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## Patent Law: Controversy in the Federal Circuit over Product-by-Process Claims

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**PATENT LAW: CONTROVERSY IN THE FEDERAL CIRCUIT OVER PRODUCT-BY-PROCESS CLAIMS** — *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834 (Fed. Cir.), *reh'g en banc denied*, 974 F.2d 1279 (1992).

I. INTRODUCTION

On October 1, 1982, Congress created the United States Court of Appeals for the Federal Circuit ("Federal Circuit") and gave the Federal Circuit exclusive jurisdiction to hear appeals involving patent disputes.<sup>1</sup> The purpose in establishing this new federal court of appeals was to create uniformity in the construction and application of substantive patent law.<sup>2</sup> The existence of one circuit with exclusive jurisdiction to hear patent appeals fosters national uniformity by eliminating regional variance in the interpretation or application of the federal patent laws.

A recent Federal Circuit case, however, casts doubt upon whether this objective is being carried out effectively. The decision of *Atlantic Thermoplastics, Co. v. Faytex Corp.*,<sup>3</sup> involving product-by-process patent claims,<sup>4</sup> sparked controversy within the Federal Circuit.<sup>5</sup> The *Atlantic* decision resulted in a discordant split between two groups of judges in the Federal Circuit.<sup>6</sup>

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1. 28 U.S.C. § 1295(a)(1) (1988). In addition to exclusive jurisdiction over patent appeals, 28 U.S.C. § 1295(a)(1) authorizes the Federal Circuit to hear appeals arising from an action in the federal district courts that involves plant variety protection, copyrights, and trademarks. *Id.* The Federal Circuit also has jurisdiction to hear appeals from the United States Court of Claims, Board of Patent Appeals and Interferences of the Patent and Trademark Office, the Commissioner of Patents and Trademarks, and the Trademark Trial and Appeal Board. *Id.* § 1295(a)(4).

2. *Atari, Inc. v. JS & A Group, Inc.*, 747 F.2d 1422, 1423 (Fed. Cir. 1984); *see also* DONALD S. CHISUM, PATENTS § 5.02 (1992).

3. 970 F.2d 834 (Fed. Cir.), *reh'g en banc denied*, 974 F.2d 1279 (1992).

4. Product-by-process claims are patent claims in which the invention is described in part by the process used to create it. *See infra* notes 47-50 and accompanying text for an explanation of product-by-process claims.

5. The three judge panel that decided *Atlantic* refused to follow the product-by-process rule set forth in an earlier Federal Circuit case, *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991). *Scripps* was heard by a different three-judge panel: Circuit Judges Markey and Newman, and District Judge Beer. *Id.* at 1568.

6. The split is evidenced by some rather strong language in the opinions. For example, in an opinion dissenting from the denial of a request for a rehearing *en banc*, Judge Rich, a member of the Federal Circuit, in reference to the actions of the circuit panel presiding over the *Atlantic* case, stated: "It is mutiny. It is heresy. It is illegal." *Atlantic*, 974 F.2d at 1283 (Rich, J., dissenting). The dissenting opinion of Judge Newman provides another example of the tone of the language of the opinions. She accuses the majority opinion of utilizing "a collection of dicta lifted out of context, until a new structure has been built on the most tenuous of supports." *Id.* at 1297 (Newman, J., dissenting).

Federal Rule of Appellate Procedure 35<sup>7</sup> provides that an *en banc*<sup>8</sup> rehearing should be utilized to “maintain uniformity” of the court’s decisions.<sup>9</sup> Congress enacted the rule to prevent conflicting decisions among different panels within the Federal Circuit. Pursuant to Rule 35, Chief Judge Helen Nies polled the active judges on whether to have an *en banc* rehearing, and the request for a rehearing *en banc* was denied.<sup>10</sup>

In addition to questions concerning a Federal Circuit rule violation,<sup>11</sup> *Atlantic* also results in conflicting interpretations of the substantive patent law concerning product-by-process claims among different panels of the Federal Circuit. Several judges expressed different interpretations of prior decisions of the United States Supreme Court and Circuit Court of Patent Appeals (C.C.P.A.)<sup>12</sup> regarding product-by-process patent claims.<sup>13</sup> Section II of this Note outlines the basic requirements for obtaining a patent, explains infringement, describes product-by-process patent claims, and reviews case law interpreting product-by-process claims.<sup>14</sup> Section III describes the facts surrounding *Atlantic* and the holdings of both the district court and the Federal Circuit.<sup>15</sup> Section IV discusses the conflicting views of the judges concerning the patent law policy of protecting patent owners supports the

7. FED. R. APP. P. 35. The rule states:

(a) When hearing or rehearing in banc will be ordered. - A majority of the circuit judges who are in regular active service may order that an appeal or other proceeding be heard or reheard by the court of appeals in banc. Such a hearing or rehearing is not favored and ordinarily will not be ordered except (1) when consideration by the full court is necessary to secure or maintain uniformity of its decisions, or (2) when the proceeding involves a question of exceptional importance.

*Id.*

8. An *en banc* hearing is a hearing where all of the active judges in an appellate circuit convene and decide an issue or case as a group, as opposed to the usual three-judge panels. 28 U.S.C. § 46(b).

9. FED. R. APP. P. 35(a).

10. *Atlantic*, 974 F.2d at 1280 (denial of rehearing *en banc*). Of the ten active judges in the Federal Circuit, six voted in the negative (to not have an *en banc* hearing): Judges Archer, Clevenger, Mayer, Michel, Plager, and Rader. Four judges dissented from the denial of the rehearing *en banc*: Chief Judge Nies, and Judges Lourie, Newman, and Rich. *Id.* at 1280-81; see 44 Pat. Trademark & Copyright J. (BNA) 1095, 421. A majority of the circuit judges in active service must approve a request for a hearing or rehearing *en banc*. FED. R. APP. P. 35(a).

11. In *Atlantic*, Judge Rader, in an attempt to justify the majority’s refusal to follow the rule set out in *Scripps*, stated that the *Scripps* panel failed to consider Supreme Court precedent. Therefore, Judge Rader concluded, *Scripps* was not binding on the *Atlantic* panel. *Atlantic Thermoplastics, Co. v. Faytex Corp.*, 970 F.2d 834, 839 n.2 (Fed. Cir. 1992).

12. The C.C.P.A. was a predecessor to the Federal Circuit and, prior to the creation of the Federal Circuit, had jurisdiction over appeals from the Board of Patent Appeals. CHISUM. *supra* note 2, § 11.06.

13. See *infra* notes 159-228 and accompanying text.

14. See *infra* notes 18-126 and accompanying text.

15. See *infra* notes 127-228 and accompanying text.



dissenting opinions' views.<sup>16</sup> Section IV also discusses the “*Atlantic*” panel’s violation of the court rules by not rehearing the case *en banc* and concludes that an *en banc* rehearing should have been granted in order to maintain stability in the law.<sup>17</sup> Section V concludes that the *Atlantic* decision leaves the status of product-by-process patent claims unclear. Additionally, the court’s refusal to rehear the case *en banc* hampers the disclosure of new and useful inventions because product-by-process patent owners are now unable to determine what level of protection the courts will grant their claims.

## II. BACKGROUND

### A. General Requirements of Patents

Title 35 of the United States Code (“Patent Act”) sets forth the requirements and procedures for obtaining a patent.<sup>18</sup> Under the Patent Act, any invention<sup>19</sup> is patentable if it meets the substantive statutory requirements.<sup>20</sup> First, the invention can be patented only if it is new.<sup>21</sup> Second, a patent can be granted only if the invention was not “obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”<sup>22</sup> Third, the invention must be “useful.”<sup>23</sup> Finally, to be patentable subject matter, the item must be a “process, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . . .”<sup>24</sup> Therefore, for a

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16. See *infra* notes 229-62 and accompanying text.

17. See *infra* notes 263-71 and accompanying text.

18. 35 U.S.C. §§ 100-317 (1988).

19. “Invention” is defined by the Patent Act to include “invention or discovery.” *Id.* § 100(a). The Patent Act allows “[w]hoever invents or discloses any new or useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” to obtain a patent. *Id.* § 101.

20. *Id.* § 102.

21. *Id.* § 101. This is referred to as the “novelty requirement.” The invention is new within the meaning of § 101 if it was not known to others, was not described in a printed publication, and was not patented in the United States or abroad. *Id.* § 102(a). Furthermore, the invention is new only if the invention was not patented, described in a printed publication, in public use, or on sale more than one year prior to the filing for the patent. *Id.* § 102(b). The requirement that the invention cannot be in use or on sale in the United States for more than one year prior to the filing for the patent is known as the “on sale bar” to a valid patent. See, e.g., *Atlantic Thermoplastics, Co. v. Faytex Corp.*, 970 F.2d 834, 836-37 (Fed. Cir. 1992).

22. *Id.* § 103. This requirement is known as the “non-obviousness” requirement. The subject matter of the patent is compared to the “prior art,” which is the extent of knowledge and practice available prior to the invention, to see if the invention is “obvious.” *Id.*

23. *Id.* § 101. This requirement is known as the “utility requirement.”

24. *Id.* As used in § 101, “process” is defined as “process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.” *Id.* § 100(b). When the patented subject matter is a process, the patent does not prohibit others from manufacturing or selling the resulting product, but only prohibits others from employing that process as applied to the materials contained in the patent claim. See *id.* § 271(a); see also B. B.



given product or process to be patentable, it must be non-obvious, novel, useful, and of patentable subject matter.

An application for a patent must include a "specification."<sup>25</sup> A specification must contain "a written description of the invention, and of the manner and process of making and using it . . . ."<sup>26</sup> The description must be "in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same . . . ."<sup>27</sup> The specification must conclude with "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."<sup>28</sup>

### B. Determining Infringement

A court will take two steps when conducting an infringement analysis. First, a court will interpret the scope and meaning of the claim language in the patent.<sup>29</sup> In determining the meaning of a claim, a court will generally look to the specific language of the claim, the prosecution history of the claim, and the specification.<sup>30</sup> Second, the court will determine, based on its claim interpretation, "whether what is claimed has been made, used or sold by another."<sup>31</sup> A court can find that an accused product<sup>32</sup> infringes upon a patent literally<sup>33</sup> or by reason of the doctrine of equivalents.<sup>34</sup>

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Chem. Co. v. Ellis, 117 F.2d 829, 834 (1st Cir. 1941) (test of process infringement is whether the apparatus utilizes the patented process), *aff'd*, 314 U.S. 495 (1942). In contrast, "products" which are patentable include machines, manufactures, and compositions of matter. 35 U.S.C. § 101. The words used in § 101 are, according to one commentator, "as broad as the mind of man can range and have created little controversy." ROBERT HARMON, PATENTS AND THE FEDERAL CIRCUIT 28 (2d ed. 1991).

