents losing party in previous interference between same parties from making any patentably indistinct claim in new proceeding), *cert. denied*, 474 U.S. 825 (1985)).

777. *See Deckler*, 977 F.2d at 1450-51, 24 U.S.P.Q.2d (BNA) at 1448-49 (finding that Grataloup should receive priority of invention in earlier interference judgment and rejecting Deckler's appeal on ground of interference estoppel).

778. *Id.*

779. *Id.*

The Federal Circuit also held that the *Hilmer* doctrine,⁷⁸⁰ which provides that under 35 U.S.C. § 102(e) a U.S. patent is effective prior art as of the date it was filed in the United States but not as of its foreign priority date, did not preclude a rejection based on the interference judgment.⁷⁸¹ The fact that the interference judgment against Deckler was predicated on a foreign filing date awarded to the prevailing party was not the determining factor.⁷⁸² The Federal Circuit reasoned that although the facts of *Hilmer* and *In re McKellin*,⁷⁸³ cases on which Deckler relied, were similar to the present case, the stated grounds for those decisions were quite different.⁷⁸⁴ In *Hilmer* and *McKellin*, the U.S. Court of Customs and Patent Appeals reversed obviousness rejections under 35 U.S.C. § 103, which accorded the prevailing interference party's patent prior art status as of its foreign filing date.⁷⁸⁵ In *Deckler*, the Federal Circuit observed that the Board applied the principles of res judicata and collateral estoppel, rather than § 103, in rejecting Deckler's claims.⁷⁸⁶ Therefore, *Deckler* was distinguishable from *Hilmer* and *McKellin*.⁷⁸⁷

IV. INFRINGEMENT—35 U.S.C. § 271

A. Claim Interpretation and Construction

The Federal Circuit has continued to apply the traditional two-step analysis in determining whether an accused device infringes the claims of a patent.⁷⁸⁸ First, the language of the patent claims is in-

780. See *Hilmer I*, 359 F.2d 852, 882-83, 149 U.S.P.Q. (BNA) 480, 499-500 (C.C.P.A. 1966) (holding that congressional intent supports doctrine that filing date in United States will apply in determining prior art, rather than foreign filing date); *Hilmer II*, 424 F.2d 1108, 1112-13, 165 U.S.P.Q. (BNA) 255, 258-59 (C.C.P.A. 1970) (reasserting that inventor would not get benefit of foreign filing date for use in claim as patent-defeating statutory prior art).

781. *Deckler*, 977 F.2d at 1453-54, 24 U.S.P.Q.2d (BNA) at 1450-51 (citing *Hilmer II*, 424 F.2d at 1110, 1112-13, 165 U.S.P.Q. (BNA) at 256, 258-59).

782. *Id.* at 1453, 24 U.S.P.Q.2d (BNA) at 1450.

783. 529 F.2d 1324, 188 U.S.P.Q. (BNA) 428 (C.C.P.A. 1976).

784. *Deckler*, 977 F.2d at 1453, 24 U.S.P.Q.2d (BNA) at 1450-51 (citing *Hilmer II*, 424 F.2d at 1110, 1112-13, 165 U.S.P.Q. (BNA) at 256, 258-59 (reversing rejection for obviousness in case where opposing party's prior art reference was based on foreign filing date); *In re McKellin*, 529 F.2d 1324, 1329, 188 U.S.P.Q. (BNA) 428, 434 (C.C.P.A. 1976) (finding no statutory basis for ruling that subject matter of lost counts or disclosures of opposing party's patent is prior art to appellants under 35 U.S.C. § 103)).

785. *Deckler*, 977 F.2d at 1453, 24 U.S.P.Q.2d (BNA) at 1450.

786. *Id.*

787. *Id.*

788. See, e.g., *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1570, 24 U.S.P.Q.2d (BNA) 1321, 1330 (Fed. Cir. 1992) (applying two-step analysis to determine patent infringement); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 821, 23 U.S.P.Q.2d (BNA) 1426, 1431 (Fed. Cir. 1992) (same); *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1206, 23 U.S.P.Q.2d (BNA) 1284, 1287 (Fed. Cir. 1992) (same); *Charles Greiner & Co. v. Mari-Med. Mfg., Inc.*, 962 F.2d 1031, 1034, 22 U.S.P.Q.2d (BNA) 1526, 1528 (Fed. Cir. 1992) (citing *Fromson v. Advance Offset Plate*, 720 F.2d 1565, 1569, 219 U.S.P.Q. (BNA)

interpreted to ascertain the scope of the claims, and second, the claims, as interpreted, are compared with the accused device.⁷⁸⁹ In determining the scope of the claims, the language of the claim and the patent's specification, prosecution history, prior art, and other claims are all considered.⁷⁹⁰ In 1992, the Federal Circuit reaffirmed that claim interpretation is a question of law subject to *de novo* review on appeal.⁷⁹¹ Factual findings involved in interpreting claims, such as ascertaining the events that occurred during prosecution, are, however, reviewed under the clearly erroneous standard.⁷⁹²

1. *Interpreting claim terminology*

Claim interpretation begins with an examination of the language of the claim.⁷⁹³ The meaning of a particular claim term or phrase, however, is sometimes open to different interpretations, especially when the patentee assigns an unusual meaning to that term. In *Intellicall, Inc. v. Phonometrics, Inc.*,⁷⁹⁴ the Federal Circuit refused to adopt a claim construction that assigned an uncommon meaning for

1137, 1140 (Fed. Cir. 1983)) (same); *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 950, 22 U.S.P.Q.2d (BNA) 1231, 1234 (Fed. Cir. 1991) (same).

789. *Minnesota Mining*, 976 F.2d at 1570, 24 U.S.P.Q.2d (BNA) at 1330; *Read*, 970 F.2d at 821, 23 U.S.P.Q.2d (BNA) at 1431; *Charles Greiner*, 962 F.2d at 1034, 22 U.S.P.Q.2d (BNA) at 1528.

790. *Minnesota Mining*, 976 F.2d at 1566, 24 U.S.P.Q.2d (BNA) at 1327 (citing *Tandon Corp. v. International Trade Comm'n*, 831 F.2d 1017, 1021, 4 U.S.P.Q.2d (BNA) 1283, 1286 (Fed. Cir. 1987)) (indicating that proper claim construction involves reference to specification, prosecution history, prior art, and other claims); *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1302, 23 U.S.P.Q.2d (BNA) 1946, 1948 (Fed. Cir. 1992) (citing *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1579, 6 U.S.P.Q.2d (BNA) 1557, 1560 (Fed. Cir. 1988)); *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846, 23 U.S.P.Q.2d (BNA) 1481, 1491 (Fed. Cir. 1992); *Read*, 970 F.2d at 823, 23 U.S.P.Q.2d (BNA) at 1432; *Lemelson*, 968 F.2d at 1206, 23 U.S.P.Q.2d (BNA) at 1287; *Charles Greiner*, 962 F.2d at 1034, 22 U.S.P.Q.2d (BNA) at 1528.

791. See, e.g., *Minnesota Mining*, 976 F.2d at 1565, 24 U.S.P.Q.2d (BNA) at 1327 (stating that claim construction is question of law); *Arachnid*, 972 F.2d at 1302, 23 U.S.P.Q.2d (BNA) at 1948 (citing *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 882, 8 U.S.P.Q.2d (BNA) 1468, 1471 (Fed. Cir. 1988) (holding that claim construction is issue of law that is reviewed *de novo*)); *Read*, 970 F.2d at 822, 23 U.S.P.Q.2d (BNA) at 1432 (providing that claim construction is question of law); *Charles Greiner*, 962 F.2d at 1034, 22 U.S.P.Q.2d (BNA) at 1528 (concluding that without factual disputes, claim interpretation proceeds as question of law); *Morton*, 959 F.2d at 950, 22 U.S.P.Q.2d (BNA) at 1234 (finding claim interpretation is question of law subject to *de novo* review); *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387, 21 U.S.P.Q.2d (BNA) 1383, 1386 (Fed. Cir. 1992) (asserting that claim interpretation is question of law amenable to summary judgment).

792. *Minnesota Mining*, 976 F.2d at 1565, 24 U.S.P.Q.2d (BNA) at 1327; *Charles Greiner*, 962 F.2d at 1034, 22 U.S.P.Q.2d (BNA) at 1528 (citing *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974, 226 U.S.P.Q. (BNA) 5, 7-8 (Fed. Cir. 1985)); *Morton*, 959 F.2d at 950, 22 U.S.P.Q.2d (BNA) at 1234.

793. See *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 823, 23 U.S.P.Q.2d (BNA) 1426, 1432 (Fed. Cir. 1992) (holding that proper interpretation of patent claim requires examination of claim language and patent's specification and prosecution history).

794. 952 F.2d 1384, 21 U.S.P.Q.2d (BNA) 1383 (Fed. Cir. 1992).

a disputed claim term in Phonometric's patent.⁷⁹⁵ Intellicall sued Phonometrics for a declaratory judgment of noninfringement of Phonometrics' patent, and Phonometrics counterclaimed for infringement.⁷⁹⁶ The patent in suit related to an apparatus for automatically computing and displaying the cost of a long-distance telephone call.⁷⁹⁷ The infringement determination depended on the interpretation of the phrase "call cost register means, including a digital display for providing a substantially instantaneous display of cumulative call cost in dollars and cents" as set forth in claim 1 of Phonometrics' patent.⁷⁹⁸ Like the patented invention, the accused Intellicall devices visually displayed call cost information in human readable form.⁷⁹⁹ The Intellicall devices, however, could also provide an audio output with call cost information interface and included a machine readable interface for storing call information in memory.⁸⁰⁰ In an effort to establish infringement, Phonometrics contended that the phrase "digital display" was not limited to only visual displays but encompassed both machine readable as well as human readable displays.⁸⁰¹ Phonometrics further argued that the phrase "instantaneous display of cumulative call cost" encompassed machine readable interfaces that provided call cost information to the memory of the device.⁸⁰² The district court granted summary judgment of noninfringement, holding that the claimed device was limited to an instantaneous *visual* display of cumulative call cost rather than storing information in memory, and that none of Intellicall's allegedly infringing devices satisfied the "digital display" ele-

795. Intellicall, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1387-88, 21 U.S.P.Q.2d (BNA) 1383, 1386-87 (Fed. Cir. 1992).

796. See *id.* at 1386, 21 U.S.P.Q.2d (BNA) at 1386-87 (reviewing prior history of litigation).

797. *Id.*

798. See *id.*, 21 U.S.P.Q.2d (BNA) at 1386 (noting that appeal focused on functions required for call cost register means of claim 1). Claim 1 provides in pertinent part:

An electronic solid state long-distance telephone call cost computer apparatus for computing and recording the cost of each long-distance telephone call initiated from a given calling telephone, . . . comprising: . . . call cost register means, including a digital display for providing a substantially instantaneous display of cumulative call cost in dollars and cents . . .

Id., 21 U.S.P.Q.2d (BNA) at 1385.

799. *Id.*

800. *Id.*

801. *Id.* at 1387, 21 U.S.P.Q.2d (BNA) at 1386.

802. See *id.* (reporting Phonometrics' reliance at trial on testimony of inventors, language used in other patents, and principle of claim differentiation in support of Phonometrics' interpretation of claim language, despite Phonometrics' admission that its interpretation gave terms in its claims meaning not ordinarily associated with such terms). In opposition, Intellicall presented expert testimony that, to one skilled in the art, the language of claim 1 did not encompass a machine readable display, but described a device that visually conveys the cost of a call to a human being as the information is being collected. *Id.*

ment of Phonometrics' claim.⁸⁰³

The Federal Circuit affirmed the district court, relying primarily on the evidence of what the words, as used in the context of the patent, would mean to one skilled in the art.⁸⁰⁴ According to the court, claim terms should be given their ordinary meaning to one skilled in the art unless it appears from the patent and file history that the inventors used the terms differently.⁸⁰⁵ Furthermore, the inventor must have set out the uncommon definition in some manner within the patent disclosure before that term can be given an "uncommon meaning."⁸⁰⁶ The Federal Circuit discerned no such disclosure in Phonometrics' patent.⁸⁰⁷ In an effort to establish an "uncommon meaning," Phonometrics relied on the testimony of the inventor and the attorney who drafted the patent-in-suit, but the court held that this evidence did not raise a genuine issue of material fact to defeat summary judgment.⁸⁰⁸ According to the court, inventor and attorney testimony explaining their subjective usage of the disputed phrase did not alter the meaning objectively conveyed to one of ordinary skill in the art from reading the patent.⁸⁰⁹ Phonometrics also cited prior art patents to support its interpretation of the claim language, but none mentioned a "digital display," and the two that mentioned "visual" displays did not require or suggest anything other than a visual display.⁸¹⁰ In concluding that Phonometrics' evidence did not raise an issue of material fact, the Federal Circuit further noted that under the doctrine of claim differentiation the use of a "readout means" in another claim of Phonometrics' patent did not preclude the "digital display means" of claim 1 from being visual.⁸¹¹

803. *See id.* at 1386-87, 21 U.S.P.Q.2d (BNA) at 1386-87 (restating district court's holding that call cost register means of Phonometrics' patent must provide instantaneous visual display of cumulative call costs and that none of Intellicall's devices, which stored call information or provided audio feedback of call costs, infringed Phonometrics' patent).

804. *Id.* at 1387, 21 U.S.P.Q.2d (BNA) at 1387.

805. *Id.* at 1386, 21 U.S.P.Q.2d (BNA) at 1386 (citing *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759, 221 U.S.P.Q. (BNA) 473, 477 (Fed. Cir. 1984)).

806. *See id.* at 1388, 21 U.S.P.Q.2d (BNA) at 1386 (citing *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 889, 221 U.S.P.Q. (BNA) 1025, 1031 (Fed. Cir. 1984)) (stating that where inventor chooses to be own lexicographer and give terms uncommon meanings, inventor must set out definition of uncommon term in some manner within patent disclosure).

807. *See id.*, 21 U.S.P.Q.2d (BNA) at 1386-87 (agreeing with district court's finding that there was no support for Phonometrics' construction of terms at issue in patent disclosure or otherwise).

808. *Id.*, 21 U.S.P.Q.2d (BNA) at 1387.

809. *See id.* at 1388, 21 U.S.P.Q.2d (BNA) at 1387 (asserting that extrinsic evidence provided by claimant does not negate meaning conveyed to one of ordinary skill in art upon reading patent).

810. *See id.* at 1387-88, 21 U.S.P.Q.2d (BNA) at 1386-87 (rejecting patents cited by claimant because they do not suggest anything other than visual display).

811. *Id.*

The Federal Circuit applied a similar approach of referring to the patent specification and the prior art to ascertain the meaning of claim terminology in *Charles Greiner & Co. v. Mari-Med Manufacturing, Inc.*⁸¹² In *Charles Greiner*, the infringement determination depended on the interpretation of the claim term "bight," as used in the Greiner patent for a cervical collar.⁸¹³ The Greiner patent pertained to a cervical collar described in claim 1 as consisting of two U-shaped halves, a front half and a rear half, that joined to provide support for the spine.⁸¹⁴ The collar was made of light-weight foam with a rigid support member "located only at the bight" of each half.⁸¹⁵ Mari-Med produced a competing cervical collar known as the Burns collar.⁸¹⁶ The Burns collar also consisted of two U-shaped halves, with the rigid support member extending beyond the bend of the collar and terminating just short of the ends of each half.⁸¹⁷ Greiner asserted that the claim term "bight" meant that the rigid support extended substantially around each of the collar's U-shaped halves and thus, Greiner's patent claims encompassed the accused Burns collar.⁸¹⁸ Mari-Med, however, contended that the bight was limited to a narrow area at the extreme front and rear of the respective halves.⁸¹⁹ The district court agreed with the Mari-Med interpretation of the term "bight" and found no infringement.⁸²⁰ Referring to the specification, the Federal Circuit determined that the district court properly interpreted the term "bight" to define a fold located only at the extreme front and rear of each half of the collar.⁸²¹ In support of this interpretation, the Federal Circuit referred to three places in the Greiner patent specification where the bight portion of the collar was discussed in a manner that disassociated the bight from other portions of the collar, thus limiting the location of the

812. 962 F.2d 1031, 22 U.S.P.Q.2d (BNA) 1526 (Fed. Cir. 1992).

813. *Charles Greiner & Co. v. Mari-Med Mfg., Inc.*, 962 F.2d 1031, 1035, 22 U.S.P.Q.2d (BNA) 1526, 1528 (Fed. Cir. 1992). The Federal Circuit cited a dictionary definition of "bight" to mean a bend or bending. *Id.* (quoting definition of "bight" as found in THE SHORTER OXFORD ENGLISH DICTIONARY 178 (3d ed. 1959)).

814. *See id.* at 1032, 22 U.S.P.Q.2d (BNA) at 1528 (describing shape and components of cervical collar disclosed by U.S. Patent No. 3,756,226).

815. *Id.* at 1033, 22 U.S.P.Q.2d (BNA) at 1527 (quoting from claim 1 of patent). In the accused device, the foam increased the comfort of the collar by providing a rigid support only at necessary locations, whereas in the prior art invention, the entire collar was rigid. *Id.*

816. *Id.*, 22 U.S.P.Q.2d (BNA) at 1528-29.

817. *See id.* (discussing development of Burns cervical collar by Mari-Med).

818. *Id.* at 1035, 22 U.S.P.Q.2d (BNA) at 1528.

819. *See id.* (arguing that such interpretation of term "bight" required finding of no infringement).

820. *Id.*, 22 U.S.P.Q.2d (BNA) at 1529.

821. *Id.*, 22 U.S.P.Q.2d (BNA) at 1528-29 (concluding that district court correctly interpreted specifications that "bight" does not extend beyond narrow width of rigid support members).

bight to the extreme front and back of the collar.⁸²²

In *Read Corp. v. Portec, Inc.*,⁸²³ the Federal Circuit also referred to the patent specification to divine the purpose of the disputed claim language.⁸²⁴ Read brought an action against Portec for infringement of Read's patent for a portable loam screening apparatus, which Portec had attempted to design around by incorporating two distinguishing features.⁸²⁵ First, to avoid Read's claim limitation that the short end of the sifter is "closed to the ground," the short end of Portec's sifter ended approximately six inches above the ground.⁸²⁶ Second, instead of having retractable wheels for lowering the sifter to the ground as set forth in Read's claims, Portec's device had fixed wheels and long metal footpads running the length of the sides of the device that, when lowered to the ground, removed the weight from the wheels.⁸²⁷ Despite these design differences, the jury found Read's patent valid and infringed, and the

822. *See id.* (referring to three portions of patent to support interpretation that limited location of bight to narrow areas). First, the Greiner specification stated, "[T]he body 13 tapers away from the bight portion so that the vertical dimensions of the end portions . . . are about one-half the vertical height of the bight portions." *Id.*, 22 U.S.P.Q.2d (BNA) at 1529. The Federal Circuit found that this placed the bight portion of the collar at the closed end of the collar half, or a narrow area in the extreme end away from the open end of the half collar. *Id.* Second, the specification referred to the bight portion of the collar as being shaped to provide a chin cavity, thus suggesting that the bight was limited to a narrow area where the chin rests. *Id.* Third, the specification described the rigid support members as extending the entire length of the bight portion collar's body. *Id.* This implied that the bight portion is equal in size to the rigid support member and does not extend substantially around the circumference of the collar. *Id.* The Federal Circuit also concluded that patent claim amendments during patent prosecution that defined the rigid support members as being located "only at the bight" amounted to patent prosecution history estoppel, which suggested that the inventors limited the extent of the bight. *Id.* at 1035, 24 U.S.P.Q.2d (BNA) at 1529.

823. 970 F.2d 816, 23 U.S.P.Q.2d (BNA) 1426 (Fed. Cir. 1992).

824. *See Read Corp. v. Portec, Inc.*, 970 F.2d 816, 823, 23 U.S.P.Q.2d (BNA) 1426, 1432 (Fed. Cir. 1992) ("One must look to the language of the claim, and the patent's specification and prosecution history to properly interpret the scope of a patent claim.").

825. *See id.* at 820, 23 U.S.P.Q.2d (BNA) at 1429 (reviewing prior history of patent dispute). Claim 2 of Read's patent provides in pertinent part:

A portable screening apparatus for separating coarse material from finer material comprising:

a frame of generally rectangular cross section and having a tall end and a short end joint [sic] by sides, said short end being closed from an upper edge of said short end to the ground and the lower portion of said tall end being completely open from the ground to a height sufficient to permit a payload to collect the finer material from within the frame;

.....

a set of wheels mounted to one side of said sides and moveable relative to said frame from an operative position for transporting said apparatus to an inoperative position for resting said frame flush on the ground

Id. at 819, 23 U.S.P.Q.2d (BNA) at 1429; *see also id.* at 821, 23 U.S.P.Q.2d (BNA) at 1430 (observing that Portec developed screening device with two features designed to avoid infringement of Read's patent, and noting that Portec made several changes in accused device during litigation to further distinguish it from existing patents).

826. *Id.* at 820, 23 U.S.P.Q.2d (BNA) at 1430.

827. *Id.*

district court denied Portec's motion for a JNOV.⁸²⁸

In reviewing the district court's denial of Portec's JNOV motion, the Federal Circuit referred to the specification to discern the purpose of the claim limitations.⁸²⁹ The specification disclosed that the purpose of the short end being "closed to the ground" was to keep the loam separated from the coarse material.⁸³⁰ The court concluded that to achieve this purpose, the language "end closed to the ground" meant "sufficiently closed."⁸³¹ Accordingly, infringement of Read's patent did not require that the short end of Portec's sifter actually touch the ground, so long as the short end fulfilled the purpose of Read's invention.⁸³² This claim interpretation was consistent with claims as a whole because the word "completely" preceded the word "open," with reference to another side of the sifter, whereas the word "completely" did not similarly precede "closed" in referring to the short end of the sifter.⁸³³ With regard to the second disputed phrase, however, the Federal Circuit held that the claim language requiring that the wheels be "movable relative to the frame . . . for resting said frame flush on the ground" only literally encompassed retractable wheels.⁸³⁴ The specification, including the figures, neither described nor suggested alternative interpretations.⁸³⁵

In *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*,⁸³⁶ the Federal Circuit relied on the language of the claim and the patent's specification and prior art, as understood by one of skill in the art, to interpret a claim directed to an orthopaedic casting material.⁸³⁷ The disputed claim language read, "a mesh size of 20 to 200 openings per square inch. . . ."⁸³⁸ The Federal Circuit

828. *Id.* at 821, 23 U.S.P.Q.2d (BNA) at 1430-31.

829. *See id.* at 823, 23 U.S.P.Q.2d (BNA) at 1432 (holding that proper claim construction requires examination of language of claim and patent's specification and prosecution history).

830. *See id.* (describing function of short end of screening device).

831. *Id.*

832. *Id.*

833. *Id.*

834. *See id.* (discussing arguments by claimant regarding interpretation of phrase, "movable relative to said frame," and concluding that claim is limited to retractable wheels).

835. *See id.* (noting that specification and drawings of patent only show retractable wheels).

836. 976 F.2d 1559, 24 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1992).

837. *See Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1566, 24 U.S.P.Q.2d (BNA) 1321, 1327 (Fed. Cir. 1992) (applying claim construction principles to determine scope of U.S. Patent No. 4,502,479 issued to Garwood). The patented synthetic orthopaedic casting tape was designed to replace plaster of paris casts used to immobilize broken bones and facilitate healing. *Id.* at 1563, 24 U.S.P.Q.2d (BNA) at 1327. It was to be strong, light-weight, porous enough to allow the skin to "breathe," quick to harden, and water resistant. *Id.* at 1563-64, 24 U.S.P.Q.2d (BNA) at 1327-28.

838. *Id.* at 1572, 24 U.S.P.Q.2d (BNA) at 1332.

recognized that interpreting the term "openings" to mean an opening through which air and water can pass would result in a finding of no infringement by the accused JJO products, whereas an interpretation of "openings" to mean openings defined by the courses and wales of the fabric would result in a finding of infringement by the accused JJO products.⁸³⁹

The Federal Circuit held that "mesh" referred to the coarseness or fineness of the grid or screen-like structure of the cast and not to actual openings or holes in the fabric.⁸⁴⁰ The court referred to the specification itself, which listed several fabrics used in the invention that were distinguishable by their "mesh number openings."⁸⁴¹ Upon examination, this distinction referred to the number of openings calculated by multiplying the number of courses per inch by the number of wales per inch.⁸⁴² The Federal Circuit also found this claim interpretation to be consistent with the prior art and the understanding of persons skilled in the art, including JJO employees, that "mesh size" is measured not by the number of holes in a given area, but by the number of courses multiplied by the number of wales.⁸⁴³

In *Brooktree Corp. v. Advanced Micro Devices, Inc.*,⁸⁴⁴ the Federal Circuit considered whether the "means for overriding," as set forth in claim 1 of Brooktree's patent, was limited to a circuit that simultaneously employed both a reference voltage source and a constant current source.⁸⁴⁵ The court cited expert testimony that one skilled in the art would understand that the disputed claim language was sufficient to support a jury's verdict in favor of the patentee.⁸⁴⁶ Brooktree's patent pertained to a circuit that provides a transistor with a constant voltage bias using either a constant current source or a ref-

839. *Id.* at 1576, 24 U.S.P.Q.2d (BNA) at 1335. The district court held that the number of openings referred to the spaces in the knit fabric of the mesh and were defined by courses and wales. *Id.* at 1575, 24 U.S.P.Q.2d (BNA) at 1335. Courses are the horizontal elements or threads that run across the fabric, while wales are the vertical elements or threads that run lengthwise through the fabric. *Id.*

840. *Id.* at 1576, 24 U.S.P.Q.2d (BNA) at 1336.

841. *See id.* at 1576, 24 U.S.P.Q.2d (BNA) at 1335-36 (comparing mesh openings of various fabrics).

842. *Id.*, 24 U.S.P.Q.2d (BNA) at 1336.

843. *See id.* (interpreting mesh size openings based on prior art and testimony of persons skilled in art). The testimony and laboratory documents of inventors assigned the task of inventing around the Garwood patent indicated that they understood the phrase "mesh size openings" to refer to the number of courses per inch multiplied by the number of wales per inch. *Id.*

844. 977 F.2d 1555, 24 U.S.P.Q.2d (BNA) 1401 (Fed. Cir. 1992).

845. *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1577-78, 24 U.S.P.Q.2d (BNA) 1401, 1416-17 (Fed. Cir. 1992).

