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## A Proposed Standard Jury Instruction for a Patent Infringement Inquiry Under the Doctrine of Equivalents

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# A PROPOSED STANDARD JURY INSTRUCTION FOR A PATENT INFRINGEMENT INQUIRY UNDER THE DOCTRINE OF EQUIVALENTS

Craig Wallace†

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## INTRODUCTION

Patent law is based on a power conferred by the framers of the Constitution for the Legislature "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."<sup>1</sup> Congress over time has developed the patent law to secure a monopoly to an inventor in exchange for her immediate disclosure to the public and public dedication in seventeen years. Because of the magnitude of the grant of a monopoly, strict rules exist that must be adhered to in order to receive a patent.<sup>2</sup> These rules require a patent applicant to describe in "full, clear, concise and exact terms"<sup>3</sup> the patented invention. From this strict description it inherently follows that it would be easy to copy or commit fraud<sup>4</sup> on a patent by simply making insignificant changes to the patented device. By making such a change, the unscrupulous inventor's device would not fall within the description of the patented invention, thus avoiding infringement of the patent.<sup>5</sup> This practice has been recognized for nearly 140 years.<sup>6</sup>

The Supreme Court recognized this "loophole" in patent laws,<sup>7</sup> and developed what is known today as the Doctrine of Equivalents.<sup>8</sup> "[A] patentee may invoke this doctrine to proceed against [an alleged infringer] 'if [the accused device] performs substantially the same function in substantially the same way to obtain the same result' [as the patented device]."<sup>9</sup> This is the "function/way/result" test.

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1. U.S. CONST. art. I, § 8.

2. 35 U.S.C. §§ 1-376 (1992).

3. *Id.* § 112 (1992).

4. See *Graver Tank & Mfg. Co. v. Linde Air Product Co.*, 339 U.S. 605 (1950).

5. "[W]hoever 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).

6. See *Winans v. Denmead*, 56 U.S. (15 How.) 330 (1853) (discussing for the first time the principles of equivalency).

7. *Id.*

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

9. *Id.* at 608.

While there has been criticism of the equivalents doctrine,<sup>10</sup> the doctrine still applies today and does not appear to be in danger of abandonment.<sup>11</sup> The doctrine imposes some uncertainty into the patent law because neither the public nor the patent holder can be sure of the exact limits of the patent.<sup>12</sup> Further, there is no clear definition of the doctrine; either for the patentee, the "infringer," attorneys, or the jury. For example, in *Malta v. Schulmerich Carillons, Inc.*<sup>13</sup> the jury verdict of infringement was overturned on a judgement notwithstanding the verdict (JNOV) motion because the jury was found to have insufficient evidence to make a finding under the doctrine of equivalents. Even though both parties agreed the jury instruction was adequate and correct, the verdict was overturned, resulting in the loss for the patent holder, Malta, of a \$900,000 verdict.<sup>14</sup> One federal district court judge has noted that the Federal Circuit should issue standard jury instructions in patent cases.<sup>15</sup>

This comment will discuss the applicability and development of a standard jury instruction for the federal district courts when the question of fact to be decided by the jury is whether an accused device infringes a patent under the doctrine of equivalents. The Court of Appeals for the Federal Circuit (CAFC) has jurisdiction over all patent cases<sup>16</sup> from the district courts, and a standard jury instruction would minimize the confusion and conflicts in the area of patent law regarding the extent and requirements of the doctrine of equivalents. Part I

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10. See Martin Adelman, *The New World of Patents Created by the Court of Appeal for the Federal Circuit*, 20 U. MICH. J.L. REF. 979 (1987); Martin J. Adelman & Gary L. Francione, *The Doctrine of Equivalents in Patent Law: Questions that Pennwalt Did Not Answer*, 137 U. PA. L.R. 673 (1989).

11. *Accord London v. Carson Pirie Scott & Co.*, 946 F.2d 1534 (Fed. Cir. 1991); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (Bennett, J., dissent) (in banc), *cert. denied*, 485 U.S. 961 (1988).