25. 35 U.S.C. § 111.

26. *Id.* § 112.

27. *Id.*

28. *Id.* The claims in a specification define the invention, limit the scope of the patent, and determine if an accused product infringes the patent. *Smith v. ACME Gen. Corp.*, 614 F.2d 1086, 1088 n.2 (6th Cir. 1980). Any physical feature of an invention not included in the claim language is beyond the scope of the patent. *Id.*

29. HARMON, *supra* note 24, § 6.2(a)(i); *see also* Specialty Composites v. Cabot Corp., 845 F.2d 981, 986 (Fed. Cir. 1988).

30. HARMON, *supra* note 24, § 6.2(a)(i).

31. *Specialty Composites*, 845 F.2d at 986. "Except as otherwise provided in this title, whoever without authority makes, uses, or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a).

32. Use of "accused product" herein will refer to a product that is alleged to infringe another inventor's valid patent.

33. *See infra* notes 35-37 and accompanying text for a discussion of literal infringement.

34. *See infra* notes 38-44 and accompanying text for a discussion of the doctrine of equivalents.

The court must determine whether the accused product "literally" infringes the patent claim.<sup>35</sup> To find literal infringement, the court will compare the accused product with the language of the claim.<sup>36</sup> Literal infringement will occur if the accused product embodies each element of a properly interpreted patent claim.<sup>37</sup>

Even if a product does not literally infringe a claim, a court may nevertheless find infringement. Under the "doctrine of equivalents," a product can infringe a patent claim because the product "performs substantially the same function in substantially the same way to obtain [substantially] the same result" as the claimed invention.<sup>38</sup> The purpose of the doctrine is to give a patent owner protection from a competitor who makes insubstantial changes to a product in order to fall outside the literal words of the patent claim.<sup>39</sup>

The Federal Circuit, however, has increasingly limited the doctrine of equivalents.<sup>40</sup> The Federal Circuit stated in *Pennwalt Corp. v. Durand-Wayland, Inc.*<sup>41</sup> that, in order to find infringement under the doctrine of equivalents, each element of the claim must be found within

35. HARMON, *supra* note 24, § 6.2(a)(ii).

36. HARMON, *supra* note 24, § 6.2(a)(ii).

37. *Jurgens v. McKasy*, 927 F.2d 1552, 1560 (Fed. Cir.), *cert. denied*, 112 S. Ct. 281 (interim ed. 1991).

38. *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 608 (1950); *see also Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987) (*en banc*), *cert. denied*, 485 U.S. 961 (1988), *cert. denied*, 485 U.S. 1009 (1988); *Fairfax Dental Ltd. v. Sterling Optical Corp.*, 808 F. Supp. 326, 334-35 (S.D.N.Y. 1992) (outlining the purpose, history and demise of the doctrine of equivalents); HARMON, *supra* note 24, § 6.3.

39. HARMON, *supra* note 24, at 178; *see also London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). The Federal Circuit stated the rationale for the doctrine:

The patentee should not be deprived of the benefits of his patent by competitors who appropriate the essence of an invention while barely avoiding the literal language of the claims . . . Although designing or inventing around patents to make new inventions is encouraged, piracy is not. Thus, where an infringer, instead of inventing around a patent by making a substantial change, merely makes an insubstantial change, essentially misappropriating or even "stealing" the patented invention, infringement may lie under the doctrine of equivalents.

*London*, 946 F.2d at 1538. The Supreme Court has recognized that "to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing." *Graver Tank*, 339 U.S. at 607.

Courts have also applied the doctrine of equivalents in the opposite fashion to protect a potential infringer; this application is referred to as the "reverse doctrine of equivalents." EDMUND W. KITCH & HARVEY S. PERLMAN, *LEGAL REGULATION OF THE COMPETITIVE PROCESS* 1037 (4th ed. 1991). The reverse doctrine of equivalents can be invoked by an accused infringer to avoid liability by showing that the accused product, although falling within the literal words of the claim, "is so far changed in principle from a patented article that it performs the same or a similar function in a substantially different way . . ." *Graver Tank*, 339 U.S. at 608-09 (citing *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 568 (1928)).

40. *Fairfax Dental*, 808 F. Supp. at 335-36.

41. 833 F.2d 931 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988).



the accused product.<sup>42</sup> The Federal Circuit narrowed the scope of the doctrine of equivalents to further the general patent principle that the public must know the limits of what is being claimed.<sup>43</sup> By narrowing the range of “equivalents” which will infringe a patent, a patentee’s competitors are more likely to know what constitutes infringement and can decide if their product infringes the patent.<sup>44</sup> A narrow application of the doctrine of equivalents, therefore, lends precision to the law of patents.

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42. *Id.* The element-by-element analysis employed in *Pennwalt* was a shift away from the “entirety” approach previously adopted by some federal panels. *See, e.g., D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575 (Fed. Cir. 1985) (stating that the proper framework for determining infringement under the doctrine of equivalents is “whether the entirety of the accused device or process” is equivalent). The shift from the “entirety” approach to the element-by-element analysis causes the determination of infringement under the doctrine of equivalents to be substantially the same as the inquiry into literal infringement. *See, e.g., Martin S. Adelman & Gary L. Francione, The Doctrine of Equivalents in Patent Law: Questions that Pennwalt Did Not Answer*, 137 U. PA. L. REV. 673, 694-95 (1989).

43. *See, e.g., Fairfax Dental*, 808 F. Supp. at 335-36; William E. Eshelman, Comment, *The Doctrine of Equivalents in Patent Law: Post-Pennwalt Developments*, 65 TUL. L. REV. 883 (1991). Judge Lourie of the Federal Circuit stated the principle as such:

Application of the doctrine of equivalents is the exception, however, not the rule, for if the public comes to believe (or fear) that the language of patent claims can never be relied on, and that the doctrine of equivalents is . . . regularly available to extend protection beyond the scope of the claims, then claims will cease to serve their essential purpose. Competitors will never know whether their actions infringe a granted patent.

*London*, 946 F.2d at 1538.

In addition to the narrow use of the doctrine of equivalents in recent decisions, the Federal Circuit formulated two other limitations to the doctrine of equivalents. The first limitation to the doctrine is known as the “prior art limitation.” *Senmed, Inc. v. Richard-Allan Medical Indus., Inc.*, 888 F.2d 815, 821 (Fed. Cir. 1989). Basically, this limitation asserts that a claim’s “equivalents” cannot be so broad that they would encompass the prior art because this would extend protection to the patent owner that he would not be able to obtain by literal claims. *Id.; see also Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 684 (Fed. Cir. 1990) (the prior art limitation acts as a bar to the infringement suit if a “hypothetical claim” would encompass both the accused product and the prior art).

A second limitation on the doctrine of equivalents is known as “prosecution history estoppel.” *See generally, HARMON, supra note 24, § 6.3(b); CHISUM, supra note 2, § 18.05.* This doctrine has also been referred to as “file wrapper estoppel.” *Fairfax Dental*, 808 F. Supp. at 339 n.7. The “file wrapper” is the record of the proceedings before the Patent and Trademark Office (PTO) and refers to the jacket that holds all of the documents filed with the PTO in connection with a patent application. *Id.* This doctrine states that a patent owner may not recapture by use of the equivalents doctrine what was surrendered in the prosecution history in order to obtain the patent. *Id.* In other words, if a patent owner is originally denied a patent because the claim language is too broad and the patent owner narrows his claim language in order to obtain the patent, he cannot subsequently rely on the doctrine of equivalents to expand his patent claim to its original language. *See, e.g., Smith v. Magic City Kennel Club, Inc.*, 282 U.S. 784, 789 (1931) (a patent owner may not “after the issue of his patent broaden his claim by dropping the element which he was compelled to include in order to secure his patent”).

44. *See supra* note 43.



### C. *Product-By-Process Claims*

There are three types of patent claims: (1) product claims; (2) process claims; and (3) product-by-process claims. A product claim is one in which the invention is described only in terms of its physical and structural characteristics.<sup>45</sup> A process claim, in contrast, is one which details a particular method of making a product.<sup>46</sup> The third type of claim is a product-by-process claim.

Product-by-process claims are claims which define the product claimed, at least in part, in terms of the process employed in making the product.<sup>47</sup> The traditional rationale for this type of claim was that a new and useful invention should still be granted patent protection even though it cannot be described in strictly structural terms.<sup>48</sup> Originally the patent office would only allow product-by-process claims when the subject matter of the patent could not be described in any other way.<sup>49</sup> The patent office, however, now allows patents to use product-by-process claims at any time if the claim accurately and definitively describes the product.<sup>50</sup>

### D. *Case Law Interpreting Product-By-Process Claims*

#### 1. The United States Supreme Court

The Supreme Court has never expressly decided whether product-by-process claims are limited in scope to the defining process for infringement purposes. The Court has, however, in the area of patent validity, suggested in dicta that a product-by-process claim only protects a patent owner from others using the same process.<sup>51</sup> In other words, if a competitor makes a product identical to the same claimed product, yet utilizes a different manufacturing process, an infringement claim will not lie.

The Court dealt with products claims that included process language as early as 1877 in *Merrill v. Yeomans*.<sup>52</sup> *Merrill* dealt with the

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45. See CHISUM, *supra* note 2, § 8.05.

46. See HARMON, *supra* note 24, § 2.2(b). Harmon gives these alternate definitions of what constitutes a process: "a mode of treatment of certain materials to produce a given result . . . [or] an act, or a series of acts, performed upon a subject that is to be transformed or reduced to a different state or thing." *Id.* § 2.2(b)(i).

47. See CHISUM, *supra* note 2, § 8.05.

48. CHISUM, *supra* note 2, § 8.05.

49. This has been referred to as the "rule of necessity." CHISUM, *supra* note 2, § 8.05.

50. CHISUM, *supra* note 2, § 8.05 (citing the U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 706.03(e) (5th ed. 1985)).

