

# THE DOCTRINE OF EQUIVALENTS IN PATENT LITIGATION: AN ANALYSIS OF THE EPILADY CONTROVERSY

## I. INTRODUCTION

Today the primary element in the growth of modern economies is the development and use of new ideas and new technologies.<sup>1</sup> “[T]he ability to create and make use of new ideas and new technologies is increasingly becoming a factor which distinguishes the successful from the unsuccessful, be it in nation-to-nation or firm-to-firm competition.”<sup>2</sup> Because of the economic importance new ideas and technologies play in the marketplace, most industrial nations afford inventors of new products or processes protection within their borders.<sup>3</sup>

This protection is provided by what is called a patent. A patent is an instrument granted by a government or sovereign of a country which gives the patentee an exclusive right to use the new product or process for a period of time. However, the exclusive use is only applicable in the territory of the country granting the patent. In the United States, a patent confers the right to exclude others from making, using or selling the patented invention for seventeen years.<sup>4</sup> Today, even though most industrial nations grant patent protection, the methods used to determine the scope of a claim and whether the claim encompasses the accused product or process vary from one industrial nation to another.

Direct infringement of a patent occurs in one of two ways: literal or by equivalence. Literal infringement is essentially outright duplication of the patented device and is rarely litigated.<sup>5</sup> Therefore, the vast majority of infringement disputes involve the doctrine of equivalents. Patent attorneys know from experience that a patent system not recognizing infringement by equivalence would provide little protection for patented products or processes. Recognizing the important role the doctrine of equivalents plays in patent protection, it is equally important that the doctrine is applied uniformly wherever patent protection is afforded. Because patent protection is based on the patent laws of the country granting the patent and the political agendas of each country differ, global uniformity in regard to equivalency has yet to be achieved. Without a worldwide uniform equivalents doctrine, the degree of patent protection will vary from one nation to the next. The global inconsistencies of claim interpretation force industries holding foreign patent rights to allocate additional capital for legal counsel interpretation of these inconsistencies, which

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1. R. MICHAEL GADBAW & TIMOTHY J. RICHARDS, *INTELLECTUAL PROPERTY RIGHTS* 1 (1988).

2. *Id.*

3. *Id.*

4. 35 U.S.C. §§ 154 & 271 (1988).

5. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950).

effectively reduces the capital available for activities vital to the long run financial success of these industries, such as research and development and purchases of machines and equipment.

The purpose of this note is to illustrate the lack of harmony in determining infringement by equivalency between the United States and the Member States of the European Community (E.C.). In order to familiarize the lay reader with the doctrine of equivalents, Part II of this note briefly describes the doctrine as it is applied in the United States. Part III then focuses on international patent protection and the role the doctrine of equivalents plays in the E.C. Part IV discusses the contradictions among the national courts of the E.C. in applying the doctrine of equivalents, and illustrates these contradictions by analyzing the Epilady controversy. Briefly, the Epilady controversy involved an infringement dispute between a European Patent holding Panamanian company and an American-based company. The patented device, the Epilady, is a depilatory device used to remove hair from the arms and legs of women. What is particularly interesting about the Epilady dispute is that when the Panamanian company sought to enforce its European Patent in various E.C. national courts, some national courts found infringement and others did not. This inconsistency occurred even though each national court considered the same patent, the same infringing device, a similar set of facts, and applied the same uniform standard of interpretation. The Epilady controversy serves as a dramatic illustration of the contradictions among the national courts of the E.C. in applying the doctrine of equivalents. Lastly, as a possible solution to the inconsistent applications of the doctrine of equivalents, Part V discusses how the current draft of the Patent Harmonization Treaty will facilitate harmonization of the doctrine of equivalents worldwide.

## II. PATENT INFRINGEMENT AND THE DOCTRINE OF EQUIVALENTS IN THE UNITED STATES

With respect to a utility patent, the United States Government grants, for the term of seventeen years, the right to exclude others from making, using, or selling the patented invention in the United States.<sup>6</sup> Violation of this right is a tort<sup>7</sup> analogous to trespass<sup>8</sup> for which the patent holder may bring a civil action<sup>9</sup> in Federal Court. Violation of this right to exclude others from making, using, or selling the patented invention in the United States is called direct

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6. 35 U.S.C. § 154 (1988).

7. *Carbice Corp. of America v. American Patents Development Corp.*, 283 U.S. 27, 33 (1931).

8. *Thompson-Houston Elec. Co. v. Ohio Brass Co.*, 80 Fed. 712, 721 (6th Cir. 1897).

9. 35 U.S.C. § 281 (1988).

infringement. The statutory definition of direct infringement, on its face, appears to be quite simple. Section 271(a) provides: “[e]xcept 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 thereof, infringes the patent.”<sup>10</sup> Although the statutory definition of direct infringement appears to be straight forward, the definition requires the courts to conduct two difficult inquiries: the determination of the scope of the claims, as a matter of law, and the factual finding of whether the properly construed claims encompass the accused structure.<sup>11</sup>

Direct infringement can be found in one of two ways: literal or by equivalence. To establish infringement of a patent every limitation set forth in a claim must be found in the accused product or process exactly or by a substantial equivalent.<sup>12</sup> In determining both literalism and equivalence, the focus must be on the elements of the individual claim rather than the invention as a whole.<sup>13</sup>

#### A. *Literal Infringement*

Literal infringement is found when the words of the claim literally read on the accused subject matter and such subject matter embodies the essential characteristics of the invention defined by the claim. The United States Supreme Court in *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, summarized the process of determining literal infringement of a patent as: “[i]n determining whether an accused device or composition infringes a valid patent, resort must be had in the first instance to the words of the claim. If the accused matter falls clearly within the claim, infringement is made out and that is the end of it.”<sup>14</sup>

As most patent attorneys know though, literal infringement is basically outright duplication of the patented device and is rarely litigated.<sup>15</sup> Most infringement disputes involve an accused device which has not copied every literal essential characteristic of the patented device. More often the accused device embodies elemental substitutions and minor changes that take the accused device outside the scope of the literal meaning of the patent’s claims.

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10. 35 U.S.C. § 271(a) (1988).

11. *McGill Inc. v. John Zink Co.*, 736 F.2d 666, 671 (Fed. Cir. 1984) (citing *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 376 (Fed. Cir. 1983)), *cert. denied*, 469 U.S. 1037 (1984).

12. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989).

13. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961, 1009 (1988).

14. *Graver Tank*, 339 U.S. at 607.

15. *Id.*

## B. *Equivalency (Doctrine of Equivalents)*

If the requirements of literal infringement are not met, infringement may still be found by applying the doctrine of equivalents. According to the doctrine of equivalents, if the words of the claim do not literally read on the accused subject matter, but the accused device performs substantially the same function in substantially the same way to obtain substantially the same result, there is infringement unless the patent holder is estopped from broadening the scope of the claim beyond the literal meaning of its words.<sup>16</sup> The patentee has the burden of proving the accused device infringes the patent's claims, and to do so under the doctrine of equivalents requires a showing that all three components of the equivalency test—function, way, and result—are met.<sup>17</sup> Therefore, to find infringement under the doctrine of equivalents, a patentee must prove by a preponderance of the evidence<sup>18</sup> the substantial identity as to each of the function, way, and result prongs of the doctrine of equivalents.<sup>19</sup>

### 1. *Interchangeability Factor of Equivalency*

An important factor in the determination of equivalence is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.<sup>20</sup> The patent specification need not disclose the equivalent element and the fact that it is a proper substitute in order for the doctrine to apply.<sup>21</sup> The Federal Circuit

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16. *E.g.*, *Pennwalt Corp.*, 833 F.2d at 934 (citing *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 901-02 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 857 (1984) and *Graver Tank*, 339 U.S. at 608); *Stewart-Warner Corp. v. City of Pontiac*, 767 F.2d 1563, 1570-72 (Fed. Cir. 1985) (citing *Graver Tank*, 339 U.S. at 609 (quoting *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (1929))).

17. *Universal Gym Equip., Inc. v. ERWA Exercise Equip. Ltd.*, 827 F.2d 1542, 1548 (Fed. Cir. 1987).

18. *Smithkline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988).

19. *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1325 (Fed. Cir. 1991), *cert. denied*, 112 S. Ct. 2942 (1992).

20. *Perkin-Elmer Corp.*, 822 F.2d at 1535 (citing *Graver Tank*, 339 U.S. at 609); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 975 (Fed. Cir. 1985) (citing *Graver Tank*, 339 U.S. at 609). Substitution of an ingredient known to be an equivalent to that required by the claim presents a classic example for finding infringement under the doctrine of equivalents. *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1260 (Fed. Cir. 1989) (citing *Graver Tank*, 339 U.S. at 609). Interchangeability is a useful consideration when determining whether two specific structures are equivalents. *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 1125 (Fed. Cir. 1987) (citing *Graver Tank*, 339 U.S. at 609).