846. *Id.*

erence voltage source.⁸⁴⁷ AMD argued that it was not infringing the claims because the Brooktree patent was limited to a circuit that simultaneously required both a reference voltage and constant current source and that their accused device avoided this specific limitation.⁸⁴⁸

The Federal Circuit upheld the jury's verdict because substantial evidence existed from which a reasonable jury could have found that the claimed invention did *not* simultaneously require both a current source and a voltage source.⁸⁴⁹ Specifically, the court cited the testimony of Brooktree's expert witness, Dr. Martin, who testified that one skilled in the art would understand, after reading Brooktree's patent disclosure, that the invention does not use both sources at the same time.⁸⁵⁰ According to Dr. Martin, a jumper connection between electrical contact pins in the circuit allowed the user to select whether the circuit will use a constant current source or a reference voltage source to supply the bias voltage for the circuit.⁸⁵¹ The court quoted the part of the specification describing the overriding function⁸⁵² and concluded that a reasonable jury could have found that "overriding" did not require the simultaneous presence of both the voltage and current sources.⁸⁵³

2. *Prosecution history estoppel*

Courts frequently refer to a patent's prosecution history to interpret its claims.⁸⁵⁴ The prosecution history can indicate what a patent applicant originally claimed, how the applicant interpreted salient claim language, and what the applicant surrendered in responding to the patent examiner's rejections. This information is especially important when the invention is within a crowded art field or when there is a particular prior art reference that the patentee is trying to distinguish while still asserting the accused device infringes.⁸⁵⁵

847. *Id.* at 1561, 1575-76, 24 U.S.P.Q.2d (BNA) at 1404, 1415-16.

848. *Id.* at 1576, 24 U.S.P.Q.2d (BNA) at 1416. AMD asserted that "overriding" requires both the simultaneous presence of the constant current source and the reference voltage source because otherwise, there would be nothing to override. *Id.*

849. *Id.* at 1577, 24 U.S.P.Q.2d (BNA) at 1416-17.

850. *Id.*, 24 U.S.P.Q.2d (BNA) at 1416.

851. *See id.* (noting that Martin also testified that accused AMD device had identical electrical functioning to that of claimed Brooktree circuit).

852. *See id.* (indicating that specification stated that reference generator operates to override stages of circuit producing substantially constant voltage during introductions of substantially constant current).

853. *Id.*

854. *See supra* note 790 and accompanying text (reciting case law establishing that claim construction requires examination of specification, prosecution history, and other claims).

855. *See Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1206, 23 U.S.P.Q.2d (BNA)

In *Arachnid, Inc. v. Medalist Marketing Corp.*,⁸⁵⁶ the Federal Circuit affirmed the district court's denial of Arachnid's motion for JNOV because substantial evidence from the patent prosecution history supported the jury's conclusion that the claims in Arachnid's patent did not encompass Medalist's accused device, which was capable of playing both point-dependent and nonpoint-dependent dart games.⁸⁵⁷ During prosecution of Arachnid's patent for an electronic dart game, the examiner had rejected a claim that encompassed an electronic dart machine that could score both point-dependent and nonpoint-dependent dart games.⁸⁵⁸ Arachnid acquiesced to the rejection and amended its claims to incorporate the examiner's suggested claim language that limited the claim to only point-dependent dart games.⁸⁵⁹ The accused electronic dart machine could score both point-dependent and nonpoint-dependent types of dart games.⁸⁶⁰ The patent specification and prosecution history of Arachnid's patent constituted substantial evidence in support of the noninfringement verdict, and the Federal Circuit affirmed the denial of Arachnid's motion for JNOV.⁸⁶¹

In *Lemelson v. General Mills, Inc.*,⁸⁶² the Federal Circuit held that a patentee's acquiescence to a patent examiner's suggested claim amendment estopped the patentee from later asserting a claim interpretation contrary to the amendment suggested by the examiner.⁸⁶³ Lemelson, the patentee, brought an infringement action

1284, 1288 (Fed. Cir. 1992) (stating importance of prosecution history because such information provides insight into what applicant originally claimed as invention).

856. 972 F.2d 1300, 23 U.S.P.Q.2d (BNA) 1946 (Fed. Cir. 1992).

857. See *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1302, 23 U.S.P.Q.2d (BNA) 1946, 1948-49 (Fed. Cir. 1992) (holding that there was substantial evidence that claim 1 of Arachnid's patent covered electronic dart machines that only play point-dependent games); see also *id.*, 23 U.S.P.Q.2d (BNA) at 1948 (describing U.S. Patent No. 4,793,618 owned by Arachnid). Claim 1 of Arachnid's patent reads:

An electronic dart game apparatus . . . comprising . . . a first electronic memory storage area containing algorithms for scoring one or more different dart games wherein the value of points earned in a particular turn of said one or more different dart games is dependent upon the scoring segments hit during previous players' turns

Id.

858. *Id.*, 23 U.S.P.Q.2d (BNA) at 1949.

859. *Id.* This claim amendment was consistent with the specification, which described no embodiment of any machine having both point-dependent and nonpoint-dependent game capability. *Id.*

860. *Id.*

861. See *id.*, 23 U.S.P.Q.2d (BNA) at 1948-49 (affirming district court denial of JNOV motion based on substantial evidence, which included fact that disclosed embodiments only covered point-dependent dart games and no embodiment contained both point-dependent and nonpoint-dependent dart games).

862. 968 F.2d 1202, 23 U.S.P.Q.2d (BNA) 1284 (Fed. Cir. 1992).

863. *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1207-08, 23 U.S.P.Q.2d (BNA) 1284, 1288-89 (Fed. Cir. 1992) (reversing district court finding of infringement of Lemelson's patent by General Mills).

against General Mills alleging that the accused Hot Wheels toy track infringed Lemelson's patented track for toy vehicles.⁸⁶⁴ During the prosecution of Lemelson's patent application, the examiner rejected Lemelson's original five-clause claim 1 as anticipated by a prior art reference called Gardiol.⁸⁶⁵ Lemelson overcame the rejection by canceling the original claim 1 and presenting a new seven-clause claim with the addition of clauses (f) and (g).⁸⁶⁶ The accused Hot Wheels track did not have elements corresponding to the limitations set forth in new clauses (f) and (g) of the Lemelson patent.⁸⁶⁷ Lemelson therefore argued for infringement on the grounds that clauses (f) and (g) were superfluous and had been unnecessary to distinguish the claim from Gardiol and other prior art cited during patent prosecution.⁸⁶⁸ The Federal Circuit gave Lemelson's argument short shrift, stating that "Lemelson cannot acquiesce to a rejection and to an agreed alternative, and now years later shift his stance 180° to argue for a second bite at the abandoned apple."⁸⁶⁹

In *Read Corp.*, the Federal Circuit considered whether patent prosecution history estopped Read from asserting the claim limitation that the wheels be " 'moveable relative to said frame' from an operative to 'an inoperative position for resting said frame flush on the ground' " was equivalent to the combination of fixed wheels and movable foot pads in Portec's sifter.⁸⁷⁰ The Federal Circuit dismissed as unfounded the assertion that "Read was seeking to recapture in the infringement litigation something that was surrendered during the prosecution."⁸⁷¹ Portec asserted that Read's patent claims encompassed only a sifter with retractable wheels because the

864. *Id.* at 1205, 23 U.S.P.Q.2d (BNA) at 1286.

865. *See id.* at 1207, 23 U.S.P.Q.2d (BNA) at 1288 (noting that first five clauses in original claim comprised separate claim that examiner had rejected as anticipated by Gardiol).

866. *See id.* (stating further that five original clauses did not distinguish Lemelson's patent over Gardiol because at no time did PTO find Lemelson patent sufficiently distinguishable from prior art until two supplemental clauses were added). According to the court, if Lemelson's claim was distinguishable over the prior art, "it must be because of something in the added two clauses." *Id.* at 1208, 23 U.S.P.Q.2d (BNA) at 1289. Clauses (f) and (g) stated:

(f) said guide means include a pair of spaced apart runner portions for defining the pathway of a vehicle moving over said track,

(g) said spaced apart runner portions include upwardly extending rails for guiding the wheels of a vehicle.

Id. at 1204, 23 U.S.P.Q.2d (BNA) at 1285.

867. *See id.* at 1208, 23 U.S.P.Q.2d (BNA) at 1289 (noting that patentee identified no elements in accused track that corresponded to limitations in clauses (f) and (g)).

868. *Id.*

869. *See id.* (reversing district court and finding no patent infringement on ground that "no reasonable jury could read reissue claim 3 both to be valid in view of Gardiol and infringed by Hot Wheels").

870. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 823-24, 23 U.S.P.Q.2d (BNA) 1426, 1432-33 (Fed. Cir. 1992).

871. *Id.* at 824-25, 23 U.S.P.Q.2d (BNA) at 1433.

retractable wheel limitation of the Read patent was added during prosecution to overcome prior art cited by the examiner.⁸⁷² However, the same rejection that prompted Read to include the retractable wheel limitation had also included rejections of other claims, including claims having the retractable wheel limitation.⁸⁷³ The court therefore concluded that "adding a set of retractable wheels to the claim, movable or not, could not have been the basis for allowance."⁸⁷⁴

Portec also contended that because Read distinguished the prior art based on differences in the wheel configurations, Read was estopped from asserting infringement over equivalent structures.⁸⁷⁵ During prosecution Read had attempted to distinguish prior art devices, which had wheels, on the basis of structural differences including differences in the wheel configurations.⁸⁷⁶ No patent prosecution history estoppel arose, however, because Read did not distinguish the prior art solely on the basis that Read's device had retractable wheels and the prior art did not.⁸⁷⁷ The court reiterated the truism that not every statement made by a patentee during prosecution creates a separate estoppel and stressed that arguments must be considered in context.⁸⁷⁸ Therefore, Read's arguments distinguishing a prior art device having movable wheels did not automatically require a very narrow construction of the movable wheels limitation in Read's patent claims so as to exclude Portec's equivalent sifter.⁸⁷⁹

B. *Literal Infringement*

1. *Establishing literal infringement*

The second step of the infringement analysis involves comparing an accused device with the claim language as interpreted to ascertain whether the device falls within the claim's scope.⁸⁸⁰ There are

872. *Id.* at 822, 23 U.S.P.Q.2d (BNA) at 1433.

873. *See id.* at 824, 23 U.S.P.Q.2d (BNA) at 1433 (analyzing prosecution history with regard to movable wheels limitation).

874. *Id.*

875. *Id.*

876. *Id.*

877. *Id.*

878. *Id.*

879. *Id.*

880. *See* Read Corp. v. Portec, Inc., 970 F.2d 816, 821, 23 U.S.P.Q.2d (BNA) 1426, 1431 (Fed. Cir. 1992) (citing SSIH Equip. S.A. v. United States Int'l Trade Comm'n, 718 F.2d 365, 376, 218 U.S.P.Q. (BNA) 678, 688 (Fed. Cir. 1983) (requiring that accused device be compared to claim language as interpreted)); Charles Greiner & Co. v. Mari-Med Mfg., Inc., 962 F.2d 1031, 1034, 22 U.S.P.Q.2d (BNA) 1526, 1528 (Fed. Cir. 1992) (citing Standard Oil Co. v. American Cyanamid Co., 774 F.2d 448, 452, 227 U.S.P.Q. (BNA) 293, 295 (Fed. Cir. 1985) (holding that final step of infringement analysis is to demonstrate whether accused device is

two types of patent infringement: literal infringement and infringement under the doctrine of equivalents. Literal infringement results when an accused device contains all the limitations specified in the claims.⁸⁸¹ A finding of literal infringement is a question of fact, subject to review under the clearly erroneous standard.⁸⁸² Several 1992 Federal Circuit patent cases addressed the literal infringement issue.⁸⁸³

In *Charles Greiner*, the Federal Circuit held that Mari-Med's accused device, the Burns collar, did not literally infringe the Greiner cervical collar patent.⁸⁸⁴ The Greiner patent claim explicitly stated that the rigid support member was located at the bight of the collar, which the court previously interpreted as corresponding to a narrow area at the extreme front and back of the collar.⁸⁸⁵ Because the Burns collar had a rigid support member extending substantially around the entire length of each collar half, the court held that the Burns collar did not literally infringe Greiner's patent.⁸⁸⁶

In *Read Corp.*, the Federal Circuit held that the footpad arrangement on Portec's portable sifter did not literally respond to the retractable wheel feature of Read's patent, even though both accomplished the same function.⁸⁸⁷ Read argued that there was literal infringement because in both the claimed invention and the accused Portec device, the frame moved relative to the wheels.⁸⁸⁸ The

within scope of claim)); *see also supra* note 789 (reciting cases that have held second step in two-part infringement analysis to be comparison of accused device with claims as interpreted in first step).

881. *See, e.g., Read*, 970 F.2d at 821, 23 U.S.P.Q.2d (BNA) at 1431 (finding infringement when accused device contains all of limitations specified in claim); *Charles Greiner*, 962 F.2d at 1034, 22 U.S.P.Q.2d (BNA) at 1528 (stating that accused device must embody exactly each claim limitation to constitute literal infringement); *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 950, 22 U.S.P.Q.2d (BNA) 1231, 1234 (asserting that each limitation in claim must be found to constitute literal infringement), *cert. granted*, 113 S. Ct. 52 (1992); *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387, 21 U.S.P.Q.2d (BNA) 1383, 1386 (Fed. Cir. 1992) (requiring that every limitation must be met to establish literal infringement).

882. *Charles Greiner*, 962 F.2d at 1034-35, 22 U.S.P.Q.2d (BNA) at 1528; *Morton*, 959 F.2d at 950, 22 U.S.P.Q.2d (BNA) at 1234.

883. *See, e.g., Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838, 23 U.S.P.Q.2d (BNA) 1481, 1484 (Fed. Cir. 1992) (affirming noninfringement finding because accused process was substantially different than that claimed in patent); *Charles Greiner*, 962 F.2d at 1035, 22 U.S.P.Q.2d (BNA) at 1529 (finding no literal infringement of cervical collar patent); *Read*, 970 F.2d at 823, 23 U.S.P.Q.2d (BNA) at 1433-34 (holding that patent for portable loom screening device was literally infringed); *Morton*, 959 F.2d at 952, 22 U.S.P.Q.2d (BNA) at 1235 (affirming district court finding of no literal infringement of patented compounds used as chemical additives); *Intellicall*, 952 F.2d at 1389, 21 U.S.P.Q.2d (BNA) at 1387 (finding no literal infringement of telephone call cost computer).

884. *Charles Greiner*, 962 F.2d at 1035, 22 U.S.P.Q.2d (BNA) at 1529.

885. *Id.*

886. *Id.*

887. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 823, 23 U.S.P.Q.2d (BNA) 1426, 1432-33 (Fed. Cir. 1992).

888. *Id.*, 23 U.S.P.Q.2d (BNA) at 1433. In the Read patent, the frame remained stationary

Federal Circuit rejected this argument, noting that the claim language of Read's patent specifically required that the wheels move relative to the frame.⁸⁸⁹ Because the accused Portec sifter had wheels that remained stationary with respect to the ground while the frame was lowered, it did not literally infringe Read's claims.⁸⁹⁰

In *Atlantic Thermoplastics*, the Federal Circuit affirmed the district court's judgment that the shoe innersoles manufactured by Sorbothane did not literally infringe Atlantic's product-by-process claim.⁸⁹¹ The district court had determined that there were two reasons the Sorbothane process did not literally infringe the product-by-process claim.⁸⁹² First, the Sorbothane process required that the insert material, which is in liquid form, be poured into the mold rather than "placed" there, as claimed in the Atlantic patent.⁸⁹³ Second, the insert in the Sorbothane process was not held in place by the tackiness of the insert material, as claimed in the Atlantic patent, but instead was held firm by a small dam as it solidified in Sorbothane's teflon-coated mold.⁸⁹⁴ Therefore, the Sorbothane process did not contain all the limitations of the process recited in the product-by-process claims.⁸⁹⁵

In *Intellicall*, the Federal Circuit restated the standard for literal infringement of means-plus-function claims.⁸⁹⁶ The court noted that to literally infringe a means-plus-function claim, the accused device must perform the identical function required by the means-plus-function limitation and incorporate the structure disclosed in the specification, or its substantial structural equivalent, as the means for performing that function.⁸⁹⁷ The Federal Circuit held that there was no literal infringement because Intellicall's tele-

while the wheels were retracted, thus lowering the frame to the ground. *Id.* In the Portec device, the wheels remained stationary while the frame was lowered to the ground. *Id.* Read argued that in both situations the frame and wheels moved relative to one another, and that therefore Portec's device literally infringed Read's patent. *Id.*

889. *Id.*, 23 U.S.P.Q.2d (BNA) at 1432.

890. *Id.*

891. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838, 23 U.S.P.Q.2d (BNA) 1481, 1483-84 (Fed. Cir. 1992).

892. *Id.* Two claim limitations in Atlantic's patent were at issue. *Id.* at 835, 23 U.S.P.Q.2d (BNA) at 1482. The first limitation read "placing an elastomeric insert material into the mold," and the second read "the insert material having sufficient surface tack to remain in the placed position on the introduction of the expandable polyurethane material." *Id.*

893. *See id.* at 835, 23 U.S.P.Q.2d (BNA) at 1482 (reporting Atlantic's insert as solid or cellular material).

894. *Id.* at 838, 23 U.S.P.Q.2d (BNA) at 1484.

895. *Id.*

896. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388-89, 21 U.S.P.Q.2d (BNA) 1383, 1387 (Fed. Cir. 1992).

897. *Id.* (citing *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580, 12 U.S.P.Q.2d (BNA) 1382, 1387 (Fed. Cir. 1989)).

phones did not perform the identical function required by the means-plus-function limitation of claim 1 of Phonometrics' patent.⁸⁹⁸ Specifically, Intellicall's telephones did not provide an instantaneous digital display of cumulative call cost in dollars and cents, as literally required by the claims.⁸⁹⁹

In another case involving literal infringement of means-plus-function claims, the Federal Circuit, in *In re Hayes Microcomputer Products*,⁹⁰⁰ upheld a jury verdict that an accused device contained structures identical or equivalent to the structure described in an existing patent specification and corresponding to the "timing means" and "means, operative" limitations in the claims.⁹⁰¹ The Federal Circuit noted that Dr. Cliett, Hayes' expert witness, testified that Ven-Tel's accused modem incorporated a "timing means," which he manually tested and found performed the same time delay recognition as claimed in the Hayes patent.⁹⁰² Furthermore, Ven-Tel stipulated that its modem used a microprocessor, which the Federal Circuit previously held was the structure in the Hayes patent supporting the "timing means" and "means, operative" functions.⁹⁰³ The court concluded that this evidence was sufficient for a reasonable jury to conclude that the "timing means" was contained in the accused device.⁹⁰⁴ As to the "means, operative" element, the Federal Circuit again pointed to on Dr. Cliett's testimony as evidence supporting the jury's determination that the accused device contained structure identical or equivalent to this element.⁹⁰⁵ Specifically, the court referred to Dr. Cliett's testimony that the Ven-Tel modem had a means, operative to switch between two different modes of operation, which is the same function performed by the "means, operative" limitation in the Hayes patent.⁹⁰⁶

As further evidence that the accused device was functionally equivalent to the claimed invention, the Federal Circuit noted that

898. *Id.* at 1389, 21 U.S.P.Q.2d (BNA) at 1387.

899. *Id.*

900. 982 F.2d 1527, 25 U.S.P.Q.2d (BNA) 1241 (Fed. Cir. 1992).

901. *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1543, 25 U.S.P.Q.2d (BNA) 1241, 1253 (Fed. Cir. 1992). The Federal Circuit reaffirmed its position that for purposes of determining the scope of means-plus-function claims in a literal infringement analysis, such claims are construed to cover the structure described in the specification and the equivalents thereof. *Id.* at 1541, 25 U.S.P.Q.2d (BNA) at 1251 (citing *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 U.S.P.Q. (BNA) 236, 239 (Fed. Cir. 1985) (positing that sole question in application of means-plus-function is "whether the single means in the accused device which performs the function stated in the claim is the same as or an equivalent of the corresponding structure described in patentee's specification as performing that function")).

902. *Id.* at 1541-42, 25 U.S.P.Q.2d (BNA) at 1252.

903. *Id.*, 25 U.S.P.Q.2d (BNA) at 1252-53.

904. *Id.* at 1543, 25 U.S.P.Q.2d (BNA) at 1253.

905. *Id.* at 1542, 25 U.S.P.Q.2d (BNA) at 1252.

906. *Id.*

the engineer in charge of designing Ven-Tel's modem testified that he was instructed to design a Hayes-compatible modem.⁹⁰⁷ In addition, the Ven-Tel modem was advertised as being "Hayes compatible."⁹⁰⁸ Also, Dr. Cliett testified that based on his comparison of the accused device with the claims, the accused device was functionally equivalent to the device claimed in the Hayes patent.⁹⁰⁹ The court stated, "Although Dr. Cliett was not a patent law expert, he had read and understood the claims [in the Hayes] patent at the time he tested the accused infringing devices."⁹¹⁰ The court therefore held that a reasonable juror could have concluded from the foregoing evidence that the accused modem contained a functional equivalent to the "timing means" and "means, operative" elements claimed in the Hayes patent.⁹¹¹

2. Evidentiary considerations

Determining whether an accused device contains all the limitations set forth in the claims can pose difficult evidentiary problems. In *Minnesota Mining*, the Federal Circuit considered whether appropriate testing procedures were used to determine if the accused product met the limitations of the 3M patent claims.⁹¹² In proving literal infringement, 3M needed to show that at least one major surface of the accused JJO product had a KCOF less than about 1.2, as claimed in the 3M patent.⁹¹³ To establish the KCOF of JJO's product, each party conducted separate KCOF tests on the accused product.⁹¹⁴ The company 3M obtained an average KCOF of about 0.86 for the interior face of the tape roll and of about 1.12 for the exterior face of the tape roll.⁹¹⁵ In contrast, JJO obtained a combined average of about 1.59 for both faces of the tape roll.⁹¹⁶ The appointed master resolved the discrepancy, finding 3M's tests more reliable because they were performed in accordance with the directions given in the 3M patent.⁹¹⁷ The district court thus found that

907. *Id.*, 25 U.S.P.Q.2d (BNA) at 1252-53.

908. *Id.*, 25 U.S.P.Q.2d (BNA) at 1252.

909. *Id.*, 25 U.S.P.Q.2d (BNA) at 1253.

910. *Id.*, 25 U.S.P.Q.2d (BNA) at 1252.

911. *Id.* at 1543, 25 U.S.P.Q.2d (BNA) at 1253.

912. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1570-71, 24 U.S.P.Q.2d (BNA) 1321, 1330-31 (Fed. Cir. 1992).

913. *See id.* at 1565, 24 U.S.P.Q.2d (BNA) at 1326 (describing 3M patent as claiming curable resin-coated sheet, such as casting tape, which included additive lubricant at major surface present in such amount so as to reduce KCOF of casting tape to less than approximately 1.2).

914. *Id.* at 1570, 24 U.S.P.Q.2d (BNA) at 1331.

915. *Id.*

916. *Id.*

917. *Id.* at 1571, 24 U.S.P.Q.2d (BNA) at 1332. The master also noted that 3M's tests were more reliable because the tests were made on rolls taken from commercial batches of the

the JJO product literally infringed the 3M patent.⁹¹⁸

On appeal, the Federal Circuit affirmed the district court's finding as not clearly erroneous.⁹¹⁹ The court rejected JJO's argument that 3M's test results were unreliable because 3M failed to take an equal number of readings in each direction along the strip of tape.⁹²⁰ The testing method disclosed in the 3M patent did not require that the number of readings in each direction be equal, however.⁹²¹ The method only specified that tests be conducted a sufficient number of times in each direction to determine the mean or average KCOF value.⁹²² Although an equal number of readings taken in both directions could yield a more accurate result, the court concluded that one reading less in one direction did not necessarily render the KCOF value obtained unreliable or inaccurate so that it would be clearly erroneous for the district court to rely on the readings.⁹²³

The Federal Circuit also rejected JJO's second argument that 3M's test results were unreliable because 3M used defective samples in conducting its tests.⁹²⁴ The samples 3M tested were taken from commercial batches of products sold by JJO.⁹²⁵ The master concluded that these samples were more reliable than the experimental samples that JJO used in its tests, and the Federal Circuit endorsed this conclusion.⁹²⁶ Moreover, 3M's testing procedure was in accord with the method taught in the 3M patent.⁹²⁷ Accordingly, the Federal Circuit concluded that there was no clear error in the master's conclusion that 3M's tests were more reliable than those conducted by JJO.⁹²⁸

Evidentiary issues can also highlight problems caused by drafting claims to secure patent grants without adequate consideration of how to prove infringement of the claimed inventions. The Federal

product sold by JJO, whereas JJO's tests were made on experimental tape. *Id.* The test method used for determining the KCOF of the casting tape was based on a method developed by the American Society for Testing Materials. *Id.* at 1568, 24 U.S.P.Q.2d (BNA) at 1329. The test involves a special "sled" that is pulled a specified distance along the length of an 18- to 24-inch sample of tape. *Id.*

918. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 22 U.S.P.Q.2d (BNA) 1401, 1417 (D. Minn. 1991).

919. *Minnesota Mining*, 976 F.2d at 1571, 24 U.S.P.Q.2d (BNA) at 1331.

920. *Id.*

921. *Id.*

922. *Id.*

923. *Id.*

924. *See id.* (noting defects attributed to "pooling" and "puddling" of resin in samples used for testing).

925. *Id.* at 1571-72, 24 U.S.P.Q.2d (BNA) at 1332.

926. *Id.* at 1572, 24 U.S.P.Q.2d (BNA) at 1332.

927. *See supra* note 917 and accompanying text (describing testing method disclosed in 3M patent).

928. *Minnesota Mining*, 976 F.2d at 1572, 24 U.S.P.Q.2d (BNA) at 1332.

Circuit's *Morton International* decision illustrates such a situation. In *Morton International*, the infringement issue centered around whether partial connectivity, as claimed in Morton's patent, was present in Cardinal's allegedly infringing composition.⁹²⁹ The district court found that Morton failed to show that partial connectivity existed in Cardinal's allegedly infringing mixture.⁹³⁰ Morton argued that the district court improperly limited the evidence it could introduce to prove the partial connectivity to isolation and to nuclear magnetic resonance (NMR) data.⁹³¹ The Federal Circuit affirmed the district court decision, noting that the district court did not require isolation as proof of the partial connectivity.⁹³² Instead, the district court found that no amount of testing by presently available methods could isolate, identify, or separate any compound as claimed in Morton's patents.⁹³³ The district court specifically found that the NMR test performed on Cardinal's composition did not objectively support the actual existence of the claimed connectivities.⁹³⁴

The Federal Circuit also rejected Morton's building block theory to prove the existence of the partial connectivities in Cardinal's compound.⁹³⁵ Morton argued that Cardinal's mixture was infringing because the mixture contained the building blocks used in Morton's patented invention, and that these building blocks can combine to form compounds, at least some of which contain the claimed connectivity.⁹³⁶ The Federal Circuit dismissed this analysis because Morton did not prove that the accused mixture actually contained the claimed connectivity.⁹³⁷ According to the court, it would be mere speculation to assume that the accused mixture contained the claimed connectivity.⁹³⁸ The hypothetical existence of the claimed compounds in Cardinal's mixture was insufficient to

929. See *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 949, 22 U.S.P.Q.2d (BNA) 1231, 1233 (Fed. Cir.) (describing chemical bonding in Morton's claimed organotin compound as partial connectivity, which specifically denotes composition wherein tin atom is bonded to sulfur atom, sulfur atom is bonded to second tin atom, and second tin atom is bonded to mercaptoalkyl ester), *cert. granted*, 113 S. Ct. 52 (1992).

930. *Id.* at 950, 22 U.S.P.Q.2d (BNA) at 1235.

931. *Id.*, 22 U.S.P.Q.2d (BNA) at 1234.