12. See, e.g., *Pennwalt*, 833 F.2d at 939 (Nies, J., additional views); Adelman, *supra* note 10, at 995-96.

13. 952 F.2d 1320 (Fed. Cir. 1991).

14. See *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1323 (Fed. Cir. 1991).

15. Pat. Trademark & Copyright J.(BNA), June 15, 1992. (Judge Avern Cohn of the U.S. District Court for the Eastern District of Michigan). This district court heard *Lear Seigler, Inc. v. Sealy Mattress Co. of Michigan*, Civil Action No. 84-CV-75319-DT (August 21, 1987), and awarded the plaintiff \$2.8 million based on a doctrine of equivalents infringement action. The case was reversed, 873 F.2d 1422 (Fed. Cir. 1989), because there was insufficient evidence presented to find infringement under the doctrine of equivalents.

16. The Court of Appeals for the Federal Circuit was created by the Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, § 126, 96 Stat. 25, 37 (codified as amended at 28 U.S.C. § 1295 (1982 & Supp. IV 1986)). This court replaced the Court of Customs and Patent Appeals and was created in an effort to alleviate the docket of the Supreme Court as well as provide enhancement of the patent system. The court has exclusive jurisdiction of all patent appeals, and the Supreme Court rarely, if ever, hears patent cases anymore. See Adelman, *supra* note 10.

of this comment will analyze the history of the doctrine and the present state of the law regarding the doctrine and the elements it encompasses. Part II will focus on the issues to be considered by the jury, including the main point of contention in the doctrine of equivalents jurisprudence, whether the court or the jury should use an "element-by-element" or an "as a whole" approach,<sup>17</sup> and the distinction between those issues to be considered by the court and those considered by the jury when reaching a verdict on infringement under the doctrine of equivalence. Part III will discuss the requirements of a jury instruction and propose a standard jury instruction for use by the federal district courts when the doctrine of equivalents is invoked.

#### A BRIEF OVERVIEW OF THE PATENT LAW SYSTEM

Patent law is authorized by the United States Constitution and was most recently codified in 1953.<sup>18</sup> A patent is a limited grant by the United States government giving the patent owner the right to exclude others from making, using or selling the patented product or process in the United States for a limited period, generally 17 years.<sup>19</sup> A patentee must apply for a patent with the United States Patent and Trademark Office (PTO) by submitting an application.<sup>20</sup> This application generally consists of a written specification, which describes the invention in such specific and clear terms so as to enable one skilled in the art<sup>21</sup> to make and use the patented invention.<sup>22</sup> The specifications "shall conclude with one or more claims particularly pointing out and distinctly claiming" the patented device.<sup>23</sup> The claims define the invention.<sup>24</sup> The claims "fix the scope of protection to which the patentee is entitled" and also "tell the public what it can-

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17. See *infra* part I.A. and part II.D.

18. See generally 35 U.S.C. §§ 1-376.

19. *Id.* § 154.

20. *Id.* § 111.

21. One skilled in the art is someone who has general knowledge of the field that the invention is connected with or developed for. This person could be an expert in the certain field or they could be a mechanic who is thoroughly familiar with a certain machine or process.

22. 35 U.S.C. § 112.

23. *Id.* § 112.

24. See *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949 (Fed. Cir. 1987) (Nies, J., additional views) (en banc), *cert. denied*, 485 U.S. 961 (1988),

The purpose of a claim has not changed since it was stated in *White v. Dunbar*, 119 U.S. 47, 52 (citations omitted) (1886), as follows: The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.

*Id.*; see also *Smith v. Snow*, 294 U.S. 1 (1935).

not make, use or sell.”<sup>25</sup> In determining whether a patent has been infringed, only the claims, not the specification or drawings, are used by the courts.<sup>26</sup> The specification and drawings can be used to interpret, clarify and narrow, but not broaden, a claim. However, the claim sentence itself is what the patentee legally can exclude others from making, using, or selling.<sup>27</sup> A claim consists of elements of the invention and defines the metes and bounds, or extent, of the invention.<sup>28</sup> The elements can be thought of as limitations on what the patentee has claimed; in other words, every new element written into a claim means the patentee has claimed less subject matter than without the element. Conversely, if the patentee included fewer elements, or limitations, she would claim more subject matter.