21. *Thomas & Betts Corp. v. Litton Sys.*, 720 F.2d 1572, 1579 (Fed. Cir. 1983).

in *C.R. Bard Inc. v. Kendall Co.*, put the “interchangeability” factor in to perspective when it held that “interchangeability” is but one factor to be considered in an equivalents analysis, and does not by itself establish equivalence under the *Graver Tank* standard.<sup>22</sup>

## 2. *Timing of Equivalency Review*

In regard to timing, infringement by equivalents is determined at the time of infringement, and not by what the inventor (or others skilled in the art) knew when the patent was filed or issued.<sup>23</sup> In other words, it is not required that those skilled in the art knew of the asserted equivalent means of performing the claimed function at the time the patent application was filed, but that those skilled in the art know of the asserted equivalent means of performing the claimed function at the time infringement takes place.<sup>24</sup> Therefore, a partial variation in technique or an embellishment made possible by post-patent technology, does not always allow the accused method or product to escape the ‘web of infringement.’<sup>25</sup>

## 3. *The Additional Functions Defense*

A common defense to the doctrine of equivalents is that the accused device performs additional functions not found in the patented device. The Federal Circuit has held that infringement under the doctrine of equivalents is not precluded merely because the accused device performs functions in addition to those performed by the claimed device.<sup>26</sup> It is the limitations and functions of the invention described in the claims, not the elements or functions of the accused device, that establish the reference point for the doctrine of equivalents.<sup>27</sup>

## 4. *Limitations on the Doctrine of Equivalents*

As mentioned earlier, the patent holder may be estopped from broadening the scope of the claim beyond the literal meaning of its words.<sup>28</sup> Three

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22. *C.R. Bard Inc. v. Kendall Co.*, 935 F.2d 280, 280 (Fed. Cir. 1991).

23. *Atlas Powder Co. v. E.I. duPont de Nemours & Co.*, 750 F.2d 1569, 1581 (Fed. Cir. 1984); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1563 (Fed. Cir. 1986).

24. *Texas Instruments*, 805 F.2d at 1563 (citing *Atlas Powder Co.*, 750 F.2d at 1581). See also *American Hosp. Supply Corp. v. Travenol Labs., Inc.*, 745 F.2d 1, 8 (Fed. Cir. 1984).

25. *Moleculon Research Corp. v. CBS, Inc.*, 872 F.2d 407, 409-10 (Fed. Cir. 1989) (citing *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1365 (Fed. Cir. 1983)).

26. *Insta-Foam Prods., Inc. v. Universal Foam Sys.*, 906 F.2d 698, 702 (Fed. Cir. 1990).

27. *Id.*

28. See cases cited *supra* note 16.

frequently cited limitations of the doctrine of equivalents include: prosecution history estoppel, prior art, and technological advances.

a. *Prosecution History Estoppel*

Prosecution history estoppel is an equitable tool for determining the permissible scope of patent claims.<sup>29</sup> Normally, in order to obtain the patent grant, the patent applicant will make material representations to the Patent and Trademark Office (PTO), in response to references cited by the PTO, that in effect alter the scope of the patent claims. Typically these representations reduce the scope of the patent in order to avoid the prior art. These material representations are pertinent to the subsequent determination of the permissible scope of the patent claim.<sup>30</sup> Prosecution history estoppel will not allow the patentee to recapture through equivalence certain coverage given up during prosecution.<sup>31</sup>

b. *Prior Art*

There can be no infringement under the doctrine of equivalents if the asserted scope of equivalency would encompass the prior art.<sup>32</sup> The limitation posed by the prior art is simply that the asserted range of equivalents may not encompass the prior art at the very point at which the claims distinguish

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29. *Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 1284 (Fed. Cir. 1986).

30. *Builders Concrete, Inc. v. Bremerton Concrete Prods. Co.*, 757 F.2d 255, 258 (Fed. Cir. 1985).

31. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 870 (Fed. Cir. 1985); *Jonsson v. Stanley Works*, 903 F.2d 812, 821 (Fed. Cir. 1990) (quoting *Thomas & Betts Corp.*, 720 F.2d at 1579); *Mannesmann Demag Corp.*, 793 F.2d at 1284 (citing *Thomas & Betts Corp.*, 720 F.2d at 1579 and *Stewart-Warner Corp.*, 767 F.2d at 1572). For example, "[w]hen an accused device is the same as a disclosed embodiment, and claims covering the disclosed embodiment are rejected and canceled, the yielded claim scope cannot be recovered in order to encompass the accused device through the doctrine of equivalents." *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 681 (Fed. Cir. 1988). In *Diversitech*, the rejected claim was to a device with a coating on all sides; the final claims recited a coating on top and sides only. The defendant put a coating on the bottom and the patentee argued equivalency. Inasmuch as equivalence was demonstrated in the specification, the Federal Circuit's refusal to accept this argument is clearly grounded on estoppel. Although the claim was not amended, the broader claim from which it depended was canceled. See also *E.I. duPont de Nemours Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1438 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 986 (1988); *Hi-Life Products Inc. v. American Nat'l Water-Mattress Corp.*, 842 F.2d 323, 325 (Fed. Cir. 1988).

32. *Pennwalt Corp.*, 833 F.2d at 934 n.1 (citing *Loctite Corp.*, 781 F.2d at 870).

from the art.<sup>33</sup> Discerning the range of equivalents “involves consideration of what the prior art would have anticipated, 35 U.S.C. § 102, and what the prior art would have made obvious, 35 U.S.C. § 103, when the patentee filed the original application.”<sup>34</sup> Whether an asserted range of equivalents would cover what is already in the public domain, is a question of law.<sup>35</sup>

The Federal Circuit has established a method for determining the limits of claim coverage in view of prior art which in essence involves writing a hypothetical claim covering the accused device and deciding whether it is patentable over the prior art.<sup>36</sup>

[I]t may be helpful to conceptualize the limitation on the scope of equivalents by visualizing a hypothetical patent claim, sufficient in scope to literally cover the accused product. The pertinent question then becomes whether that hypothetical patent claim could have been allowed by the PTO over the prior art. If not, then it would be improper to permit the patentee to obtain that coverage in an infringement suit under the doctrine of equivalents. If the hypothetical claim could have been allowed, then the prior art is not a bar to infringement under the doctrine of equivalents.<sup>37</sup>

Thus, *Wilson Sporting Goods* teaches that the patentee bears the burden of showing that the range of equivalents it seeks will not encompass the prior art.<sup>38</sup>

### c. *Technological Advances*

It has always been thought that an “embellishment” made possible by technological advances may not permit the accused device to escape the ‘web

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33. *Stewart-Warner Corp.*, 767 F.2d at 1572 (citing *Thomas & Betts Corp.*, 720 F.2d at 1580 and *Hughes Aircraft Co.*, 717 F.2d at 1362). It is well established that limitations in a claim cannot be given a range of equivalents so wide as to cause the claim to encompass anything in the prior art. *Senmed, Inc. v. Richard-Allen Med. Indus., Inc.*, 888 F.2d 815, 821 (Fed. Cir. 1989) (citing *Perkin-Elmer Corp.*, 732 F.2d at 900). Claims may not be enlarged by equivalents to encompass the teachings of the prior art. *Tandon Corp. v. United States ITC*, 831 F.2d 1017, 1026 (Fed. Cir. 1987) (citing *Perkin-Elmer Corp.*, 732 F.2d at 900).

34. *We Care, Inc. v. Ultra-Mark Int'l Corp.*, 930 F.2d 1567, 1571 (Fed. Cir. 1991) (vacating the district court's preliminary injunction based on the likelihood of success in proving infringement under the doctrine of equivalents because the district court failed to determine whether the prior art would have made the range of equivalents given to the patent).

35. *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 684 (Fed. Cir. 1990), *cert. denied*, 498 U.S. 992 (1990).

36. *Id.*

37. *Id.* See also, *Insta-Foam Prods.*, 906 F.2d at 703-4.

38. *Wilson Sporting Goods*, 904 F.2d at 685.

of infringement."<sup>39</sup> Indeed, that has been suggested as one of the purposes underlying the doctrine—to protect inventors from unanticipated equivalents.<sup>40</sup> But in *Texas Instruments Inc. v. United States ITC*, the court held that where extensive technological advances in all claimed functions result in multiple departures from literal readability, the totality of change in the accused device may be too much to support a holding of infringement.<sup>41</sup>

### C. *Purpose of the Doctrine of Equivalents*

The doctrine of equivalents originated almost a century ago in the case of *Winans v. Denmead*, 56 U.S. (15 How.) 330.<sup>42</sup> Since that time, the doctrine has been consistently applied by the Supreme Court and lower federal courts, and continues today ready and available for utilization when the proper circumstances for its application arise. The doctrine of equivalents was judicially devised to provide equity<sup>43</sup> and is intended to be used "in situations where there is no literal infringement but liability is nevertheless appropriate[,] to prevent what is in essence a pirating of the patentee's invention."<sup>44</sup> The Supreme Court in *Graver Tank* recognized the necessary role the doctrine of equivalents plays in patent protection when it stated:

[C]ourts have also 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. Such a limitation would leave room for—indeed encourage—the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of the law. . . . Outright and forthright duplication is a dull and very rare type of infringement. To prohibit no other would place the inventor at the mercy of verbalism and would be subordinating substance to form. It would deprive him of the benefit of his invention and

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39. *Datascope Corp. v. SMEC, Inc.*, 776 F.2d 320, 326 (Fed. Cir. 1985) (quoting *Hughes Aircraft Co.*, 717 F.2d at 1365).