932. See *id.* (finding that district court had only required identification of compounds in Cardinal's mixture).

933. *Id.* at 950-51, 22 U.S.P.Q.2d (BNA) at 1234.

934. *Id.* at 951, 22 U.S.P.Q.2d (BNA) at 1234. The district court found Cardinal's experts more credible than Morton's experts. *Id.* The testimony of Cardinal's expert witness, Dr. Story, discredited the testimony of Morton's expert witness that the NMR data showed the existence of the partial connectivities. *Id.* Dr. Story testified that performing the reactions disclosed by the Morton patent would not necessarily result in the compounds contained in Cardinal's allegedly infringing composition. *Id.*

935. *Id.* at 951, 22 U.S.P.Q.2d (BNA) at 1234-35.

936. *Id.*

937. *Id.*, 22 U.S.P.Q.2d (BNA) at 1234.

938. *Id.*, 22 U.S.P.Q.2d (BNA) at 1235.

show that the accused mixture contained all the limitations set forth in the claims.⁹³⁹

C. Doctrine of Equivalents

When an accused device does not literally infringe, a court may find that the device nevertheless infringes under the doctrine of equivalents.⁹⁴⁰ Whether a device infringes under the doctrine of equivalents is a question of fact.⁹⁴¹ Recently, the Federal Circuit has intimated that application of the doctrine of equivalents is the exception and not the rule.⁹⁴² In 1992 the Federal Circuit again adverted to the tension inherent between the equity-based doctrine of equivalents and the cardinal principle that the claims define the limits of patent protection.⁹⁴³

In *Charles Greiner*, the Federal Circuit affirmed the district court's holding that the defendants did not infringe the patent under the doctrine of equivalents.⁹⁴⁴ After briefly reviewing the historical antecedents of the doctrine of equivalents, the Federal Circuit stressed the "fundamental principle [that] claims define the limits of patent protection"⁹⁴⁵ must be balanced with judicious application of the doctrine of equivalents.⁹⁴⁶ The court opined that the rule of prosecution history estoppel prevents, in theory, the legal significance of the claims from clashing with the doctrine of equivalents.⁹⁴⁷ According to the court, the rule of prosecution history estoppel combined with "careful confinement of the doctrine of equivalents to its proper equitable role, promotes certainty and clar-

939. *See id.* (agreeing with expert's conclusion that number of claimed compounds were theoretically possible, but holding that such possibility was insufficient to support infringement claim).

940. *See Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950) (providing that essence of doctrine of equivalents is that one may not pirate invention simply by avoiding literal language of claim). The *Graver Tank* test states that even in the absence of literal infringement, an accused device can be found to infringe if it performs substantially the same function in substantially the same way to obtain the same result. *Id.* at 608-09.

941. *Id.* at 609-10.

942. *See London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d (BNA) 1456, 1458-59 (Fed. Cir. 1991) (noting that if doctrine of equivalents is "regularly available to extend protection beyond the scope of the claims, then claims will cease to serve their intended purpose").

943. *See Charles Greiner & Co. v. Mari-Med Mfg., Inc.*, 962 F.2d 1031, 1036, 22 U.S.P.Q.2d (BNA) 1526, 1530 (Fed. Cir. 1992) (admonishing that doctrine of equivalents should be carefully confined to its proper equitable role).

944. *Id.* at 1036-37, 22 U.S.P.Q.2d (BNA) at 1530.

945. *Id.* at 1036, 22 U.S.P.Q.2d (BNA) at 1529 (citing *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 419 (1908)).

946. *Id.*

947. *Id.*, 22 U.S.P.Q.2d (BNA) at 1530 (citing *Smith v. Magic City Kennel Club*, 282 U.S. 784, 789-90 (1931); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 227-28 (1880)).

ity in determining the scope of patent rights."⁹⁴⁸ The accused Burns cervical collar achieved a better result in a different way than the patented invention and thus did not satisfy the well-known function-way-result test of *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*⁹⁴⁹ The accused device, therefore, did not infringe under the doctrine of equivalents.⁹⁵⁰

In contrast to *Charles Greiner*, the court in *Read*, which was decided less than three months later, *did* apply the doctrine of equivalents, and held that the Portec sifter infringed the Read patent.⁹⁵¹ In finding substantial evidence to support equivalency, the Federal Circuit noted that Portec's retractable footpads performed substantially the same function, which was the taking of weight off the wheels to provide stability during the device's operation, as the retractable wheels in the Read patent.⁹⁵² The court characterized the Portec device as having merely substituted an equivalent structure for Read's retractable wheels limitation.⁹⁵³ The Federal Circuit, however, did not specifically discuss how the accused device satisfied the elements of the *Graver Tank* test.⁹⁵⁴

In *Intellicall*, the Federal Circuit emphasized that to establish infringement of a means-plus-function claim under the doctrine of equivalents, every limitation of the claim must be found in the accused device, either literally or by a substantial equivalent.⁹⁵⁵ Because Phonometrics adduced no evidence that the disputed claim limitations were met, the Federal Circuit affirmed the district court's summary judgment that Intellicall's telephone did not infringe Pho-

948. *Id.*

949. See *Charles Greiner*, 962 F.2d at 1036, 22 U.S.P.Q.2d (BNA) at 1530 (applying function-way-result test of *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950), and determining that accused collar had rigid support member providing comfortable support throughout cervical collar and not just at narrow bight at front and rear as in claimed collar); see also *supra* note 940 (discussing *Graver Tank* test).

950. *Id.*

951. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 823, 23 U.S.P.Q.2d (BNA) 1426, 1432-33 (Fed. Cir. 1992). The specific limitation of Read's claim pertaining to the retractable wheels reads "a set of wheels mounted to one of said sides and movable relative to said frame from an operative position for transporting said apparatus to an inoperative position for resting said frame flush on the ground." *Id.* Portec had attempted to design around Read's patented portable sifter, which had become popular in the industry. *Id.* at 820, 23 U.S.P.Q.2d (BNA) at 1430. To this end, Portec designed its sifter so that the wheels remained stationary. *Id.* To take the weight of the device off the wheels, Portec incorporated retractable footpads into the sides of the frame. *Id.* The footpads could be lowered by hydraulic cylinders, thus lifting the device off its wheels. *Id.*

952. *Id.* at 823, 23 U.S.P.Q.2d (BNA) at 1433.

953. *Id.* at 824, 23 U.S.P.Q.2d (BNA) at 1433.

954. *Id.*

955. *Intellicall Inc. v. Phonometrics Inc.*, 952 F.2d 1384, 1389, 21 U.S.P.Q.2d (BNA) 1383, 1387 (Fed. Cir. 1992).

nometrics' patents under the doctrine of equivalents.⁹⁵⁶ Phonometrics argued that the accused device was equivalent overall to the claimed invention.⁹⁵⁷ The Federal Circuit pointed out, however, that its decision in *Pennwalt Corp. v. Durand-Wayland, Inc.*⁹⁵⁸ rejected the determination of equivalency based on an overall comparison in favor of an element-by-element analysis.⁹⁵⁹

D. Design Patent Infringement

In 1992, the Federal Circuit heard two cases involving design patent infringement: *Read Corp. v. Portec, Inc.* and *Braun, Inc. v. Dynamics Corp. of America*.⁹⁶⁰ In both cases the Federal Circuit applied the test set forth in *Gorham Co. v. White*⁹⁶¹ to determine design patent infringement based on an objective standard of whether the ordinary observer would likely confuse one item for another because of their similarity in appearance.⁹⁶² In *Read*, the patentee, Read, sued Portec for infringement of Read's design patent pertaining to a portable sifting device.⁹⁶³ To prove infringement, Read testified as

956. *Id.*, 21 U.S.P.Q.2d (BNA) at 1387-88.

957. *Id.*

958. 833 F.2d 931, 4 U.S.P.Q.2d (BNA) 1737 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988).

959. *Intellicall*, 952 F.2d at 1389, 21 U.S.P.Q.2d (BNA) at 1387 (citing *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934, 4 U.S.P.Q.2d (BNA) 1737, 1739 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988) (quoting prior cases that support finding that each element of every claim is material and thus that accuser must show presence of every element (or its substantial equivalent) in device at issue)). The Federal Circuit further noted that Phonometrics failed to produce evidence showing that the limitations of its claims were met equivalently and rejected Phonometrics' argument that, as the nonmoving party on a noninfringement issue, it had no duty to submit evidence with respect to infringement under the doctrine of equivalents. *Id.*, 21 U.S.P.Q.2d (BNA) at 1387-88.

960. 975 F.2d 815, 24 U.S.P.Q.2d (BNA) 1121 (Fed. Cir. 1992).

961. 81 U.S. (14 Wall.) 511 (1871). The test reads:

[I]f, in the eye of the ordinary observer, giving such attention as a purchaser usually gives, two designs are substantially the same, if the resemblance is such as to deceive such an observer, inducing him [or her] to purchase one supposing it to be the other, the first one patented is infringed by the other.

Id. at 528.

962. *See Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 819-21, 24 U.S.P.Q.2d (BNA) 1121, 1124-26 (Fed. Cir. 1992) (focusing analysis on whether burden of persuasion was met and upholding jury's verdict that defendant infringed Braun's design patent); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 825-26, 23 U.S.P.Q.2d (BNA) 1426, 1434 (Fed. Cir. 1992) (concentrating analysis on whether burden of production was met and finding no substantial evidence to support jury's finding of infringement).

Infringement is an issue of fact proven by a preponderance of the evidence. *See Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 1282, 230 U.S.P.Q. (BNA) 45, 46 (Fed. Cir. 1986) (noting that burden of proving infringement by preponderance of evidence rests on accuser and remains issue of fact reviewable for clear error). Review of a jury verdict requires a court to consider the sufficiency of the evidence underlying the verdict. *See Jurgens v. McKasy*, 927 F.2d 1552, 1557, 18 U.S.P.Q.2d (BNA) 1031, 1035 (Fed. Cir.) (stating that jury's decision must be supported by substantial evidence), *cert. denied*, 112 S. Ct. 281 (1991).

963. *Read*, 970 F.2d at 825-26, 23 U.S.P.Q.2d (BNA) at 1434; *see also supra* notes 823-35

to the common features between his patented design and the design of the accused Portec device.⁹⁶⁴ Based on this evidence, the jury found that Portec infringed Read's design patent.⁹⁶⁵ The district court subsequently denied Portec's motion for JNOV.⁹⁶⁶ The Federal Circuit reversed the district court decision, holding that Read's evidence was insufficient to prove infringement.⁹⁶⁷ According to the Federal Circuit, infringement depends on "(1) the similarity of the ornamental features of the Portec device and the patented design, and (2) the likelihood that an ordinary person would be confused because of such ornamental similarity."⁹⁶⁸ The court held that Read had failed to prove that an ordinary person would be deceived by the similarities in the common ornamental features because Read had only drawn attention to similarities in the common functional features.⁹⁶⁹

In *Braun*, the owner of a design patent on a hand-held electric blender filed a design patent infringement suit against Waring, the manufacturer of a competing hand-held blender.⁹⁷⁰ To prove infringement, Braun introduced as evidence only its patented design and the accused device.⁹⁷¹ After comparing the two designs, the jury found that Waring's device infringed Braun's patented design.⁹⁷² The Federal Circuit held that a jury could reasonably find that, under the *Gorham* test, Waring's blender infringed the Braun patent.⁹⁷³ A trier of fact is permitted under *Gorham* to rely exclusively on a visual comparison of the patented design and the accused device.⁹⁷⁴ Lack of statistical surveys and other empirical data

and accompanying text (discussing case with regard to defining claim terms based on specifications issue); *supra* notes 870-79 and accompanying text (discussing case with regard to prosecution history and estoppel issues); *supra* notes 887-90 and accompanying text (discussing case with regard to literal infringement issue); *supra* notes 951-54 and accompanying text (discussing case with regard to doctrine of equivalents issue); *infra* notes 1118-30 and accompanying text (discussing case with regard to willful infringement issue); *infra* notes 1101-02 and accompanying text (discussing case with regard to attorney's fees issue).

964. *Read*, 970 F.2d at 825-26, 23 U.S.P.Q.2d (BNA) at 1434.

965. *Id.*

966. *Id.*

967. *Id.*

968. *Id.* at 826, 23 U.S.P.Q.2d (BNA) at 1434.

969. *See id.* at 825, 23 U.S.P.Q.2d (BNA) at 1434 (citing *Lee v. Dayton-Hudson Corp.*, 838 F.2d 1186, 1188, 5 U.S.P.Q.2d (BNA) 1625, 1627 (Fed. Cir. 1988)) (holding that in situations where design is composed of both functional and ornamental features, patent owner must show that ordinary person would be deceived by common ornamental features).

970. *Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 821, 24 U.S.P.Q.2d (BNA) 1121, 1126 (Fed. Cir. 1992); *see also infra* notes 1174-81 and accompanying text (discussing case with regard to 35 U.S.C. § 289 issue); *infra* notes 1340-43 and accompanying text (discussing case with regard to inequitable conduct issue).

971. *Braun*, 975 F.2d at 821, 24 U.S.P.Q.2d (BNA) at 1126.

972. *Id.*

973. *Id.*

974. *Id.*

did not preclude a jury from finding design patent infringement.⁹⁷⁵ According to the court, "a jury, comprised of a sampling of ordinary observers, does not necessarily require empirical evidence as to whether ordinary observers would be deceived by the accused device's design."⁹⁷⁶

E. Product-by-Process Claims

A product-by-process claim "is one in which the product is defined at least in part in terms of the method or process by which it is made."⁹⁷⁷ An uncertainty currently exists with respect to the interpretation of product-by-process claims for infringement purposes. Two recent Federal Circuit decisions that concern whether the process recited in product-by-process claims should be interpreted as a claim limitation for infringement analysis purposes have resulted in conflicting holdings.⁹⁷⁸ This conflict leaves the patent practitioner with a dilemma on how to analyze product-by-process claims for infringement purposes, and whether to draft patent claims for a product which may not be adequately definable by conventional structural claim limitations.⁹⁷⁹

In 1991, the Federal Circuit in *Scripps Clinic & Research Foundation v. Genentech, Inc.*⁹⁸⁰ held that a product-by-process claim is not limited to products prepared by the process set forth in the claims.⁹⁸¹ The court in *Scripps* cited three *ex parte* cases that recognize that the patentability of an invention defined by product-by-process claims turns on the patentability of the product, not the process.⁹⁸² The court held that claims must be interpreted the same way for patentability.

975. *Id.*

976. *Id.*

977. 2 DONALD S. CHISUM, PATENTS § 8.05, at 8-81 (1992).

978. Don J. DeBenedictis, *Inconsistent Patent Rulings*, A.B.A. J., Dec. 1992, at 36 (reporting conflict between Federal Circuit decisions interpreting product-by-process claims).

979. One solution has its basis in the Federal Circuit's practice that where there are conflicting precedents, the earlier precedent controls. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1281, 23 U.S.P.Q.2d (BNA) 1801, 1802 (Fed. Cir. 1992) (Rich, J., dissenting from denial of rehearing *in banc*).

980. 927 F.2d 1565, 18 U.S.P.Q.2d (BNA) 1001 (Fed. Cir. 1991).

981. See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583, 18 U.S.P.Q.2d (BNA) 1001, 1016 (Fed. Cir. 1991) (holding that in determining patentability, court should not construe product as limited by process stated in claim).

982. See *id.* (citing *In re Thorpe*, 777 F.2d 695, 697-98, 227 U.S.P.Q. (BNA) 964, 966 (Fed. Cir. 1985) (holding that prior art pertinent only to product is proper ground for rejection of product-by-process claims); *In re Brown*, 459 F.2d 531, 535, 173 U.S.P.Q. (BNA) 685, 688 (C.C.P.A. 1972) (stating that patentability of product must be established independent of process in product-by-process claims); *In re Bridgeford*, 357 F.2d 679, 682-83, 149 U.S.P.Q. (BNA) 55, 57-58 (C.C.P.A. 1966) (recognizing that while some courts have construed product-by-process claims as limited to particular process, courts have determined patentability independent of process)).

bility and infringement purposes.⁹⁸³ The Federal Circuit remanded to the district court the question of whether Genentech's accused factor VIII:C, produced by recombinant DNA technology, infringed Scripps' claimed factor VIII:C, produced by antibody absorption methods.⁹⁸⁴

In 1992, a different three-judge panel of the Federal Circuit in *Atlantic Thermoplastics Co. v. Faytex Corp.*⁹⁸⁵ declined to follow *Scripps*, holding that "process terms in product-by-process claims serve as limitations in determining infringement."⁹⁸⁶ The panel in *Atlantic Thermoplastics* perceived a conflict between *Scripps* and certain pre-1952 Supreme Court precedents, which the panel cited for the proposition that for infringement purposes, product-by-process claims include the limitation of the process identified in the claim.⁹⁸⁷ The court explicitly cited the traditional dichotomy existing between the way product-by-process claims are construed by the PTO for patentability purposes and the way the same claims are interpreted for infringement or validity purposes.⁹⁸⁸

983. *Scripps*, 927 F.2d at 1581, 18 U.S.P.Q.2d (BNA) at 1006. This ruling may not be confined to "validity" or "infringement," and may present interesting issues for the interference practitioner. *Scripps* seems out of step with the Federal Circuit's comments about conception of product claims versus product-by-process claims in *Fiers v. Sugano*, 984 F.2d 1164, 25 U.S.P.Q.2d (BNA) 1601 (Fed. Cir. 1993), where the court stated:

A product-by-process claim normally is an after-the-fact definition, used after one has obtained a material by a particular process. Before reduction to practice, conception only of a process for making a substance, without a conception of a structural or equivalent definition of that substance, can at most constitute a conception of the substance as a process. Conception of a substance per se without reference to a process requires conception of its structures, name, formula or definitive chemical or physical properties.

Id. at 1169, 25 U.S.P.Q.2d (BNA) at 1605.

984. *Id.*

985. 970 F.2d 834, 23 U.S.P.Q.2d (BNA) 1481 (Fed. Cir. 1992).

986. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846-47, 23 U.S.P.Q.2d (BNA) 1481, 1491 (Fed. Cir. 1992).

987. *See id.* at 838-43, 23 U.S.P.Q.2d (BNA) at 1485-88 (citing *General Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 373-74 (1938) (stating that nothing can be held to infringe patent which is not made by same process)); *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293, 311 (1884) (same); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 230 (1880) (concluding that where patent claimed both product and process, accused product must be substantially same and process must be equivalent); *Merrill v. Yeomans*, 94 U.S. 568, 572-73 (1877) (maintaining that process language in specification is limitation on claims for that process only); *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 493 (1877) (holding that product could not be separated from process and that both were patentable).

988. *See Atlantic Thermoplastics*, 970 F.2d at 846, 23 U.S.P.Q.2d (BNA) at 1490-91 (observing that Federal Circuit permits PTO to give product-by-process claims their broadest meaning possible when interpreting claims for patentability). Product-by-process claims are treated as a product for patentability, and the question becomes whether the product itself is novel and nonobvious. *Id.* For infringement, on the other hand, the question has been whether the accused infringing product is manufactured in an identical fashion as set forth in the claims. *Id.* The court emphasized that its decision does not disturb the PTO's present practice for assessing patentability of product-by-process claims. *Id.*

Atlantic owned a patent for a shock absorbing shoe innersole that contained process claims⁹⁸⁹ and a product-by-process claim.⁹⁹⁰ Faytex sold innersoles made from two different manufacturing processes, called the "Surge process" and the "Sorbothane process."⁹⁹¹ Atlantic asserted that both processes produced innersoles indistinguishable in structure from the innersole made according to Atlantic's patent.⁹⁹² Atlantic filed a suit against Faytex for selling the innersoles manufactured under both processes, alleging that the innersole made by either process infringed the Atlantic patent.⁹⁹³ Because Faytex was not the manufacturer of the innersoles, Atlantic asserted infringement of only the product-by-process claim.⁹⁹⁴ The parties agreed that the innersoles made under the Surge process infringed, but the district court went further and held that those made under the Sorbothane process did not infringe the Atlantic patent because the Sorbothane process differed from the process in the product-by-process claim.⁹⁹⁵ Citing *Scripps*, Atlantic argued on appeal that Faytex nevertheless infringed the Atlantic patent because the Sorbothane produced innersoles which were indistinguishable from infringing innersoles made by the Surge process.⁹⁹⁶

In *Atlantic Thermoplastics*, the Federal Circuit eschewed the *Scripps* rationale for a number of reasons, and cited old Supreme Court decisions⁹⁹⁷ and decisions of the Court of Customs and Patent Appeals

989. See *id.* at 835, 23 U.S.P.Q.2d (BNA) at 1482 (describing process claim contained in claim 1 of Atlantic patent for shock absorbing innersole). Claim 1 of the Atlantic patent defines the process as follows:

In a method of manufacturing a shock-absorbing, molded innersole for insertion in footwear, which method comprises:

- (a) introducing an expandable, polyurethane into a mold; and
- (b) recovering from the mold an innersole which comprises a contoured heel and arch section composed of a substantially open-celled polyurethane foam material, the improvement which comprises:
 - (i) placing an elastomeric insert into the mold, the insert material having greater shock-absorbing properties and being less resilient than the molded, open-celled polyurethane foam material . . . ; and
 - (ii) recovering a molded innersole with the insert material having a tacky surface forming a part of the exposed bottom surface of the recovered innersole.

Id. at 835-36, 23 U.S.P.Q.2d (BNA) at 1482.

990. See *id.* at 836, 23 U.S.P.Q.2d (BNA) at 1483 (describing product-by-process claim contained in claim 24 of Atlantic patent for shock absorbing innersole). Claim 24 of the Atlantic patent reads: "The molded innersole produced by the method of claim 1." *Id.*

991. *Id.*, 23 U.S.P.Q.2d (BNA) at 1482.

992. *Id.*, 23 U.S.P.Q.2d (BNA) at 1483.

993. *Id.* at 835, 23 U.S.P.Q.2d (BNA) at 1482-83.

994. *Id.* at 836, 23 U.S.P.Q.2d (BNA) at 1483.

995. *Id.* at 837-38, 23 U.S.P.Q.2d (BNA) at 1484.

996. *Id.* at 838, 23 U.S.P.Q.2d (BNA) at 1484-85.

997. See *supra* note 987 (reciting Supreme Court case law that Federal Circuit relied on to reject its holding in *Scripps*). The Supreme Court cases discussed in *Atlantic Thermoplastics*,

for the principle that process steps in a product-by-process claim are limitations on the claims for infringement purposes.⁹⁹⁸ The Federal Circuit further sought to justify its holding that the process in a product-by-process claim should be read as a limitation on the claim based on the notion that ignoring the process limitation might violate fundamental patent law principles.⁹⁹⁹ For example, ignoring the process recited in a product-by-process claim would directly clash with the principle of infringement analysis that every limitation of a claim or its equivalent must be found in the accused device to constitute infringement.¹⁰⁰⁰ Moreover, finding infringement of a product-by-process claim by a product made using a different process would clash with the basic patent law principle that the claims of a particular patent define the invention disclosed in that patent.¹⁰⁰¹ The Federal Circuit also reasoned that the comparison of

however, are themselves susceptible to different interpretations as seen from Judge Newman's dissent from the denial of Atlantic's request for rehearing *in banc*. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1289-93, 23 U.S.P.Q.2d (BNA) 1801, 1802-16 (Fed. Cir. 1992) (Nies, C.J., and Rich, Newman, and Lourie, J.J., dissenting from denial of rehearing *in banc*). While, for example, the dissent may be correct to question the continued vitality of *Goodyear v. Davis*, 102 U.S. 222 (1880), to present day product-by-process claims, the dissent did not address the Supreme Court's rationale. The Supreme Court in *Davis*, itself stated that "[t]he process detailed in the description antecedent to the claim, and referred to thereby, is as much a part of the invention as are the materials of which the [dental] plate or product is composed." *Id.* at 224 (emphasis added). The dissent also criticized the *Atlantic* panel's reliance on *Merrill v. Yeomans*, 94 U.S. 568 (1877), and asserts, "the [U.S. Supreme] Court found the product old and interpreted the claims accordingly." *Atlantic Thermoplastics*, 974 F.2d at 1290, 23 U.S.P.Q.2d (BNA) at 1809 (Newman, J., dissenting).

998. *Atlantic Thermoplastics*, 970 F.2d at 843-47, 23 U.S.P.Q.2d (BNA) at 1488-91 (citing *In re Moeller*, 117 F.2d 565, 568, 48 U.S.P.Q. (BNA) 542, 545 (C.C.P.A. 1941) (identifying rule in infringement analysis of product-by-process claims that patentee is limited in protection to articles produced by method referred to in claims); *In re Bridgeford*, 357 F.2d 679, 682-83, 149 U.S.P.Q. (BNA) 55, 57-58 (C.C.P.A. 1966) (acknowledging that process operates as limitation on infringement actions)).

999. *Atlantic Thermoplastics*, 970 F.2d at 846, 23 U.S.P.Q.2d (BNA) at 1491.

1000. *Id.* (indicating that for finding of infringement, Federal Circuit has required presence of every claim limitation or its equivalent) (citing *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935, 4 U.S.P.Q.2d (BNA) 1737, 1739-40 (Fed. Cir. 1987) (*in banc*, cert. denied, 485 U.S. 961, cert. denied, 485 U.S. 1009 (1988)); *Perkin-Elmer Corp. v. Westinghouse Elec.*, 822 F.2d 1528, 1533, 3 U.S.P.Q.2d (BNA) 1321, 1325 (Fed. Cir. 1987); *Lemelson v. United States*, 752 F.2d 1538, 1551, 224 U.S.P.Q. (BNA) 526, 533 (Fed. Cir. 1985)). As Judge Newman noted in dissent, however, the Federal Circuit has held that, for the purpose of determining validity, the claims must be construed the same way as for infringement. *Atlantic Thermoplastics*, 974 F.2d at 1296, 23 U.S.P.Q.2d (BNA) at 1815 (Nies, C.J., and Rich, Newman, and Lourie, J.J., dissenting from denial of rehearing *in banc*) (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279, 6 U.S.P.Q.2d (BNA) 1277, 1280 (Fed. Cir. 1988)).