Infringement occurs when one makes, uses, or sells the patented device without the permission of the inventor.<sup>29</sup> There are two types of infringement: 1) literal infringement<sup>30</sup> and 2) infringement under the doctrine of equivalents. The court first determines whether there has been literal infringement in an infringement lawsuit. Literal infringement is when the elements of the accused device “read on,” or are exactly the same as, the claimed elements of the patent. If there is no finding of literal infringement, or no attempt to prove literal infringement, infringement may still be alleged by using the doctrine of equivalents.<sup>31</sup>

#### PART I: THE DOCTRINE OF EQUIVALENTS

While the idea of equivalency was first noted in 1853,<sup>32</sup> the Supreme Court first clarified the doctrine of equivalents in 1950 in

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25. *Pennwalt*, 833 F.2d at 949.

26. *See, e.g., Aro Mfg. Co., Inc. v. Convertible Top Replacement Co., Inc.*, 365 U.S. 336, 339 (1961); *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528 (Fed. Cir. 1987).

27. *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (in banc) (“claims are infringed, not specifications”).

28. The elements of a claim are the individual pieces of the claim. In other words, assume an invention was a pencil. The elements of this claim might then consist of (A) a straight piece of graphite, (B) a wooden protective sleeve bonded to the outside of the graphite, and (C) the metal eraser end attached to the wooden sleeve at an end. The elements of the claim would be A, B, and C. (This example is not a correct claim description but is intended only for clarification.)

29. *See* 35 U.S.C. § 271.

30. *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985) (en banc) (finding literal infringement when the accused invention “reads directly, unequivocally, and word-for-word on [the patented] structure”). Literal infringement is when the elements of the accused device “read on” the elements of the patent.

31. *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1361 (Fed. Cir. 1983) (“[t]he doctrine of equivalents comes into play only when actual literal infringement is not found”).

32. *See Winans v. Denmead*, 56 U.S. (15 How.) 330 (1853).

*Graver Tank & Manufacturing Co. v. Linde Air Products Co.*<sup>33</sup> This decision established the function/way/result test for equivalency<sup>34</sup> and held "[t]he essence of the doctrine is that one may not practice a fraud on a patent."<sup>35</sup> If the doctrine were not allowed, the patent would be a "hollow and useless thing"<sup>36</sup> because the patent scope could be easily evaded through a trivial modification. The Court noted that the doctrine should only be applied to insubstantial and unimportant changes and substitutions from the claimed device.<sup>37</sup> Were it not for the doctrine of equivalents, these changes, though adding nothing to the advancement of the sciences, "would be enough to take the copied matter outside the claim, and hence outside the reach of the law."<sup>38</sup>

A.: *A Major Source of Confusion in the Doctrine of Equivalents Determination: the "Element-by-Element" vs. "As a Whole" Analysis*

Two methods for proving infringement have evolved under a doctrine of equivalents analysis: the "element-by-element" and the "as a whole" methods. The early cases are unclear regarding which method to use. In 1983, the CAFC, in *Hughes Aircraft Co. v. United States*,<sup>39</sup> gave one of its first descriptions of the application of the doctrine. Previously, a patent had been granted on a satellite that was capable of receiving and *directly* executing control signals from a ground control station on Earth. The accused device used new microprocessor techniques that did not respond *directly* to signals from Earth, but executed control operations only after processing certain signals received from Earth. In other words, some control functions were actually performed on board the satellite, instead of the satellite simply receiving and executing control signals from Earth.

The court found infringement under the doctrine of equivalents, by applying the doctrine to the device "as a whole."<sup>40</sup> To apply the

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33. 339 U.S. 605 (1950).