40. *See Kinzenbaw v. Deere & Co.*, 741 F.2d 383, 389 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1004 (1985).

41. *Texas Instruments*, 805 F.2d at 1571.

42. *Graver Tank*, 339 U.S. at 608.

43. *Hughes Aircraft Co.*, 717 F.2d at 1361.

44. *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1564 (Fed. Cir. 1989) (quoting *Loctite Corp.*, 781 F.2d at 870).



would foster concealment rather than disclosure of inventions, which is one of the primary purposes of the patent system.<sup>45</sup>

To achieve this purpose, equivalency is judicially determined by reviewing the content of the patent, the prior art, and the accused device, and essentially redefining (broadening) the literal scope of the claims. Broadening the literal scope of a claim, in essence, "constitutes a deviation from the need of the public to know the precise legal limits of patent protection without recourse to judicial ruling."<sup>46</sup> "To the extent that the doctrine of equivalents represents an exception to the requirement that the claims define the metes and bounds of patent protection," the doctrine is admissible only to serve its real purpose, which is "to temper unsparing logic and serve the greater interest of justice."<sup>47</sup>

The doctrine of equivalents essentially presents the courts with a difficult dichotomy. On the one hand, claims must be particular and distinct so that the public has fair notice of what the patentee and the PTO have agreed constitute the metes and bounds of the claimed invention. Notice permits other parties to avoid actions that infringe the patent and to design around the patent. On the other hand, the patentee should not be deprived of the benefits of his or her patent by competitors who appropriate the sense of the invention while barely avoiding the literal language of the claims. Thus, although designing around a particular patent is encouraged, piracy is not. The doctrine of equivalents emerged to deal with this problem.<sup>48</sup>

Some courts have doubted whether the doctrine of equivalents automatically should be considered in every case where literal infringement is not present:

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 simply the second prong of every infringement charge, regularly available to extend protection beyond the scope of the claims, then claims will cease to serve their intended purpose. Competitors will never know whether their actions infringe a granted patent.<sup>49</sup>

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45. *Graver Tank*, 339 U.S. at 607.

46. *Texas Instruments*, 805 F.2d. at 1572. The court had previously cautioned against expansion of the doctrine too far, to the point where patent counsel cannot rely at all on what the claims recite when advising a client as to infringement. *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166 (Fed. Cir. 1986).

47. *Texas Instruments*, 805 F.2d. at 1572 (foreshadowing a less expansive application of the doctrine of equivalents in future cases).

48. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991).

49. *Id.*

"Each case in which infringement by equivalents is asserted turns on its facts, . . . and requires the trier of fact to balance the competing public policies of avoiding a 'fraud on the patent'" with the public's need for reasonable certainty as to the scope of the patent grant.<sup>50</sup>

In summary, application of the doctrine expands the right to exclude "equivalents" of what is claimed. The doctrine of equivalents does not change the scope of the patent protection as defined by the claims. The doctrine, "by definition, involves going beyond any permissible interpretation of the claim language; i.e., it involves determining whether the accused product is 'equivalent' to what is described by the claim language."<sup>51</sup>

### III. INTERNATIONAL PATENT PROTECTION AND THE ROLE OF THE DOCTRINE OF EQUIVALENTS

The laws of a country relating to patent protection are generally concerned with acts accomplished or committed in the country itself.<sup>52</sup> Consequently, a patent is effective only in the country that effected the grant.<sup>53</sup> Therefore, a patent owner desiring protection in several countries, must obtain a patent grant in each country separately.<sup>54</sup> Today, many American industries conduct their business in the global marketplace. In order to protect their unique products worldwide, these international companies pursue patent rights in the foreign countries where they conduct business. Just as the doctrine of equivalents is crucial in protecting patent rights in the United States, it is equally important in international forums. Although the doctrine of equivalents is applied in many international forums, it is not applied or interpreted harmoniously. This lack of harmony in patent protection is just one of the risks incurred by companies doing business internationally.

#### A. *The European Community*

One exception to the general rule that a patent is only effective in the country issuing the grant is in the E.C., where the European Patent is recognized by all

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50. Sun Studs, Inc. v. ATA Equip. Leasing, Inc., 872 F.2d 978, 987-8 (Fed. Cir. 1989) (quoting *Graver Tank*, 339 U.S. at 608).

51. *Wilson Sporting Goods*, 904 F.2d at 684.

52. NEW YORK COUNTY LAWYERS ASS'N. COMM. ON PATENTS TRADEMARKS & COPYRIGHTS, HANDBOOK ON PATENTS TRADEMARKS & COPYRIGHTS 89 (1982).

53. *Id.* at 89-90.

54. *Id.* at 90.

the E.C. Member States. Since the Treaty of Rome (E.E.C. Treaty)<sup>55</sup> came into effect on January 1, 1958, the Member States of the E.C. have been striving to establish a common market and coordinating their economic policies to promote harmonious economic development throughout the Community. The establishment of a common market has dramatically increased the economic opportunities available to both Member States and foreign businesses. Along with the increase in economic opportunities within the E.C. has come an increase in businesses competing for the financial rewards of a growing E.C. market. As competition within the E.C. continues to heighten between businesses actively involved in the E.C. market, the patent protection afforded by each Member State becomes vitally important.

Recognizing the importance of harmonization of national patent laws in the E.C., the Member States committed themselves to patent law harmonization via the European Patent Convention (EPC).<sup>56</sup> The EPC provides that an inventor may apply for a European Patent at the European Patent Office (EPO) in Munich, or at its branch in The Hague.<sup>57</sup> After the EPO has conducted a priority search and examined the application for originality and capability of industrial use, the EPO may grant a European Patent.<sup>58</sup> In the event a European Patent is granted, the inventor is deemed to have acquired a patent in each of the ratifying states<sup>59</sup> for twenty years from the date of application.<sup>60</sup> The EPC reconciles a number of key substantive patent law concepts in the ratifying states<sup>61</sup> and provides for a central system to review challenges to the application or patent.<sup>62</sup> However, many aspects of the European Patent continue to be governed by different national laws.<sup>63</sup> A key aspect of the EPC is that any infringement of a European Patent is handled by special national courts set up in each Member State to settle patent infringement issues.<sup>64</sup>

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55. Treaty establishing the European Economic Community, Mar. 25, 1957, TREATIES ESTABLISHING THE EUROPEAN COMMUNITIES (Office for Official Publications of the European Communities abr. ed., 1979).

56. Convention on the Grant of European Patents (European Patent Convention), Oct. 5, 1973, 13 I.L.M. 270 [hereinafter EPC]. The EPC came into force on March 1, 1979, and strongly promotes the harmonization of patent rules. The Convention was signed by the then nine Member States, as well as the five non-EC states. Most of the Member States and several non-EC states have ratified it, so the EPC is effective throughout most of Western Europe.

57. *Id.* art. 75(1)(a).

58. *Id.* art. 52(1).

59. *Id.* art. 64(1).

60. *Id.* art. 63(1).

61. *Id.* art. 52-74.

62. *Id.* art. 15-22.

63. *Id.* art. 74.

64. *Patent Litigation Before European National Courts; Today And Tomorrow*, Patent, Trademark & Copyright Law Daily (BNA) ¶ 6 (July 7, 1992).

In order to help the national courts determine infringement disputes uniformly, Article 69 of the EPC provides a guideline for interpreting the scope of protection conferred by a European Patent.<sup>65</sup> The Protocol on the Interpretation of Article 69 of the EPC (Protocol) calls for an intermediate standard that "combines a fair protection for the patentee with a reasonable degree of certainty for third parties."<sup>66</sup> The purpose of the Protocol is to strike a balance between two fundamental extremes: strict literal interpretation and broad guidelines. The Protocol, having been officially adopted by all members of the EPC,<sup>67</sup> should have pulled followers of the extremes to a common, harmonized, middle ground of "fair protection" and "reasonable certainty." Article 69 of the EPC and the Protocol, in theory, should allow for the use of the doctrine of equivalents in EPC patent interpretation. The freedom from strict literal interpretation, which the equivalents doctrine provides, should inhibit a tumbling into open-ended guidelines that might chill third parties fearing extensive infringement liability.

A good example of how the Protocol has not fulfilled its objective of pulling the Member States to a common, harmonized, middle ground of "fair protection" and "reasonable certainty" is clearly demonstrated in the Epilady litigation conducted in the United Kingdom and West German national courts.

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65. EPC, *supra* note 56, art. 69(1). Article 69(1) states: "The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims." *Id.*

66. Protocol on the Interpretation of Article 69 of the Convention, Oct. 5, 1973, 13 I.L.M. 270 [hereinafter Protocol]. The Protocol reads as follows:

Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for the third parties.

*Id.* at 348.