51. See *infra* notes 52-86 and accompanying text.

52. 94 U.S. 568 (1877).

construction of a patent claim for deodorized heavy hydrocarbon oils.<sup>53</sup> The claim stated, "I claim the above-described new manufacture of hydrocarbon oils, . . . by treating them substantially as hereinbefore described."<sup>54</sup> The Court sought to construe the claim language and use of the word "manufacture" to determine the scope of the patent.<sup>55</sup> The Court concluded that the circumstances behind the language indicated that the inventor sought only to claim the process he invented and not the product of the process.<sup>56</sup> The accused products, therefore, did not infringe upon the claimed product since they were made by a different process.<sup>57</sup>

The Supreme Court also confronted a claim with both product and process characteristics in *Smith v. Goodyear Dental Vulcanite Co.*<sup>58</sup> The patent at issue claimed a dental plate made by a process of placing artificial teeth into an elastic substance and baking the plate until it hardened.<sup>59</sup> The Court had to determine if the claim involved patentable subject matter. The Court found that, although the materials and process used in making the dental plates were not new, the process had never been applied in the same fashion as the claim.<sup>60</sup> The invention, therefore, was nonobvious and patentable.<sup>61</sup> The Court stated, however, that

[t]he invention, then, is a product or manufacture made in a defined manner. It is not a product alone separated from the process by which it is created . . . . The process detailed is thereby made as much a part of the invention as are the materials of which the product is composed.<sup>62</sup>

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53. *Id.* The accused products were oils which were "almost if not quite identical" to the claimed oils. *Id.* at 568.

54. *Id.* at 571.

55. The Court sought to determine if the language of the claim sought to protect a product or a process:

If the appellant's patent was for a new oil, . . . the defendants may be liable . . . . If, however, appellant's patent is only for the mode of treating these oils invented and described by him, — in other words, for his new process of making this new article of hydrocarbon oil, — then it is clear the defendants have not infringed the patent, because they never used that process . . . .

*Id.* at 568. The Court criticized the claim's ambiguity and looked to the language and facts behind the claim. *Id.* at 570.

56. *Id.* at 574.

57. *Id.*

58. 93 U.S. 486 (1876).

59. *Id.* at 490.

60. *Id.* at 494.

61. *Id.* The Court stated: "A new product was the result, differing from all that had preceded it, not merely in degree of usefulness and excellence, but differing in kind, having new uses and properties." *Id.*

The Court thus suggested that the process is indeed a limitation to such a claim.<sup>63</sup>

This same patent was again discussed in an infringement suit several years later in *Goodyear Dental Vulcanite Co. v. Davis*.<sup>64</sup> The accused product, manufactured by Davis, used a celluloid process in forming the dental plate, whereas the claimed product described a baking process.<sup>65</sup> The Court found this difference to be dispositive.<sup>66</sup> "Hence, to constitute an infringement of the patent, both the material of which the [product] is made, or its equivalent, and the process of constructing the [product], or a process equivalent thereto, must be employed."<sup>67</sup>

In *Cochrane v. Badische Anilin & Soda Fabrik*<sup>68</sup> (hereinafter *BASF*) the Court discussed the problems of interpreting claims that involve both product and process aspects. The Court stated that the patent claim<sup>69</sup> involving a new process of producing a known product<sup>70</sup> should be limited to the defined process.<sup>71</sup> Otherwise, the patent has no limitations.<sup>72</sup>

Similarly in *Plummer v. Sargent*,<sup>73</sup> the Court continued to show its reluctance to accept claims for products that incorporated process terms. The claim in issue, like the claim in *BASF*, consisted of a product that was in the prior art, but was produced utilizing a new process.<sup>74</sup> The Court found that the accused product, made by a different process than that described in the claim, was within the prior art.<sup>75</sup> The

63. *Id.* If the process is "as much a part of the invention as are the materials of which the product is composed," then a product made by a different process will not infringe the patent since an essential element of the claim is missing. *Id.* at 495.

64. 102 U.S. 222 (1880).

65. *Id.* at 223-29.

66. *Id.* at 228.

67. *Id.* at 224.

68. 111 U.S. 293 (1884).

69. U.S. Patent No. 4,321 claimed: "Artificial alizarine, produced from anthracine or its derivatives by either of the methods herein described, or by any other method which will produce a like result." *Id.* at 296.

70. The Court recognized that the claim could not be read as a product claim because it would not be patentable as such and therefore invalid. *Id.* at 311. The Court stated: "It was an old article. While a new process for producing it was patentable, the product itself could not be patented . . ." *Id.*

71. *Id.* at 310.

72. *Id.* The Court stated: "Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process." *Id.*

73. 120 U.S. 442 (1887).

74. *Id.*

75. *Id.* at 448. "Within the prior art" means that "the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, or known or used by the applicant for patent . . ." 35 U.S.C. § 102(b).



accused product, therefore, could not infringe the patent. The Court stated: "It seems necessarily to follow from this view either that the . . . patents are void by reason of anticipation practiced by [the prior art], or that the patented process and product must be restricted to exactly what is described."<sup>76</sup> The Court, seeking to uphold the validity of the patent's process aspects, chose the latter construction.<sup>77</sup> Comparing the accused product to the product prepared by the claimed process, the Court found noninfringement since a different process was used.<sup>78</sup>

The most recent Supreme Court case dealing with process and product claim language is *General Electric Co. v. Wabash Co.*<sup>79</sup> *General Electric* addressed the validity of a product claim for tungsten filaments used in incandescent lightbulbs.<sup>80</sup> The Court held the claim to be invalid on its face for lack of definiteness.<sup>81</sup> The language used to describe the product was too vague to adequately describe the product.<sup>82</sup> The Court approvingly quoted *BASF*<sup>83</sup> and reaffirmed that a product must be accurately described to be patentable subject matter.<sup>84</sup> Additionally, the Court stated:

Although in some instances a claim may validly describe a new product with some reference to the method of production, a patentee who does not distinguish his product from what is old except by reference, express or constructive, to the process by which he produced it, cannot secure a monopoly on the product by whatever means produced.<sup>85</sup>

This opinion demonstrates the Court's unwillingness to allow a product to be claimed in terms of the process used in manufacturing that product. Later cases by the lower federal courts, however, recognized the

76. Plummer, 120 U.S. at 449.

77. *Id.*

78. *Id.* at 448. The Court stated: "[W]hatever likeness may appear between the product of the process described in the patent and the article made by the defendants, [infringement] is not established unless it is shown that they are made by the same process." *Id.*

79. 304 U.S. 364 (1938).

80. *Id.* at 365. A claim typical to the claims at issue was claim 26 of U.S. Patent No. 1,082,933:

26. A drawn filament for electric incandescent lamps or other devices, composed substantially of tungsten and made up mainly of a number of comparatively large grains of such size and contour as to prevent substantial sagging and off-setting during a normal or commercially useful life for such lamp or other device.

*Id.* at 368 n.1.

81. *Id.*

82. The grains making up the filament were described only as "comparatively large grains of such size and contour as to prevent substantial sagging . . ." *Id.*; see also *supra* note 80 for text of claim.

83. For a discussion of *BASF*, see *supra* notes 68-72 and accompanying text.

84. *General Electric Co.*, 304 U.S. at 373-74.

85. *Id.* at 373.

utility and often the necessity of allowing a product to be claimed by describing how it is produced.<sup>86</sup>

## 2. The Court of Customs and Patent Appeals

The Court of Customs and Patent Appeals (C.C.P.A.) decisions are inconclusive and contradictory in their treatment of product-by-process claims. While some decisions state that the process acts as a limitation on the claim,<sup>87</sup> others state that the product-by-process claim protects the product and not just the process utilized in the claim.<sup>88</sup>

Many of the cases which demonstrate the courts' acceptance of product-by-process claims involve complex substances that could not be described other than by the method of producing them. In *In re Brown*,<sup>89</sup> the court recognized that claiming a product by describing the process employed is "perfectly acceptable . . . so long as the claims particularly point out and distinctly claim the product [and] it is the patentability of the product claimed and not of the recited process steps [that] must be established."<sup>90</sup> *In re Brown*, therefore, demonstrated a different focus than the one previously taken by the Supreme Court. *In re Brown* focused on the patentability of the product being claimed, and determined if the product itself was new and nonobvious.<sup>91</sup> The court did not simply focus, as the Supreme Court had,<sup>92</sup> on whether the claimed product employed a process different from the prior art. Various other decisions of the C.C.P.A. also take this approach and look to the novelty of the product in determining validity of the product-by-process claim.<sup>93</sup>

In *In re Hughes*,<sup>94</sup> the C.C.P.A. recognized that it has previously been permissible to claim a product by its process terms when the "invention is incapable of description solely by structure or physical characteristics."<sup>95</sup> This policy of allowing products incapable of structural

86. See *infra* notes 87-98 and accompanying text.

87. See, e.g., *infra* notes 94-99 and accompanying text.

88. See, e.g., *infra* notes 100-05 and accompanying text.

89. 459 F.2d 531 (C.C.P.A. 1972).

90. *Id.* at 535.

91. *Id.*

92. See *supra* notes 51-85 and accompanying text.

93. See, e.g., *In re Luck*, 476 F.2d 650, 653 (C.C.P.A. 1973); *In re Pilkington*, 411 F.2d 1345, 1348 (C.C.P.A. 1969). "The addition of a method step in a product claim, which product is not patentably distinguishable from the prior art, cannot impart patentability to the old product." *Id.* (quoting *In re Dilnot*, 300 F.2d 945, 950 (C.C.P.A. 1962)); see also *supra* note 24.

94. 496 F.2d 1216 (C.C.P.A. 1974).

95. *Id.* at 1219. The court cited *Ex parte Painter*, 1891 Dec. Comm'r Pat. 200 which stated:

[W]hen a man has made an invention his right to a patent for it, or his right to a claim properly defining it, is not to be determined by the limitations of the English language.

definition to be claimed by the method of production was followed in subsequent C.C.P.A. cases.<sup>96</sup>

The decisions of the C.C.P.A. not only discussed the acceptability of product-by-process claims, but also discussed what would constitute infringement of such claims. The C.C.P.A. in *In re Moeller*<sup>97</sup> stated:

We think the rule is well established that where one has produced an article in which invention rests over prior art articles, and where it is not possible to define the characteristics which make it inventive except by referring to the process by which it is made, he is permitted to so claim his article, but is limited in his protection to articles produced by his method referred to in the claims.<sup>98</sup>

Thus, as long as an accused product was manufactured using a different process, infringement will not lie even though the products may be identical.<sup>99</sup> Other C.C.P.A. decisions, however, held just the opposite: infringement may still be found even though the accused product was made by a different process.

The C.C.P.A., in *In re Bridgeford*,<sup>100</sup> discussed the double-patenting possibility between product claims and product-by-process claims and concluded that double-patenting was present because the product-by-process claim protected the product and not the process.<sup>101</sup> Although stating that a product-by-process claim's function is to protect the product, the court recognized that "in infringement suits some courts have construed such claims as covering only a product made by the particular process set forth in the claim and not to the product per se."<sup>102</sup> The court, however, also held that product-by-process claims are not simply the same as process claims.<sup>103</sup>

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When the case arises that an article of manufacture is a new thing, a useful thing, and embodies invention, and that article cannot be properly defined and discriminated from prior art otherwise than by reference to the process of producing it, a case is presented which constitutes an exception to the rule [that a product should be defined strictly by its physical structure].