34. If an accused device "performs substantially the same function in substantially the same way to obtain the same result" it will be found to be infringing under the doctrine of equivalents. *Id.* at 608. In the same case, five lines later, the Court uses the phrase "substantially the same result" when describing the test. For purposes of this comment, this distinction will not be addressed and has not been an issue for the CAFC in its doctrine of equivalents jurisprudence. For a discussion of this issue see *Questions, supra* note 10, at 680.

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

36. *Id.* at 607.

37. *Id.*

38. *Id.*

39. 717 F.2d 1351 (Fed. Cir. 1983) (reversing the district court's finding of infringement under the doctrine of equivalents).

40. *Id.* at 1364-66.

doctrine to the device “as a whole” meant to ask whether the *accused device* performs a substantially similar function in a substantially similar way to achieve substantially the same result as the *claimed invention*. The appeals court reasoned that the district court’s doctrine of equivalents test, where the court looked for “obvious and exact” equivalents of the *elements* of a claim, was no more than a redundant literal infringement inquiry.<sup>41</sup>

This “as a whole” approach to the doctrine of equivalents became a clouded issue in the subsequent cases heard by the CAFC. In *Martin v. Barber*<sup>42</sup> and *Loctite Corp. v. Ultraseal, Ltd.*,<sup>43</sup> both decided in 1985, the court used the “as a whole” approach when considering infringement under the doctrine of equivalents. Later, in 1986, in a highly criticized case,<sup>44</sup> *Texas Instruments, Inc. v. United States International Trade Commission*,<sup>45</sup> the court seemed to use the “as a whole” language when finding no infringement under the doctrine of equivalents.<sup>46</sup>

In contrast, in a 1984 decision, *ACS Hospital Systems, Inc. v. Montefiore Hospital*,<sup>47</sup> the CAFC found no infringement because the accused device did not have *one element* of the claimed device, an override function for a locked key switch.<sup>48</sup> Again, in 1985, in *Lemelson v. United States*,<sup>49</sup> the court used an “element-by-element” approach when affirming a finding of non-infringement by the district court.<sup>50</sup> In this type of equivalents approach, known as the “all elements” rule, each element of a claimed device, or its equivalent, must appear in the accused device to find infringement.<sup>51</sup> Further, each corresponding *element* in the accused device, as opposed to the *entire*

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41. *Id.* at 1364.

42. 755 F.2d 1564 (Fed. Cir. 1985).

43. 781 F.2d 861 (Fed. Cir. 1985).

44. See Emily Lau, *The Test for Patent Infringement Under the Doctrine of Equivalents after Pennwalt v. Durand-Wayland*, 22 *IND. L. REV.* 849, 865 (1989).

45. 805 F.2d 1558 (Fed. Cir. 1986), *reh'g denied* 846 F.2d 1369 (Fed. Cir. 1988).

46. *Id.* at 1570. One author has noted, “[t]he Court does not relieve the tension between the discussion of the ‘invention as a whole’ as part of the literal infringement analysis and the reference to the same test in its discussion of the doctrine of equivalence.” Barry E. Bretschneider, *The Doctrine of Equivalents After Pennwalt and Texas Instruments*, in *PROCEEDINGS OF THE TWENTY-SIXTH ANNUAL INSTITUTE ON PATENT LAW 3-1, 3-9* (Carol J. Holgren ed., 1989).

47. 732 F.2d 1572 (Fed. Cir. 1984).

48. *Id.*

49. 752 F.2d 1538 (Fed. Cir. 1985).

50. “It is also well settled that each element of a claim is material and essential, and that in order for a court to find infringement, the plaintiff must show the presence of every element or its substantial equivalent in the accused device.” *Id.* at 1551.