67. David Perkins, *Foreign Principles Of Intellectual Property/Antitrust: The EEC*, in INTELLECTUAL PROPERTY/ANTITRUST 279, 317 (Practising Law Institute, 1992). All EC countries, except Ireland, and all EFTA countries except Finland and Iceland have ratified the EPC. EC Member States have also amended their national laws to harmonize them with the EPC, the exception again being Ireland. *Id.*

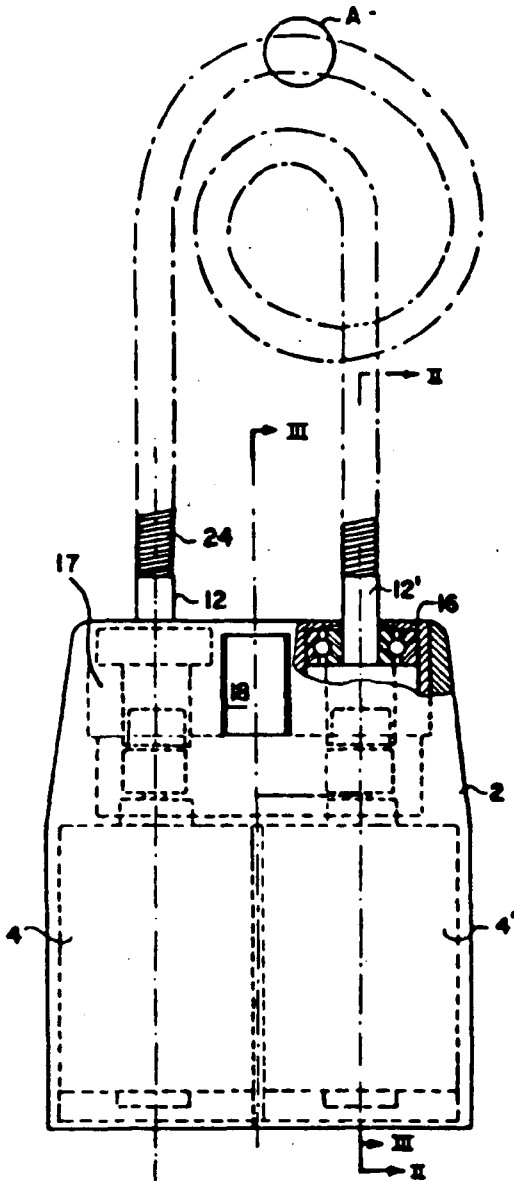


FIG. 1

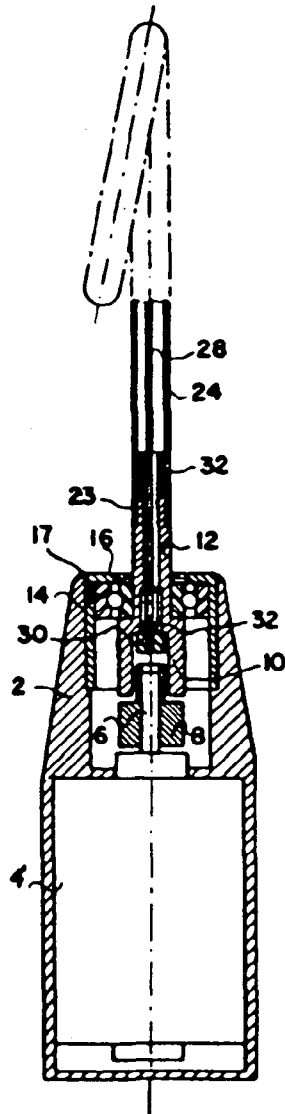


FIG. 2

\* Diagram reprinted as found in *Improver Corp. & Others v. Remington Consumer Products Ltd. & Others*, [1990] F.S.R. 181, 185-186 (Eng. Ch. 1989) (reprinted in 21 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 680, 681 (1990)).



## IV. THE EPILADY CONTROVERSY

A. *Epilady Story*

In July of 1983 two Israeli men filed a patent application with the EPO.<sup>68</sup> They were seeking a patent for their invention of a device that removes body hair from the arms and legs of women for cosmetic purposes. The European patent, Number 0101656,<sup>69</sup> was granted in November 1986<sup>70</sup> for the depilatory device. The European Patent was valid in a considerable number of Contracting States, including the United Kingdom and West Germany.<sup>71</sup> Improver Corporation [hereinafter Improver], the owner of the patent by assignment, marketed the depilatory device under the name "Epilady".<sup>72</sup>

The Epilady, illustrated in Figures 1 and 2, consisted of an electric motor (4,4') in a hand-held housing (2) to which was attached a helical steel spring (24) held by its end and stiffened by a guide wire to form a loop.<sup>73</sup> The arcuate form of the spring caused gaps between the windings to open on the convex side and close on the concave side.<sup>74</sup> When the spring was rotated at high speed and held close to the skin, hairs entered the gaps on the convex side and were gripped between the windings as the rotational movement brought them around to the concave side.<sup>75</sup> The effect was to pluck the hair from the skin.<sup>76</sup>

Marketing of the Epilady began in 1986 and was an enormous commercial success.<sup>77</sup> In the first two years over 5.8 million devices were made, generating sales in excess of \$340 million dollars.<sup>78</sup> Based on the quick success of the Epilady, Improver and licensed manufacturers and distributors soon found themselves facing a variety of imitators.<sup>79</sup> "The most notorious alleged infringement involved a competing product manufactured for and sold by

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68. Sanford T. Colb, *The Epilady Hair Remover Litigation*, in GLOBAL INTELLECTUAL PROPERTY SERIES 1993, at 107, 109 (PLI Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series No. G4-3907, 1993).

69. Improver Corp. & Others v. Remington Consumer Products Ltd. & Others, [1990] F.S.R. 181, 184 (Eng. Ch. 1989).

70. Improver Corp. v. Remington Consumer Products Ltd., [1989] R.P.C. 69, 71 (Eng. C.A. 1988).

71. *Id.*

72. *Id.* at 72.

73. *Improver Corp. & Others*, [1990] F.S.R. at 184.

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. Colb, *supra* note 68, at 110.

Remington Consumer Products [hereinafter Remington], an American-based company known for its line of electric shaving products."<sup>80</sup>

Remington produced a rival device known as the "Smooth and Silky".<sup>81</sup> This device also comprised of an electrical motor and a hand held housing.<sup>82</sup> But instead of using a metal helical spring, the element attached to the motor and used to extract the hair was a cylindrical rod of elastic synthetic rubber held by its ends to form an arc subtending about 60 degrees.<sup>83</sup> A number of parallel radial slits were cut into the rubber.<sup>84</sup> The arcuate form of the rod caused the slits to open on the convex side and to be pressed together on the concave side. When the rod was rotated at high speed and held close to the skin, hairs entered the gaps on its convex side and were gripped between the walls of the slits as the rotational movement brought them around to the concave side.<sup>85</sup> The effect was to pluck the hair from the skin.<sup>86</sup>

When the "Smooth and Silky" entered the U.K. and German markets, Improver sought a preliminary injunction in both the U.K. and Germany.<sup>87</sup> The application before the English Patents Court was dismissed on the basis of no arguable case on infringement.<sup>88</sup> In contrast, a preliminary injunction was granted by the German District Court (Landgericht of Dusseldorf).<sup>89</sup> When the decision of the English Patents Court was appealed, the Court of Appeals—having regard for the findings of the German District Court—held there was an arguable case for infringement and granted the preliminary injunction ordering the English Patents Court to reconsider the claim.<sup>90</sup> In the meantime, the German Court of Appeals (Oberlandesgericht), having regard for the initial decision of the English Patent Court, discharged the preliminary injunction granted by the German District Court.<sup>91</sup> When the Epilady dispute was decided on the merits in the German District Court, it found that the

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80. *Id.*

81. *Improver Corp. & Others*, [1990] F.S.R. at 181.

82. *Id.* at 186.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. *Improver Corp.*, [1989] R.P.C. at 71; *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, Case No. 2 U 181/88 (OLG 1988), translated in 21 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 572, 573 (1990).

88. *Improver Corp.*, [1989] R.P.C. at 73.

89. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, 21 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 572, 573.

90. *Improver Corp.*, [1989] R.P.C. at 81.

91. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, 21 INT'L. REV. OF INDUS. PROP. & COPTRIGHT LAW 572, 579.



“Smooth and Silky” infringed on the Epilady patent.<sup>92</sup> In contrast, at trial before the English Patents Court, the “Smooth and Silky” was held not to have infringed on the Epilady patent.<sup>93</sup>

The Epilady dispute serves to illustrate the substantive contradictions among the national approaches in regard to patent claim interpretation. The most disconcerting aspect of the Epilady litigation is that both the German and English courts interpreted the same patent, operated under an approximately identical set of facts, utilized a uniform standard of interpretation—Protocol on the Interpretation of Article 69 of the EPC—and still managed to come up with two polar decisions.

The remainder of this note will closely analyze the final decisions of the Epilady dispute in both the German and English courts. A comparison will be conducted to distinguish the reasons causing the inconsistent decisions and a hypothetical U.S. decision will be proposed applying U.S. patent law to the facts of the Epilady dispute. Lastly, the current draft of the Patent Harmonization Treaty—intended to harmonize some of the patent laws throughout the world—will be analyzed to see whether it might have helped prevent the inconsistent decisions that the Epilady dispute generated.

#### B. *U.K. Epilady Decision*

When the English Patents Court considered the merits of the Epilady dispute, Justice Hoffmann decided the question of infringement turned upon a short but undoubtedly difficult point of construction.<sup>94</sup> This difficult point of construction was whether the rubber rod is a “helical spring” as that expressed in the claims of the Improver European Patent.<sup>95</sup> Justice Hoffmann said that the proper approach to the interpretation of patents registered under the Patents Act 1977<sup>96</sup> was explained by Lord Diplock in *Catnic Components*

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92. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, Case No. 2 U 27/89 (OLG 1991) translated in 24 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 838, 839 (1993).