*Ex parte Painter*, 1891 Dec. Comm'r Pat. at 200-01. This idea has been referred to as the *Painter* principle.

96. See, e.g., *In re Bridgeford*, 357 F.2d 679 (C.C.P.A. 1966). "[T]he right to a patent on an invention is not to be denied because of the limitations of the English language, and, in a proper case, a product may be defined by the process of making it." *Id.* at 682.

97. 117 F.2d 565 (C.C.P.A. 1941).

98. *Id.* at 568.

99. *Id.*

100. 357 F.2d 679 (C.C.P.A. 1966).

101. *Id.* at 682-83.

102. *Id.* at 682 n.5 (citing *Ex parte Fesenmeier*, 1922 Dec. Comm'r Pat. 18 (Comm'r Pat. 1922)).



In another case, the C.C.P.A. stated that the process language of a claim will not act as a limitation on that claim. In *In re Hira*,<sup>104</sup> the C.C.P.A. stated that, although "some courts in infringement suits limit product-by-process to the process used . . . , [t]his court . . . does not construe product-by-process claims in an *ex parte* case as limited to the product formed by the specific process recited."<sup>105</sup> Thus, the C.C.P.A. decisions are inconclusive and contradictory as to whether the process language limits the scope of the product claim. Although the Federal Circuit was created in part to help reduce these conflicts in decisions,<sup>106</sup> the Federal Circuit decisions have also been unclear on the issue of the scope of product-by-process claims.

### 3. Federal Circuit Decisions

In *Scripps Clinic & Research Found. v. Genentech*,<sup>107</sup> one Federal Circuit panel (the "*Scripps*" panel)<sup>108</sup> stated that the exact language of the product-by-process claim is not a limitation on the claim.<sup>109</sup> The *Scripps* panel concluded that "[t]he correct reading of product-by-process claims is that they are not limited to products prepared by the process set forth in the claims."<sup>110</sup> As a result, if the accused product is made by a different process, but results in the same product, the product-by-process claim is infringed.<sup>111</sup>

*Scripps* involved a product-by-process claim covering a process of making a substance known as Factor VIII:C, a substance that occurs naturally in the human blood.<sup>112</sup> Factor VIII:C acts as a procoagulant, or blood clotting substance.<sup>113</sup> *Scripps Clinic & Research Foundation* owned a patent, U.S. Reissue Patent No. 32,011, entitled "Ultrapurification of Factor VIII Using Monoclonal Antibodies."<sup>114</sup>

The *Scripps* patent involved a method whereby scientists could isolate and characterize Factor VIII:C.<sup>115</sup> This method was an improve-

104. 535 F.2d 67 (C.C.P.A. 1976).

105. *Id.* at 69 n.3 (citing *In re Avery*, 518 F.2d 1228 (C.C.P.A. 1975)).

106. CHISUM, *supra* note 2, § 5.02; see also text accompanying note 2.

107. 927 F.2d 1565 (Fed. Cir. 1991).

108. The "*Scripps*" panel consisted of Judge Markey, Judge Newman (now Chief Judge), and Judge Beer. *Id.*

109. *Id.* at 1583-84.

110. *Id.* at 1583.

111. *Id.*

112. *Id.* at 1568.

113. *Id.* Factor VIII:C is important in treating hemophiliacs who lack normal levels of Factor VIII:C in their blood. *Id.*

114. *Id.* at 1568.

115. *Id.* at 1569. The method of producing the concentrated, purified Factor VIII:C, as described in the patent, involved isolating the diluted Factor VIII:C and then concentrating it into

ment over prior practice in that it allowed a highly purified and highly concentrated amount of Factor VIII:C to be produced efficiently.<sup>116</sup> The accused product, made by the defendant, Genentech, was Factor VIII:C produced by a different method.<sup>117</sup>

The claims employed in the patent owned by Scripps were product and product-by-process claims.<sup>118</sup> Genentech argued that the product claims were not valid because Factor VIII:C occurs naturally in normal human blood.<sup>119</sup> Genentech asserted that the Scripps patent should therefore be limited to the process described therein since the patentee cannot patent a product that occurs naturally.<sup>120</sup> The Federal Circuit, however, rejected this argument since Genentech did not raise the issue of patentability in the district court.<sup>121</sup>

The Federal Circuit held that the product-by-process claims were valid and not limited by the exact process incorporated in the claim.<sup>122</sup> The *Scripps* panel reached this conclusion by examining prior precedent<sup>123</sup> dealing with the construction of claims in determining validity of a patent.<sup>124</sup> The court noted that, in determining infringement, claims must be construed in the same way as the claims are construed for purposes of determining validity.<sup>125</sup> Thus, the court stated that the product-by-process claims should be analyzed in a manner similar to that employed in analyzing product claims.<sup>126</sup>

116. *Id.* Prior to the claimed process the substance could only be produced in plasma in small amounts and with impurities. *Id.* The Factor VIII:C was concentrated using monoclonal antibodies found in a related compound and subsequently isolated from the related compound. *Id.* This was done through a process known as chromatographic absorption. *Id.*

117. *Id.* at 1581. The Genentech method of producing Factor VIII:C involved recombinant techniques in which the substance is made from new combinations of genetic material. *Id.* The Genentech method did not involve the concentration and subsequent separation of Factor VIII:C from plasma.

118. *Id.* at 1570.

119. *Id.*

120. The Patent Act, Title 35 of the United States Code, requires as a condition to patentability that the claimed product or process be invented by the patentee. 35 U.S.C. § 102(f) (1988). Since the substance occurs naturally, the patentee can only claim a process of making the substance synthetically, or by improving the substance somehow, but cannot claim the product itself. See *supra* note 24 and accompanying text.

121. *Scripps*, 927 F.2d at 1580.

122. *Id.* The United States District Court for the Northern District of California stated that the product-by-process claims would not be infringed unless the same process was used in producing the accused product. *Id.* at 1583.

123. The court cited *In re Thorpe*, 777 F.2d 695 (Fed. Cir. 1985), *In re Brown*, 459 F.2d 531 (C.C.P.A. 1972), and *In re Bridgeford*, 357 F.2d 679 (C.C.P.A. 1966).

124. *Scripps*, 927 F.2d at 1583.

125. *Id.*

126. *Id.*



## III. FACTS AND HOLDING

## A. Facts

Atlantic Thermoplastics (Atlantic), the plaintiff, owned U.S. Patent No. 4,674,204 ('204 patent) entitled "Shock Absorbing Innersole and Method of Preparing Same."<sup>127</sup> The patent described a shoe innersole which purported to have great shock-absorbing capability. Atlantic brought suit against the Faytex Corporation, claiming that Faytex infringed the '204 patent by distributing<sup>128</sup> innersoles manufactured by two other companies, Surge, Inc. and Sorbothane, Inc..<sup>129</sup> Atlantic claimed that Sorbothane and Surge produced half-sole innersoles that infringed the '204 patent's process claim.<sup>130</sup>

The '204 patent contained both process and product-by-process claims.<sup>131</sup> Atlantic's ownership of the patent, containing a process claim, allowed Atlantic to prevent other companies from using the process or selling inserts made by the same process.<sup>132</sup> Atlantic argued, however, that the product-by-process claim also allowed it to prevent other companies from making or selling similar shoe inserts regardless of the process employed.<sup>133</sup>

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127. Atlantic Thermoplastics Co. v. Faytex Corp., 970 F.2d 834, 835 (Fed. Cir. 1992). Claim 1 of the '204 patent reads in full:

In a method of manufacturing a shock-absorbing, molded innersole for insertion into 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 material into the mold, the insert material having greater shock-absorbing properties and being less resilient than the molded, open-celled polyurethane foam material, and the insert material having sufficient surface tack to remain in the placed position in the mold on the introduction of the expandable polyurethane material so as to permit the expandable polyurethane material to expand about the insert material without displacement of the insert 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. Claim 24 of the '204 patent states: "The molded innersole produced by the method of claim 1." *Id.* at 836.

128. Since Faytex did not manufacture, but only distributed, the accused products, Faytex could not infringe on the process claims of the '204 patent. *Id.* at 836. Atlantic argued, however, that Faytex infringed by selling a product made by the patented process. *Id.*

129. *Id.*

130. *Id.* at 835.

131. See *supra* note 127 for the language of the claims.

132. The Patent Act gives the courts the power to "grant injunctions 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." 35 U.S.C. § 283. For a discussion of the scope of protection given to process claims, see *supra* note 24 and accompanying text.

133. *Atlantic*, 970 F.2d at 838.



The '204 patent described a process of manufacturing a shock absorbing shoe innersole composed of two materials: an elastomeric<sup>134</sup> material and polyurethane foam.<sup>135</sup> The innersole was comprised of a heel section and arch section.<sup>136</sup> The process involves placing the elastomeric material in the heel section of the innersole and introducing polyurethane foam to surround the heel.<sup>137</sup> The polyurethane foam and elastomeric insert make up the innersole.<sup>138</sup> The elastomeric material in the sole provides for greater shock absorbing ability by the innersole.<sup>139</sup> The process relies on the inherent "tackiness" of the insert material to keep the insert in the correct position in the mold while the polyurethane is poured into the mold.<sup>140</sup>

The two alleged infringing products distributed by Faytex contained innersoles that were produced in a fashion similar to the claimed process.<sup>141</sup> Production of the Sorbothane innersole, one of the accused products, involved a process slightly different from the process described in Atlantic's claim. Sorbothane injected a *liquid* elastomeric material into the innersole mold, which solidified in the mold to become the heel insert.<sup>142</sup> While this elastomeric insert was solidifying, Sorbothane injected the polyurethane foam into the mold to form the innersole.<sup>143</sup> The Sorbothane process employed a "dam" which held the liquid elastomeric material in place while the polyurethane was injected into the mold and the entire innersole solidified.<sup>144</sup>

### B. *The District Court Holding*

The United States District Court for the District of Massachusetts determined that the Surge innersoles infringed the '204 patent,<sup>145</sup> but the Sorbothane innersoles did not.<sup>146</sup> The court first declined to accept

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134. An "elastomeric" substance is one that has elastic properties, and which can occur naturally or be produced synthetically. WEBSTER'S COLLEGE DICTIONARY 429 (1991).

135. *Atlantic*, 970 F.2d at 835.