1001. *Atlantic Thermoplastics*, 970 F.2d at 846, 23 U.S.P.Q.2d (BNA) at 1491 (citing *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 419 (1908)). It might be assumed that the doctrine of equivalents could be applied to the process recited in the product-by-process claims, especially because the doctrine is such a well-established principle of patent law. See *id.* at 837-38, 23 U.S.P.Q.2d (BNA) at 1484 (affirming no literal infringement and no infringement under doctrine of equivalents of product-by-process claim). Concerns about unsparing application of the doctrine of equivalents to the process recited in the product-by-process claims could be tempered by application of the so-called rule of necessity or the reverse doctrine of equivalents. See *Scrapps*, 927 F.2d at 1581, 18 U.S.P.Q.2d (BNA) at 1013-14

the accused product to the product-by-process claims without any limitation by the recited process would be like 'comparing the accused product only to an embodiment of the claims.¹⁰⁰² The court thus rejected Atlantic's argument because proper infringement analysis compares an accused product with the patent claims, not with an embodiment of the claims.¹⁰⁰³

Atlantic's petition for an *in banc* rehearing was denied, but four Federal Circuit judges dissented.¹⁰⁰⁴ The substance of the dissenting opinions and that of the opinion concurring with denial for rehearing *in banc* suggests that neither *Scripps* nor *Atlantic Thermoplastics* will be the last word on product-by-process claims. The first dissent was rather perfunctory, expressing no opinion on the merits.¹⁰⁰⁵ A second dissent objected to the *Atlantic Thermoplastics* decision on the ground that the entire discussion regarding interpretation of product-by-process claims was unnecessary.¹⁰⁰⁶ This second dissent emphasized that Atlantic had admitted that the product-by-process claims were limited to the process.¹⁰⁰⁷

A third dissent from the denial of rehearing *in banc* reasoned that reconciliation of the seemingly irreconcilable cases of *Scripps* and *Atlantic Thermoplastics* requires an understanding that there are in fact three different types of product-by-process claims: first, where a product is new and unobvious but is not capable of independent definition; second, where a product is old or obvious but the process is new; and third, where a product is new and unobvious but has a process-based limitation (e.g., a molded product).¹⁰⁰⁸ This dissent characterized type one cases as "true product-by-process" claims, typified by *Scripps*.¹⁰⁰⁹ In type one cases, the invention cannot be

(stating that product-by-process claims are subject to infringement analysis involving claim construction and reverse doctrine of equivalents).

1002. *Atlantic Thermoplastics*, 970 F.2d at 846, 23 U.S.P.Q.2d (BNA) at 1491.

1003. *Id.* (citing *Intervet Am. v. Kee-Vet Lab.*, 887 F.2d 1050, 1055, 12 U.S.P.Q.2d (BNA) 1474, 1478 (Fed. Cir. 1989); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 824, 11 U.S.P.Q.2d (BNA) 1321, 1323 (Fed. Cir. 1989); *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121, 227 U.S.P.Q. (BNA) 577, 586 (Fed. Cir. 1985)).

1004. *Atlantic Thermoplastics*, 974 F.2d 1279, 1280-99, 23 U.S.P.Q.2d (BNA) 1801, 1817 (denying rehearing *in banc*) (Nies, C.J., and Rich, Newman, and Lourie, J.J., dissenting from denial of rehearing *in banc*).

1005. *Id.* at 1280, 23 U.S.P.Q.2d (BNA) at 1801 (Nies, C.J., dissenting from denial of rehearing *in banc*).

1006. *Id.* at 1280, 23 U.S.P.Q.2d (BNA) at 1801 (Rich, J., dissenting).

1007. *Id.*

1008. *Id.* at 1284, 23 U.S.P.Q.2d (BNA) at 1805 (Newman, J., dissenting) (citing E.P. Mirabel, *Product-by-Process Claims: A Practical Perspective*, 68 J. PAT. & TRADEMARK OFF. SOC'Y 3, 4 (1986)).

1009. *Id.* at 1282, 23 U.S.P.Q.2d (BNA) at 1804. This conclusion and its application to *Scripps* may be questioned. The *Scripps* case was *not* one in which a product-by-process claim was necessary because the products were incapable of definition. *Scripps* involved a reissue

described solely by structure or physical characteristics, but the product is nonetheless new and nonobvious and thus patentable independent of the process.¹⁰¹⁰ These inventions would be examined as product claims and would encompass any infringing product, irrespective of the process by which the infringing product was made.¹⁰¹¹ In contrast, type two cases, such as the one in *Atlantic Thermoplastics*, are not really "product-by-process" claims because their patentability is predicated on the novelty and the unobviousness of the process.¹⁰¹² Such claims are infringed only when the process set forth in the claim is used.¹⁰¹³ This dissent therefore concluded that the panel in *Atlantic Thermoplastics* blurred the distinction between "true" product-by-process claims and claims that include a process limitation, thereby unnecessarily limiting the scope of patent protection available to inventors.¹⁰¹⁴

Furthermore, the third dissent criticized the *Atlantic Thermoplastics* panel decision as bad policy.¹⁰¹⁵ According to the third dissent, inventors whose inventions are not capable of being defined in terms of structure, which can occur in the chemical and pharmaceutical arts, are precluded from establishing infringement except in the specific case where the accused product is made by the disclosed process.¹⁰¹⁶ The third dissent argued that the *Atlantic Thermoplastics*

patent having new *product* claims in addition to original product-by-process claims. *Scripps*, 927 F.2d at 1570, 18 U.S.P.Q.2d (BNA) at 1005.

1010. *Id.* Where an invention could not adequately be described in terms of its structural characteristics, whether due to language lagging behind innovations or an inability to determine the structural characteristics, product-by-process claims have been permitted to describe the product. *See In re Bridgeford*, 357 F.2d 679, 682, 149 U.S.P.Q. (BNA) 55, 58 (C.C.P.A. 1966) (stating that invention defined by product-by-process claim is product, not process). In *Atlantic Thermoplastics*, the Federal Circuit referred to this exception as the "rule of necessity." *Atlantic Thermoplastics*, 970 F.2d at 843 n.9, 23 U.S.P.Q.2d (BNA) at 1489 n.9.

1011. *Atlantic Thermoplastics*, 974 F.2d at 1284, 23 U.S.P.Q.2d (BNA) at 1803. Interestingly, in *Scripps*, the patent was a reissue that contained a product-by-process claim and newly added product claims. *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1571, 18 U.S.P.Q.2d (BNA) 1001, 1005 (Fed. Cir. 1991). The *Scripps* opinion does not really explain the difference in scope between those claims. Therefore, it is not altogether clear how the hypothetical paradigm of type one, type two, or type three product-by-process claims would apply.

1012. *Atlantic Thermoplastics*, 974 F.2d at 1284, 23 U.S.P.Q.2d (BNA) at 1805.

1013. *Id.*

1014. *See id.* (Newman, J., dissenting) (remarking that "[t]he *Atlantic* panel has simply lumped all of these classes and claims and inventions into a one-size-fits-all law, in a distressingly superficial treatment").

1015. *Id.*

1016. *Id.* at 1283, 23 U.S.P.Q.2d (BNA) at 1804. *But see id.* at 1303, 24 U.S.P.Q.2d (BNA) at 1142 (Rader, J., concurring with denial of rehearing *in banc*) (emphasizing that role of court should not be to bend interpretation of patent laws to remedy undesirable situations and that change in policy is legislative function).

Interestingly, Congress considered a bill granting special patent protection for biotechnology patents. *See* S. 654, 102d Cong., 2d Sess. (1992) (providing for issuance of patents for biotechnology processes); H.R. 1417, 102d Cong., 2d Sess. (1992) (providing for issuance of patents for biotechnology processes). The Senate passed the bill, but the House did not con-

decision denies important patent protection to such inventors even though their disclosures, described in terms of a product-by-process, are in accord with 35 U.S.C. § 112 and that such a policy change should have been done by the legislature, or at a minimum, by the court sitting *in banc*.¹⁰¹⁷

A fourth judge dissented from the denial of rehearing *in banc* for two reasons.¹⁰¹⁸ First, the *Atlantic* panel acted contrary to prior case law and procedure by failing to follow the prior precedent of the Federal Circuit.¹⁰¹⁹ Second, the *Atlantic* panel wrote its holding too broadly when it could have decided the issue more simply merely by recognizing that the parties had agreed that the claimed innersoles were limited to the process by which the innersoles were made.¹⁰²⁰

The concurring opinion to the denial of an *in banc* rehearing, criticized the categorization of claims based on whether patentability depends on the product or the process.¹⁰²¹ The concurring opinion implied that the so-called type two product-by-process claim, in which the product is old or obvious, would simply be invalid.¹⁰²² Indeed, the third dissent had also recognized that old or obvious products are not made patentable by the addition of method steps to the claim.¹⁰²³ According to the concurring opinion, postulating such a category of claims as one of a narrow class of claims in which the process steps limit the scope of what is covered is difficult to accept because what is really being described is a class of seemingly invalid claims.¹⁰²⁴

The concurring opinion also emphasized that claim 24 of Atlantic's patent was directed to a product and that the *Atlantic* panel simply interpreted that product claim to include the limitation of the

sider it. Reportedly, strong opposition from members of the patent community outside the biotechnology field felt that it was inappropriate to single out an industry for special patent protection. See *Five Biotech Bills Signed into Law, New Congress Ponders Many More*, BIOTECHNOLOGY NEWSWATCH, Jan. 4, 1993, at 1, 6 (reporting charge that lobbying pressure prevented House consideration of biotechnology patent bill); see also Patent Wrap-Up, 8 ACS Washington Alert, No. 21, at 6 (Oct. 19, 1992).

1017. *Atlantic Thermoplastics*, 974 F.2d at 1283, 23 U.S.P.Q.2d (BNA) at 1803.

1018. *Id.* at 1298-99, 23 U.S.P.Q.2d (BNA) at 1816-17 (Lourie, J., dissenting).

1019. *Id.* at 1298, 23 U.S.P.Q.2d (BNA) at 1816 (citing *Kimberly-Clark Corp. v. Fort Howard Paper Co.*, 772 F.2d 860, 863, 227 U.S.P.Q. (BNA) 36, 37 (Fed. Cir. 1985)). The fourth dissenter pointed out that the *Atlantic* panel, upon concluding that *Scripps* was wrongly decided, should have either followed the precedent or sought an *in banc* review. *Id.*

1020. *Id.* at 1298-99, 23 U.S.P.Q.2d (BNA) at 1816-17.

1021. *Id.* at 1303, 24 U.S.P.Q.2d (BNA) at 1142 (Rader, J., concurring with denial of rehearing *in banc*).

1022. *Id.*, 24 U.S.P.Q.2d (BNA) at 1141.

1023. *Id.* at 1286, 23 U.S.P.Q.2d (BNA) at 1806 (Newman, J., dissenting) (citing *In re Pilkington*, 411 F.2d 1345, 1348, 162 U.S.P.Q. (BNA) 145, 147 (C.C.P.A. 1969)).

1024. See *id.* at 1303, 24 U.S.P.Q.2d (BNA) at 1141 (Rader, J., concurring) (arguing that it would be difficult for courts to identify products and perform infringement analyses under categories of claims proposed by dissent).

process stated in the claim for making the product, in full accord with the well-established patent doctrine that the claims measure the invention.¹⁰²⁵ Ignoring the process limitation to claim 24 would be ignoring the primary, if not the only, limitation in the claim.¹⁰²⁶ Without this limitation, there would be no legal basis for a court to determine infringement.¹⁰²⁷

F. Exceptions to Infringement

1. Experimental use under 35 U.S.C. § 271(e)

Under 35 U.S.C. § 271(e)(1), it is not an act of infringement "to make, use, or sell a patented invention solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products."¹⁰²⁸ The statute, however, does not expressly specify whether a party could lose its exempt status by using properly obtained information in a manner collateral to obtaining government approval. In *Telectronics Pacing Systems, Inc. v. Ventritex, Inc.*,¹⁰²⁹ the Federal Circuit considered this issue and held that Ventritex's collateral use of data related to obtaining FDA approval did not result in a loss of the § 271(e)(1) exemption.¹⁰³⁰

Pursuant to an Investigational Device Exemption (IDE), Ventritex began conducting clinical tests of its implantable defibrillator and collecting data needed to obtain FDA approval of the device.¹⁰³¹ Ventritex also displayed its device to physicians and nonphysicians at medical conferences and submitted its clinical test results to investors, analysts, and journalists.¹⁰³² Telectronics subsequently filed a declaratory judgment action alleging that Ventritex's activities relating to the defibrillator were not exempt under § 271(e)(1)

1025. *Id.* at 1300, 24 U.S.P.Q.2d (BNA) at 1139 (citing *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 232 (1942)).

1026. *Id.*

1027. *Id.* This rationale assumes that the doctrine of equivalents or the reverse doctrine of equivalents would not be used to compare the process recited in the product-by-process claim with the process by which the accused product was made. Whether those doctrines alone, or melded with the rule of necessity discussed in *In re Hughes*, 496 F.2d 1216, 182 U.S.P.Q. (BNA) 106 (C.C.P.A. 1974), will be applied by the court to construe product-by-process claims remains unanswered.

1028. 35 U.S.C. § 271(e)(1) (1988).

1029. 982 F.2d 1520, 25 U.S.P.Q.2d (BNA) 1196 (Fed. Cir. 1992); *see supra* notes 95-99 and accompanying text (discussing case with respect to declaratory judgment issue).

1030. *Telectronics Pacing Sys., Inc. v. Ventritex, Inc.*, 982 F.2d 1520, 1525, 25 U.S.P.Q.2d (BNA) 1196, 1200 (Fed. Cir. 1992).

1031. *See id.* at 1521, 25 U.S.P.Q.2d (BNA) at 1197 (observing that IDE also permitted Ventritex to sell its device at cost for implantation in patients to obtain test data).

1032. *Id.*

and thus infringed Telectronics patents.¹⁰³³ The district court issued a summary judgment dismissing the action, holding that there was no actual controversy supporting a declaratory judgment action because Ventritex's activities were within the scope of § 271(e)(1).¹⁰³⁴

The Federal Circuit agreed that Ventritex's activities were solely for uses reasonably related to gaining FDA approval and thus affirmed the district court's holding.¹⁰³⁵ The court noted that the only activity Telectronics alleged was "solely" unrelated to FDA approval was the display of the defibrillator to nonphysicians at medical conferences.¹⁰³⁶ The court, however, held that these demonstrations were related to FDA approval and were permissible under § 271(e)(1) because the displays were aimed at attracting clinical investigators to test Telectronics' device and at providing the investigators with enough information to perform the clinical tests.¹⁰³⁷

The Federal Circuit also explicitly rejected Telectronics' argument that a non-FDA related use of data properly acquired as a result of an originally exempt activity can strip that activity of its § 271(e)(1) exemption.¹⁰³⁸ The court held that the plain meaning of the statute did not contemplate any such limitation, nor did the legislative history support Telectronics' contention.¹⁰³⁹ The court noted that one reason Congress enacted § 271(e)(1) was to annul the outcome of *Roche Products, Inc. v. Bolar Pharmaceutical Co.*,¹⁰⁴⁰ in which using a patented invention to seek FDA approval was held to be patent infringement.¹⁰⁴¹ The court interpreted the 1984 amendments to § 271(e)(1) as Congress' attempt to allow competitors to

1033. *Id.* at 1522, 25 U.S.P.Q.2d (BNA) at 1197.

1034. *Telectronics Pacing Sys., Inc. v. Ventritex, Inc.*, 19 U.S.P.Q.2d (BNA) 1960, 1960 (N.D. Cal. 1991), *aff'd*, 982 F.2d 1520, 25 U.S.P.Q.2d (BNA) 1196 (Fed. Cir. 1992).

1035. *Telectronics*, 982 F.2d at 1525, 25 U.S.P.Q.2d (BNA) at 1200.

1036. *See id.* at 1523, 25 U.S.P.Q.2d (BNA) at 1198 (reporting that Telectronics asserted during oral argument that this activity was not intended as sale or offer to sell and that court noted statute does not define information dissemination as potentially infringing activity).

1037. *Id.* (noting fact that some nonphysicians were able to view defibrillator was of minimal import because only physicians could implant device in patient).

1038. *Id.* at 1522-24, 25 U.S.P.Q.2d (BNA) at 1198-99 (dismissing Telectronics' argument that data dissemination was not act of making, using, and selling to obtain FDA approval and therefore did not qualify for § 271(e)(1) exemption).

1039. *Id.* at 1524, 25 U.S.P.Q.2d (BNA) at 1199 (stating that if language is clear, plain meaning of statute will be regarded as conclusive).

1040. 733 F.2d 858, 221 U.S.P.Q. (BNA) 937 (Fed. Cir.), *cert. denied*, 469 U.S. 856 (1984).

1041. *Roche Prods., Inc. v. Bolar Pharmaceutical Co.*, 733 F.2d 858, 863, 221 U.S.P.Q. (BNA) 937, 941 (Fed. Cir.) (stating that Bolar's use of Roche Products' patent to derive FDA-required test data was infringement because "unlicensed experiments conducted with a view to the adoption of the patented invention to the experimenter's business" violates patentee's rights), *cert. denied*, 469 U.S. 856 (1984).

obtain government approval of products before the patent expired to enable them to begin actually marketing the competing products as soon as the patent expired.¹⁰⁴² According to the court, "[i]f Congress intended to make [it] more difficult, . . . by preventing competitors from using, in an admittedly non-infringing manner, the derived test data for fund raising and other business purposes, it would have made that intent clear."¹⁰⁴³

2. "Crop exemption" under 7 U.S.C. § 2543

The Plant Variety Protection Act (PVPA),¹⁰⁴⁴ which Congress enacted in 1970, protects novel varieties of sexually reproduced seeds, plants, and transplants.¹⁰⁴⁵ Once a developer obtains a PVPA certificate on a novel plant variety, that developer has the right to exclude others from selling, offering for sale, reproducing, importing, exporting, or using the variety to produce a hybrid or different variety therefrom.¹⁰⁴⁶ The PVPA, however, also includes a limited "crop exemption" that allows farmers to save and sell seed harvested from crops the farmers have grown with PVPA-protected seed, without infringing the developer's PVPA rights.¹⁰⁴⁷ The Federal Circuit interpreted the crop exemption for the first time in *Asgrow Seed Co. v. Winterboer*,¹⁰⁴⁸ where it reversed the district court's summary judgment permanently enjoining the defendant from selling seed harvested from the plaintiff's protected seed.¹⁰⁴⁹

Asgrow Seed developed two novel varieties of soybean, which it protected under the PVPA.¹⁰⁵⁰ The Winterboers obtained the pro-

1042. *Telectronics*, 982 F.2d at 1525, 25 U.S.P.Q.2d (BNA) at 1199-1200 (recognizing that one effect of § 271(e)(1) was to invalidate holding of *Roche* and concluding that by permitting testing and regulatory approval process to begin well before controlling patent had run its course, Congress must have intended to allow competitors to be in position to market their products as soon as legally possible).

1043. *Id.* at 1525, 25 U.S.P.Q.2d (BNA) at 1200.

1044. 7 U.S.C. §§ 2321-2582 (1988). The PVPA, which protects sexually reproduced plants for 18 years, is distinguishable from the Plant Patent Act, 35 U.S.C. §§ 161-164 (1988), which was enacted nearly 30 years earlier and provides 17-year patent protection to nonsexually reproduced plants.

1045. *See generally* 7 U.S.C. § 2402 (1988) (entitling breeders of novel varieties of sexually reproduced plants to plant variety protection). The PVPA also defines such terms as "novel variety," "breeder," and "sexually reproduced." *Id.* § 2402(a), (e)-(f).

1046. *Id.* § 2483(a).

1047. *See id.* § 2543 (establishing that "it shall not infringe any right hereunder for a person to save seed produced by him [or her] from seed obtained, or descended from seed obtained, by authority of the owner of the variety for seeding purposes and use such saved seed for use on his [or her] farm, or for sale").

1048. 982 F.2d 486, 25 U.S.P.Q.2d (BNA) 1202 (Fed. Cir. 1992).

1049. *Asgrow Seed Co. v. Winterboer*, 982 F.2d 486, 487-88, 25 U.S.P.Q.2d (BNA) 1202, 1203-04 (Fed. Cir. 1992).

1050. *Asgrow Seed Co. v. Winterboer*, 795 F. Supp. 915, 916-17, 22 U.S.P.Q.2d (BNA) 1937, 1937-38 (N.D. Iowa 1991), *rev'd*, 982 F.2d 486, 25 U.S.P.Q.2d (BNA) 1202 (Fed. Cir. 1992).

tected soybean from an authorized source, grew a soybean crop on their family farm, and harvested seed.¹⁰⁵¹ The Winterboers sold harvested seed directly to other farmers by a process referred to as "brown-bagging sales."¹⁰⁵² Asgrow Seed alleged that these brown bag sales of seed harvested from the protected seed infringed its PVPA rights and sued for damages and a permanent injunction.¹⁰⁵³ The district court ruled in favor of Asgrow Seed and issued a summary judgment permanently enjoining the Winterboers from engaging in brown bag sales.¹⁰⁵⁴

In reviewing the district court's decision, the Federal Circuit presented a step-by-step discussion of the crop exemption and its limitations.¹⁰⁵⁵ The court began by noting that the introductory clause to the § 2543 crop exemption does not exempt acts defined by § 2541, subsections (3) and (4),¹⁰⁵⁶ from infringement.¹⁰⁵⁷ The court deduced that all other acts of infringement defined in § 2541 were exempt once the crop exemption applied.¹⁰⁵⁸ The court then interpreted the § 2543 crop exemption to mean that a farmer does not infringe by saving seed harvested from a crop grown from PVPA protected seed, regardless of the amount of seed saved.¹⁰⁵⁹ The court made clear, however, that to be within the crop exemption, "the farmer must have obtained that PVPA seed by authority of the PVPA certificate holder and with the intent to grow a crop."¹⁰⁶⁰ The court also noted that brown bag purchasers are not purchasers authorized by the PVPA and therefore cannot save any seed without infringing the PVPA certificate holder's rights.¹⁰⁶¹

1051. *Id.* at 916, 22 U.S.P.Q.2d (BNA) at 1938.

1052. *Id.* The term "brown-bagging" refers to the process in which a farmer purchases seed from a company engaged in the development of plant seed for planting future crops. *Id.* The farmers plant, harvest, clean, and place the seeds in nondescript brown bags for sale. *Id.*

1053. *Id.* at 916-17, 22 U.S.P.Q.2d (BNA) at 1938.

1054. *Id.* at 920, 22 U.S.P.Q.2d (BNA) at 1940-41.

1055. *Asgrow Seed Co. v. Winterboer*, 982 F.2d 486, 488-91, 25 U.S.P.Q.2d (BNA) 1202, 1204-06 (Fed. Cir. 1992).

1056. 7 U.S.C. § 2541(3)-(4) (1988). Section 2541 subsection (3) states that sexually multiplying the novel variety "as a step in marketing (for growing purposes) the variety" is infringement, and subsection (4) states that using a novel variety in producing a hybrid is also infringement. *Id.*

1057. *Asgrow*, 982 F.2d 489, 25 U.S.P.Q.2d (BNA) at 1204 (interpreting § 2541 to define infringement as "the unauthorized practice of a right granted exclusively to the PVPA certificate holder"). The court pointed out that "[a]mong other activities, the unauthorized sale of seed harvested from crops grown with novel varieties is infringement." *Id.*

1058. *See id.* (observing specifically that selling novel variety, offering it for sale, or dispensing it to another without notice of PVPA protection, all of which would otherwise be infringing acts under § 2541, are within crop exemption); *see also* 7 U.S.C. §§ 2541(1), (6) (1988) (proscribing selling or dispensing of novel seed varieties); 7 U.S.C. § 2543 (1988) (outlining crop exemption).

1059. *Asgrow*, 982 F.2d at 489-90, 25 U.S.P.Q.2d (BNA) at 1204.

1060. *Id.*, 982 F.2d at 489, 25 U.S.P.Q.2d (BNA) at 1204.

1061. *Id.* at 489-90, 25 U.S.P.Q.2d (BNA) at 1204-05.

The court explained that § 2543 permits the farmer to use the "saved seed" to produce another crop on his or her own farm or to sell the seed under certain limitations set out in § 2543.¹⁰⁶² First, both the seller and the buyer must be farmers.¹⁰⁶³ Second, the buyer's and seller's "primary farming occupation for the crops produced from the protected seed must be for sale as food or feed."¹⁰⁶⁴ The court explained that "[t]he exemption does not permit brown bag sales if either the buyer or the seller primarily grows crops from the novel variety to produce seed."¹⁰⁶⁵ The court interpreted the term "primary" to mean that more than half the crop grown from the protected seed must be used or sold for food or feed, the meaning of which is determined on a crop-by-crop basis.¹⁰⁶⁶ Consequently, the district court erred in requiring that the seed saved by the farmer be used exclusively for seeding ensuing crops.¹⁰⁶⁷ According to the court, this was an undue restriction on what a farmer could do with saved seed, and resulted from the district court's erroneous conclusion that "for seeding purposes" modified the verb "save" in § 2543.¹⁰⁶⁸ The court remanded the case for a determination of what amount of crop the Winterboers grew for consumption and what amount for brown bag sales, noting that if the latter exceeds the former, the crop exemption would not apply.¹⁰⁶⁹

The court then interpreted § 2541(3), which states that the multiplication of protected plant or seed varieties for "marketing" pur-

1062. *Id.* at 490, 25 U.S.P.Q.2d (BNA) at 1205.

1063. *See* 7 U.S.C. § 2543 (1988) (stating that person whose primary farming occupation is growing of crops for sale for other than reproductive purposes is exempt from infringement liability for selling saved seeds to other persons so engaged).

1064. *See Asgrow*, 982 F.2d at 489, 25 U.S.P.Q.2d (BNA) at 1205 (discussing limitations on brown bag sales under § 2543).

1065. *Id.* at 489-90, 25 U.S.P.Q.2d (BNA) at 1205.

1066. *Id.* The court summarized its interpretation of § 2543 as it applies to brown bag sales as follows:

- a farmer remains subject to infringement under subsection 2541(3) and (4);
- a farmer may only save, use, or sell seed produced from or descended from seed obtained by authority of the PVPA certificate owner for seeding purposes;
- a farmer selling a novel variety must primarily grow crops from that seed for consumption;
- a farmer acquiring a novel variety must primarily grow crops from that seed for consumption;
- a farmer who acquires a novel variety in a brown bag sale can neither save nor sell seed harvested from that seed;
- the sale must comply with state laws; and
- a farmer cannot divert seed originally sold for consumption to planting purposes.

Id. at 490, 25 U.S.P.Q.2d (BNA) at 1205-06 (interpreting 7 U.S.C. § 2543).

1067. *Id.* at 491, 25 U.S.P.Q.2d (BNA) at 1206.

1068. *Id.* The Federal Circuit noted that the district court omitted language necessary to the statute in arriving at its interpretation, stating that "[r]eading the entire passage without critical omissions shows that 'for seeding purposes' modifies the verb 'obtained,' not 'saved.'" *Id.*

1069. *Id.* at 492, 25 U.S.P.Q.2d (BNA) at 1206.

poses is infringing.¹⁰⁷⁰ The Federal Circuit explained that "marketing" means extensive or coordinated selling activities such as advertising, extended merchandising, or using sales representatives.¹⁰⁷¹ In the court's view, a more expansive reading of the term "marketing" would swallow the entire crop exemption.¹⁰⁷² The Federal Circuit also held that the notice requirement of § 2541(6), which requires sellers to notify buyers of the protected status of the novel variety of seeds, transplants, and plants, does not apply if the sale is exempt under § 2543.¹⁰⁷³ According to the Federal Circuit, "[b]ecause subsection (6) is not included as an exception to the crop exemption, a qualifying sale under section 2543 remains exempt from the notice requirement."¹⁰⁷⁴

V. REMEDIES

A. Lost Profits—35 U.S.C. § 284

Under 35 U.S.C. § 284, a patent owner may recover compensatory damages as a remedy for patent infringement.¹⁰⁷⁵ In 1992, the Federal Circuit addressed the lost profit valuation as a measure of compensatory damages¹⁰⁷⁶ in two cases. In *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*,¹⁰⁷⁷ the Federal Circuit considered whether the patentee was entitled to lost profits based on lost sales and price erosion.¹⁰⁷⁸ In *Atlantic Thermoplastics Co. v. Faytex Corp.*,¹⁰⁷⁹ the Federal Circuit reversed the district court's market share analysis and lost profits award.¹⁰⁸⁰

In *Minnesota Mining*, the Federal Circuit affirmed the master's finding that 3M was entitled to lost profits based on lost sales.¹⁰⁸¹ The court held that in order for a patentee to recover lost profits as actual damages, the patentee must show that there was a reasonable

1070. *Id.*, 25 U.S.P.Q.2d (BNA) at 1206-07.