93. *Improver Corp. & Others*, [1990] F.S.R. at 195.

94. *Id.* at 187.

95. *Id.*

96. Section 130(7) of the 1977 Patents Act declares that certain provisions of the Act, including section 125, “are so framed as to have, as nearly as practicable, the same effects in the United Kingdom as the corresponding provisions of the European Patent Convention . . . .” Patents Act, 1977, ch. 37 § 130(7).

Subject 1 of Section 125 of the 1977 Patents Act, which corresponds to Article 69 of the EPC provides:

(1) For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification

*Ltd. v. Hill & Smith Ltd.*, [1982] R.P.C. 183, 242 (H.L. 1980).<sup>97</sup> Justice Hoffmann summarized Lord Diplock's interpretation approach saying that the language of the claim should be given a "purposive" and not necessarily a literal construction.<sup>98</sup> Justice Hoffmann in applying the "purposive" construction technique said that when the issue is whether a variant<sup>99</sup> embodied in an alleged infringing product is within the claim's language as properly interpreted, the court should ask itself three questions: (1) does the variant have a material effect upon the way the invention works; (2) would the fact that the variant has no material effect upon the way the invention works have been obvious at the date of publication of the patent to a reader skilled in the art; and (3) would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention.<sup>100</sup>

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of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

*Id.* § 125(1).

Subject (3) of Section 125 declares:

The Protocol on the Interpretation of Article 69 of the European Patent Convention (which Article contains a provision corresponding to subsection (1) above) shall, as for the time being in force, apply for the purposes of subsection (1) above as it applies for the purposes of that Article.

*Id.* § 125(3).

97. *Improver Corp. & Others*, [1990] F.S.R. at 187. Lord Diplock's description in *Catnic Components* of how a patent specification should be construed, particularly with regard to what is and what is not to be regarded as an essential integer (element), as follows:

A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge. The question in each case is: whether persons with practical knowledge and experience of the kind of work in which the invention was intended to be used, would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that any variant would fall outside the monopoly claimed, even though it could have no material effect on the way the invention worked.

*Catnic Components Ltd. v. Hill & Smith Ltd.*, [1982] R.P.C. 183, 242 (H.L. 1980).

98. *Improver Corp. & Others*, [1990] F.S.R. at 187.

99. It can be inferred that since Justice Hoffmann applies the three question analysis in his opinion that he agrees with Justice Falconer that the rubber rod is not a "helical spring" but a variant ("mechanical equivalent") of the "helical spring" described in the *Improver* European Patent.

100. *Improver Corp. & Others*, [1990] F.S.R. at 187.

1. *Justice Hoffmann's Three Question Analysis*

- a. *Question (1): Does the variant have a material effect upon the way the invention works?*

If the variant has a material effect upon the way the invention works, the variant is outside the claim and there is no infringement.<sup>101</sup> If the variant does not have a material effect upon the way the invention works, then the second question of Justice Hoffmann's three prong test must be addressed. Justice Hoffmann discussed two important guidelines to consider in answering question one. First, a variant is a feature embodied in the alleged infringing product which is not within the literal or contextual meaning of a descriptive word or phrase in the claim.<sup>102</sup> Second, whether the variant would make a material difference to the way the invention worked is a question of fact and not a question of construction; although it cannot be sensibly answered without reference to the patent.<sup>103</sup>

Justice Hoffmann stated the answer to the first question "depends upon the level of generality at which one describes the way the invention works"<sup>104</sup> and "that the right approach is to describe the working of the invention at the level of generality with which it is described in the claim of the patent."<sup>105</sup> Remington's expert witness attempted to show the following four ways in which the rubber rod used in the "Smooth and Silky" materially effected the way the "Smooth and Silky" worked: (1) the gripping pressure of the rubber rod is one-third of Epilady (i.e. less broken hairs); (2) the rubber rod has one-fourth the number of slits and the slits themselves are discontinuous (i.e. pulls less hair therefore less painful); (3) the slits in the rubber rod close at earlier point and therefore grip shorter hairs better; and (4) the rubber rod doesn't have a hollow core to trap hairs as does the "Epilady."<sup>106</sup> Justice Hoffmann after considering the expert witness's testimony decided that the rubber rod works in the same way as the helical spring and the differences Remington's expert described were not material (i.e., the rubber rod is an equivalent to the helical spring).<sup>107</sup>

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101. *Id.*

102. *Id.*

103. *Id.* at 188.

104. *Id.* at 189.

105. *Id.* at 190.

106. *Id.* at 189-90.

107. *Id.* at 190.

- b. *Question (2): Would the fact that the variant has no material effect upon the way the invention works have been obvious at the date of publication of the patent to a reader skilled in the art?*

If it would *not* have been obvious at the date of publication of the patent to a reader skilled in the art that the variant has no material effect upon the way the invention works, the variant is outside the claim and there is no infringement.<sup>108</sup> But, if at the date of patent publication it *would have been* obvious to a reader skilled in the art that the variant has no material effect upon the way the invention works, the third question must be considered.<sup>109</sup> Justice Hoffmann describes two essential guidelines with respect to the second question: first, he says that question two is a question of fact;<sup>110</sup> and second, question two supposes that the person skilled in the art is told of both the invention and the variant and asked whether the variant would obviously work in the same way.<sup>111</sup>

In considering this question, both Improver and Remington presented expert testimony. Experts for both sides agreed that it would have been obvious that *any* rod which had the qualities of the “helical spring” in sufficient degree and did not have other defects, would in principle work in the same way as the “helical spring,” and that the rubber rod embodied in the “Smooth and Silky” plainly belonged to that class.<sup>112</sup> Accordingly, Justice Hoffmann held that since the experts agreed that a person skilled in the art would have obviously understood that the rubber rod would work in the same way as the “helical spring,” the third question must be considered in order to determine infringement.<sup>113</sup>

- c. *Question (3): Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention?*

Rephrasing this question as it applies to the Epilady dispute, the question asks: would a reader, skilled in the art, have understood the patentee to have intended to confine his claim to the literal meaning of “helical spring.” If so, the rubber rod (the variant) is outside the claim and there is no

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108. *Id.* at 187.

109. *Id.*

110. *Id.* at 188.

111. *Id.* at 190.

112. *Id.*

113. *Id.* at 190-1.

infringement.<sup>114</sup> A negative answer to this question would lead to the conclusion that the patentee was intending the phrase, "helical spring," to have not a literal but a figurative meaning denoting a class of things which included variants (such as Remington's rubber rod) and the literal meaning (helical springs), the latter being perhaps the most perfect, best known or striking example of the class.<sup>115</sup>

Justice Hoffmann stated that question three raises the question of construction and Lord Diplock's formulation makes it clear that on this question the answers to the first two questions are not conclusive. "Even a purposive construction of the language of the patent may lead to the conclusion that although the variant made no material difference and this would have been obvious at the time [to a person skilled in the art], the patentee for some reason was confining his claim to the [literal] meaning and excluding the variant."<sup>116</sup>

Justice Hoffmann in answering the third question considered the views of two expert witnesses.<sup>117</sup> Dr. Sharp, Improver's expert witness skilled in the art, stated:

[I]t would have been obvious to me that all the inventor wanted a helical spring for was as a convenient rotating bent beam in which slits formed by the adjacent windings would open and close as it rotated. It would then have been equally obvious to me that he could have not intended to exclude equivalents like the [rubber] rod. . . . [I]n thinking of equivalents I feel driven by the last paragraph of the specification before the claims [the equivalents clause] to think that the inventor was trying to make me think of equivalents for the helical spring . . . .<sup>118</sup>

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114. *Id.* at 187.

115. *Id.* at 187-88.

116. *Id.* at 188.

117. *Id.* at 190-93.

118. *Id.* at 191. The description of the Improver European Patent ends with the following general statement, which the court refers to as the "equivalents clause":

It will be evident to those skilled in the art that the invention is not limited to the details of the foregoing illustrative embodiments, and that the present invention may be embodied in the other specific forms without departing from the essential attributes thereof, and it is therefore desired that the present embodiments be considered in all respects as illustrative and not restrictive, reference being made to the appended claims, rather than to the foregoing description, and all variations which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

*Id.* at 185.

Dr. Laming, Remington's expert witness skilled in the art, stated:

My opinion is that there is no way of interpreting . . . [Improver's] specification such that anything other than a helical spring is intended. . . .

I have now read the European Patent several times and it is clear that nothing other than a helical spring is referred to. If there were alternatives to a helical spring which the inventor or draftsman had in mind he did not indicate anywhere that such alternative might be used. . . .

. . . .