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.*

141. Production of the Surge innersoles involved a process wherein the solid elastomeric material making up the heel insert was placed into a mold. *Id.* at 836. Surge then poured polyurethane into the mold to surround the elastomeric insert. *Id.* Faytex conceded that the innersoles made by the Surge process infringed the '204 patent. *Id.*

142. *Id.* (emphasis added).

143. *Id.*

144. *Id.* at 837.

145. *Atlantic Thermoplastics Co. v. Faytex Corp.*, Civ. A. No. 88-0210-H, 1990 U.S. Dist. LEXIS 20050, at \*33 (D. Mass. July 27, 1990), *aff'd in part, vacated in part*, 970 F.2d 834 (Fed. Cir. 1992).

146. *Id.* at \*27.

Faytex's argument that the patent was invalid.<sup>147</sup> Once the court determined that the '204 patent was valid, the court compared the processes employed by Sorbothane and Surge with the process claimed in the '204 patent.<sup>148</sup> The court found that the Surge product literally infringed the '204 patent.<sup>149</sup> The Surge product, the court concluded, relied on the surface tack of the heel insert to keep the insert in place while the foam is poured into the mold.<sup>150</sup> This "insert" molding process<sup>151</sup> literally infringed upon the language of the Atlantic '204 patent process claim.

In contrast, the court found that the Sorbothane product did not literally infringe the '204 patent.<sup>152</sup> The court held that the Sorbothane method of molding innersoles using the "two-pour" process<sup>153</sup> was outside the scope of the '204 patent claim language, which involved the

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147. *Id.* at \*33. Faytex argued the patent was invalid for several reasons. First, Faytex argued that Atlantic failed to file for the patent within one year of the invention being available, or "on sale," to the public, as required by 35 U.S.C. § 102(b). *Id.* at \*4. The district court rejected this argument, finding that Faytex had not met the burden of showing that the "on sale" bar applied. *Id.* at \*34. The court held that Faytex had not made a sufficient showing that the product was sold or made available for sale more than one year before the filing of the patent, and that the purpose of any such sale was for profit and not for marketing or research purposes. *Id.* at \*15.

Faytex also argued the patent was invalid for lack of nonobviousness, as required by section 103 of the Patent Act. *Id.* at \*3. The court found that the '204 patent process was sufficiently novel to be considered nonobvious since the '204 patent process incorporated the "surface tack" of the innersole insert to keep the insert in place, a method not previously used in the industry. *Id.* at \*34.

The district court also rejected Faytex's argument that the inventors of the process engaged in "inequitable conduct." *Id.* The court held that the inventors had not failed to make any material disclosures to the Patent and Trademark Office, as Faytex argued. *Id.* Failure to make a material disclosure to the Patent and Trademark office regarding the experimental use of the product or the date of the product's availability could lead to a patent being found invalid. *Id.* at \*16-17.

148. *Id.* at \*10. The court made clear that it was not comparing the accused products with the commercial embodiment of the patented product, but rather with the language of the '204 patent claim. *Id.*

149. *Id.* at \*33. See *supra* notes 35-37 and accompanying text for a discussion of literal infringement of a patent claim.

150. *Atlantic*, 1990 U.S. Dist. LEXIS 20050 at \*31.

151. The court distinguished between two methods of molding innersoles: the "insert" method and the "two-pour" method. *Id.* at \*30-31. The "insert" method, deemed to have been used by Surge, is exactly the method described by the '204 patent, in which the solid elastomeric material is physically "inserted" into the mold and the polyurethane foam is injected into the mold around the inner insert. *Id.* This method relies on the "tackiness" of the solid elastomeric material to keep the heel insert in place while the foam is poured into the mold. *Id.*

152. *Id.* at \*30.

153. The "two-pour" process of molding innersoles involves first pouring a liquid chemical precursor into the mold, which is not solid, but is a gel when the polyurethane foam is introduced. *Id.* at \*27. The "two-pour" method does not rely on elastomeric qualities ("surface tack") to hold the insert in place but rather a "dam" placed to keep the liquid from flowing into the front of the mold until it solidifies and gains elastomeric qualities. *Id.* at \*28-29.



“insert” process.<sup>154</sup> Since the Sorbothane method used a different method of placing the insert into the innersole, the method did not fall within the literal language of the ‘204 patent claim.

The district court also rejected Atlantic’s alternative argument that the Sorbothane product infringed the ‘204 patent by reason of the “doctrine of equivalents.”<sup>155</sup> The court held that the Sorbothane process was not “equivalent” to the claimed process because of the differences in the processes employed in the ‘204 patent and by Sorbothane.<sup>156</sup> The Sorbothane “two-pour” method was sufficiently different from the ‘204 patent “insert” method to avoid operation of the doctrine of equivalents.<sup>157</sup> Thus, the district court concluded that “it is clear that the two processes are not only technically different in their way of manufacturing, but *substantially* different in their way of manufacturing, as the different methods produce substantial differences in the quality of the product produced.”<sup>158</sup>

### C. *The Federal Circuit Holding*

After describing the patent claims and the products involved, the *Atlantic* Court discussed the validity of the ‘204 patent.<sup>159</sup> The court first reviewed the district court’s determination that the patent did not violate the on sale bar rule.<sup>160</sup> The court concluded that the trial record did not have sufficient findings of fact and analysis for the appellate court to evaluate the district court’s actions.<sup>161</sup> Therefore, the court re-

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154. *Id.* at \*27.

155. *Id.* at \*30. See *supra* notes 38-44 and accompanying text for a discussion of the doctrine of equivalents and their role in infringement proceedings.

156. *Atlantic*, 1990 U.S. Dist. LEXIS 20050, at \*30.

157. *Id.* at \*30. The Sorbothane method injected a liquid substance into the mold, which was held in place by a dam, while the claimed process states that the inserted material should be held in place by the “surface tack” of the heel insert. *Id.* at \*22-25. The court stated:

The essential issue to be decided is whether a preformed solid elastomeric insert material which is manually put into the mold and maintained in the placed position by its own surface tack is substantially the same “way” or process as a liquid chemical mixture poured into the mold and which becomes an elastomeric material only during the course of the curing process, and which is held in the heel section of the mold by a dam.

*Id.* at \*29-30. Furthermore, the “two-pour” method allowed for a greater chemical bond to be formed between the insert and the surrounding polyurethane foam. *Id.* at \*31. The two-pour method employed in producing the Sorbothane innersoles results in a type of chemical bonding between the liquid inner material and the polyurethane foam known as “cross linking.” *Id.* The “cross linking” chemical bond is superior to the bond resulting from the patented process in that the bond between the materials is closer and more adhesive. *Id.*

158. *Id.* at \*31 (emphasis added).

159. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 837 (Fed. Cir. 1992).

160. *Id.*; see also *supra* note 147.



manded the issue of validity in regards to the on-sale bar rule to the district court for further proceedings.<sup>162</sup>

The *Atlantic* panel found no clear error in the district court's finding that the accused Faytex product<sup>163</sup> did not infringe Atlantic's product-by-process claim.<sup>164</sup> The court reasoned that the use of the liquid elastomeric material was sufficiently different from the claimed process to take the Sorbothane product outside the scope of the '204 patent.<sup>165</sup> Furthermore, the court found no clear error in the district court's determination that the Sorbothane process utilized the dam to keep the liquid insert in place,<sup>166</sup> while the '204 patent product relies on the surface tack of the insert material to keep it in place.<sup>167</sup>

The *Atlantic* panel detailed the history of product-by-process claims and concluded that the Supreme Court<sup>168</sup> and C.C.P.A. precedent dictated that "process terms in product-by-process claims serve as limitations in determining infringement."<sup>169</sup> Thus, if the accused product does not conform literally to the claimed process, the accused product will be deemed not to infringe the patent claim.<sup>170</sup> The *Atlantic* panel explicitly chose not to follow the earlier *Scripps* decision<sup>171</sup> on the grounds that the *Scripps* court failed to consider Supreme Court

162. *Id.*

163. The accused Faytex product was the innersole made by the "two-pour" method.

164. *Atlantic*, 970 F.2d at 846-47. The court agreed that the Sorbothane process did not infringe the '204 patent literally or by operation of the doctrine of equivalents. *Id.* at 838.

165. *Id.*

166. *Id.*

167. *Id.*

168. The court relied on the following Supreme Court cases:

*General Electric v. Wabash Appliance*, 304 U.S. 364 (1938) (a patentee who does not distinguish his product from the prior art, except by describing the process used, cannot obtain a patent on the product, but only on the process, and therefore, the process language is a limitation to the patent); *Plummer v. Sargent*, 120 U.S. 442 (1887) (a process claim is deemed to be identical to a claim to the product of the process only when it is shown that the accused product and patented product were made by the same process); *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884) (since the claim only stated the process employed in making the product, and different processes could lead to different products, the accused product did not infringe since it was made by a different process); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222 (1880) ("to constitute an infringement of the patent . . . the process of constructing the plate, or a process equivalent thereto, must be employed"); *Merrill v. Yeomans*, 94 U.S. 568 (1877) (since words in a patent claim are presumed to have some meaning, process language in a claim either is a process claim or is intended to limit the claim to the product produced by that process); *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486 (1877) (the product could not be separated from the process by which it was made and the process is as much a part of the invention as are the materials involved).

169. *Atlantic*, 970 F.2d at 846-47.

170. *Id.*

171. *Scripps* held exactly the opposite — that process language does not act as a limitation on product-by-process claims. See *supra* notes 107-26 and accompanying text.

precedent.<sup>172</sup> The panel concluded that *Scripps* would have been decided differently if the *Scripps* panel had been directed to the Supreme Court precedent.<sup>173</sup>

#### D. Denial of Rehearing En Banc

Chief Judge Nies polled the ten active judges in the Federal Circuit on whether to grant an *en banc* rehearing of *Atlantic*. The request for the rehearing *en banc* was denied.<sup>174</sup> Several Federal Circuit Judges wrote opinions dissenting from the denial of the *en banc* rehearing.<sup>175</sup> Judge Rader, the author of the *Atlantic* opinion, responded with an opinion concurring in the denial of the rehearing *en banc*.<sup>176</sup>

##### 1. Judge Rich's Dissent

Judge Rich wrote an adamant dissent from the denial of the rehearing *en banc*.<sup>177</sup> He claimed that the *Atlantic* panel had "misapprehended its function as an arm of this court,"<sup>178</sup> violated the court's rules, and misconstrued the Supreme Court precedent.<sup>179</sup> Judge Rich also stated that the *Atlantic* panel's review of the entire product-by-process history was unnecessary since the plaintiff conceded that the process language acted as a limitation on the patent claim.<sup>180</sup> *Faytex* did not argue this point before either the trial court or the Federal Circuit.<sup>181</sup>

Judge Rich also argued that the *Atlantic* panel's rule would contravene patent law policy by discouraging research, innovation, and disclosure.<sup>182</sup> Making process language a limitation on product-by-process claims would promote piracy and stifle companies' incentive to perform

172. *Atlantic*, 970 F.2d at 838-39 n.2. The court stated:

This court in *Scripps Clinic* ruled without reference to the Supreme Court's previous cases involving product claims with process limitations. . . . A decision that fails to consider Supreme Court precedent does not control if the court determines that the prior panel would have reached a different conclusion if it had considered controlling precedent.