1071. *Id.*, 25 U.S.P.Q.2d (BNA) at 1207.

1072. *See id.* (indicating that on remand district court was to determine whether Winterboer was engaged in "marketing" protected seed).

1073. *Id.* Under § 2541(6), it is an act of infringement to dispense a novel variety that is capable of propagation without notifying the buyer that it is a protected variety. 7 U.S.C. § 2541(6) (1988).

1074. *Asgrow*, 982 F.2d at 492, 25 U.S.P.Q.2d (BNA) at 1207.

1075. 35 U.S.C. § 284 (1988); *see infra* note 1099 (giving pertinent text of § 284).

1076. *See* 5 CHISUM, *supra* note 977, § 20.03, at 20-71 (noting that other measures of compensatory damages include awarding patentee or exclusive licensee established royalty or reasonable royalty, depending on circumstances).

1077. 976 F.2d 1559, 24 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1992).

1078. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1577-79, 24 U.S.P.Q.2d (BNA) 1321, 1336-38 (Fed. Cir. 1992).

1079. 970 F.2d 834, 23 U.S.P.Q.2d (BNA) 1481 (Fed. Cir. 1992).

1080. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 847, 23 U.S.P.Q.2d (BNA) 1481, 1492 (Fed. Cir. 1992).

1081. *Minnesota Mining*, 976 F.2d at 1577-78, 24 U.S.P.Q.2d (BNA) at 1336-37.

probability that, but for the infringement, the patentee would have made the infringer's sales.¹⁰⁸² The patentee can show this, for example, by proving demand for the product, absence of acceptable noninfringing substitutes, its manufacturing and marketing capability to exploit the demand, and the amount of profit it would have made.¹⁰⁸³ The Federal Circuit held that JJO failed to establish that the master's findings were clearly erroneous.¹⁰⁸⁴ JJO argued that two of 3M's patents had acceptable, noninfringing substitutes that the master failed to consider.¹⁰⁸⁵ Quoting the master's findings, the court pointedly noted that JJO had previously admitted that these alleged noninfringing substitutes were not commercially acceptable.¹⁰⁸⁶ As for 3M's other patents, the Federal Circuit refused to consider JJO's analogous arguments that noninfringing substitutes existed because JJO had failed to raise this issue at trial.¹⁰⁸⁷

The Federal Circuit also affirmed the master's conclusion that 3M was entitled to lost profits due to price erosion.¹⁰⁸⁸ The court disagreed with JJO's assertion that there was "not a shred of evidence" in the record to support the master's conclusion that 3M could have increased the price of its patented product 2% per annum during the infringement period.¹⁰⁸⁹ The master's findings, including the fact that 3M and JJO had engaged in vigorous price competition, contradicted JJO's arguments.¹⁰⁹⁰ Without JJO, 3M would have had a 70-80% market share with no serious price competition from other lawful competitors.¹⁰⁹¹ JJO, without patent protection, itself

1082. *Id.* at 1577, 24 U.S.P.Q.2d (BNA) at 1336 (citing *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1577, 12 U.S.P.Q.2d (BNA) 1026, 1028 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1022 (1990)). The amount of damages fixed by the district court is a question of fact, reviewable under the clearly erroneous standard. Subsidiary decisions underlying the damage theory, such as choosing between reasonable alternative accounting methods to determine profit margin, are discretionary with the court. These decisions are reviewable under the abuse of discretion standard. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 926 F.2d 1161, 1164, 17 U.S.P.Q.2d (BNA) 1922, 1925 (Fed. Cir. 1991).

1083. *Minnesota Mining*, 976 F.2d at 1577, 24 U.S.P.Q.2d (BNA) at 1337 (citing *Radio Steel & Mfg. Co. v. MTD Prods., Inc.*, 788 F.2d 1554, 1556, 229 U.S.P.Q. (BNA) 431, 432 (Fed. Cir. 1986)) (noting that existence of noninfringing substitute is question of fact, reviewable under clearly erroneous standard).

1084. *Id.* at 1578, 24 U.S.P.Q.2d (BNA) at 1337.

1085. *Id.* at 1577-78, 24 U.S.P.Q.2d (BNA) at 1337. JJO alleged that it could have purchased casting tapes from Bayer, a German company licensed to manufacture and sell casting tapes under 3M's patents. *Id.* at 1578, 24 U.S.P.Q.2d (BNA) at 1337.

1086. *Id.* The master also considered JJO's additional argument that JJO could have taught Bayer to make acceptable products. *Id.* JJO, however, was in no position to do so absent possession of 3M's technology. *Id.* Therefore, the court found JJO's assertions unpersuasive. *Id.*

1087. *Id.*

1088. *Id.* at 1578-79, 24 U.S.P.Q.2d (BNA) at 1337-38.

1089. *Id.* at 1578, 24 U.S.P.Q.2d (BNA) at 1337.

1090. *Id.*

1091. *Id.* at 1579, 24 U.S.P.Q.2d (BNA) at 1337.

had raised prices 4% per annum in the market for plaster castings, providing further evidence that 3M would have raised its prices approximately 4% per annum on the patented casting products.¹⁰⁹² Because damages need not be proved with unerring precision, and because the master was not required to accept a figure advocated by either side, the court held that the decision to award 3M the 2% rate was not clearly erroneous.¹⁰⁹³ The Federal Circuit also rejected JJO's further allegation that the district court had failed to correct the master's computational errors.¹⁰⁹⁴ The court noted that the master's \$10 million estimate of 3M's production costs was a compromise between 3M's estimate of \$7,272,908 and JJO's estimate of \$13,074,334, rather than an error in reading JJO's chart, as JJO asserted.¹⁰⁹⁵

In *Atlantic Thermoplastics*, the Federal Circuit reached a different result from *Minnesota Mining*, holding that the district court had improperly applied a market share approach in awarding Atlantic lost profit damages based on all of Faytex's sales.¹⁰⁹⁶ The Federal Circuit reversed the district court's lost profits ruling because the district court had incorrectly assumed that Atlantic and Faytex were the only suppliers of innersoles and thus Atlantic would have made all of Faytex's sales.¹⁰⁹⁷ The court also reasoned that even if Atlantic and Faytex were the sole market suppliers, Atlantic would not have made all of Faytex's sales because the innersoles of one of Faytex's supplying manufacturers did not infringe.¹⁰⁹⁸

*B. Willful Infringement and Exceptional Cases—
35 U.S.C. § 284 and § 285*

Under 35 U.S.C. § 284, a trial court has discretion to award a prevailing patent owner up to three times the amount of a compensatory patent damages award.¹⁰⁹⁹ Although no statutory standard automatically mandates an award of enhanced damages, courts have granted such damages particularly in cases where the infringer acted in wanton disregard of the patentee's patent rights—i.e., where the

1092. *Id.*, 24 U.S.P.Q.2d (BNA) at 1338.

1093. *Id.*

1094. *See id.* (noting JJO's argument that master misread JJO's chart depicting impact of incremental cost errors and therefore wrongly found 3M's production cost would be \$10 million).

1095. *Id.*

1096. *Atlantic Thermoplastics*, 970 F.2d at 847, 23 U.S.P.Q.2d (BNA) at 1492. The court remanded this issue for the trial court to recalculate the appropriate damages. *Id.*

1097. *Id.*

1098. *Id.*

1099. 35 U.S.C. § 284 (1988). Section 284 provides, in pertinent part:

infringement was willful.¹¹⁰⁰ In exceptional cases, a court may award reasonable attorney's fees to the prevailing party under 35 U.S.C. § 285.¹¹⁰¹ A party's misconduct during litigation, a patentee's fraud or inequitable conduct during patent prosecution, or willful infringement, have been factors considered in determining whether a case is exceptional.¹¹⁰²

In *Ortho Pharmaceutical Corp. v. Smith*,¹¹⁰³ the Federal Circuit considered whether the defendant-appellant's infringement was willful and whether attorney's fees should be awarded under § 285.¹¹⁰⁴ The district court denied attorney's fees to the appellants, AHP, and concluded that Ortho had obtained and reasonably relied upon opinion letters rendered by counsel.¹¹⁰⁵ The Federal Circuit affirmed the district court's denial of attorney's fees as not an abuse of discretion.¹¹⁰⁶ According to the court, the issue of willful infringe-

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.

Id.

1100. See *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166, 228 U.S.P.Q. (BNA) 356, 360 (Fed. Cir. 1986) (awarding treble damages and attorney's fees to patentee for willful infringement); see also *Mathis v. Spears*, 857 F.2d 749, 754, 8 U.S.P.Q.2d (BNA) 1029, 1033 (Fed. Cir. 1988) (stating that "[p]rovisions for increased damages . . . are available as deterrents to blatant, blind, willful infringement of valid patents"). But see *Modine Mfg. Co. v. Allen Group, Inc.*, 917 F.2d 538, 543, 16 U.S.P.Q.2d (BNA) 1622, 1625 (Fed. Cir. 1990) (holding that finding of willful infringement does not mandate that damages be enhanced, much less trebled), *cert. denied*, 111 S. Ct. 2017 (1991).

1101. See 35 U.S.C. § 285 (1988) (stating that "[t]he court in exceptional cases may award reasonable attorney fees to the prevailing party"). Whether a case is exceptional is a factual determination subject to appellate review under the clearly erroneous standard. *Reactive Metals & Alloys Corp. v. ESM, Inc.*, 769 F.2d 1578, 1583, 226 U.S.P.Q. (BNA) 821, 824 (Fed. Cir. 1985).

1102. See *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 455, 227 U.S.P.Q. (BNA) 293, 298 (Fed. Cir. 1985) (noting other circumstances such as unjustified or frivolous litigation as grounds for finding exceptional circumstances).

Several Federal Circuit opinions addressed the issue of whether a party's misconduct, either during prosecution or litigation, supported an award of attorney's fees under § 285. See *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 831, 23 U.S.P.Q.2d (BNA) 1426, 1439 (Fed. Cir. 1992) (holding that changes made to accused device during litigation to avoid infringement was not litigation misconduct, but remanding case for consideration of whether alteration of trial exhibit was litigation misconduct); *Cambridge Prods. Ltd. v. Penn Nutrients, Inc.*, 962 F.2d 1048, 1050, 22 U.S.P.Q.2d (BNA) 1577, 1579 (Fed. Cir. 1992) (refusing to award attorney's fees due to litigation misconduct because party had performed reasonable pre-lawsuit inquiry into possible success of case); *Morton Int'l Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 952, 22 U.S.P.Q.2d (BNA) 1231, 1234 (Fed. Cir.) (holding that district court did not commit clear error in denying request for attorney's fees when decision whether to award attorney's fees was a "close case"), *cert. granted*, 113 S. Ct. 52 (1992).

1103. 959 F.2d 936, 22 U.S.P.Q.2d (BNA) 1119 (Fed. Cir. 1992).

1104. *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 U.S.P.Q.2d (BNA) 1119, 1125 (Fed. Cir. 1992).

1105. *Ortho Pharmaceutical Corp. v. Smith*, 18 U.S.P.Q.2d (BNA) 1977, 1987 (E.D. Pa. 1990), *aff'd*, 959 F.2d 936 (Fed. Cir. 1992).

1106. *Id.*

ment requires an evaluation of the totality of the surrounding circumstances.¹¹⁰⁷ In the context of willful infringement for § 284 purposes, an infringer who has knowledge of another party's patent is charged with an affirmative duty of due care, which may include obtaining competent legal advice.¹¹⁰⁸

The Federal Circuit explained that willful infringement is by definition a factual question of intent.¹¹⁰⁹ Where the defendant relies on advice of counsel in an invalidity, noninfringement, or unenforceability opinion as a defense to an assertion of infringement, the appropriate question is not whether the opinion is correct, but whether "counsel's opinion [was] thorough enough, as combined with other factors, to instill a belief in the infringer that a court might reasonably hold the patent . . . invalid, not infringed, or unenforceable."¹¹¹⁰ Therefore, a finding of willful infringement is inappropriate if Ortho's beliefs were reasonable and if Ortho did not intend to infringe.¹¹¹¹ The Federal Circuit in *Ortho* characterized the attorney's written opinion letters in question as prepared by experienced patent counsel and thorough and complete.¹¹¹² Relying on *Datascope Corp. v. SMEC, Inc.*,¹¹¹³ AHP argued that the letters were deficient because they did not contain an infringement analysis under the doctrine of equivalents.¹¹¹⁴ The Federal Circuit noted, however, that *Datascope* does not stand for the proposition that the lack of an analysis under the doctrine of equivalents renders a client's reliance on such an opinion per se unreasonable.¹¹¹⁵ Moreover, a party is not guilty of willful infringement simply because it

1107. *Ortho*, 959 F.2d at 944, 22 U.S.P.Q.2d (BNA) at 1125.

1108. *Id.* See generally George M. Sirilla et al., *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC'Y 705 (1992) (noting that included in person's affirmative duty in his or her duty to obtain competent counsel). But see *Read Corp. v. Portec, Inc.*, 970 F.2d 810, 828, 23 U.S.P.Q.2d (BNA) 1426, 1437 (Fed. Cir. 1992) (citing *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1579, 230 U.S.P.Q. (BNA) 81, 91 (Fed. Cir. 1986) for proposition that absence of advice of counsel does not mandate finding of willfulness).

1109. *Ortho*, 959 F.2d at 944, 22 U.S.P.Q.2d (BNA) at 1125.

1110. *Id.* (citing *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 U.S.P.Q. (BNA) 569, 576-77 (Fed. Cir. 1983), which suggested that defendant may show justification for reliance on attorney's opinion letters).

1111. *Id.*

1112. *Id.*

1113. 879 F.2d 820, 11 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1024 (1990).

1114. *Ortho*, 959 F.2d at 945, 22 U.S.P.Q.2d (BNA) at 1126.

1115. *Id.* Instead, *Datascope* merely concluded that where analysis under the doctrine of equivalents was impossible, the court must look to the other evidence indicating willful infringement. In other words, it was the existence of other factors, not only the absence of analysis under the doctrine of equivalents, that indicated willful infringement. *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 828-29, 11 U.S.P.Q.2d (BNA) 1321, 1329-30 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1024 (1990).

resolves a close question of infringement in its favor.¹¹¹⁶ Because the opinions that Ortho had received were well reasoned and thorough, the Federal Circuit concluded that there was no willful infringement and that no attorney's fees should be awarded.¹¹¹⁷

In *Read Corp. v. Portec, Inc.*,¹¹¹⁸ the Federal Circuit reversed an award of enhanced damages under § 284 holding that the district court did not abuse its discretion in finding no willful infringement in Portec's unsuccessful attempt to design around Read's patent.¹¹¹⁹ In making this determination, the non-egregiousness of the infringer's conduct, based on all the facts and circumstances, was a focal point.¹¹²⁰ The court explained that where willful infringement is found in spite of the rendering of an opinion of counsel, willfulness findings usually result from the client's disregard of the opinion or from the incompetence of the counsel giving the opinion.¹¹²¹ The court in *Read*, as in *Ortho*, also focused on the competency of the advice of counsel.¹¹²² According to the court in *Read*, "[a] written opinion may be incompetent on its face by reason of its containing merely conclusory statements without discussion of facts or obviously presenting only a superficial or off-the-cuff analysis,"¹¹²³ whereas "[a]n honest opinion is more likely to speak of probabilities than certainties."¹¹²⁴

In *Read*, Portec had obtained two independent written opinions and engaged in numerous conferences with its attorneys on the design of Portec's products.¹¹²⁵ The legal opinions obtained by Portec

1116. *Ortho*, 959 F.2d at 945, 22 U.S.P.Q.2d (BNA) at 1126.

1117. *Id.*

1118. 970 F.2d 816, 23 U.S.P.Q.2d (BNA) 1426 (Fed. Cir. 1992).

1119. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 828, 830, 23 U.S.P.Q.2d (BNA) 1426, 1436, 1438 (Fed. Cir. 1992). The court remanded the case to the U.S. District Court for the District of Delaware for reconsideration of whether Portec should be assessed Read's attorney's fees based on Portec's alleged litigation misconduct. *Id.* at 832, 23 U.S.P.Q.2d (BNA) at 1439.

1120. *Id.* at 826, 23 U.S.P.Q.2d (BNA) at 1435 (citing *Rite-Hite Corp. v. Kelly Co.*, 819 F.2d 1120, 1125-24, 2 U.S.P.Q.2d (BNA) 1915, 1919 (Fed. Cir. 1987)). The court listed numerous factors that can be considered in evaluating the infringer's conduct. *Id.* at 827-28, 23 U.S.P.Q.2d (BNA) at 1435-36.

1121. *Read*, 970 F.2d at 829, 23 U.S.P.Q.2d (BNA) at 1437.

1122. *Id.* at 829-30, 23 U.S.P.Q.2d (BNA) at 1437-38.

1123. *Read*, 970 F.2d at 829, 23 U.S.P.Q.2d (BNA) at 1437 (citing *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 U.S.P.Q. (BNA) 569, 577 (Fed. Cir. 1983)).

1124. *Id.* at 829 n.9, 23 U.S.P.Q.2d (BNA) at 1437 n.9.

1125. *Id.* at 829, 23 U.S.P.Q.2d (BNA) at 1437. Portec tried to design around Read's patents, and "sought professional advice [from its counsel] on making a competing device which avoided the patent." *Id.* at 830, 23 U.S.P.Q.2d (BNA) at 1438. Read argued the "design around" effort was copying which evidenced willful infringement. *Id.* at 830, 23 U.S.P.Q.2d (BNA) at 1436. This argument received short shrift. *Id.*; see also *Yarway Corp. v. Eur-Control USA, Inc.*, 775 F.2d 268, 227 U.S.P.Q. (BNA) 352 (Fed. Cir. 1985) (holding that attempting to avoid infringement and to invent around licensed patent is not sufficient basis for willfulness).

were not incompetent.¹¹²⁶ The district court's criticism of one of the opinions as incompetent for failing to perform specific legal research was unjustified.¹¹²⁷ A failure by the patent attorney to perform legal research on the basic concepts of literal infringement, the doctrine of equivalents, and prosecution history estoppel did not, without more, render the opinion incompetent.¹¹²⁸ Furthermore, Portec's failure to provide the first lawyer's opinion to the second lawyer had the virtue of assuring separate independent conclusions.¹¹²⁹ Most importantly, the second attorney's opinion was detailed, not conclusory, and contained nothing to alert the client to reject the opinion as an "obviously bad" opinion.¹¹³⁰

In *Minnesota Mining*, the Federal Circuit affirmed a finding of willful infringement and an award of double damages based on the willful infringement.¹¹³¹ On appeal to the Federal Circuit, JJO argued that the district court had applied an improper legal standard in adopting the conclusions of the master regarding willfulness.¹¹³² The Federal Circuit rejected JJO's contention, noting that the master correctly quoted the legal standard for determining willful infringement as set forth in *Ryco, Inc. v. Ag-Bag Corp.*¹¹³³ The *Ryco* decision provided that a court must consider whether, "under all the circumstances, a reasonable person would prudently conduct himself [or herself] with any confidence that a court might hold the patent invalid or not infringed."¹¹³⁴ The Federal Circuit rejected JJO's further assertion that reliance on its corporate counsel's oral legal opinion was reasonable.¹¹³⁵ The court stated that oral opinions "carry less weight . . . because they have to be proved perhaps years after the event, based only on testimony which may be affected by faded memories and the forces of contemporaneous litigation."¹¹³⁶ The oral opinion in question was not objective.¹¹³⁷ It was based on information obtained from a biased supplier who did not

1126. *Read*, 970 F.2d at 829, 23 U.S.P.Q.2d (BNA) at 1437 (noting that attorney rendering opinion had many years of experience, and failing to perform legal research on basic patent law concepts does not per se make opinion of lawyer who specializes in patents incompetent).

1127. *Id.*

1128. *Id.*

1129. *Id.* at 830, 23 U.S.P.Q.2d (BNA) at 1438.

1130. *Id.*

1131. *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1582, 24 U.S.P.Q.2d (BNA) 1321, 1341 (Fed. Cir. 1992).

1132. *Id.* at 1580, 24 U.S.P.Q.2d (BNA) at 1338.

1133. 857 F.2d 1418, 8 U.S.P.Q.2d (BNA) 1323 (Fed. Cir. 1988).

1134. *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1428, 8 U.S.P.Q.2d (BNA) 1323, 1331 (Fed. Cir. 1988).

1135. *Minnesota Mining*, 976 F.2d at 1580, 24 U.S.P.Q.2d (BNA) at 1339.

1136. *Id.*

1137. *Id.*

want to have its market share eroded.¹¹³⁸ Quoting the master, the Federal Circuit noted that JJO ignored the known facts and instead knowingly relied on an oral opinion based on unreasonable representations from a supplier to justify JJO's continued infringement.¹¹³⁹

The Federal Circuit also held that the master properly considered JJO's misappropriation of 3M's trade secrets as part of the totality of the circumstances.¹¹⁴⁰ In particular, JJO's counsel was apparently aware of the misappropriated trade secrets, had prepared and prosecuted a JJO patent application involving the misappropriated technology,¹¹⁴¹ and rendered an oral opinion resting on prior art considerations that were inconsistent with positions taken while prosecuting the JJO application.¹¹⁴² The Federal Circuit concluded that "[a]n alleged infringer who intentionally blinds himself [or herself] to the facts and law, continues to infringe, and employs the judicial process with no solidly based expectations of success can hardly be surprised when infringement is found to have been willful."¹¹⁴³

In *Braun, Inc. v. Dynamics Corp. of America*,¹¹⁴⁴ the Federal Circuit reversed a jury award of treble damages for willful infringement, concluding that ample undisputed evidence demonstrated Waring's exercise of due care and good faith in an effort to avoid infringement.¹¹⁴⁵ The court cited six factors that favored a finding of no willful infringement.¹¹⁴⁶ First, Waring had hired an independent design firm to design its blender.¹¹⁴⁷ Second, a patent attorney was involved as a consultant at all stages of the Waring blender development.¹¹⁴⁸ Third, the attorney had discovered the Braun patent

1138. *Id.* at 1580-81, 24 U.S.P.Q.2d (BNA) at 1339.

1139. *Id.* at 1581, 24 U.S.P.Q.2d (BNA) at 1340.

1140. *Id.*

1141. *Id.* at 1582, 24 U.S.P.Q.2d (BNA) at 1340.

1142. *Id.* JJO's reliance on the outside counsel's opinion was also unreasonable because JJO apparently withheld facts from outside counsel that contradicted the factual bases for the conclusion as to one 3M patent. *Id.* at 1582 n.13, 24 U.S.P.Q.2d (BNA) at 1340-41 n.13.

1143. *Id.* at 1581, 24 U.S.P.Q.2d (BNA) at 1340 (citing *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1429, 8 U.S.P.Q.2d (BNA) 1323, 1332 (Fed. Cir. 1988)). Because the Federal Circuit affirmed the master and district court conclusions that 3M's patents were valid, JJO infringed the patents, and 3M was entitled to enhanced damages, *id.* at 1582, 24 U.S.P.Q.2d (BNA) at 1341, it is not surprising that a settlement was negotiated. See *3M and Johnson Settle Patent Dispute*, N.Y. TIMES, Jan. 1, 1993, at D3 (noting that 3M will receive \$129 million from JJO as result of settlement reached).

1144. 675 F.2d 815, 24 U.S.P.Q.2d (BNA) 1121 (Fed. Cir. 1992).

1145. *Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 823, 24 U.S.P.Q.2d (BNA) 1121, 1128 (Fed. Cir. 1992). The court analyzed the jury verdict under the substantial evidence standard. *Id.* at 822, 24 U.S.P.Q.2d (BNA) at 1127.

1146. *Id.* at 823, 24 U.S.P.Q.2d (BNA) at 1128.

1147. *Id.*

1148. *Id.*

through a search conducted at Waring's request.¹¹⁴⁹ Fourth, Waring had rejected one design because it looked too much like Braun's blender.¹¹⁵⁰ Fifth, Waring received a brief letter from the patent attorney strongly suggesting that Waring's design did not infringe the Braun patent.¹¹⁵¹ Finally, the patent attorney followed up several months later with a letter that stated in extensive detail why Waring's blender design did not infringe the Braun patent.¹¹⁵² Upon considering these factors, the court reversed the jury's verdict of willful infringement.¹¹⁵³

In *In re Hayes Microcomputer Products*,¹¹⁵⁴ the defendant, Ven-Tel, also attempted to rely on an attorney's opinion letter to establish that it did not willfully infringe the plaintiff's patent.¹¹⁵⁵ The Federal Circuit, however, affirmed the jury's verdict that Ven-Tel willfully infringed the Hayes patent.¹¹⁵⁶ The court noted that the apparent purpose of the attorney's opinion letter was not to enable Ven-Tel to determine whether it infringed the patent.¹¹⁵⁷ Rather, the letter was used as a basis for forming a consortium of manufacturers to challenge the validity of the plaintiff's patent.¹¹⁵⁸ The court concluded, "[a]lthough Ven-Tel received advice of counsel on the invalidity of [Hayes'] patent, advice of counsel alone cannot be used as a shield irrespective of the nature and timing of that advice in the context of the surrounding circumstances."¹¹⁵⁹

Even upon finding willful infringement, a district court is not required to exercise its discretion and award enhanced damages throughout the period from the date of infringement until the conclusion of appeals in the patent litigation.¹¹⁶⁰ In *In re Hayes Microcomputer Products*, the Federal Circuit also held that the district

1149. *Id.*

1150. *Id.*

1151. *Id.*

1152. *Id.*

1153. *Id.*

1154. 982 F.2d 1527, 25 U.S.P.Q.2d (BNA) 1241 (Fed. Cir. 1992).

1155. *In re Hayes Microcomputer Prods.*, 982 F.2d 1527, 1543, 25 U.S.P.Q.2d (BNA) 1241, 1253 (Fed. Cir. 1992).

1156. *Id.* at 1545, 25 U.S.P.Q.2d (BNA) at 1253-54.

1157. *See id.* at 1543, 25 U.S.P.Q.2d (BNA) at 1253 (noting that Hayes' expert witness testified that letter failed to give Ven-Tel reasonable basis for believing in good faith that Hayes' patent was invalid because letter treated patent's claims superficially, failed to set out standard for one of ordinary skill in art, failed to discuss secondary obviousness considerations, and failed to offer proper best mode analysis).