If . . . [Improver's] specification contained anywhere such words as "or any other configuration of an elastic member or members whereby rotation of the member or members causes a spread apart orientation at one position and a pressed together orientation at another position or point in the cycle" then at least one might be led to think about alternatives to the helical spring.<sup>119</sup>

In regard to the equivalence clause contained in the Improver patent, Dr. Laming said:

It is true that [in the equivalents clause] reference is made to embodiment 'in other specific forms' and it asks there for reference to be made 'to the appended claims rather than the foregoing description.' But what follows is a series of claims in which the variations are all on such matters as the angle subtended by the arcuate portion, the degree of opening of the windings, various mechanical drive options, and different surface speeds. A constant feature of all the claims is the specification of a helical spring which itself is the only type of element mentioned in the text of the specification and shown in the figures.<sup>120</sup>

Justice Hoffmann's opinion of the expert testimony was that the difference between the experts depends on how one construes the equivalents clause contained in the Improver patent.<sup>121</sup> Justice Hoffmann believed the first part of the clause, which is not at issue in this case, meant that the description should not be construed to restrict the meaning of the language used in the

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119. *Id.* at 192-93.

120. *Id.* at 193.

121. *Id.*

claim.<sup>122</sup> Justice Hoffmann went on to say that the words “and all variations which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein” meant no more than to construe the claims in accordance with *Catnic Components Ltd.* and the Protocol.<sup>123</sup>

Justice Hoffmann after considering the testimony of the expert witnesses, answered question three saying: “I do not think that the ‘helical spring’ can reasonably be given a wide generic construction and I accept Dr. Laming’s reasons for thinking that a skilled man would not understand it in this sense.”<sup>124</sup> In summary, Justice Hoffmann held that even though the differences between the rubber rod and the helical spring are not material (i.e., the rubber rod and helical spring work in the same way), and that a person skilled in the art would obviously understand the rubber rod works in the same way as the helical spring, there is nevertheless *no* infringement since a reader, skilled in the art, would interpret the patentee as confining his claim to the literal meaning of helical spring.

### C. *German Epilady Decision*

The German District Court in deciding the Epilady controversy applied a two question test.<sup>125</sup> The first question was whether the rubber rod had the identical effect of the helical spring (i.e., was the rubber rod an equivalent of the helical spring), and the second question was whether the rubber rod would have been an obvious equivalent to a person skilled in the art, looking at the descriptions prospectively from the time the patent was issued.<sup>126</sup>

#### 1. *The German District Court’s Two Question Analysis*

- a. *Question (1): Does the rubber rod have the identical effect of the helical spring?*

The German District Court in determining whether the Remington depilatory device infringed on Improver’s European patent began its inquiry by using claim one of the patent to determine the patent’s “teaching.”<sup>127</sup>

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122. *Id.*

123. *Id.*

124. *Id.*

125. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, 24 INT’L. REV. OF INDUS. PROP. & COPYRIGHT LAW 838, 842.

126. *Id.*

127. *Id.* at 839. Claim one reads as follows:

An electrically powered depilatory device comprising: a hand held portable housing (2); motor means (4,4<sup>1</sup>) disposed in said housing; and a helical spring (24)

The German court identified seven features that it believed were the essential characteristics of the Epilady depilatory device defined in claim one.<sup>128</sup> Similar to the method used to determine infringement in the United States,<sup>129</sup> the German court required that in order to find infringement, each of the seven features must be embodied by the Remington depilatory device either literally or by equivalence.<sup>130</sup>

The German court subsequently held that the Remington depilatory device fulfilled features one and two literally, but said that features three through seven were not fulfilled literally since Remington's depilatory device did not

comprising a plurality of adjacent windings arranged to be driven by said motor means in a rotational sliding motion relative to skin bearing hair to be removed, said helical spring (24) including an arcuate hair engaging portion arranged to define a convex side whereat the windings are spread apart, and a concave side corresponding thereto whereat the windings are pressed together, the rotational motion of the helical spring (24) producing continuous motion of the windings from a spread apart orientation at the convex side to a pressed together orientation at the concave side and for engagement and plucking of hair from the skin of the subject, whereby the surface velocities of the windings relative to the skin greatly exceeds the surface velocity of the housing relative thereto.

*Id.* at 838.

128. *Id.* at 840. The seven features comprising the teaching of claim one according to the Court are as follows:

The electrically powered depilatory device comprises

1. a hand held portable housing,
2. motor means positioned in said housing,
3. a helical spring comprising a plurality of adjacent windings,
4. the windings are arranged to be driven by said motor means in rotational sliding motion relative to skin bearing hair to be removed,
5. said spring includes a hair engaging portion which
  - a) is arcuate,
  - b) defines a convex side whereat the windings are spread apart and
  - c) defines a concave side corresponding to said convex side whereat the windings are pressed together,
6. the rotational motion of the spring produces a continuous motion of the windings from a spread apart orientation at the convex side to a pressed together orientation at the concave side and for engagement with the hair and for plucking of hair from the skin of the subject,
7. the surface velocity of the windings relative to the skin greatly exceeds the surface velocity of the housing relative thereto.

*Id.*

129. To establish infringement of a patent every limitation set forth in a claim must be found in the accused product or process exactly or by a substantial equivalent. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989).

130. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, 24 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 838, 841 (1993).



feature a helical spring per se.<sup>131</sup> However, the German court explained that the “motor-driven rubber roll is . . . a replacement means equivalent to the coil spring of the patent,” and that features three through seven were given in equivalent form.<sup>132</sup> The German court concluded its inquiry into the first question when it stated that it had no doubt the rubber rod was an equivalent based on the fact that the rubber rod “is identical in effect to a device making use of the wording of claim 1 of the patent in suit.”<sup>133</sup> Since the German court did not find that the Remington depilatory device literally embodied features three through seven, it noted that a second inquiry, in regard to the obviousness of equivalency, must be conducted since infringement would ultimately be based on equivalency.<sup>134</sup>

- b. *Question (2): Whether the rubber rod would have been an obvious equivalent to a person skilled in the art, looking at the descriptions prospectively from the time the patent was issued?*

According to the German court, in order to find infringement by equivalents, not only does the accused embodiment have to be an equivalent (i.e., have identical effect), but a person skilled in the art—applying the professional knowledge at his disposal at the time the patent was issued and based on the consideration progressing from the meaning of the patent claims—must be able to detect the modified means used in the disputed embodiment as being identical in effect as a solution to the problem underlying the invention.<sup>135</sup> The German court stated that this inquiry into the determination of infringement by equivalency is intended to align German patent law with Article 69(1) of the EPC and the Protocol.<sup>136</sup>

In answering the second question, the German court was convinced that a person skilled in the art—owing to the content of the claims of the Improver patent—was capable of arriving at the disputed embodiment.<sup>137</sup> The German court’s starting point for this conclusion was that a person skilled in the art would recognize by virtue of his professional knowledge that the helical spring described in the Improver patent is used contrary to its common application (as an mechanical energy buffer).<sup>138</sup>

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131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.* at 842.

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.* at 843.

[A] person skilled in the art . . . will easily recognize that the coil spring is only proposed for the reason that it is an elastic cylindrical body which may be quickly rotated in the arcuate state and, above all, for the reasons that it features . . . means that stretch the surface of the body to form gaps at the convex side, while at the concave side they result in clamping areas with the help of which the hairs that entered the gaps may be clamped and plucked.<sup>139</sup>

The court concluded that a person skilled in the art—looking at the descriptions prospectively at the time the patent was issued—would interpret the words “helical spring” not as a spring per se, but as a cylinder-shaped elastic element with gaps, and therefore if the patent conveyed this knowledge, it would be obvious to a person skilled in the art to use an elastic cylindrical rod with slits, as used in the Remington depilatory device, as a hair plucking element.<sup>140</sup> Such an atypical use of the spring (as opposed to its conventional use as a mechanical energy buffer) seemingly justified the broad interpretation of the words “helical spring” used in claim one of the Improver patent.

In conclusion, the German court held that the rubber rod is identical in effect to a “helical spring” disclosed in the Improver patent, and would also be considered as an obvious equivalent to the “helical spring” by a person skilled in the art orientating himself to the meaning of the patent claims, with the help of findings available to him due to his professional knowledge. Since the Remington depilatory device fulfilled features one and two literally and features three through seven by equivalents, the German court found there was infringement of the Improver European Patent by Remington’s depilatory device.<sup>141</sup>

#### D. *Implications Of The Variances Between The U.K. And German Decisions*

While there is agreement between the English and German courts as to the continued existence of the doctrine of equivalents, the application of the doctrine differs. The principle difference between the German and English approaches to claim interpretation is embodied in the third question of the English Patent Court’s equivalency analysis which is, in effect, an exception to the doctrine of equivalents.<sup>142</sup> The third question can in certain circumstances limit the court’s interpretation of the claim to the strict literal meaning of the claim’s words. Justice Hoffmann believed that the third question is

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139. *Id.*

140. *Id.*

141. *Id.* at 844.

142. *Id.* at 867-68.

a question to be asked in all cases of infringement by equivalence.<sup>143</sup> He also emphasized the importance of the third question when he stated that the first two questions were merely questions of fact which served to provide the background against which the third question should be asked.<sup>144</sup>

The third question asked by Justice Hoffmann is the reason the Epilady dispute was decided differently in the U.K. than in Germany. For after having answered variations of Justice Hoffmann's first two questions in favor of Improver, the German court treated these answers as concluding the matter. In direct contrast, while answering the first two questions in favor of Improver, Justice Hoffmann found it necessary to ask the third question, on which basis he found for Remington.