*Id.* (citing *Tucker v. Phyfer*, 819 F.2d 1030, 1035 n.7 (11th Cir. 1987)); see also *infra* notes 263-71 (discussing the appropriateness of the *Atlantic* panel's disregard for *Scripps*).

173. *Atlantic*, 970 F.2d at 839.

174. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279 (Fed. Cir. 1992) (denial of request for rehearing *en banc*).

175. Chief Judge Nies, who requested the *en banc* vote pursuant to Federal Circuit Rule 35, wrote a short dissent from the denial of the rehearing *en banc*, but expressed no opinion on the merits of the case. *Id.* at 1280 (Nies, C.J., dissenting from the denial of rehearing *en banc*).

176. *Id.* at 1299 (Rader, J., concurring in the denial of rehearing *en banc*).

177. *Id.* at 1280 (Rich, J., dissenting from the denial of rehearing *en banc*).

178. *Id.*

179. *Id.*

180. *Id.*

181. *Id.*



research and development.<sup>183</sup> Furthermore, as a result of the Atlantic panel's decision, the protection afforded to product-by-process patent owners is minimal since only minor changes in the process employed by an accused product would allow the accused product to escape infringement liability.<sup>184</sup>

"The most egregious act of the *Atlantic* panel," Judge Rich argued, was "its defiant disregard . . . of [the court's] rule that no precedent can be disregarded or overruled save by an *en banc* court . . ." <sup>185</sup> He stated that the *Atlantic* panel's justification for its disregard for *Scripps* was "feeble."<sup>186</sup> The *Atlantic* panel's assertion that the *Scripps* panel was not aware of Supreme Court precedent is "not only insulting to the *Scripps* panel . . ., it is mutiny. It is heresy. It is illegal."<sup>187</sup> Judge Rich also pointed out that the four judges dissenting from the denial of the rehearing *en banc* had backgrounds in patent law prosecution and litigation.<sup>188</sup> Thus, "[i]t is more than a little bit possible that we [the dissenting judges] have considered the Supreme Court cases on which the *Atlantic* panel relies . . ." <sup>189</sup> Judge Rich concluded that he hoped that the rule that prior decisions control when there is a conflict will be followed in subsequent decisions, but that the current controversy should have been avoided by having the case heard *en banc*.<sup>190</sup>

## 2. Judge Newman's Dissent

Judge Newman, author of the *Scripps* opinion, in her dissenting opinion from the denial of the *en banc* rehearing in *Atlantic*,<sup>191</sup> examined the cases cited by Judge Rader.<sup>192</sup> She differentiated between different classes of claims that contain both product and process terms, which are "(1) when the product is new and unobvious, but is not capable of independent definition ['true' product-by-process claims]; (2) when the product is old or obvious, but the process is new; (3) when the product is new and unobvious, but has a process-based limitation (e.g. a 'molded' product)."<sup>193</sup> She concluded that the precedent does not pro-

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183. *Id.*

184. *Id.*

185. *Id.* at 1281.

186. *Id.*

187. *Id.*

188. *Id.*

189. *Id.*

190. *Id.*

191. *Id.* (Newman, J., dissenting from the denial of rehearing *en banc*).

192. *Id.* at 1284.

193. *Id.* One commentator has noted that:

there are hazy lines separating "true" product claims from product claims which include a process limitation from "true" product-by-process claims. The determination seems to focus on the degree of overlap with which the product is defined in the absence of process



vide one hard and fast rule, as Judge Rader concluded, but rather that each type of claim is treated differently.<sup>194</sup> The type of claim involved in *Scripps* was a "true" product-by-process claim,<sup>195</sup> while the claim in *Atlantic* was within the second class — the claim involves an old or obvious product, but utilizes a new process.<sup>196</sup>

"True" product-by-process claims arise where a product is not capable of definition completely by its structural characteristics.<sup>197</sup> This type of claim arises almost exclusively with new products. "True" product-by-process claims are in fact product claims; the product is the proper subject matter of the patent.<sup>198</sup> Process language does not act as a limitation in this type of claim because it is the product, not the process, that is the invention.<sup>199</sup>

In contrast, however, are "product of the process" claims which involve the application of a new process to an old or known product.<sup>200</sup> Since the Patent Act requires novelty in determining patentable subject matter, the old, known product would not be patentable.<sup>201</sup> Hence, these types of claims can only be properly characterized as process claims.<sup>202</sup> As a process claim, the process language of the claim acts as a limitation to the claim since it is the process that is protected. The patentee, however, cannot make any claim to the product of the process. Thus, a product made by a process different from the claimed process will not infringe the patent.<sup>203</sup>

Judge Newman supported her argument by analyzing the cases relied on by the *Atlantic* panel within the context of her framework.<sup>204</sup> She asserted that all of the Supreme Court cases relied on by the *At-*

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limitations. The more precise that definition, the greater the chance that the claim will be considered a "true" product claim. As the structural definition disappears there is a shift towards "product claims with a process limitation" and ultimately to the product-by-process end of the spectrum.

Eric P. Mirabel, *Product-By-Process Claims: A Practical Perspective*, 68 J. PAT. & TRADEMARK OFF. SOC'Y 3, 10 (1986).

194. *Atlantic*, 974 F.2d at 1284 (Newman, J., dissenting from the denial of rehearing *en banc*).

195. *Id.*

196. *Id.* The third class of claims mentioned by Judge Newman are products which are new and unobvious, but that have process-based limitations. *Id.* This class of claims arises where the product is unique to the process. An example is a molded product, where the product resulting from the process can only be made by that exact process and the process used can only result in that product. *Id.*

197. *Id.* at 1282.

198. *Id.* at 1285.

199. *Id.*

200. *Id.*

201. *Id.* at 1284.

202. *Id.*

203. *Id.* at 1289.

*lantic* panel fall within the latter category of claims<sup>205</sup> and are not "true" product-by-process claims.<sup>206</sup> She distinguished these cases from several cases arising in the C.C.P.A. and Federal Circuit. The C.C.P.A. decisions contravene the *Atlantic* panel's "one-rule-fits-all law."<sup>207</sup> Although Judge Newman would concur in the *Atlantic* panel's decision, she dissented from the "distressingly superficial treatment" given to claims that involve both process and product elements.<sup>208</sup>

### 3. Judge Lourie's Dissent

Judge Lourie also filed a dissenting opinion from the denial of the rehearing *en banc*.<sup>209</sup> He disagreed with the *Atlantic* panel's disregard for the court rules and precedent.<sup>210</sup> If the *Atlantic* panel disagreed with the rule set forth in *Scripps*, it was bound to either follow the *Scripps* rule or seek *en banc* review.<sup>211</sup>

Additionally, the *Atlantic* panel went beyond the scope of the case at bar and could have decided the case more simply.<sup>212</sup> The patentee conceded that the claim at issue was indeed limited to the process incorporated therein.<sup>213</sup> Judge Lourie concluded that such a broad rule which affects many complex compositions should not have been set out when the parties neither briefed nor argued the issue that the *Atlantic* panel decided.<sup>214</sup>

### 4. Judge Rader's Concurrence in the Denial of Rehearing *En Banc*.

In a concurring opinion,<sup>215</sup> Judge Rader addressed many of the criticisms of the judges who wrote dissenting opinions from the denial of the *en banc* rehearing.<sup>216</sup> His opinion was apparently written in reply to these criticisms.<sup>217</sup>

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205. These Supreme Court cases involve old or obvious products made with new processes. See *supra* notes 70, 74, 85 and accompanying text. Judge Newman asserts that these claims are in effect, process claims since the products are not new and nonobvious.

206. *Atlantic*, 974 F.2d at 1287-89 (Newman, J., dissenting from the denial of rehearing *en banc*).

207. *Id.* at 1289.

208. *Id.* at 1284.

209. *Id.* at 1298 (Lourie, J., dissenting from the denial of rehearing *en banc*).

210. *Id.*

211. *Id.*

212. *Id.* at 1298-99.

213. *Id.* at 1299. Judge Lourie asserted that "[i]f the inventor said his claim was limited to the process and if the accused infringer didn't use that process, then the issue is decided." *Id.*

214. *Id.*

215. *Atlantic*, 974 F.2d at 1299 (Rader, J., concurring in denial of rehearing *en banc*).

216. *Id.*

217. Judge Rader's concurring opinion was dated September 15, 1992, and the dissenting



Judge Rader reaffirmed his opinion that the refusal to follow *Scripps* was appropriate.<sup>218</sup> The *Atlantic* ruling did not “call into question the uniformity” of the court’s ruling as is required before an *en banc* hearing must be held.<sup>219</sup> The Supreme Court and lower courts have uniformly held that claim language defines the bounds of patent protection.<sup>220</sup> Since *Scripps* was an anomaly, it need not be followed.<sup>221</sup>

Judge Rader also reaffirmed his position that to disregard the process language in a product-by-process claim would be to disregard the “primary, if not only, limitations of the claim.”<sup>222</sup> If such language is disregarded, no court could determine the product that *Atlantic* claimed and, accordingly, no court could make an infringement determination.<sup>223</sup>

Furthermore, the Supreme Court has never distinguished between new products and old products made by new processes.<sup>224</sup> Rather, the Supreme Court has only stated that “nothing can be held to infringe the patent which is not made by that process.”<sup>225</sup> To limit this rule to cases where the product is old and unobvious would be to impart issues of patentability into a completely different area, namely, infringement.<sup>226</sup>

Finally, Judge Rader addressed the policy concerns raised by the dissenting judges. He posed the question at issue in *Atlantic* and *Scripps* as: “[S]hould courts, in construing the Patent Act, enforce the claim limitations when a patentee invents a product which defies description other than in terms of its fabrication process?”<sup>227</sup> If the clear language of the Patent Act does not provide sufficient protection

218. *Id.* at 1299-1300. Judge Rader was the author of the *Atlantic* majority opinion. See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 837 (Fed. Cir. 1992).