1158. *See id.* at 1544, 25 U.S.P.Q.2d (BNA) at 1254 (indicating that after Ven-Tel and other manufacturers were notified that they were infringing Hayes' patent, Modem Patent Defense Group (MPDG) was formed to challenge Hayes' patent). The attorney then prepared the opinion, which concluded that the patent was invalid. *Id.* To join MPDG, each potential member was asked to contribute \$10,000 in return for a copy of the attorney's letter. *Id.*

1159. *Id.*

1160. *See id.* at 1545 (stating that trial court may award enhanced damages upon finding of

court did not abuse its discretion by denying enhanced damages on royalties to be paid by the defendant, Ven-Tel, pending its appeal.¹¹⁶¹ The district court considered enhancing the royalties post-appeal, but did not do so because the district court believed that enhancing the royalties prior to the appeal had sufficiently punished the defendant.¹¹⁶² The Federal Circuit affirmed, stating that “[although] it seems somewhat illogical to have awarded Hayes double damages [on royalties] prior to the filing of the appeal, but fail to do so during the appeal, we cannot say that the [district] court abused its discretion.”¹¹⁶³

In *Brooktree Corp. v. Advanced Micro Devices, Inc.*,¹¹⁶⁴ the Federal Circuit held that “[a] finding of willful patent infringement supports, but does not compel, enhancement of damages.”¹¹⁶⁵ Rather than assessing enhanced damages against the infringer whenever willful infringement is found, however, the district court must take into consideration the “closeness” of the case and “the culpability of the infringer with due attention to any circumstances in mitigation.”¹¹⁶⁶ Advanced Micro Devices (AMD) produced no opinions from counsel of invalidity or noninfringement regarding any of the three Brooktree patents asserted against it.¹¹⁶⁷ AMD contended that none of the Brooktree patents had issued when the allegedly infringing activities began.¹¹⁶⁸ Furthermore, AMD argued that it had no knowledge of the patents until Brooktree had filed the lawsuit.¹¹⁶⁹ Brooktree responded that AMD continued its accused activities even after learning of the Brooktree patents and had no good faith basis for asserting noninfringement or invalidity.¹¹⁷⁰ The district court found Brooktree’s evidence sufficient to sustain the jury verdict of willful infringement, but observed that the evidence was “not of the weight and strength that would support the imposition of enhanced damages.”¹¹⁷¹ The Federal Circuit affirmed

willful infringement, and court’s decision will not be reversed unless court abused its discretion).

1161. *Id.*, 982 F.2d at 1545, 25 U.S.P.Q.2d (BNA) at 1255.

1162. *Id.*

1163. *Id.*

1164. 977 F.2d 1555, 24 U.S.P.Q.2d (BNA) 1401 (Fed. Cir. 1992).

1165. *Brooktree Corp. v. Advanced Micro Devices*, 977 F.2d 1555, 1581, 24 U.S.P.Q.2d (BNA) 1401, 1419-20 (Fed. Cir. 1992) (citing *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 781 F.2d 198, 201, 228 U.S.P.Q. (BNA) 367, 369 (Fed. Cir. 1986)).

1166. *Brooktree*, 977 F.2d at 1581, 24 U.S.P.Q.2d (BNA) at 1420.

1167. *Id.*

1168. *Id.*

1169. *Id.*

1170. *Id.*

1171. *Brooktree Corp. v. Advanced Micro Devices*, 757 F. Supp. 1088, 1097, 18 U.S.P.Q.2d (BNA) 1692, 1700 (S.D. Cal. 1990), *aff’d*, 977 F.2d 1555 (Fed. Cir. 1992).

the lower court's finding of willful infringement and held that the district court did not abuse its discretion in denying enhanced damages, even though the jury found willful infringement.¹¹⁷²

C. *Design Patents—35 U.S.C. § 289*

Patentees who successfully establish infringement of a design patent can elect to recover the infringer's profits under 35 U.S.C. § 289.¹¹⁷³ In *Braun*, however, the Federal Circuit held that lost profits recovered under § 289 may not be trebled under 35 U.S.C. § 284.¹¹⁷⁴ According to the Federal Circuit, "[n]othing in 35 U.S.C. § 289 authorizes an increase in a patentee's total profit. . . . In fact, 35 U.S.C. § 289 explicitly precludes a patentee from 'twice recover[ing] the profits made from infringement.'" ¹¹⁷⁵ Braun elected to recover the infringer's profits under 35 U.S.C. § 289 as compensation for design patent infringement and then argued that the infringer's lost profits should be trebled under § 284 because the infringement was willful.¹¹⁷⁶ The district court agreed and awarded Braun three times Waring's total profits.¹¹⁷⁷ The district court reasoned that there is very little substantive difference between § 284 damages and lost profits under 35 U.S.C. § 289, and thus, the infringer's lost profits may be trebled.¹¹⁷⁸

The Federal Circuit reversed and held that the district court erred in failing to uphold the longstanding distinction in patent law be-

1172. *Brooktree Corp. v. Advanced Micro Devices*, 977 F.2d 1555, 1582, 24 U.S.P.Q.2d (BNA) 1401, 1420 (Fed. Cir. 1992). The Federal Circuit also affirmed the district court's denial of attorney's fees, because a trial court has broad discretion in awarding attorney's fees. *Id.* The Federal Circuit held that there was no abuse of this discretion in denying attorney's fees to the plaintiff because the trial judge characterized the lawsuit as a "close case." *Id.*

1173. 35 U.S.C. § 289 (1988). Section 289 provides, in relevant part:

Whoever during the term of a patent for a design, without license of the owner, (1) applies the patented design, or any colorable imitation thereof, to any article of manufacture for the purpose of sale, or (2) sells or exposes for sale any article of manufacture to which such design or colorable imitation has been applied shall be liable to the owner to the extent of his [or her] total profit

Nothing in this section shall prevent, lessen, or impeach any other remedy which an owner of an infringed patent has under the provisions of this title, but he [or she] shall not twice recover the profit made from the infringement.

Id.

1174. *Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 824-25, 24 U.S.P.Q.2d (BNA) 1121, 1128-29 (Fed. Cir. 1992); *see also supra* notes 1144-53 and accompanying text (discussing *Braun* in context of treble damages for willful infringement).

1175. *Id.*, 24 U.S.P.Q.2d (BNA) at 1128 (quoting *Bergstrom v. Sears, Roebuck & Co.*, 496 F. Supp. 476, 496 (D. Minn. 1980)).

1176. *Id.* at 824, 24 U.S.P.Q.2d (BNA) at 1127.

1177. *Braun, Inc. v. Dynamics Corp. of Am.*, 775 F. Supp. 33, 39-41, 19 U.S.P.Q.2d (BNA) 1696, 1700-02 (D. Conn. 1991), *aff'd in part and rev'd in part*, 975 F.2d 815, 24 U.S.P.Q.2d (BNA) 1121 (Fed. Cir. 1992).

1178. *Id.*

tween damages and profits.¹¹⁷⁹ The court explained that compensatory damages evolved in the courts of law and could be increased, whereas recovery of an infringer's profits evolved in the courts of equity and could not be increased.¹¹⁸⁰ Therefore, the court held that an award of the infringer's lost profits for design patent infringement under 35 U.S.C. § 289 may not be trebled under 35 U.S.C. § 284.¹¹⁸¹

D. Limitations on Damages—35 U.S.C. § 286

Title 35, section 286 of the U.S. Code provides that a patentee shall not recover damages for any infringement committed more than six years prior to filing of the complaint or counterclaim for infringement in the action.¹¹⁸² In *A. Stucki Co. v. Buckeye Steel Castings Co.*,¹¹⁸³ the Federal Circuit refused Stucki's invitation to create new law by allowing equity-based considerations to toll the six-year limitation on damages in § 286.¹¹⁸⁴ This issue arose as a consequence of Stucki's decade-long effort to obtain and then collect \$2.2 million in damages.¹¹⁸⁵ Stucki finally prevailed in its patent infringement suit against Railroad Dynamics Inc. (RDI) and was awarded \$2.2 million in damages.¹¹⁸⁶ Concerned with RDI's solvency,¹¹⁸⁷ in late 1983 Stucki sued RDI shareholders Schwam and Worthington Industries.¹¹⁸⁸ In 1987, Stucki moved to add Buckeye to its suit against Schwam and Worthington but withdrew the motion to avoid

1179. *Braun*, 975 F.2d at 824, 24 U.S.P.Q.2d (BNA) at 1128-29.

1180. *Id.*

1181. *Id.*

1182. *See* 35 U.S.C. § 286 (1988) (providing that "[e]xcept as otherwise provided by law, no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint or counterclaim for infringement in the action").

1183. 963 F.2d 360, 22 U.S.P.Q.2d (BNA) 1581 (Fed. Cir. 1992).

1184. *See A. Stucki Co. v. Buckeye Steel Castings Co.*, 963 F.2d 360, 362-63, 22 U.S.P.Q.2d (BNA) 1581, 1583-84 (Fed. Cir. 1992) (rejecting Stucki's request to read equity-based exception into introductory phrase of § 286 because latitude to do so was not present in case law or legislative history).

1185. *Id.* at 361-62, 22 U.S.P.Q.2d (BNA) at 1582 (discussing background of case).

1186. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1520-21, 220 U.S.P.Q. (BNA) 929, 934 (Fed. Cir.), *cert. denied*, 469 U.S. 871 (1984). Stucki sued RDI in 1980 for infringement of its hydraulic shock absorbers used in boxcars. *Id.* at 1509-10, 220 U.S.P.Q. (BNA) at 933-34. A jury awarded Stucki \$2.2 million in damages. *Id.* The award was affirmed on appeal. *Id.* at 1520-21, 220 U.S.P.Q. (BNA) at 934.

1187. *Stucki*, 963 F.2d at 361, 22 U.S.P.Q.2d (BNA) at 1582.

1188. *A. Stucki Co. v. Schwam*, 634 F. Supp. 259, 260, 229 U.S.P.Q. (BNA) 903, 903, *modified*, 638 F. Supp. 1257 (E.D. Pa. 1986), *aff'd sub nom. A. Stucki Co. v. Worthington Indus., Inc.*, 849 F.2d 593 (Fed. Cir. 1988). Stucki alleged that Worthington was liable because it had merged with Buckeye, which owned 50% of RDI's stock. *Worthington*, 849 F.2d at 594, 7 U.S.P.Q.2d (BNA) at 1067. Schwam was allegedly liable because he was the other 50% shareholder in RDI. *Schwam*, 634 F. Supp. at 262, 229 U.S.P.Q. (BNA) at 905. The district court held that Worthington did not merge with Buckeye and issued a directed verdict in favor of Worthington, *Worthington*, 849 F.2d at 595, 7 U.S.P.Q.2d (BNA) at 1067, but issued a summary judgment against Schwam. *Schwam*, 634 F. Supp. at 262, 229 U.S.P.Q. (BNA) at 905.

postponement of the trial date.¹¹⁸⁹ Despite Stucki's efforts, most of the \$2.2 million remained uncollected, and in March 1988, Stucki separately sued Buckeye.¹¹⁹⁰ Stucki alleged that Buckeye was jointly and severally liable for RDI's infringement because Buckeye was a 50% shareholder in RDI during the period of infringement.¹¹⁹¹

The district court held that 35 U.S.C. § 286 barred Stucki's claim for relief because Buckeye had no part in RDI's infringing activities for at least six years prior to Stucki's action against Buckeye.¹¹⁹² Buckeye's liability could include only those infringing acts that occurred between March 1982 and March 1988.¹¹⁹³ The district court, however, found that Buckeye had adopted a "hands-off and stay clear policy" with respect to RDI since June 1980 and thus barred Stucki's claim for relief during the period between 1982 and 1988.¹¹⁹⁴

In its appellate case, Stucki first argued that its action to collect on a past damage award was equitable in nature and the court, therefore, should exercise its equitable power to award Stucki the relief sought.¹¹⁹⁵ The Federal Circuit rejected Stucki's threshold argument, holding instead that Stucki's action was one at law to establish liability, not one requesting equitable relief against Buckeye.¹¹⁹⁶ Stucki next asserted that the phrase "[e]xcept as otherwise provided by law" in § 286 contemplated the availability of equity-based exceptions to the six year time bar of § 286.¹¹⁹⁷ The court, however, declined Stucki's plea to create equity-based exceptions to § 286 because neither the legislative history of § 286 nor prior case law supported Stucki's argument.¹¹⁹⁸ Although Buckeye had not raised laches or equitable estoppel as a defense, Stucki put forth a related argument: equitable considerations, such as the "other litigation" excuse raised to rebut the equitable laches defense, could suspend

Despite Schwam's additional liability, Stucki's judgment remained largely unsatisfied. *Stucki*, 963 F.2d at 362, 22 U.S.P.Q.2d (BNA) at 1583.

1189. *Stucki*, 963 F.2d at 362, 22 U.S.P.Q.2d (BNA) at 1582. Stucki's apparent problem with § 286 would appear to have its genesis in Stucki's apparent failure to add Buckeye during either the original RDI suit or during the later suit against Schwam and Worthington. *Id.*

1190. *A. Stucki Co. v. Buckeye Steel Castings Co.*, 795 F. Supp. 847, 849 (S.D. Ohio 1991), *aff'd*, 963 F.2d 360, 22 U.S.P.Q.2d (BNA) 1581 (Fed. Cir. 1992).

1191. *Id.* In a separate count, Stucki also alleged that Buckeye was liable under the Racketeer Influenced Corrupt Organization Act, 18 U.S.C. §§ 1961-1968 (1988). *Id.* Stucki alleged that Buckeye engaged in a pattern of racketeering activity by causing RDI to infringe Stucki's patents. *Id.*

1192. *Id.* at 853-55.

1193. *Id.*

1194. *Id.* at 855.

1195. *Stucki*, 963 F.2d at 362, 22 U.S.P.Q.2d (BNA) at 1583.

1196. *Id.* at 362-63, 22 U.S.P.Q.2d (BNA) at 1583.

1197. *Id.* at 363, 22 U.S.P.Q.2d (BNA) at 1583.

1198. *Id.*

the time limitation in § 286.¹¹⁹⁹ The court, however, dismissed this argument, stating that laches and § 286 are independent concepts.¹²⁰⁰ Furthermore, merely borrowing the six-year damage limitation period from § 286 as the delay period for raising a rebuttal presumption of laches had no effect on the independent application of either § 286 or laches.¹²⁰¹ Finally, the Federal Circuit refused to restrict the application of § 286 only to direct infringers.¹²⁰²

E. Injunctions—35 U.S.C. § 283

1. Preliminary injunctions

In 1992, the Federal Circuit considered preliminary injunctions in *New England Braiding Co. v. A.W. Chesterton Co.*¹²⁰³ and in *Mallinckrodt, Inc. v. Medipart, Inc.*¹²⁰⁴ In *New England Braiding*, the Federal Circuit affirmed the district court's denial of the plaintiff's request for a preliminary injunction and discussed the application of the presumption of validity in a preliminary injunction analysis.¹²⁰⁵ In *Mallinckrodt*, the Federal Circuit vacated the district court's grant of a preliminary injunction, lifting the district court's restriction preventing the patentee from notifying potential infringers of their possible infringement.¹²⁰⁶

In *New England Braiding*, the patentee, NEBCO, sued Chesterton for infringement of NEBCO's patents that pertained to a braided compression packing.¹²⁰⁷ NEBCO subsequently filed a motion for a preliminary injunction.¹²⁰⁸ The district court denied the injunction on the ground that NEBCO was not likely to succeed at trial because NEBCO's patents were likely to be held invalid under 35 U.S.C.

1199. *Id.*

1200. *Id.*

1201. *Id.*

1202. *Id.*, 22 U.S.P.Q.2d (BNA) at 1583-84. Stucki alleged that Buckeye was liable as a contributory infringer and then argued that § 286 should only operate against those patentees who allege direct infringement. *Id.*

1203. 970 F.2d 878, 23 U.S.P.Q.2d (BNA) 1622 (Fed. Cir. 1992).

1204. 976 F.2d 700, 24 U.S.P.Q.2d (BNA) 1173 (Fed. Cir. 1992); see also *infra* notes 1350-71 and accompanying text (discussing case with regard to patent misuse issue).

1205. *New England Braiding Co. v. A.W. Chesterton Co.*, 970 F.2d 878, 882-84, 23 U.S.P.Q.2d (BNA) 1622, 1625-27 (Fed. Cir. 1992). The following factors must be established by the movant for a grant of a preliminary injunction: (1) that the movant is likely to succeed on the merits at trial; (2) that the movant will suffer irreparable harm if preliminary relief is not granted; (3) that the balance of the hardships tips in the movant's favor; and (4) that a preliminary injunction is in the public interest. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625 (citing *Nutrition 21 v. United States*, 930 F.2d 867, 869, 18 U.S.P.Q.2d (BNA) 1347, 1348-49 (Fed. Cir. 1991); *H.H. Robertson Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 387, 2 U.S.P.Q.2d (BNA) 1926, 1927 (Fed. Cir. 1987)).

1206. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 710, 24 U.S.P.Q.2d (BNA) 1173, 1175 (Fed. Cir. 1992).

1207. *New England Braiding*, 970 F.2d at 878-82, 23 U.S.P.Q.2d (BNA) at 1622-25.

1208. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625.

§ 102(f).¹²⁰⁹ The Federal Circuit affirmed the district court's denial of NEBCO's motion, holding that the district court did not abuse its discretion because Chesterton presented evidence raising a substantial question regarding the patent's validity.¹²¹⁰ In reaching this conclusion, the Federal Circuit rejected NEBCO's assertion that the presumption of validity, rather than the defendant's evidence of invalidity, controls the determination of whether the plaintiff is likely to succeed at trial.¹²¹¹ According to the court, "[t]he presumption acts as a procedural device which places the burden of [production] and the ultimate burden of persuasion of invalidity at trial on the alleged infringer."¹²¹² Therefore, the statutory presumption of validity does not relieve a patentee seeking a preliminary injunction from the normal burden of proving that it is likely to succeed on all disputed liability issues at trial, even when the issue concerns the patent's validity.¹²¹³

In *Mallinckrodt*, the Federal Circuit reversed the district court's preliminary injunction that prevented Mallinckrodt from issuing notices warning users that violating the "single use" restriction on the patented device would be deemed patent infringement.¹²¹⁴ The court held that a patentee, who in good faith believes its patents are being infringed, does nothing illegal in notifying all alleged infringers that their conduct may or will be infringing.¹²¹⁵ Infringement

1209. See *New England Braiding Co. v. Chesterton Co.*, 746 F. Supp. 1200, 1201 (D. Mass. 1990) (explaining that § 102(f) requires patentee to be actual inventor of subject matter patented), *aff'd*, 970 F.2d 878, 23 U.S.P.Q.2d (BNA) 1622 (Fed. Cir. 1992).

1210. *New England Braiding*, 970 F.2d at 882-85, 23 U.S.P.Q.2d (BNA) at 1625-27. The Federal Circuit also asserted that to reverse a grant of a preliminary injunction, the alleged infringer must show that one of the factual premises was clearly erroneous. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625. To reverse a denial of a preliminary injunction, however, the burden on the movant is greater. *Id.* The plaintiff must show that one or more of the factors relied on by the district court was clearly erroneous and that denial of the preliminary injunction would be an abuse of the court's discretion upon reversal of an erroneous finding. *Id.*

1211. See *id.* at 882-83, 23 U.S.P.Q.2d (BNA) at 1625-26 (explaining NEBCO's argument that district court should have "given weight" to statutory presumption of validity).

1212. *Id.* at 882, 23 U.S.P.Q.2d (BNA) at 1625.

1213. *Id.* (citing *Nutrition 21 v. United States*, 930 F.2d 867, 868, 18 U.S.P.Q.2d (BNA) 1347, 1349 (Fed. Cir. 1991)). The Federal Circuit also noted that in ruling on the preliminary injunction motion, it is not the court's role to decide whether NEBCO's patents are actually invalid. *Id.* Therefore, the court did not consider NEBCO's evidence establishing the validity of its patents. *Id.* All that the court decided in this appeal was whether the district court "seriously misjudged the evidence underlying its finding respecting NEBCO's likelihood of success at trial." *Id.* at 884, 23 U.S.P.Q.2d (BNA) at 1627.

1214. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 701-10, 24 U.S.P.Q.2d (BNA) 1173, 1173-81 (Fed. Cir. 1992). Mallinckrodt's proposed notice emphasized that its device was for a single use only in order to protect hospitals and patients from the adverse consequences of reconditioning, such as infectious disease transmissions. *Id.* at 703, 24 U.S.P.Q.2d (BNA) at 1175. The notices also warned users that the device was protected by certain patents and that the device was licensed to hospitals for only one use. *Id.* Moreover, reuse would be deemed infringement of the patents. *Id.*

1215. *Id.* at 709-10, 24 U.S.P.Q.2d (BNA) at 1180-81; see also *Virtue v. Creamery Package*

notices may be enjoined, however, when, for example, the patentee acted in bad faith,¹²¹⁶ indiscriminately sent notices to all members of the trade,¹²¹⁷ or did not have a good faith belief in the validity of its patent.¹²¹⁸ The court held that Medipart neither asserted nor proved any of these conditions.¹²¹⁹

2. *Modifying permanent injunctions*

Under 35 U.S.C. § 283, a district court can grant an injunction "in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable."¹²²⁰ In *Ortho Pharmaceutical Corp. v. Smith*,¹²²¹ the Federal Circuit held that the district court acted within its discretion in refusing to modify its permanent injunction.¹²²² The district court originally enjoined Ortho from making, using, or selling any product containing the chemical compound "norgestimate" in violation of patents owned by AHP.¹²²³ The district court denied AHP's motion to expand the permanent injunction specifically to prohibit Ortho from using or transmitting data obtained in gaining FDA approval of norgestimate and to extend the prohibitions two years beyond the term of AHP's patent.¹²²⁴ The Federal Circuit refused to address the question of whether the transmission of data is an infringing act, but instead concluded that if transmission of data was indeed infringing, the present injunction would cover it.¹²²⁵ If

Mfg. Co., 227 U.S. 8, 37-38 (1913) ("Patents would be of little value if infringers of them could not be notified of the consequences of infringement or proceeded against in the courts. Such action considered by itself cannot be said to be illegal.").

1216. *Mallinckrodt*, 976 F.2d at 710, 24 U.S.P.Q.2d (BNA) at 1181 (citing *Betmar Hats, Inc. v. Young America Hats, Inc.*, 116 F.2d 956, 957, 48 U.S.P.Q. (BNA) 266, 267 (2d Cir. 1941)).

1217. *Id.* (citing *International Indus. & Devs., Inc. v. Farbach Chem. Co.*, 241 F.2d 246, 247-48, 112 U.S.P.Q. (BNA) 349, 349-50 (6th Cir. 1957)).

1218. *Id.* (citing *Magnetic Eng'g & Mfg. Co. v. Dings Mfg. Co.*, 178 F.2d 866, 868, 84 U.S.P.Q. (BNA) 105, 107 (2d Cir. 1950)).

1219. *Id.*

1220. 35 U.S.C. § 283 (1988).

1221. 959 F.2d 936, 22 U.S.P.Q.2d (BNA) 1426 (Fed. Cir. 1992).

1222. *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 945-46, 22 U.S.P.Q.2d (BNA) 1119, 1126-27 (Fed. Cir. 1992). The court stated that "the grant, denial, or modification of an injunction under 35 U.S.C. § 283 is reviewable under an abuse of discretion standard." *Id.* at 945, 22 U.S.P.Q.2d (BNA) at 1127 (citing *Windsurfing Int'l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1002, 228 U.S.P.Q. (BNA) 562, 567 (Fed. Cir.), *cert. denied*, 477 U.S. 905 (1986)).

1223. *See Ortho Pharmaceutical Corp. v. Smith*, 15 U.S.P.Q.2d (BNA) 1856, 1864 (E.D. Pa. 1990) (restricting Ortho's activities with respect to norgestimate under injunction to those solely for uses reasonably related to obtaining FDA approval, as provided by 35 U.S.C. § 271(e)(1)); *see also* 35 U.S.C. § 271(e)(1) (providing that it shall not be act of infringement to make, use, or sell patented invention solely for uses reasonably related to development and submission of information under federal law that regulates manufacture, use, or sale of drugs or veterinary biological products).

1224. *Ortho*, 15 U.S.P.Q.2d (BNA) at 1864.

1225. *Ortho*, 959 F.2d at 945-46, 22 U.S.P.Q.2d (BNA) at 1127.

transmission is not an infringement, however, it is not clear whether the district court has the discretionary power under 35 U.S.C. § 283 to enjoin such acts.¹²²⁶ The Federal Circuit advised that a determination of whether certain acts constitute infringement should be addressed in contempt proceedings, rather than in a request for modification of an injunction.¹²²⁷

With respect to the district court's denial of AHP's two-year extension request, the Federal Circuit held that AHP failed to establish that the district court had abused its discretion.¹²²⁸ AHP relied on two cases to illustrate that courts have enjoined the use of data to prevent an infringer from profiting from its infringement.¹²²⁹ The Federal Circuit, however, was unpersuaded that these cases, or any other evidence presented by AHP, demonstrated that the district court abused its discretion by denying the motion to amend.¹²³⁰

VI. EQUITABLE DEFENSES TO PATENT INFRINGEMENT

A. *Laches and Equitable Estoppel*

In *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*,¹²³¹ the Federal Circuit, sitting *in banc*, clarified the applicable standards under which the doctrines of laches and equitable estoppel are to be applied in patent infringement suits and reversed the summary judgment.¹²³² Aukerman owned two patents relating to a method of forming concrete highway barriers.¹²³³ Having learned that Chaides was possibly infringing its patents, Aukerman sent Chaides a letter, dated February 13, 1979, that informed Chaides of the potential infringement and offered to license the patents to Chaides.¹²³⁴ In subsequent letters, Aukerman advised Chaides that Aukerman's patents would be enforced against all infringers, but as of June 1, 1979, Aukerman had taken no action against Chaides.¹²³⁵ After eight years had elapsed, Aukerman learned that Chaides was still making

1226. *Id.*

1227. *Id.*

1228. *Id.*

1229. *Id.* at 946, 22 U.S.P.Q.2d (BNA) at 1127 (citing *Pfizer, Inc. v. International Rectifier Corp.*, 217 U.S.P.Q. (BNA) 157, 162-63 (C.D. Cal. 1982); *Eli Lilly & Co. v. Medtronic, Inc.*, 735 F. Supp. 652, 662, 14 U.S.P.Q.2d (BNA) 1352, 1360 (E.D. Pa.), *rev'd and vacated on other grounds*, 915 F.2d 670, 16 U.S.P.Q.2d (BNA) 2020 (Fed. Cir. 1990)).

1230. *Id.* at 946, 22 U.S.P.Q.2d (BNA) at 1127-28.

1231. 960 F.2d 1020, 22 U.S.P.Q.2d (BNA) 1321 (Fed. Cir. 1992) (*in banc*).

1232. *See A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1026, 22 U.S.P.Q.2d (BNA) 1321, 1326 (Fed. Cir. 1992) (*in banc*) (stating that court reheard *Aukerman* specifically to reconsider principles of laches and equitable estoppel in patent infringement suits).

1233. *Id.*, 22 U.S.P.Q.2d (BNA) at 1323.