The principle difference in claim interpretation between the German court and the English Patents Court—posed by Justice Hoffmann's third question—raises two points. First, this difference suggests that the scope of protection offered by a patent in the U.K. will be less than in Germany.<sup>145</sup> The reduction in scope of protection is brought about when the third question forces the court to limit the scope of the claim to the strict literal meaning of the claim's words. Second, since both the English and German decisions were based upon Article 69 of the EPC and the Protocol on Interpretation, these decisions reflect not only a different approach to patent infringement, but also a different understanding of the nature of the Protocol itself.<sup>146</sup> Given the importance of claim interpretation in patent law, these differences suggest a potential barrier to the harmonization of patent laws of the Member States of the EPC.<sup>147</sup>

The World Intellectual Property Organization (WIPO) recognized the problems associated with inconsistent claim interpretation and the application of the Protocol. In an effort to resolve these problems, the Committee of Experts on the Harmonization of Certain Provisions in Laws for the Protection of Inventions (Committee of Experts), drafted Article 21 of the Patent Harmonization Treaty to harmonize the doctrine of equivalents worldwide during the second part of the eighth session in Geneva, from October 29 to November 9, 1990.<sup>148</sup>

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143. *Improver Corp. & Others v. Remington Consumer Products Ltd. & Others*, [1990] F.S.R. 181, 188 (Eng. Ch. 1989).

144. *Id.*

145. *Improver Corp. v. Remington Consumer Products Ltd.*, 21 INT'L. REV. OF INDUS. PROP. & COPYRIGHT LAW 860, 868 (1990).

146. *Id.*

147. *Id.*

148. The Patent Harmonization Treaty is currently only in draft form. Article 21 is based on the EPC's Protocol but goes on to give definitions of equivalence. Article 21 is reprinted in 30 INDUS. PROP. 118, 127 (1991). The Patent Harmonization Treaty is discussed in Part V of this note.

E. *Hypothetical Epilady Decision: Applying the U.S. Doctrine of Equivalents*

In the United States, the doctrine of equivalents permits a finding of direct infringement if the accused device performs substantially the same function in substantially the same way to obtain substantially the same result.<sup>149</sup> In applying the doctrine of equivalents it is important to remember that the doctrine does not focus on the invention as a whole but on each element of the claim.<sup>150</sup> Therefore, a finding of infringement requires the patentee to show the presence of every essential element or its substantial equivalent in the accused device.

In the Epilady controversy the determination of infringement was contingent upon whether the elastic rubber rod used in the Remington depilatory device is a substantial equivalent of the "helical spring" described in claim one of the Improver patent. According to U.S. patent law, for the rubber rod to be an equivalent of the helical spring all three prongs of the equivalency test—function, way, and result—must be met.<sup>151</sup> In the Epilady dispute the function and result prongs of the equivalents test are easily met. First, the rubber rod performs substantially the same function as that of the helical spring, that is, the trapping of hairs for depilatory removal. Likewise, the result of the helical spring and the rubber rod are substantially the same, that is, the clamping and plucking of the hairs. The way component of the equivalency test is not so easily determined.

The way in which the helical spring performs is best described as follows: the arcuate form of the spring causes the gaps between the windings to open on its convex side but to be pressed together on the concave side and when the spring is held closely to the skin and rotated, the hairs enter the gaps on its convex side and are gripped between the windings as the rotational movement brings the hairs around to the concave side. In all likelihood, a federal district court would hold that the elastic rubber rod performs in substantially the same way as the helical spring described in the Improver patent. The rubber rod, like the helical spring, when held in an arcuate position, deforms, causing gaps between the parallel slits in the rubber rod to open on its convex side but to be pressed together on the concave side. Also, in virtually the same manner as the helical spring, when the rubber rod is held closely to the skin and rotated, the hairs enter the gaps on its convex side and are gripped between the parallel slits as the rotational movement brings the hairs around to the concave side. Based on this analysis, the rubber rod performs substantially the same way as the helical spring.

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149. See *supra* part II.B.

150. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961, 1009 (1988).

151. *Universal Gym Equip., Inc. v. ERWA Exercise Equip. Ltd.*, 827 F.2d 1542, 1548 (Fed. Cir. 1987).

Even though it appears that all three components of the equivalency test are met, the patent holder may be estopped from broadening the scope of the claim beyond the literal meaning of the words.<sup>152</sup> The two most likely barriers preventing a finding of equivalence in the Epilady dispute are the limitations posed by prior art and prosecution history estoppel. There can be no infringement under the doctrine of equivalents if the asserted scope of equivalency would encompass the prior art.<sup>153</sup> Nor can the coverage given up during patent prosecution with the PTO be recaptured through equivalence.<sup>154</sup>

Determining the coverage of protection given up during prosecution of the Improver patent is beyond the scope of this note,<sup>155</sup> but an analysis of the prior art limitation is possible because the prior art is disclosed in the Improver patent.<sup>156</sup> The Improver patent cites six other patents as comprising the prior art.<sup>157</sup> Each of these patents concerns depilatory devices.<sup>158</sup> Four involve manually operated helical springs.<sup>159</sup> Three of the four manually operated devices capture the hair by compressing the spring in a tweezer like fashion and jerking the hairs out of the skin.<sup>160</sup> The other manually operated device engages and grips the hairs in the same manner as does the Improver device, but the specification is unclear if the same rotational motion removes the hairs or if the hairs must be removed by moving the device away from the skin.<sup>161</sup> The remaining two patents describe power-operated depilatory devices that are quite different in comparison to the Epilady.<sup>162</sup> One of the power-operated depilatory devices uses a pair of rotating discs instead of a rotating helical spring.<sup>163</sup> The other uses a helical spring, but the spring is reciprocatingly compressed (in contrast to being held in an arcuate form and rotated), extended, and intermittently rotated by an electrically driven

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152. See *supra* part II.B.

153. *Pennwalt Corp.*, 833 F.2d at 934 n.1 (citing *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 870 (Fed. Cir. 1985)).

154. Prosecution history estoppel will not allow the patentee to recapture through equivalence certain coverage given up during prosecution. *Loctite Corp.*, 781 F.2d at 870.

155. A record of the Epilady European Patent prosecution history was not available to the author.

156. *Improver Corp. & Others v. Remington Consumer Products Ltd. & Others*, [1990] F.S.R. 181, 184 (Eng. Ch. 1989).

157. *Id.*

158. *Id.*

159. *Id.*

160. *Id.*

161. *Id.*

162. *Id.*

163. *Id.*

cam.<sup>164</sup> Note that none of the six devices embodies an elastic rubber rod which could prevent the scope of the Improver patent from encompassing rubber rods as an alternative to helical springs.<sup>165</sup> Assuming these six patents comprise the prior art, it is unlikely that broadening the scope of the Improver patent to encompass elastic rubber rods will intrude upon the prior art.

In conclusion, if the Epilady dispute had been litigated in the United States under approximately the same set of facts presented to the English and German courts, a federal district court in the United States, applying the United States version of the doctrine of equivalents, would probably find that the Remington depilatory device infringed upon the Improver patent.

## V. THE PATENT HARMONIZATION TREATY

### A. *General Overview*

The aim of the Patent Harmonization Treaty (draft treaty), if it ever becomes a reality, is the worldwide harmonization of patent laws.<sup>166</sup>

164. *Id.*

165. The limitation posed by the prior art is simply that the asserted range of equivalents may not encompass the prior art at the very point at which the claims distinguish from the art. *Stewart-Warner Corp. v. City of Pontiac*, 767 F.2d 1563, 1572 (Fed. Cir. 1985) (citing *Thomas & Betts Corp. v. Litton Sys.*, 720 F.2d 1572, 1580 (Fed. Cir. 1983) and *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362 (Fed. Cir. 1983)). It is well established that limitations in a claim cannot be given a range of equivalents so wide as to cause the claim to encompass anything in the prior art. *Senmed, Inc. v. Richard-Allen Med. Indus.*, 888 F.2d 815, 821 (Fed. Cir. 1989) (citing *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 900 (Fed. Cir. 1984)). Claims may not be enlarged by equivalents to encompass the teachings of the prior art. *Tandon Corp. v. United States ITC*, 831 F.2d 1017, 1026 (Fed. Cir. 1987) (citing *Perkin-Elmer Corp.*, 732 F.2d at 900).

166. While attention has been focused on the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) and its intellectual property provisions known as The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), the WIPO negotiations have been, to a large extent, on hold. Jacques J. Gorlin, *Update on International Negotiations on Intellectual Property Rights*, in *GLOBAL DIMENSIONS OF INTELLECTUAL PROPERTY RIGHTS OF SCIENCE AND TECHNOLOGY* 175, 176 (National Academy Press, 1992).

The GATT negotiations on TRIPs and discussions of the WIPO share similar objectives: the strengthened protection and improved enforcement of intellectual property rights via multilateral instruments. However, the overwhelming interest of the principal developed countries in a trade-based multilateral regime for intellectual property as part of the current GATT Uruguay Round . . . [has] pushed the TRIPs negotiations to the fore.

*Id.* at 175.