219. *Atlantic*, 974 F.2d at 1300 (Rader, J., concurring in denial of rehearing *en banc*). See *supra* note 7 for the language of the Federal Rule of Appellate Procedure 35 regarding *en banc* hearings and rehearings.

220. *Atlantic*, 974 F.2d at 1300 (Rader, J., concurring in denial of rehearing *en banc*). Judge Rader cites as examples *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228 (1942), *General Electric Co. v. Wabash Appliance Corp.*, 304 U.S. 364 (1942), *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405 (1908), *White v. Dunbar*, 119 U.S. 47 (1886), and *In re Vamco Machine & Tool*, 752 F.2d 1564 (Fed. Cir. 1985).

221. *Atlantic*, 974 F.2d at 1300 (Rader, J., concurring in denial of rehearing *en banc*).

222. *Id.*

223. *Id.*

224. *Id.* at 1302. This was argued by Judge Newman in her dissenting opinion from the denial of rehearing *en banc*. *Id.* at 1284 (Newman, J., dissenting from the denial of rehearing *en banc*).

225. *Id.* at 1302 (Rader, J., concurring in denial of rehearing *en banc*) (quoting *Cochrane v. BASF*, 111 U.S. 293, 310 (1884)).

226. *Id.* at 1303.

227. *Id.*



to an inventor of such a product, then it is for Congress to address, not the courts.<sup>228</sup>

#### IV. ANALYSIS

The *Atlantic* opinion is problematic in several respects. First, the *Atlantic* panel took language from Supreme Court and C.C.P.A. opinions out of context. The cited opinions do not support the imposition of a hard rule that applies to all claims involving both product and process language.<sup>229</sup> Second, as noted by the judges dissenting from the denial of rehearing *en banc*, the *Atlantic* panel used overly broad language in solving a fairly simple dispute.<sup>230</sup> As Judge Newman pointed out, a policy change such as that made by the *Atlantic* panel should properly be reserved to the legislature.<sup>231</sup> If, however, the judiciary is going to adopt such a policy change, this change should be done *en banc*.<sup>232</sup> Third, the *Atlantic* panel justified its refusal to follow *Scripps* with questionable support.<sup>233</sup> Even if their interpretation as to the proper reading of product-by-process is correct, the issue should have been heard *en banc*.<sup>234</sup> This rehearing *en banc* would foster the uniformity of decisions that Congress intended when it created the Federal Circuit. Finally, by refusing the *en banc* rehearing, the current and future status of product-by-process claims is unpredictable.

##### A. *The Precedents Examined*

The precedent relied on by the *Atlantic* majority does not stand for a singular rule that applies to all product-by-process claims.<sup>235</sup> The

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228. *Id.* Judge Rader states: "This court must not presume to stretch the terms of the Patent Act to encompass every desirable policy. This court does not enforce policies, but the words of law enacted by Congress." *Id.*

229. See *infra* notes 235-50 and accompanying text.

230. *Atlantic*, 974 F.2d at 1281-98 (Rich, Newman, Lourie, JJ., dissenting from denial of rehearing *en banc*). In an early Federal Circuit case, Judge Nichols discussed the role of the recently-formed Federal Circuit and stated:

I think we are painting ourselves into corners by our eagerness to pronounce legal doctrines not immediately necessary to make our decisions, and the more important our words are, the more confining will be the corners into which we have painted ourselves. I further think that our exclusive jurisdiction, over certain areas of law, is not to be construed as a legislative direction to ignore the efforts of other courts to deal with the same problems . . . . Not only are such efforts not to be ignored, but sporadic notice of them, when it occurs, is not to take the form of selecting decisions that happen to agree with our thinking, without regard to their place in the development of the case law . . . .

*Weinar v. Rollform, Inc.*, 744 F.2d 797, 811 (Fed. Cir. 1984) (Nichols, J., concurring), *cert. denied*, 470 U.S. 1084 (1985).

231. *Atlantic*, 974 F.2d at 1284 (Newman, J., dissenting from denial of rehearing *en banc*).

232. *Id.*

233. *Id.*

234. See *infra* notes 263-71 and accompanying text.

235. See *infra* notes 236-50 and accompanying text.

facts underlying the opinions show that courts have applied different rules pertaining to product-by-process claims depending on the actual invention. When the product is old or obvious, the claims containing process language are deemed to be process claims and the process language acts as a limitation on the claim.<sup>236</sup> Judges have been careless in using overly-broad dicta in these opinions, allowing the *Atlantic* panel to justify its conclusions.<sup>237</sup> When the product is new and unobvious, however, a different rule has been applied, and the process language does not act as a limitation on the claim.<sup>238</sup>

Supreme Court and C.C.P.A. decisions have not been consistent.<sup>239</sup> Often, the courts have made broad assertions in dicta that are not entirely accurate.<sup>240</sup> The *Atlantic* decision relies heavily on this dicta in concluding that product-by-process claims are limited by the process described therein in all cases. The dicta relied on by the *Atlantic* panel, however, primarily involved claims in which a new process was applied to an old or obvious product.<sup>241</sup>

Most of the Supreme Court cases on this issue involved old products which could only be distinguished from the prior art by the method used to create the product.<sup>242</sup> In these situations, the invention is the process, not the product. Thus, the Supreme Court cases are consistent with the principle that infringement should not lie unless the same process is used to create the product in cases where the product is old or obvious, but the process is new.

*General Electric Co. v. Wabash Appliance Corp.*<sup>243</sup> cannot be dispositive in subsequent suits regarding product-by-process claims for several reasons. First, the case was decided in 1938, before product-by-

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236. See *supra* text accompanying notes 69-71, 76, 84-85.

237. *Atlantic*, 974 F.2d at 1297 (Newman, J., dissenting from the denial of rehearing *en banc*).

238. See *supra* notes 100-05 and accompanying text.

239. See *supra* notes 51-105 and accompanying text.

240. See *infra* note 241.

241. For example, the *Atlantic* panel relied on *Merrill v. Yeomans*, 94 U.S. 568 (1877), for the proposition that the accused product did not infringe the patent because the accused product was made by a different process. That case, however, involved a new method of deodorizing heavy hydrocarbon oils. *Merrill*, 94 U.S. at 568; see also *supra* text accompanying note 53. This was simply a new process applied to an old product. The product would be unpatentable as a product, and to uphold the validity of the process aspects of the patent, the Court limited the claim in that case to the process employed. *Merrill*, 94 U.S. at 568-74; see also *supra* notes 54-57 and accompanying text. Thus, the Supreme Court construed the claim as a process claim. *Merrill*, 94 U.S. at 568-74.

242. *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884) (involving a new method of producing artificial alizarine that was indistinguishable from the prior art); *Smith v. Goodyear Vulcanite Co.*, 93 U.S. 486 (1877) (involving a new process of making dental plates out of previously known items); see also *supra* notes 70, 74, 85.



process claims were generally accepted as a means of claiming a product.<sup>244</sup> Second, the language quoted by *Atlantic* suggesting that the process is a limitation on the product claim<sup>245</sup> did not involve the scope of product-by-process claims as to new products. Rather, the statement was made to conclude that the *product* was not patentable in a case where the product is old.

The Supreme Court cases cannot be understood to hold that new products, distinguishable from the prior art, should be given protection only to the extent that the same process is employed. The Supreme Court simply never dealt with that issue.<sup>246</sup> *Atlantic* seeks to take language from these opinions, dicta in many cases, to justify their policy that a patent owner should not gain patent protection for the product invented, even when an identical product is manufactured.

The C.C.P.A. decisions also do not mandate the broad conclusion that the *Atlantic* panel asserts. Instead, they demonstrate that product-by-process claims are primarily product claims.<sup>247</sup> This recognizes that the invention in "true" product-by-process claims is the product itself.<sup>248</sup>

Combining two vastly different situations into one rule does not follow from the decisions. Where a product is old or obvious, as is the case in *Atlantic* and Supreme Court cases, the process is the only novelty and is all that should be protected from infringement. In cases such as *Scripps*, however, where the product is new and distinguishable from the prior art, the courts have looked to see what the invention was, and held that the product is the focus of the claim.<sup>249</sup>

It is true, however, that there is conflicting language in the courts' opinions dealing with claims containing process language. Precedent, therefore, cannot be dispositive to either side of the issue.<sup>250</sup> It is therefore necessary for the courts to examine the underlying policy to determine the proper scope of product-by-process claims in infringement proceedings.

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244. See *supra* text accompanying note 49; see also CHISUM, *supra* note 2, § 8.05.

245. Recall that the Court in *General Electric* stated: "a patentee who does not distinguish his product from what is old except by reference, express or constructive, to the process by which he produced it, cannot secure a monopoly on the product by whatever means produced." 304 U.S. at 373.

246. See *supra* note 242 and accompanying text; see also *supra* notes 70, 74, 85.

247. See *supra* notes 87-91.

248. In the Supreme Court cases, the invention was the process; the products were unpatentable as being in the prior art. See *supra* note 237 and accompanying text; *c.f.* notes 88-91, *supra*.

249. See *supra* notes 87-91 and accompanying text.

250. Since product-by-process claims are judicially recognized and not specifically mentioned by the courts, they are subject to the courts' interpretations.



### B. *The Better Policy in Construing Product-By-Process Claims*

There are conflicting interests in determining infringement of patent claims. Claim language in a patent must be specific enough to allow competitors to know the exact scope of the claim so they can continue to try to invent new and improved products or methods of production without fear of infringement.<sup>251</sup> There is a competing interest, however, in protecting the inventor of a product and the owner of a patent. With the rise in costs of researching and developing a new substance or invention,<sup>252</sup> the inventor must be given adequate protection from others using his product or process in violation of the patent.<sup>253</sup> If the language of a patent claim is construed too narrowly, others may benefit from the inventor's work by copying that work and making only minor changes to avoid infringement.

The *Atlantic* rule that process language is a limitation to a product-by-process claim is overly broad and does not sufficiently further the goals of the patent system. The *Atlantic* ruling effectively vitiates any utility in product-by-process claims. When a product cannot be adequately described by reference to its physical characteristics, as is the case with most new complex chemical compositions, the *Atlantic* ruling offers little protection to the new, non-obvious, useful invention.<sup>254</sup> A competitor can examine the process described in the claim, copy it, and make an insubstantial change in the process to create an identical product. The *Atlantic* ruling will protect that competitor and find no infringement.

A better approach is that taken by Judge Newman in her opinion dissenting from the denial of rehearing *en banc*. She differentiated between new, useful products that are described in part by the process employed and products which are merely new processes applied to old products.<sup>255</sup> In the former type of claim, where the invention is in fact

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251. This policy is exemplified in section 101 of the Patent Act, which allows as patentable subject matter "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . ." 35 U.S.C. § 101 (1988).