1234. *Id.*

1235. *Id.*

products that possibly infringed Aukerman's patents.¹²³⁶ Referring to the earlier letters, Aukerman again offered a license to Chaides, but the parties were unable to agree on the terms of such a license.¹²³⁷ About one year later, Aukerman filed suit against Chaides for patent infringement.¹²³⁸

The district court granted Chaides' motion for summary judgment based on the defenses of laches and equitable estoppel.¹²³⁹ The district court shifted the burden of proof to Aukerman to show why the six-year delay in filing suit was reasonable and to show that Chaides was not prejudiced by the delay.¹²⁴⁰ Unpersuaded by Aukerman's arguments, the district court applied laches because Aukerman's delay in filing suit against Chaides was unreasonable and because Chaides was prejudiced by the delay.¹²⁴¹ The district court also held that Chaides satisfied the four-part test for equitable estoppel set forth in *Jamesbury Corp. v. Litton Industrial Products*.¹²⁴² Even though Chaides allegedly came before the court with "unclean hands" as a result of its having made a copy of Aukerman's patented slipform, this allegation did not defeat Chaides' equitable estoppel defense because Aukerman had not shown how the accused Chaides slipform infringed Aukerman's patents.¹²⁴³

1236. *Id.* at 1027, 22 U.S.P.Q.2d (BNA) at 1324.

1237. *Id.*

1238. *Id.*

1239. *Id.*

1240. *See id.* (noting that district court cited *Jamesbury Corp. v. Litton Indus. Prods.*, 839 F.2d 1544, 5 U.S.P.Q.2d (BNA) 1779 (Fed. Cir.), *cert. denied*, 488 U.S. 828 (1988), for proposition that delay of more than six years before commencing litigation shifts burden of proof to patentee to show delay was reasonable and not prejudicial to accused infringer).

1241. *Id.* Aukerman argued that its delay was excused by the fact that it was involved in other litigation. *Id.* The district court, however, rejected this excuse because this litigation did not cover the time period in question, nor did Aukerman give notice to Chaides that it was engaged in this other litigation. *Id.* The district court also held that Chaides was prejudiced by this delay for three reasons. *Id.* First, Chaides would have to pay a license fee on projects it had bid on without factoring in the royalty costs. *Id.* Second, Chaides had foregone seeking bankruptcy protection because Chaides was not made aware of its liability for past infringement. *Id.* Lastly, Chaides' ability to defend itself would be prejudiced by this delay because necessary witnesses, including the inventor, were no longer available to testify. *Id.* As to other litigation, at least one court applied laches and estoppel to bar Aukerman's claims. *See, e.g., A.C. Aukerman Co. v. Miller Formless Co.*, 693 F.2d 697, 701-02, 216 U.S.P.Q. (BNA) 863, 867 (7th Cir. 1982).

1242. 839 F.2d 1544, 5 U.S.P.Q.2d (BNA) 1779 (Fed. Cir.), *cert. denied*, 488 U.S. 828 (1988). The *Jamesbury* four-part test requires:

- (1) unreasonable and unexcusable delay in filing suit,
- (2) prejudice to the infringer,
- (3) affirmative conduct by the patentee inducing belief that it abandoned its claims against the infringer, which can include silence, and
- (4) detrimental reliance by the infringer.

Jamesbury Corp. v. Litton Indus. Prods., 839 F.2d 1544, 1553-54, 5 U.S.P.Q.2d (BNA) 1779, 1786-87 (Fed. Cir.), *cert. denied*, 488 U.S. 828 (1988).

1243. *Aukerman*, 960 F.2d at 1027, 22 U.S.P.Q.2d (BNA) at 1324. Aukerman appealed this decision to the Federal Circuit. *Id.* After the original panel released its decision, the Federal

On appeal, the Federal Circuit provided a thorough treatment of laches as a defense in patent infringement suits.¹²⁴⁴ The court began its analysis by explaining that in patent cases, laches can bar recovery for the alleged infringement occurring prior to the filing of the complaint.¹²⁴⁵ The existence of laches, however, would not bar the plaintiff from seeking injunctive relief against an infringer.¹²⁴⁶ The Federal Circuit counseled that to determine whether laches is applicable, the district court must weigh the length of delay, the seriousness of the prejudice, and the defendant's conduct and culpability to determine whether the patentee dealt unfairly with the alleged infringer by not promptly bringing suit.¹²⁴⁷ The laches defense therefore is not subject to automatic application but is instead committed to the discretion of the trial judge.¹²⁴⁸

The Federal Circuit announced that two elements must be proven

Circuit *sua sponte* ordered an *in banc* rehearing and vacated the panel's decision. *Id.* at 1028, 22 U.S.P.Q.2d (BNA) at 1324. The court explicitly stated that the appeal was being heard *in banc* to clarify and apply principles of laches and estoppel. *Id.* The Federal Circuit, sitting *in banc*, reversed the district court, finding upon clarification of the applicable law that genuine issues of material fact precluded the grant of summary judgment. The court therefore remanded the case for further proceedings consistent with its opinion. *Id.* at 1026, 22 U.S.P.Q.2d (BNA) at 1323.

1244. *Id.* at 1039-40, 22 U.S.P.Q.2d (BNA) at 1334. Laches has been defined as the neglect or delay in bringing a suit to remedy an alleged wrong that, in combination with lapse of time and other factors, causes prejudice to the adverse party and thus serves as an equitable bar to the claim asserted. See William M. Tabb, *Reconsidering the Application of Laches in Environmental Litigation*, 14 HARV. ENVTL. L. REV. 377, 377-79 nn.1-9 (1990) (tracing origins of equitable defense of laches). The defense of laches has long been recognized in patent infringement actions brought in equity. See, e.g., *Land & Bodley Co. v. Locke*, 150 U.S. 193, 200-01 (1893) (finding that plaintiff in patent infringement suit regarding stop valve for hydraulic elevator was guilty of laches for allowing unreasonable delay in bringing suit); *Wallensak v. Reiher*, 115 U.S. 96, 101-02 (1885) (determining applicant was not guilty of laches for two-year delay in applying for reissue of patent). The laches defense was thus well established at the time of recodification of the patent laws in 1952. Indeed, one of the drafters of 35 U.S.C. § 282 specifically recognized laches as a defense to an infringement action. See P.J. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1, 55 (1954) (stating that defenses which may be raised in action involving validity or infringement of patent encompass non-infringement, absence of liability for infringement, or unenforceability, and include equitable defenses such as laches, estoppel, and unclean hands).

1245. *Aukerman*, 960 F.2d at 1039-40, 22 U.S.P.Q.2d (BNA) at 1334-35. *Aukerman* argued that the laches defense was inapplicable in patent infringement suits because it conflicts with 35 U.S.C. § 286 and does not apply to claims based in law. *Id.* at 1029-30, 22 U.S.P.Q.2d (BNA) at 1325-26. In addition, *Aukerman* argued that the laches defense must be proven for each act of infringement because infringement is a continuing tort. *Id.* The Federal Circuit disagreed, noting that § 286 or its equivalent has coexisted with the laches defense for some time and that the § 286 limitation on damages is not mutually exclusive of the laches defense. *Id.* Furthermore, the court pointed out that the distinction between claims based in law and claims based in equity is inappropriate in view of rule 2 of the Federal Rules of Civil Procedure. *Id.* at 1031, 22 U.S.P.Q.2d (BNA) at 1327; see also FED. R. CIV. P. 2 (merging legal and equitable claims into single form of action known as "civil action"). Relying on *Lane & Bodley Co. v. Locke*, 150 U.S. 193 (1893), the Federal Circuit concluded that laches is a single defense to a continuing tort. *Aukerman*, 960 F.2d at 1031, 23 U.S.P.Q.2d (BNA) at 1326-28.

1246. *Aukerman*, 960 F.2d at 1041, 22 U.S.P.Q.2d (BNA) at 1334-35.

1247. *Id.* at 1032-33, 22 U.S.P.Q.2d (BNA) at 1328-29.

1248. See *id.* at 1032, 22 U.S.P.Q.2d (BNA) at 1328 (citing cases that established now well-

to establish laches. First, the patentee's delay in bringing the suit must be unreasonable and inexcusable.¹²⁴⁹ The length of delay "is measured from the time the plaintiff knew or should have known of the defendant's alleged infringing activities to the date of the suit."¹²⁵⁰ Second, the alleged infringer must suffer material prejudice as a result of the delay.¹²⁵¹ The material prejudice may be either economic or evidentiary.¹²⁵² For laches purposes, economic prejudice does not result merely because one is found liable for infringement. There must instead be a change in position by the alleged infringer resulting from the period of delay.¹²⁵³ Economic prejudice exists, for example, where the defendant will incur monetary loss or damages that would likely have been prevented by an earlier, timely filed suit.¹²⁵⁴ Evidentiary prejudice may arise when the defendant is unable to provide a "full and fair defense" because of factors such as "loss of records, the death of a witness, or the unreliability of the memories of long past events thereby undermining the court's ability to judge the facts."¹²⁵⁵ These factors and all other evidence and circumstances must be considered by the district court in determining whether equity should intercede to bar pre-filing damages.¹²⁵⁶ The court further noted that even if the delay is unreasonable, the patentee can rebut the application of laches by offering an excuse for the delay or by showing that the infringer

founded proposition that "application of the defense of laches is committed to the sound discretion of the district court").

1249. *Id.* at 1032, 22 U.S.P.Q.2d (BNA) at 1328.

1250. *See id.* (mentioning cases that cite well-settled factors that defendants must prove to invoke laches defense successfully). The court also noted that the period of delay does not begin prior to the issuance of the patent. *Id.*; *see also* *Meyers v. Asics Corp.*, 974 F.2d 1304, 1307, 24 U.S.P.Q.2d (BNA) 1036, 1038 (Fed. Cir. 1992) (relying on *Meyers v. Brooks Shoe, Inc.*, 912 F.2d 1459, 1462, 16 U.S.P.Q.2d (BNA) 1055, 1057 (Fed. Cir. 1990), which held that it was not unreasonable for *Meyers* to wait until second patent issued to sue on both first and second patents together, and therefore determining that period of delay begins upon issuance of second patent, even though patentee could have sued on first alone).

1251. *Aukerman*, 960 F.2d at 1032, 22 U.S.P.Q.2d (BNA) at 1328; *see also* *Costello v. United States*, 365 U.S. 265, 282 (1961) (noting that laches defense requires proof of lack of diligence by party against whom defense is asserted and proof of prejudice against party asserting defense); *Meyers v. Brooks Shoe Inc.*, 912 F.2d 1459, 1461, 16 U.S.P.Q.2d (BNA) 1055, 1057 (Fed. Cir. 1990) (stating that defendant must prove unreasonable and inexcusable delay and material prejudice from this delay to establish laches).

1252. *Aukerman*, 960 F.2d at 1033, 22 U.S.P.Q.2d (BNA) at 1328.

1253. *Id.*; *see also* *Hemstreet v. Computer Entry Sys. Corp.*, 972 F.2d 1290, 1294, 23 U.S.P.Q.2d (BNA) 1860, 1863 (Fed. Cir. 1992) (holding that to satisfy prejudice element, there must be nexus between patentee's delay and alleged infringer's expenditures in research and development).

1254. *Aukerman*, 960 F.2d at 1033, 22 U.S.P.Q.2d (BNA) at 1329.

1255. *Id.*, 22 U.S.P.Q.2d (BNA) at 1328.

1256. *Id.* at 1032, 22 U.S.P.Q.2d (BNA) at 1328. The court noted that the standard of review for a finding of laches is abuse of discretion. *Id.* at 1039, 22 U.S.P.Q.2d (BNA) at 1333. "An appellate court, however, may set aside a discretionary decision if the decision rests on an erroneous interpretation of the law or on clearly erroneous factual underpinnings." *Id.*

“has engaged in particularly egregious conduct which would change the equities significantly in plaintiff’s favor.”¹²⁵⁷ Ignorance or good faith belief in the merits of a defense, however, may weigh in the defendant’s favor.¹²⁵⁸

Following the holding of *Leinoff v. Louis Milona & Sons*,¹²⁵⁹ the Federal Circuit reaffirmed the principle that a presumption of laches arises when a patentee delays six years before filing an infringement action.¹²⁶⁰ The Federal Circuit stated that the “underlying critical factors of laches are presumed upon proof that the patentee delayed filing suit for more than six years after actual or constructive knowledge of the defendant’s alleged infringing activity.”¹²⁶¹ Aukerman argued that the presumption of laches, which includes a prejudice element, is unfair in patent litigation and should be eliminated in the same manner that the Federal Circuit eliminated the presumption of prejudice in *Cornetta v. United States*.¹²⁶²

The Federal Circuit, however, distinguished *Cornetta*, which dealt with military pay, from patent cases.¹²⁶³ In *Cornetta*, the Government was required to prove prejudice in order to establish laches, rather than rely on a presumption of prejudice, because such a presumption could not be justified on principles of fairness or public

1257. *Id.* at 1033, 22 U.S.P.Q.2d (BNA) at 1329 (quoting *Bott v. Four Star Corp.*, 807 F.2d 1567, 1576, 1 U.S.P.Q.2d (BNA) 1210, 1216-17 (Fed. Cir. 1986)) (listing acceptable excuses for unreasonable delay, including other litigation, negotiations with accused, poverty and illness (under limited circumstances), wartime conditions, extent of infringement, and dispute over ownership of patent). The Federal Circuit commented on the frequently asserted “other litigation” excuse, explaining that the district court erred in rejecting Aukerman’s “other litigation” excuse on the ground that Aukerman did not notify Chaides of the other litigation. *Id.* at 1039, 22 U.S.P.Q.2d (BNA) at 1334. The court held that a notice requirement should not be imposed rigidly because there may be other circumstances making notice unnecessary. *Id.*

1258. *Id.*

1259. 726 F.2d 734, 220 U.S.P.Q. (BNA) 845 (Fed. Cir. 1984).

1260. *Aukerman*, 960 F.2d at 1039, 22 U.S.P.Q.2d (BNA) at 1330 (citing *Leinoff v. Louis Milona & Sons*, 726 F.2d 734, 741-42, 220 U.S.P.Q. (BNA) 845, 850 (Fed. Cir. 1984)) (affirming court’s determination in *Leinoff* that six-year delay is presumptively unreasonable for filing patent infringement suit).

1261. *Id.* at 1035-36, 22 U.S.P.Q.2d (BNA) at 1331. This is consistent with the historical development of the doctrine of laches where courts often “borrowed” the time period from the statute of limitations, which apply to claims at law, and presumptively applied it to laches, which applied to claims in equity. Note, *Developments in the Law—Statutes of Limitations*, 63 HARV. L. REV. 1177, 1184 (1950). The “borrowing” concept was extended to patent cases when various courts borrowed the six-year limitation of damages set forth in 35 U.S.C. § 286 and applied it by analogy to laches cases. See *Leinoff*, 726 F.2d at 741, 220 U.S.P.Q. (BNA) at 850 (arguing that six-year limitation for damages in § 286 is analogous to presumptively unreasonable six-year delay in filing patent infringement action).

1262. 851 F.2d 1372, 1378-79 (Fed. Cir. 1988) (requiring Government to prove that it was prejudiced by delay in suit for reinstatement and back pay rather than rely on presumption of prejudice that originated from civilian pay cases).

1263. See *Aukerman*, 960 F.2d at 1036-37, 22 U.S.P.Q.2d (BNA) at 1331-32 (examining *Cornetta* decision).

policy.¹²⁶⁴ The Federal Circuit noted that the court in *Cornetta* gave several reasons for its conclusion, including the fact that the soldier-Government relationship is not a purely commercial relationship,¹²⁶⁵ that the individual “soldier was at a decided disadvantage vis-a-vis the might of the government,” and that “the government held the evidence of its prejudice.”¹²⁶⁶ According to the court, “[t]hese fairness considerations are not transferable to patent litigation.”¹²⁶⁷

The Federal Circuit then explained that in patent cases, a presumption of laches does not shift the ultimate burden of persuasion from the defendant to the patentee.¹²⁶⁸ Instead, the defendant continues to bear the ultimate burden of persuasion of the affirmative defense of laches at all times.¹²⁶⁹ Therefore, even if a patentee is successful in rebutting the presumption of laches, the laches defense is not necessarily precluded.¹²⁷⁰ Once rebutted, the presumption of laches simply has no further role in rendering the ultimate decision.¹²⁷¹ The facts of unreasonable delay and prejudice must then be proven by the totality of the evidence presented.¹²⁷²

The presumption of laches has no applicability to the equitable estoppel defense.¹²⁷³ At all times, the defendant has the burden of proving equitable estoppel without the aid of presumptions.¹²⁷⁴

1264. *Id.* at 1036, 22 U.S.P.Q.2d (BNA) at 1331.

1265. This conclusion is consistent with Justice Holmes' observation in *White v. United States*, 270 U.S. 175, 180 (1926) (explaining that “the relation of the government to [all soldiers] if not paternal was at least avuncular”).

1266. *Aukerman*, 960 F.2d at 1036-37, 22 U.S.P.Q.2d (BNA) at 1331-32.

1267. *Id.* at 1037, 22 U.S.P.Q.2d (BNA) at 1332.

1268. *See id.* (suggesting that this legally unsound view of presumption was perhaps incorrectly put forth in *Leinoff*, where it was not clear whether alleged infringer still bore ultimate burden of persuasion that laches in fact existed once presumption arose).

1269. *Id.* at 1038, 22 U.S.P.Q.2d (BNA) at 1333.

1270. *See id.* (noting that elimination of presumption does not mean laches is precluded as defense). A presumption of laches is rebuttable under the “bubble bursting” approach found in rule 301 of the Federal Rules of Evidence. *See* FED. R. EVID. 301 advisory committee's note (stating that presumption imposes burden of going forward on party against whom presumption is made, to rebut or meet presumption, but that burden of persuasion remains throughout trial on party to whom presumption was originally cast). Under this approach, if evidence sufficient to support the nonexistence of the presumed fact is introduced, the presumption vanishes. *Id.* To rebut a presumption of laches the party against whom the presumption would operate must present evidence sufficient to put the existence of the presumed fact into genuine dispute, nothing more. *Id.* Once the presumption arises, it shifts the burden of production from the alleged infringer to the patentee. Therefore, to rebut the presumption the patentee may offer proof either that the delay was reasonable or excused, or that the alleged infringer was not prejudiced by the delay. *See supra* notes 1244-53 and accompanying text (defining laches, shifting of burden of proof, and test for proving laches).

1271. *Aukerman*, 960 F.2d at 1038, 22 U.S.P.Q.2d (BNA) at 1333.

1272. *Id.*

1273. *Id.*

1274. *See id.* at 1043, 22 U.S.P.Q.2d (BNA) at 1337 (distinguishing laches from equitable estoppel). Unlike laches, equitable estoppel bars all relief, including both damages and injunctions. *Id.* at 1041, 22 U.S.P.Q.2d (BNA) at 1335.

This is justified by the broader relief accorded a defendant under equitable estoppel as opposed to laches and by the fact that the elements of laches are not the elements of the equitable estoppel defense.¹²⁷⁵

In *Aukerman*, the Federal Circuit expressly overruled the four-element equitable estoppel defense articulated in *Jamesbury*.¹²⁷⁶ The court instead listed three elements that an alleged infringer must prove to establish an equitable estoppel defense.¹²⁷⁷ First, there must be misleading conduct by the patentee from which the accused infringer could have reasonably believed the patentee did not intend to enforce the patent against the infringer.¹²⁷⁸ Accordingly, in order to satisfy the first element, the alleged infringer must be aware of the patentee and/or its patent and "know or reasonably be able to infer that the patentee has known of the former's activities for some time."¹²⁷⁹ Second, the alleged infringer must have relied on the patentee's misleading conduct.¹²⁸⁰ The accused infringer must show that it substantially relied on the misleading conduct of the patentee in connection with taking some action.¹²⁸¹ Reliance requires the infringer to prove that a relationship existed with the patentee, which lulled the infringer into a sense of security that the patentee would not enforce the patent against the infringer.¹²⁸² Third, the alleged infringer must prove that material prejudice would result if the patent infringement action was continued.¹²⁸³ As with laches, the accused infringer must prove material prejudice,

1275. *Id.*

1276. *See id.* at 1042, 22 U.S.P.Q.2d (BNA) at 1336 (rejecting test set forth in *Jamesbury Corp. v. Litton Indus. Prods.*, 839 F.2d 1544, 1552-54, 5 U.S.P.Q.2d (BNA) 1779, 1786 (Fed. Cir.), *cert. denied*, 488 U.S. 828 (1988), as "confusingly intertwin[ing]" elements of laches and equitable estoppel); *see also supra* note 1242 and accompanying text (describing four-element test articulated in *Jamesbury*).

1277. *Aukerman*, 960 F.2d at 1032, 22 U.S.P.Q.2d (BNA) at 1336.

1278. *Id.*

1279. *Id.* The court pointed out that on summary judgment silence will not create estoppel unless the only possible inference is that the patentee acquiesced in allowing the defendant to remain unmolested. *Id.* at 1043-44, 22 U.S.P.Q.2d (BNA) at 1337; *see also* *Hemstreet v. Computer Entry Sys. Corp.*, 972 F.2d 1290, 1295, 23 U.S.P.Q.2d (BNA) 1860, 1864 (Fed. Cir. 1992) (holding that mere silence, to be misleading conduct, must be accompanied by some other factor that indicates that silence was sufficiently misleading as to amount to bad faith); *Meyer v. Asics Corp.*, 974 F.2d 1304, 1308-09, 24 U.S.P.Q.2d (BNA) 1036, 1039 (Fed. Cir. 1992) (citing *Hottel Corp. v. Seaman Corp.*, 833 F.2d 1570, 1573, 4 U.S.P.Q.2d (BNA) 1939, 1941 (Fed. Cir. 1987), which maintained that attempts to negotiate licenses followed by silence, without more, were insufficient to establish equitable estoppel defense).

1280. *See Aukerman*, 960 F.2d at 1042-43, 22 U.S.P.Q.2d (BNA) at 1336-37 (instructing that reliance is essential element to equitable estoppel defense but not to laches defense).

1281. *Id.*

1282. *Id.* at 1043, 22 U.S.P.Q.2d (BNA) at 1337.

1283. *Id.* at 1041, 22 U.S.P.Q.2d (BNA) at 1337.

such as economic or evidentiary prejudice.¹²⁸⁴ The second and third elements are often grouped together and jointly referred to as detrimental reliance by commentators.¹²⁸⁵ The Federal Circuit in *Aukerman* thought it important to separate these elements for the purpose of clarity.¹²⁸⁶

The court considered what standards of proof would control the determination of laches and estoppel.¹²⁸⁷ After reviewing the different standards of proof in civil cases, the court held that a preponderance of the evidence is the appropriate standard to establish the facts relating to laches and the equitable estoppel defense, absent special circumstances such as fraud or intentional misconduct.¹²⁸⁸ The court reasoned that special considerations presented, for example, where a danger of deception exists, where a particular claim is disfavored on policy grounds, or where a particularly important individual interest is at stake and requiring facts to be proven by clear and convincing evidence, are not triggered by the concerns laches and equitable estoppel address, and, therefore, a higher level of proof would be inappropriate.¹²⁸⁹

Having announced these principles, the Federal Circuit applied them in *Hemstreet v. Computer Entry Systems Corp.*¹²⁹⁰ and reversed the district court's summary judgment that the plaintiff was barred from recovery by laches and equitable estoppel.¹²⁹¹ With respect to the laches defense, the court noted that *Aukerman* restored equitable flexibility, thus allowing the court to consider a host of factors in its laches analysis. The court stated that delay may be excused due to involvement in other litigation and that explicit notice to the de-

1284. *Id.*; see also *supra* notes 1252-56 and accompanying text (describing elements of economic and evidentiary prejudice).

1285. See, e.g., 5 CHISUM, *supra* note 977, § 19.05[3], at 19-193 to 19-196 (discussing misleading conduct as essential element of finding of detrimental reliance).

1286. *Aukerman*, 960 F.2d at 1041, 22 U.S.P.Q.2d (BNA) at 1335.

1287. *Id.* at 1044-45, 22 U.S.P.Q.2d (BNA) at 1338 (observing that issue of proper evidentiary burden for laches and estoppel defenses was one of first impression for Federal Circuit).

1288. *Id.* at 1045-46, 22 U.S.P.Q.2d (BNA) at 1339.

1289. *Id.* at 1046, 22 U.S.P.Q.2d (BNA) at 1339.

1290. 972 F.2d 1290, 23 U.S.P.Q.2d (BNA) 1860 (Fed. Cir. 1992).

1291. *Hemstreet v. Computer Entry Sys. Corp.*, 972 F.2d 1290, 1291, 23 U.S.P.Q.2d (BNA) 1860, 1861 (Fed. Cir. 1992). *Hemstreet* was an individual inventor of an optical character reader. *Id.* at 1291-92, 23 U.S.P.Q.2d (BNA) at 1861-62. After twenty years of patent prosecution, *Hemstreet* began enforcing his patent. *Id.* In 1983, *Hemstreet* sent warning letters to the defendant and others in the industry, informing them of their potential infringement. *Id.* Six years later, after pursuing litigation against other infringers, *Hemstreet* filed a suit against Computer Entry Systems Corporation (CES). *Id.* The district court, without the benefit of the *Aukerman* decision, held that *Hemstreet* was barred by the doctrine of laches and equitable estoppel. *Hemstreet v. Computer Entry Sys. Corp.*, 741 F. Supp. 1308, 1313, 16 U.S.P.Q.2d (BNA) 1204, 1208 (N.D. Ill. 1990), *rev'd and vacated*, 972 F.2d 1290, 23 U.S.P.Q.2d (BNA) 1860 (Fed. Cir. 1992).

defendant of the other proceedings is not an absolute requirement.¹²⁹² To prove prejudice under *Aukerman*, it is not enough that the alleged infringer changed its position.¹²⁹³ Rather, the change in position must have a nexus to the patentee's delay.¹²⁹⁴ With respect to the equitable estoppel defense raised by Computer Entry Systems, the Federal Circuit remanded the case for findings consistent with the three-part test newly announced in *Aukerman*.¹²⁹⁵ The court specifically stated that for mere silence to be misleading, some other factor must be present that indicates the silence was sufficiently misleading as to amount to bad faith.¹²⁹⁶

In *Meyers v. Asics Corp.*,¹²⁹⁷ the Federal Circuit also reversed the district court's summary judgment that laches and estoppel barred the plaintiff's infringement claims.¹²⁹⁸ In reversing the laches determination, the court noted that the defendants clearly suffered an economic prejudice.¹²⁹⁹ The court, however, stated that "the question is whether this prejudice resulted from Meyers' delay."¹³⁰⁰ The Federal Circuit held that Asics failed to show that it would have acted differently if it had been sued earlier.¹³⁰¹ Also, Asics did not specify particular evidentiary prejudices.¹³⁰² Furthermore, the district court erred in determining the period of alleged delay.¹³⁰³ As to the equitable estoppel defense, the Federal Circuit held that Mey-

1292. *Hemstreet*, 972 F.2d at 1293, 23 U.S.P.Q.2d (BNA) at 1863.

1293. *Id.*

1294. *Id.* at 1294, 23 U.S.P.Q.2d (BNA) at 1863 (citing *Aukerman*, 960 F.2d at 1033, 22 U.S.P.Q.2d (BNA) at 1329). The court noted that CES's prejudice argument was severely undercut by the fact that Hemstreet explicitly notified CES that CES was infringing. *Id.*

1295. *Id.* at 1295, 23 U.S.P.Q.2d (BNA) at 1864; see *supra* notes 1276-88 and accompanying text (describing derivation and elements of *Aukerman* three-part test to establish equitable estoppel defense).