In contrast to the Patent Harmonization Treaty though, the GATT TRIPs agreement contains

Worldwide harmonization of patent laws is of particular importance to all applicants, especially to those who file outside their national borders. Negotiations concerning the draft treaty have taken place before the WIPO since 1983<sup>167</sup> and are currently in draft form.<sup>168</sup>

Wide in scope, the draft treaty addresses, at least in broad terms, virtually the entire field of patent law. Twenty-four of the draft treaty's thirty-nine articles address substantive aspects of patent law. Included in these twenty-four substantive articles are detailed provisions relating to issues such as statutory subject matter,<sup>169</sup> novelty,<sup>170</sup> obviousness,<sup>171</sup> and the rights conferred by patenting.<sup>172</sup> The draft treaty also addresses the proper legal definition of the doctrine of equivalents and the role of the specification in construing claim scope.<sup>173</sup>

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only *minimum* standards of patent protection and enforcement. *Id.* at 179. The WIPO negotiators delayed their patent harmonization discussions until the GATT resolved the rules for minimum standards of patent protection and enforcement. *Id.* at 180. There is optimism in some circles that ratification of the GATT TRIPs agreement will be followed by the WIPO concluding the Patent Harmonization Treaty. *Id.*

167. R. Carl Moy, *The History of the Patent Harmonization Treaty: Economic Self-Interest as an Influence*, 26 J. MARSHALL L. REV. 457, 459 (1993). The draft treaty has been negotiated in a series of sessions before the WIPO of the Committee of Experts on the Harmonization of Certain Provisions of Law for the Protection of Inventions. To date, eleven preparatory sessions have been held.

168. *Draft Treaty Supplementing the Paris Convention for the Protection of Industrial Property As Far As Patents Are Concerned*, WIPO Doc. No. PLT/DC/3 (Dec. 21, 1990) reprinted in *Records of the Diplomatic Conference for the Conclusion of a Treaty Supplementing the Paris Convention as Far as Patents are Concerned*, 30 INDUS. PROP. 118 (1991) [hereinafter PHT].

169. *Id.* art. 10.

170. *Id.* arts. 11(2), 12-13.

171. *Id.* art. 11(3).

172. *Id.* art. 19-20.

173. *Id.* art. 21. The relevant portions of Article 21 state:

(1) [Determination of the Extent of Protection] (a) The extent of protection conferred by the patent shall be determined by the claims, which are to be interpreted in the light of the description and drawings.

(b) For the purposes of subparagraph (a), the claims shall be so interpreted as to combine fair protection for the owner of the patent with a reasonable degree of certainty for third parties. In particular, the claims shall not be interpreted as being confined to their strict literal wording. Neither shall the claims be considered as mere guidelines allowing that the protection conferred by the patent extends to what, from a consideration of the description and drawings by a person skilled in the art, the owner has contemplated, but has not claimed.

(2) [Equivalents] (a) Notwithstanding paragraph (1)(b), a claim shall be considered to cover not only all the elements as expressed in the claim but also

B. *Article 21 of the Draft Treaty: The Definition of Equivalency*

Article 21 of the draft treaty states that “[t]he extent of protection conferred by the patent shall be determined by the claims, which are to be interpreted in the light of the description and drawings.”<sup>174</sup> In order to avoid a restrictive interpretation of the claim language, Paragraph (1)(b) of Article 21 asserts that the claims shall not be limited to the literal meaning of the wording, yet neither should they be considered as mere guidelines that would allow an extension to what the inventor may have contemplated but has not expressly claimed.<sup>175</sup> The doctrine of equivalents is empowered by Paragraph (2)(a) which describes the general rule that patent protection not only extends to elements literally expressed in the claim, but also to equivalent elements as well.<sup>176</sup>

Paragraph (2)(b) defines equivalent elements.<sup>177</sup> Interestingly, the draft treaty contains two definitions of equivalency.<sup>178</sup> The multiple definitions are due to the fact that the members of the Committee of Experts could not agree on one particular definition of equivalency, and in order to keep the doctrine of equivalents in the draft treaty, it was necessary to place both definitions adjacent to each other and leave it to the future Contracting States to apply one or the

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equivalents.

(b) An element (“the equivalent element”) shall generally be considered as being equivalent to an element as expressed in a claim if, at the time of any alleged infringement, either of the following conditions is fulfilled in regard to the invention as claimed:

(i) the equivalent element performs substantially the same function in substantially the same way and produces substantially the same result as the element as expressed in the claim, or

(ii) it is obvious to a person skilled in the art that the same result as that achieved by means of the element as expressed in the claim can be achieved by means of the equivalent element.

(c) Any Contracting Party shall be free to determine whether an element is equivalent to an element as expressed in a claim by reference to only the condition referred to in subparagraph (b)(i) or to only the condition referred to in subparagraph (b)(ii), provided that, at the time of depositing its instrument of ratification of or accession to this Treaty, it so notifies the Director General.

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*Id.*

174. *Id.* art. 21(1)(a).

175. *Id.* art. 21(1)(b).

176. *Id.* art. 21(2)(a).

177. *Id.* art. 21(2)(b).

178. *Id.* art. 21(2)(b)(i)-(ii).



other.<sup>179</sup> The first definition coincides with the United States standard.<sup>180</sup> According to the first definition, an element is an equivalent if it “performs substantially the same function in substantially the same way and produces substantially the same result as the element as expressed in the claim.”<sup>181</sup> The second definition resembles the German standard and defines an equivalent element as one in which “it is obvious to a person skilled in the art that the same result as that achieved by means of the element as expressed in the claim can be achieved by means of the equivalent element.”<sup>182</sup> In essence, the first definition requires three conditions to be met: function, way, and result; the second requires only one, the same result. However, the second definition also requires that the “way” be obvious to a person skilled in the art.

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### C. *The Treaty's Hypothetical Impact On The Epilady Controversy*

If the draft treaty had been in effect in its current text when the Epilady dispute was litigated, it would have eliminated the inconsistent decisions of the English and German courts. The German court, finding infringement, followed the second definition of the draft treaty. The German court, in accordance with the requirements of the second definition, first concluded the rubber rod was “identical in effect to a device making use of the wording of claim 1 of the [Improver] patent . . . .”<sup>183</sup> This satisfies the “same result” criteria of the second definition. The German court concluded its finding of infringement by equivalency by deciding that it would be obvious to a person skilled in the art that the same result achieved by the helical spring could be achieved by the rubber rod.<sup>184</sup>

The English Patents Court, on the other hand, did not explicitly follow the draft treaty, but added an exception to the determination of infringement by equivalency not found within the four corners of the draft treaty. The English Patents Court, like the German District Court, held that the rubber rod was an equivalent in accordance with the second definition, but Justice Hoffmann asked one additional question that is more or less an exception to the doctrine of equivalents.<sup>185</sup> Justice Hoffmann’s exception, his third question, said that if a reader skilled in the art understood from the language of the claim that the patentee intended

179. *Id.* art. 21(2)(c). According to Article 21(2)(c) of the draft treaty, the Contracting Parties will adopt one of the two definitions during ratification of or accession to the treaty.

180. *See supra* part II.B.

181. PHT, *supra* note 168, art. 21(2)(b)(i).

182. *Id.* art. 21 (2)(b)(ii).

183. *Improver Corp. & Sicommerce AG v. Remington Products Inc.*, 24 INT’L. REV. OF INDUS. PROP. & COPYRIGHT LAW 838, 841.

184. *Id.* at 843.

185. *Improver Corp. & Others v. Remington Consumer Products Ltd. & Others*, [1990] F.S.R. 181, 190-1 (Eng. Ch. 1989).

to confine his claim to the literal meaning of a word or phrase (in this case "helical spring"), there could be no finding of infringement by equivalency.<sup>186</sup> Justice Hoffmann held that a person skilled in the art would interpret the patentee as confining his claim to the literal meaning of helical spring, and as a result, ruled the Remington device did not infringe on the Improver patent.<sup>187</sup> Had the draft treaty been in effect and Justice Hoffmann followed it in its current text, he would not have asked the third question, and as a result, just as the German court did, he would have held that the Remington depilatory device infringed upon the Improver European patent.

## VI. CONCLUSION

Patent attorneys dealing with patent litigation know from experience that a patent system without equivalents is worthless for inventors and industry. Because of the important role the doctrine of equivalents plays in patent protection, patent attorneys around the world would like the WIPO to develop a uniform equivalency doctrine that can be consistently applied in the forums around the world. With economic success dependent on the ability to compete in the global marketplace, an industry must be able to rely upon patent protection in the foreign countries where they conduct business.

The Epilady dispute clearly did not provide a clear set of guidelines for future patent infringement cases in the E.C. What the Epilady dispute has done is show that patent protection based on equivalency is by no means applied on a consistent basis in the E.C. national courts despite having a uniform standard. For the time being, advocates for the holders of European Patents must accept the reality of diversity. Codification and harmonization of the doctrine of equivalents in the Patent Harmonization Treaty would facilitate the preparation and prosecution of patent infringement suits. For this reason, the WIPO's initiative on protection, scope, and claim interpretation deserves full support. Worldwide recognition of the doctrine of equivalents, and consistent application thereof, would be a monumental step toward increased enforceability of patents on an international scale.

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186. *Id.* at 187.

187. *Id.* at 193.

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