252. Judge Rich, in his opinion dissenting from the denial of rehearing *en banc*, cited a statement made by Roger A. Brooks, the Assistant Vice President of the Pharmaceutical Manufacturers Association which declares that the cost of researching and producing a new drug is constantly increasing. *Atlantic*, 974 F.2d at 1280-81 (Rich, J., dissenting from denial of rehearing *en banc*) (citing AIPLA Bulletin April-June 1992, at 475). The statement said that the cost of producing a new drug has increased from \$54 million in 1976 to over \$230 million in 1990. *Id.*

253. This interest creates an incentive for people and companies to seek to improve the status quo.

254. The *Atlantic* ruling transforms product-by-process claims to process claims, only giving protection against products made by that same process. See *supra* notes 182-84 and accompanying text.

255. See *supra* notes 193-203 and accompanying text for a discussion of "true" product-by-

the *product* and not necessarily the process, the process should not be a limit to the scope of the patent. In the latter type of claim, the patentee can make no claim to the product since the product was not novel or new in any fashion. Therefore, the invention is merely the process employed in making the product, not the product itself. This type of claim is best read as a process claim since the process, and not the product, is patentable subject matter.<sup>256</sup> An appropriate level of protection can still be given to someone who invents a new process by reading this type of claim as a process claim. If the claim is treated as a process claim, the accused product will not infringe the claim unless the accused product uses the process claimed in the patent.

In *Atlantic*, the claims involving the shoe innersoles are best read as falling within the latter group, where the product is not new, so that the process terms act as a limitation on the claim. Since the Sorbothane innersoles were manufactured by a different process, they do not infringe the '204 patent. To the extent that the innersoles were a new product,<sup>257</sup> conventional product claims are available to protect the final result of the process.

The claims in *Scripps*, however, involved a composition so complex as to require reference to the process used in making it to define the product. With this type of claim the process language should not limit the claim. There are in fact, limits to the scope of these types of claims. The claims will encompass the product insofar as it is within the language of the process. A potential pirate cannot escape liability unless he can show that his product is capable of definition independent from the patented product.<sup>258</sup>

Likewise, competitors cannot obtain a patent via a product claim on a new composition unless they can show that in some way their

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256. See *supra* text accompanying notes 19-24 for a discussion of patentable subject matter.

257. There was evidence that the innersoles produced by Sorbothane were superior in several ways from the Atlantic innersoles. See *supra* note 157. Mere improvement in an invention is generally not sufficient to avoid infringement of a patent. See, e.g., Lockheed Aircraft Corp. v. United States, 553 F.2d 69, 83 (Ct. Cl. 1977).

258. To place the burden on the competitor to show non-infringement in this manner is analogous to the heightened burden placed on a patentee seeking a product-by-process patent. In determining the validity of a product-by-process claim, the C.C.P.A. recognized that "the lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult . . . . [W]hen the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim . . . , a heightened burden on the patentee is "eminently fair and acceptable." *In re Brown*, 459 F.2d 531, 535 (C.C.P.A. 1972). This heightened burden on the patentee demonstrates that, even when a product is not capable of independent structural definition, it is still possible for an inventor to distinguish his product from those that precede him. Applying the same standard to a potential infringer would not be an undue burden.



product is different from the patented product.<sup>259</sup> Until that showing can be made, protection must be given to the pioneer, the patentee. If competitors cannot prove their product is different from the patented product or prior art, yet they can find a new, improved process of making the patented product, they can find protection of their "invention," the process, by traditional process claims.<sup>260</sup>

This approach, which differentiates between new compositions, incapable of independent structural definition, and new, useful improvements to old products offers sufficient patent protection to the "pioneers" and inventors. An inventor of a new or useful product, capable of definition independent of the prior art, can obtain a patent for his work.<sup>261</sup> Likewise, an inventor who discovers an improved process of making a patented product will be given the protection of traditional process claims.<sup>262</sup> This approach allows for improvements of the original inventions without an unwarranted threat of piracy.

This approach also encourages full disclosure of new, useful processes. By affording substantial protection to an invention patented in product-by-process terms, an inventor is given incentive to apply for a patent and to disclose his product and process. In contrast, the *Atlantic* ruling provides disincentives for companies to fully disclose the processes used in making a product, out of fear of piracy via insubstantial changes to their process.

### C. *Appropriateness of the Denial for Rehearing En Banc*

In denying the rehearing of *Atlantic en banc*, the Federal Circuit contravened one of its established rules. In its first decision, the newly-formed Federal Circuit adopted as binding precedent the decisions of its predecessor courts, the C.C.P.A. and Court of Claims.<sup>263</sup> Overruling the precedent of these courts, or resolving a conflict between the courts, would require an *en banc* hearing.<sup>264</sup> Furthermore, Federal Rule of Appellate Procedure 35 states that an *en banc* hearing or rehearing should be granted "(1) when consideration by the full court is necessary to secure or maintain uniformity of its decisions, or (2) when the proceed-

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259. See *supra* note 28 and accompanying text.

260. Although a process claim would not protect the product itself except to the extent an infringer utilizes the same process, this same minimal level of protection is afforded by a product-by-process claim if *Atlantic* is correct. In either case, an identical product made by a different process should not be deemed to infringe. See *supra* note 25; *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846-47 (Fed. Cir. 1992).

261. 35 U.S.C. § 101 (1988).

262. *Id.*

263. *South Corp. v. United States*, 690 F.2d 1368 (Fed. Cir. 1982).



ing involves a question of exceptional importance."<sup>265</sup> Thus, when a circuit panel seeks to overturn a previous decision, the Federal Circuit must sit *en banc* to decide the issue. In addition, the Federal Circuit has adopted the principle that where two Federal Circuit decisions are in direct conflict, the first decision in time is controlling.<sup>266</sup>

These Federal Circuit rules, coupled with the denial of the request to rehear *Atlantic en banc*, put the law of product-by-process claims in disarray. Since a majority of the Federal Circuit Judges voted to not have the rehearing *en banc*,<sup>267</sup> by implication, they concurred in its opinion that process language acts as a limitation on product-by-process claims. However, the prior precedent rule<sup>268</sup> dictates that *Scripps*, the first decision in time, should control. If *Scripps* is followed, then process language of product-by-process claims should not always act as a limit on the scope of the patent. This apparent inconsistency could have been avoided if *Atlantic* were reheard *en banc*. Clearly, the rehearing *en banc* should have been granted.

The *Atlantic* opinion tried to avoid this pitfall by stating that the *Scripps* opinion failed to follow Supreme Court precedent and, accordingly, was not binding on the court.<sup>269</sup> In support of this contention, the *Atlantic* opinion cites a footnote in an Eleventh Circuit opinion<sup>270</sup> that dealt with a civil rights action against a juvenile detention center. This should not be sufficient authority to disregard binding precedent. The *Atlantic* panel should not have cited merely persuasive authority to justify the controversy it created.<sup>271</sup>

## V. CONCLUSION

The Patent Act is designed to provide disclosure of new, useful inventions. Unpredictability as to the amount of protection that will be given an invention provides a disincentive to an inventor to disclose to the world the nature of his invention. An inventor would not be willing to disclose to a competitor his invention if he is not sure if the courts

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265. FED. R. APP. P. 35(a).

266. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757 (Fed. Cir. 1988), *cert. denied*, 493 U.S. 814 (1989).

267. *See supra* note 10.

268. *See supra* note 264.

269. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838-39 n.2 (Fed. Cir. 1992).

270. *Tucker v. Phyfer*, 819 F.2d 1030, 1035-36 n.7 (11th Cir. 1987).

271. The *Atlantic* opinion also stated that the *Scripps* decision was made on an "undeveloped record." *Atlantic*, 970 F.2d at 839; *see Scripps Clinic & Research Found. v. Genentech*, 927 F.2d 1565, 1583-84 (Fed. Cir. 1991). As Judge Newman pointed out in her opinion dissenting from the denial of rehearing *en banc*, this "undeveloped record" was in reference to the facts of the case, not the briefing and argument of the law pertaining to product-by-process claims. *Atlantic*, 974 F.2d at 1289 n.7 (Newman, J., dissenting from the denial of rehearing *en banc*).

will protect his invention from infringement. If, however, an inventor knows with some degree of certainty that the courts will protect his invention, it is more likely that he will choose to apply for patents and disclose his inventions.

Unfortunately, this is not the current status of product-by-process claims. There are conflicting precedents decided by different Federal Circuit panels which have different interpretations of the limitations of language in product-by-process claims. *Scripps* stated that the process described in a product-by-process claim does not act as a limitation on the patent claim. According to *Scripps*, a product that is identical to a product claimed in product-by-process terms can still infringe the patent, even though made by a different process. *Atlantic*, however, states that the process is a limitation to a product-by-process claim. Under *Atlantic*, a product that is identical to a product claimed in product-by-process terms will not infringe the claimed product, if the product was made by a different process. A majority of the Federal Circuit Judges appear to agree with the outcome in *Atlantic*. Under the Federal Circuit's prior precedent rule, however, the *Scripps* opinion should be controlling since it was first in time.

The result of the next product-by-process infringement case that arises in the Federal Circuit and the presiding panel's treatment of the issue will be important. Depending on which Federal Circuit panel initially hears the case, the Federal Circuit panel may decide to follow *Scripps* by means of the prior precedent rule or it may follow *Atlantic* and decide that *Scripps* has been overruled. The Federal Circuit should take the opportunity when the next case arises to explicitly delineate between "true" product-by-process claims and claims involving processes as applied to old products. This is a better approach from a policy standpoint because it affords protection to the inventors of new products and processes, yet still allows competitors to "invent around" a claimed product. Furthermore, the court should hear the case *en banc* so as to put to rest the issue of whether a process acts as a limitation to the product-by-process claim. Patentees and their competitors will then know with some degree of certainty what level of protection is afforded to products claimed in part by the method produced.

The controversy arising from the *Atlantic* case is important in that it shows both the different interpretations of the role of claim language in product-by-process claims and the various policies underlying those interpretations. Given this controversy, perhaps the Federal Circuit will realize its mistake in not hearing *Atlantic en banc*. Perhaps they will realize what the *Atlantic* panel failed to realize: the need for a single result is more important than the substantive issue in the case. This is especially true because the Federal Circuit is granted exclusive juris-



diction over patent appeals. Until the time when the Federal Circuit revisits *Atlantic* and *Scripps* with a unified voice, individuals and companies can only guess whether their products made by a process similar to a product claimed in product-by-process terms is indeed infringing on the claimed product.

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