1296. *Id.* (citing *Hottel Corp. v. Seaman Corp.*, 833 F.2d 1570, 1573-74, 4 U.S.P.Q.2d (BNA) 1939, 1941 (Fed. Cir. 1987); *Aukerman*, 960 F.2d at 1042, 22 U.S.P.Q.2d (BNA) at 1336).

1297. 974 F.2d 1304, 24 U.S.P.Q.2d (BNA) 1036 (Fed. Cir. 1992).

1298. *Meyers v. Asics Corp.*, 974 F.2d 1304, 1305, 24 U.S.P.Q.2d (BNA) 1036, 1036 (Fed. Cir. 1992). Meyers owned three patents on therapeutic shoe sole structures. *Id.* After receiving these patents, Meyers began a period of aggressive enforcement. *Id.* Nonetheless, four years passed before Meyers filed the present case. *Id.* at 1306, 24 U.S.P.Q.2d (BNA) at 1037. The district court found that this delay caused prejudice to the defendant and consequently ruled in favor of the defendant on its laches and equitable estoppel defenses. *In re Meyers Patent Litigation*, 731 F. Supp. 640, 641-42, 17 U.S.P.Q.2d (BNA) 1078, 1079-80 (S.D.N.Y. 1990).

1299. See *Meyers*, 974 F.2d at 1308, 24 U.S.P.Q.2d (BNA) at 1038 (describing defendants' economic detriment resulting from expenditure of substantial amounts of money to develop and promote shoe models that Meyers alleged were infringing).

1300. *Id.* The court noted that prejudice due to reliance on a plaintiff's delay is different from prejudice that results from the delay and that the former is not a prejudice that satisfies the laches defense. *Id.* at 1308 n.1, 24 U.S.P.Q.2d (BNA) at 1038 n.1.

1301. *Id.* at 1309, 24 U.S.P.Q.2d (BNA) at 1040.

1302. *Id.*

1303. *Id.*

ers' initial efforts at licensing its patents, followed by silence, were insufficient to show that the defendants were lulled into believing Meyers did not intend to enforce its patents.¹³⁰⁴ There was, therefore, no reliance by the defendant on the plaintiff's conduct, and thus, equitable estoppel did not apply.¹³⁰⁵

B. *Fraud and Inequitable Conduct*

Inequitable conduct is an affirmative defense to a patent infringement allegation¹³⁰⁶ and stems from the requirement that applicants for a patent conduct themselves with candor in their dealings with the PTO.¹³⁰⁷ If an applicant engages in inequitable conduct in the prosecution of a patent application, the resulting issued patent is rendered unenforceable.¹³⁰⁸ To establish inequitable conduct, two elements must be proven by clear and convincing evidence.¹³⁰⁹ First, the applicant must have withheld material information from the PTO.¹³¹⁰ Second, the applicant must have intended to deceive the PTO by failing to disclose this material information in order to affect the allowance of the claims.¹³¹¹ Thereafter, the trier of fact must exercise its discretion and make an equitable judgment, in

1304. *Id.* at 1308-09, 24 U.S.P.Q.2d (BNA) at 1039.

1305. *Id.*

1306. *See* Precision Instrument Mfg. Co. v. Automatic Maintenance Mach. Co., 324 U.S. 806, 814-17 (1945) (barring plaintiff in infringement action from enforcing two patents under equitable doctrine of unclean hands).

1307. *See* 37 C.F.R. § 1.56(a) (1992) (prescribing duty of candor each patent applicant has to deal in good faith with PTO, including duty to disclose all information known to applicant to be material to patentability).

1308. *See* Kingsdown Medical Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 877, 9 U.S.P.Q.2d (BNA) 1384, 1392 (Fed. Cir. 1988) (holding that inequitable conduct occurring during prosecution of patent application renders patent unenforceable), *cert. denied*, 490 U.S. 1067 (1989); *see also* MPEP, *supra* note 711, § 2010, at 2000-13 (remarking that subject of inequitable conduct that is equivalent to fraud before PTO has become increasingly important and suggesting that PTO attempt to define its substantive policy regarding its decision to render patents unenforceable when applicants engage in inequitable conduct before PTO).

1309. *See* J.P. Stevens & Co. v. Lex Tex Ltd., 747 F.2d 1553, 1559, 223 U.S.P.Q. (BNA) 1089, 1094 (Fed. Cir. 1984) (describing requirements for proving inequitable conduct through comparison to common law fraud), *cert. denied*, 474 U.S. 882 (1985). A finding of inequitable conduct is committed to the discretion of the trial court and is reviewed on appeal under an abuse of discretion standard. *Kingsdown*, 863 F.2d at 876, 9 U.S.P.Q.2d (BNA) at 1392.

1310. *See* FMC Corp. v. Manitowoc Co., 835 F.2d 1411, 1415, 5 U.S.P.Q.2d (BNA) 1112, 1115 (Fed. Cir. 1987) (stating that defendant who alleges "failure to disclose" type of inequitable conduct must prove information is material); *J.P. Stevens*, 747 F.2d at 1559, 223 U.S.P.Q. (BNA) at 1094 (maintaining that finding of inequitable conduct requires proof of failure to disclose material information).

1311. *See* Greenwood v. Hattori Seiko Co., 900 F.2d 238, 241-42, 14 U.S.P.Q.2d (BNA) 1474, 1476 (Fed. Cir. 1990) (holding that allegation of inequitable conduct must be supported by proof of applicant's intent to deceive); *FMC Corp.*, 835 F.2d at 1411, 5 U.S.P.Q.2d (BNA) at 1115 (stating that to be guilty of inequitable conduct one must have intended to act inequitably); *see also* MPEP, *supra* note 711, § 2010.01, at 2000-13 to 2000-14 (describing cases that define level of proof of intent to deceive required for finding of inequitable conduct).

view of all the evidence and circumstances, whether the patentee is so culpable that the patent ought not be enforced.¹³¹²

In *LaBounty Manufacturing, Inc. v. United States International Trade Commission*,¹³¹³ the Federal Circuit affirmed the holding of the ITC that LaBounty committed inequitable conduct.¹³¹⁴ Specifically, the ITC found that LaBounty intentionally withheld "on-sale" bars that anticipated some of the claims of LaBounty's patent¹³¹⁵ and that the withheld "on sale" bars were more material prior art than the art of record before the examiner.¹³¹⁶ Consequently, the ITC held that LaBounty's patent was unenforceable.¹³¹⁷

The claimed LaBounty shears had an upper and lower jaw for cutting workpieces.¹³¹⁸ The upper jaw had a movable shearing blade.¹³¹⁹ The lower jaw consisted of two blades, a lower shearing blade and a guide blade for receiving and supporting the workpieces

1312. See *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1569-70, 24 U.S.P.Q.2d (BNA) 1321, 1330 (Fed. Cir. 1992) (examining whether patentee was guilty of inequitable conduct and determining that defendant failed to prove prior art was material or intent to deceive); *Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 822, 24 U.S.P.Q.2d (BNA) 1121, 1127 (Fed. Cir. 1992) (failing to prove element of intent defeated affirmative defense of inequitable conduct); *Kimberly-Clark Corp. v. Proctor & Gamble Distrib. Co.*, 973 F.2d 911, 917-18, 23 U.S.P.Q.2d (BNA) 1921, 1926-27 (Fed. Cir. 1992) (determining that district court fully examined issue of inequitable conduct and agreeing that requisite intent to deceive was not present); *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1070-77, 22 U.S.P.Q.2d (BNA) 1025, 1028-33 (Fed. Cir. 1992) (affirming unenforceability of patent in question because inequitable conduct was proven by clear and convincing evidence).

In *Minnesota Mining*, however, the Federal Circuit did not address the application of the separate elements of inequitable conduct to the facts. *Minnesota Mining*, 976 F.2d at 1569-70, 24 U.S.P.Q.2d (BNA) at 1330. Instead, the Federal Circuit upheld the Master's findings of fact that JJO failed to show both the materiality and intent elements, and therefore found insufficient evidence to establish that the lower court abused its discretion in reaching this conclusion. *Id.* at 1570, 24 U.S.P.Q.2d (BNA) at 1330.

1313. 958 F.2d 1066, 22 U.S.P.Q.2d (BNA) 1025 (Fed. Cir. 1992).

1314. *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1077, 22 U.S.P.Q.2d (BNA) 1025, 1033 (Fed. Cir. 1992).

1315. *In re Certain Heavy-Duty Mobile Scrap Shears*, Inv. No. 337-TA-252, 1989 ITC LEXIS 415, at *146 (Nov. 7, 1989), *aff'd*, *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 22 U.S.P.Q.2d (BNA) 1025 (Fed. Cir. 1992). The term "on-sale" bar refers to the bar under 35 U.S.C. § 2543(b) that prohibits a person from obtaining a patent if "the invention was . . . in public use or on sale in this country for more than one year prior to the date of the application for patent in the United States. . . ." 35 U.S.C. § 102(b) (1988). The LaBounty patent pertained to a heavy duty scrap shear used to cut metal such as iron pipes, steel pipes, and structural steel. *In re Certain Heavy-Duty Mobile Scrap Shears*, 1989 ITC LEXIS 415, at *146.

1316. *In re Certain Heavy-Duty Mobile Scrap Shears*, 1989 ITC LEXIS 415, at *146. More than one year prior to filing the application for its patent, LaBounty had placed on sale or in public use certain shears referred to as "MS-107," "Adamo/Dodge," and "Ace." *Id.* at *145.

1317. See *id.* at *137 (making determination of inequitable conduct where patentee's shears were found to be "far closer to the claimed inventions than any of the art cited by the examiner").

1318. See *LaBounty*, 958 F.2d at 1069-70 n.2, 22 U.S.P.Q.2d (BNA) at 1027-28 n.2 (describing design and function of claimed LaBounty shears).

1319. *Id.*

after the shearing blades performed the cut.¹³²⁰ The prior art of record before the examiner included two shearing devices, although neither disclosed a lower guide blade.¹³²¹ One reference had two shearing blades, but no guide blade on the lower jaw.¹³²²

The Federal Circuit affirmed the ITC's ruling that LaBounty's previous sales of three different types of shears constituted material information that LaBounty should have disclosed to the PTO so that the examiner could have properly decided whether or not to grant the LaBounty patent.¹³²³ The ALJ and the ITC both found that the undisclosed shears (model MS-107) anticipated five claims of LaBounty's patent.¹³²⁴ LaBounty argued that the undisclosed "on-sale" shears were not material, but only cumulative to, the prior art patents before the examiner.¹³²⁵ LaBounty admitted that the MS-107 shears were sold to one customer, but nonetheless argued the shears had two lower shear blades and not just the one lower shear blade as recited in the LaBounty patent claim.¹³²⁶ Photographs and credible testimony from that purchaser, however, showed that the MS-107 shears had one lower shear blade and one lower guide blade, which was corroborated by LaBounty's parts list for the MS-107 shears.¹³²⁷ Notations made by the inventor on a photograph of the MS-107 shear and testimony from the respondent's expert witnesses furnished additional support for the ITC's findings.¹³²⁸

The shears that LaBounty sold to other customers, Ace Equipment and Adamo/Dodge, were designed to cut single work pieces and had a top shear blade and a bottom shear blade.¹³²⁹ These shears were designed not only for single-cutting the workpiece, like the claimed LaBounty shears, but also possessed an offset lower

1320. *Id.* at 1071-74, 22 U.S.P.Q.2d (BNA) at 1028-30.

1321. *Id.*

1322. *Id.* at 1074, 22 U.S.P.Q.2d (BNA) at 1031.

1323. *Id.*

1324. *Id.*

1325. *See id.* (reporting LaBounty's contention that undisclosed shears sold were not material to PTO's investigation because they presented no relevant features beyond prior art already before examiner).

1326. *Id.* at 1074-75, 22 U.S.P.Q.2d (BNA) at 1031.

1327. *Id.*

1328. *Id.* at 1075, 22 U.S.P.Q.2d (BNA) at 1031-32. The court specifically cited "a notation made by Roy LaBounty on a picture of a MS107 shear in the course of litigation contemporaneous with prosecution of the . . . patent application . . . clearly indicated the MS107 had one lower shear blade." *Id.*

1329. *Id.* at 1075, 22 U.S.P.Q.2d (BNA) at 1031-32. Specifically, the MS-107 shear had only one lower shear blade, like the LaBounty patent. *Id.* The Federal Circuit also noted that an advertisement showing the MS-107 shears in an "upside down" position (two lower blades on top and one nearer the ground), which LaBounty asserted was the shears' "normal" position, was insufficient to show that the administrative law judge's reliance on the witness's contrary testimony was misplaced. *Id.*, 22 U.S.P.Q.2d (BNA) at 1032.

guide blade that could serve as the receive and support structure.¹³³⁰ The prior art patents before the examiner, however, did not disclose a single cut shearing device having one lower shear blade, an upper shear blade, and a lower guide blade to support the workpiece after the blades had sheared off a length of workpiece.¹³³¹ Therefore, all the nondisclosed shears sold by LaBounty were more material to the patentability of the LaBounty patent claims than the references cited by the examiner.¹³³²

Having determined that LaBounty withheld material information, the Federal Circuit addressed the intent element.¹³³³ The ITC found clear and convincing evidence of a culpable lack of candor, citing LaBounty's misleading arguments to obtain allowance combined with concealment of contemporaneously known material prior art which contradicted those arguments.¹³³⁴ During the patent prosecution, LaBounty stressed that the prior art cited by the examiner did not disclose a lower guide blade, the receive and support feature in the claims.¹³³⁵ On the other hand, the contemporaneously known, but undisclosed, LaBounty "on sale" shears contained that critical claim limitation.¹³³⁶ Because LaBounty withheld contemporaneously known prior art that would have refuted its patentability arguments to the examiner, the Federal Circuit held that LaBounty possessed culpable intent to mislead the PTO.¹³³⁷ The court also dismissed LaBounty's argument that because the issues respecting the experimental use of the so-called Ace and Adamo/Dodge shears were "close," its decision not to disclose the previous sales was reasonable.¹³³⁸ The Federal Circuit emphasized that "close" cases should be disclosed to the examiner.¹³³⁹

In contrast to *LaBounty*, the Federal Circuit found that the patentee had not committed inequitable conduct in either *Braun, Inc. v.*

1330. *Id.*

1331. *Id.*

1332. *Id.* at 1075-76, 22 U.S.P.Q.2d (BNA) at 1032.

1333. *Id.* at 1076, 22 U.S.P.Q.2d (BNA) at 1032. The Federal Circuit noted that because direct proof of an intent to deceive the PTO is rarely available, intent may be inferred from clear and convincing evidence. *Id.* (citing *Halliburton Co. v. Schlumberger Technologies*, 925 F.2d 1435, 1442, 17 U.S.P.Q.2d (BNA) 1834, 1841 (Fed. Cir. 1991); *Merck & Co. v. Danbury Pharmacal Inc.*, 873 F.2d 1418, 1422, 10 U.S.P.Q.2d (BNA) 1682, 1686 (Fed. Cir. 1989); *Burlington Indus. v. Dayco Corp.*, 849 F.2d 1418, 1421, 7 U.S.P.Q.2d (BNA) 1158, 1160 (Fed. Cir. 1988)).

1334. *Id.*

1335. *Id.*

1336. *Id.*

1337. *See id.* (noting that had LaBounty's own prior art devices been disclosed to PTO, prosecution would not have focused merely on prior art patent that did not have critical "receive and support" features).

1338. *Id.*

1339. *Id.*, 22 U.S.P.Q.2d (BNA) at 1033.

Dynamics Corp. of America or Kimberly-Clark Corp. v. Proctor & Gamble Distributing Co. In *Braun*, the Federal Circuit affirmed the district court's directed verdict as to the inequitable conduct defense.¹³⁴⁰ The defendant, Waring, argued that an intent to deceive should be inferred merely from Braun's failure to disclose material prior art to the examiner.¹³⁴¹ The Federal Circuit recognized that an intent to deceive may be inferred, but held that Waring could not rely solely on the materiality of the prior art to support such an inference.¹³⁴² The court held that materiality and intent to deceive are separate elements of the inequitable conduct defense, and as such, both must be proven by clear and convincing evidence.¹³⁴³

In *Kimberly-Clark Corp. v. Proctor & Gamble Distributing Co.*, the Federal Circuit held that K-C was not guilty of inequitable conduct during the prosecution of its patent for disposable diapers despite the failure of K-C's in-house patent counsel to disclose to the PTO the recent issuance of a relevant P&G patent that also pertained to disposable diapers.¹³⁴⁴ K-C had already paid the final PTO issue fee for its application when P&G's patent was issued, which was only six weeks before K-C's patent was granted.¹³⁴⁵ K-C's in-house counsel testified that when the issuance of P&G's patent came to his attention, he did not have sufficient time to study the P&G patent to determine its materiality to K-C's still-pending application.¹³⁴⁶ The Federal Circuit noted that K-C did disclose the P&G patent to the PTO in a sibling application to K-C's patent, which was consistent with a finding of no intent to deceive.¹³⁴⁷ The Federal Circuit held that while immediately informing the PTO about the P&G patent might have been prudent, there was no evidence of an intent to deceive in permitting the K-C patent to go to issuance without such

1340. *Braun, Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 882, 24 U.S.P.Q.2d (BNA) 1121, 1127 (Fed. Cir. 1992) (reporting that defendant, Waring, argued that Braun was guilty of inequitable conduct because Braun withheld material prior art during prosecution of allegedly infringing design patent).

1341. *See id.* (arguing that Braun committed inequitable conduct because Braun failed to present its own material prior art to PTO in seeking design patent on its hand-held blender). Waring relied on *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556, 1562, 11 U.S.P.Q.2d (BNA) 1750, 1757 (Fed. Cir. 1989), which held that intent may be found as a matter of inference. *Braun*, 975 F.2d at 1562, 24 U.S.P.Q.2d (BNA) at 1127. According to Waring, the prior art was material because it showed that Braun's design was an obvious evolutionary step, not a patentable advance. *Id.*

1342. *Braun*, 975 F.2d at 882, 24 U.S.P.Q.2d (BNA) at 1127.

1343. *Id.* The Federal Circuit pointed out that Waring failed to provide clear and convincing evidence that Braun intended to deceive or mislead the PTO. *Id.* Waring did not depose or call as witnesses any individuals who participated in the patent prosecution. *Id.*

1344. *Kimberly-Clark Corp. v. Proctor & Gamble Distrib. Co.*, 973 F.2d 911, 918, 23 U.S.P.Q.2d (BNA) 1921, 1926-27 (Fed. Cir. 1992).

1345. *Id.* at 912-13, 23 U.S.P.Q.2d (BNA) at 1922-23.

1346. *Id.* at 917-18, 23 U.S.P.Q.2d (BNA) at 1926-27.

1347. *Id.*

disclosure.¹³⁴⁸

C. Patent Misuse

The patent misuse doctrine prevents patentees from using their patents to obtain a market advantage beyond that which inheres in the statutorily enforceable patent grant.¹³⁴⁹ In *Mallinckrodt, Inc. v. Medipart, Inc.*,¹³⁵⁰ the Federal Circuit considered whether a "single use only" restriction imposed by the patent owner constituted patent misuse.¹³⁵¹ Mallinckrodt owned a number of patents relating to a device for delivering a radioactive or therapeutic material to the lungs by means of an aerosol mist.¹³⁵² Mallinckrodt affixed a label on each device warning the user that the device was for "single use only" and instructing purchasers to dispose of the entire unit after use.¹³⁵³ Mallinckrodt sued Medipart for patent infringement and inducement to infringe because Medipart began reconditioning the devices for reuse by the purchasers in violation of the "single use only" restriction.¹³⁵⁴ In granting summary judgment to Medipart, the district court held that the violation of the "single use only" restriction could not be remedied through a suit for patent infringement.¹³⁵⁵

The Federal Circuit reversed and remanded the case for reconsideration of whether the "single use only" restriction is valid.¹³⁵⁶ Not all restrictions accompanying the sale of a patented article are per se violations of the doctrine of patent misuse or of the antitrust laws. Legal conditions on a sale imposed by the patentee and agreed to by

1348. *Id.*

1349. See generally 5 CHISUM, *supra* note 977, § 19.04[1], at 19-283 to 19-297 (defining patent misuse doctrine, describing its historical development, and tracing its use to present day).

1350. 976 F.2d 700, 24 U.S.P.Q.2d (BNA) 1173 (Fed. Cir. 1992).

1351. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 701, 24 U.S.P.Q.2d (BNA) 1173, 1174 (Fed. Cir. 1992).

1352. See *id.* (observing purchase by hospitals of Mallinckrodt's patented device for use by patients). The device coats a patient's lungs with a radioactive material, thereby allowing an image scan to be performed. *Id.* These image scans permit doctors to diagnose and treat various lung diseases. *Id.*

1353. See *id.* at 702-03, 24 U.S.P.Q.2d (BNA) at 1175-76 (describing single use only restriction as based on health, safety, efficacy, and liability considerations).

1354. *Id.* at 703-09, 24 U.S.P.Q.2d (BNA) at 1175-80.

1355. *Mallinckrodt, Inc. v. Medipart, Inc.*, 15 U.S.P.Q.2d (BNA) 1113, 1119-21 (N.D. Ill. 1990), *rev'd in part, vacated in part, and remanded*, 976 F.2d 700, 24 U.S.P.Q.2d (BNA) 1173 (Fed. Cir. 1992).

1356. *Mallinckrodt*, 976 F.2d at 709, 24 U.S.P.Q.2d (BNA) at 1180. The court observed that if the district court sustains the single use only restriction on remand, Mallinckrodt must prevail in its assertion that Medipart engaged in impermissible reconstruction as a matter of law. *Id.* According to the court, "[i]f the . . . device is validly licensed for only a single use, any reuse is unlicensed and an infringement, and there is no need to choose between repair and reconstruction." *Id.* The Federal Circuit therefore vacated as moot the district court's holding that Medipart's activities were permissible repair. *Id.*

the licensee will be upheld by the courts.¹³⁵⁷ Whether a restriction is legal depends on whether the restriction is within the scope of patent grant, or in other words, whether it relates to the subject matter within the scope of the patent claims.¹³⁵⁸ The court concluded that if the sale is validly conditioned under the applicable law and if the restriction on reuse is within the scope of the patent grant, then violations of the "single use only" restriction can be remedied through an action for patent infringement.¹³⁵⁹

The Federal Circuit held that the district court misinterpreted the Supreme Court holding in *General Talking Pictures Corp. v. Western Electric Co.*¹³⁶⁰ In *General Talking Pictures*, the Supreme Court held that a purchaser infringed a patent by using a patented device purchased from a licensee-manufacturer when the purchaser knew the device's use violated the manufacturer's field of use restriction in the license.¹³⁶¹ The Supreme Court stated, however, that it did not consider what the rights of the parties would have been had the defendant purchased directly from a manufacturing patentee.¹³⁶² The district court interpreted this reservation to mean that if the patentee had manufactured the device, the "single use only" restriction would not be enforceable.¹³⁶³ The Federal Circuit disagreed with the district court, reasoning that *General Talking Pictures* did not require an intervening manufacturing licensee before a patent could be enforced against a purchaser with notice of the restriction.¹³⁶⁴ Further, the Federal Circuit characterized the district court's interpretation of *Bauer & Oil v. O'Donnell*¹³⁶⁵ and *Motion Picture Patents Co.*

1357. *Id.* at 703, 24 U.S.P.Q.2d (BNA) at 1176 (citing *E. Bement & Sons v. National Harrow Co.*, 186 U.S. 70, 91 (1902)).

1358. *See id.* at 709, 24 U.S.P.Q.2d (BNA) at 1180 (noting that even if there are anticompetitive effects extending beyond patentee's statutory right to exclude, restriction is not automatically impeached, and anticompetitive effects that are not per se violations of law are reviewed under rule of reason standard).

1359. *Id.*

1360. *Mallinckrodt*, 976 F.2d at 706, 24 U.S.P.Q.2d (BNA) at 1177.

1361. *See General Talking Pictures Corp. v. Western Elec. Co.*, 304 U.S. 175, 180-83 (1938) (determining that purchaser of amplifiers infringed patents embodied in amplifiers by leasing amplifiers for use as talking picture equipment in theaters, because purchaser knew that sale of amplifiers was outside scope of seller's license and was not under patent).

1362. *Id.* at 178.

1363. *Mallinckrodt*, 15 U.S.P.Q.2d (BNA) at 1119-21.

1364. *Mallinckrodt*, 976 F.2d at 705, 24 U.S.P.Q.2d (BNA) at 1177. Furthermore, the Federal Circuit noted that Medipart did not offer support for the proposition that the enforceability of a restriction to a particular use is determined by whether the purchaser acquired the device from a manufacturing licensee or from a manufacturing patentee. *Id.* The court also cited *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 57 (1977), for the proposition that such an approach has been denigrated as "formalistic line drawing." *Mallinckrodt*, 976 F.2d at 705, 24 U.S.P.Q.2d (BNA) at 1177.

1365. 229 U.S. 1, 25 (1913) (finding that price fixing accompanying sale of patented good is per se illegal).

*v. Universal Film Manufacturing Co.*¹³⁶⁶ as too broad. The district court extrapolated from these cases the principle that all restrictions accompanying the sale of a patented device were illegal.¹³⁶⁷ The Federal Circuit stated, “[t]hese cases did not hold, and it did not follow, that all restrictions accompanying the sale of patented goods were deemed illegal.”¹³⁶⁸

The district court cited a number of Supreme Court cases in which the Court held that the unconditioned sale of a patented device exhausted the patentee’s right to control the purchaser’s use of the patented device.¹³⁶⁹ The Federal Circuit, however, found the district court’s reliance on these cases misplaced. Those cases simply applied the rule of contract law that a sale may be conditioned.¹³⁷⁰ According to the Federal Circuit, “*Adams v. Burke* and its kindred cases do not stand for the proposition that no restriction or condition may be placed upon the sale of a patented article.”¹³⁷¹

1366. 243 U.S. 502, 518-19 (1917) (holding that tying arrangements with patented good are per se illegal).

1367. *Mallinckrodt*, 15 U.S.P.Q.2d (BNA) at 1119-21. The Federal Circuit explained in a footnote that exceedingly broad language in one case should not be relied on to support another. *Mallinckrodt*, 976 F.2d at 708 n.8, 24 U.S.P.Q.2d (BNA) at 1179 n.8 (citing *Cohens v. Virginia*, 19 U.S. 264, 399 (1821), which stated that “[i]t is a maxim not to be discarded, that general expressions, in every opinion, are to be taken in connection with the case in which those expressions are used”).

1368. *Id.* at 704, 24 U.S.P.Q.2d (BNA) at 1176.

1369. *Mallinckrodt*, 15 U.S.P.Q.2d (BNA) at 1116-19 (citing, as one example, *Adams v. Burke*, 84 U.S. 453 (1873), which held geographic restrictions on patentee’s sale of coffin lids to be invalid against undertaker who bought coffin lids without restriction).

1370. *Mallinckrodt*, 976 F.2d at 708, 24 U.S.P.Q.2d (BNA) at 1179.

1371. *Id.*