51. *Lemelson*, 752 F.2d at 1551. See also *Pennwalt*, 833 F.2d at 949 (Nies, J., additional views).



device, must perform substantially the same function in substantially the same way to achieve substantially the same result as each element in the claimed invention for there to be a finding of infringement.<sup>52</sup>

Note the distinction between the two approaches. Under the element-by-element approach, each and every element, or its equivalent, in the claimed device must be present in the accused device, and then each and every element in the accused device must be shown to perform substantially the same result in substantially the same way to achieve substantially the same result as each element in the claimed device. Conversely, under the "as a whole" approach, the test is applied to the devices from an overall perspective: whether the accused device performs substantially the same result in substantially the same way to achieve substantially the same result as the claimed device.

In 1987, in *Pennwalt Corp. v. Durand-Wayland, Inc.*,<sup>53</sup> the CAFC approved the use of the element-by-element approach for the doctrine of equivalents inquiry.<sup>54</sup> *Pennwalt* involved a patent for a fruit sorting device. The claimed machine consisted of a conveyor belt that moved fruit over a scale and an optical scanner to determine the weight and color of a piece of fruit and deliver it to the appropriate place.<sup>55</sup> During the prosecution<sup>56</sup> of the patent, the applicant, in order to avoid the prior art<sup>57</sup> and make the device patentable, added an element to a claim requiring "some means for"<sup>58</sup> 'continuously indicating the position of an item to be sorted' " along the conveyor belt of the

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52. See *infra* text accompanying notes 53-76.

53. *Pennwalt*, 833 F.2d 931.

54. The majority states, "It is clear that the district court correctly relied on an element-by-element comparison to conclude there was no infringement under the doctrine of equivalents . . ." *Id.* at 935. The dissent concurs with this holding of the element-by-element approach, but argues that the majority "failed to consider the doctrine of equivalents issue in accordance with the precedents of both this court and the Supreme Court." *Id.* at 939 (Bennett, J., dissenting).

55. *Id.* at 935.

56. The process of applying for a patent and moving the application through the PTO is referred to as patent prosecution.

57. The prior art is what is known in the field the patent encompasses prior to the disclosure of the patent. See *infra* text accompanying notes 91-95.

58. "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof . . ." 35 U.S.C. § 112. See discussion *infra* part II.E. What this type of claim does is allow the patentee to describe a certain *means for a specified function*, thereby not limiting her claim to a specific element, but only a means of accomplishing something.

An example would be helpful. Returning to the pencil described earlier, it was described as having an eraser on an end of the wooden shaft. Generally, the specific requirement of a claim would require a description of the material of the eraser. With a "means for" analysis, the claim could read, "means for removal of the graphite when applied to a surface being connected to end of wooden shaft," for example. This would not limit the patent to a specific eraser material, thus providing a *broader* patent covering more embodiments of the device.

device.<sup>59</sup> The accused device did not have any element which could perform this function.<sup>60</sup>

The analysis of this case was complex as the court tried to identify exactly how the doctrine of equivalents applied. The entire court agreed that there was no literal infringement,<sup>61</sup> but sharply disagreed on infringement under the equivalents doctrine. The 7-4 majority approved the element-by-element approach,<sup>62</sup> whereas the dissent argued this was a *sub silentio* overruling of precedent.<sup>63</sup> Judge Nies, who voted with the majority, wrote "additional views" discussing the precedent regarding infringement analysis as applied to limitations in a claim.<sup>64</sup> Judge Newman, who voted with the dissent, wrote a separate opinion entitled "commentary" in which she extensively described judicial precedent with respect to the doctrine of equivalents.<sup>65</sup> The majority found no infringement under the doctrine because "certain functions of the claimed invention were 'missing' from the accused device."<sup>66</sup> The court held that the addition of the position indicating means to the claim was a *limitation* on that to which the patentee legally had the rights,<sup>67</sup> and "[a] device which does not satisfy this limitation at least equivalently does not function in substantially the same way as the claimed invention."<sup>68</sup> The dissent sharply disagreed with a pure element-by-element analysis and argued that the two devices should be viewed as a whole. The inquiry would therefore be "by viewing the device as a whole whether it and the claimed invention operate in substantially the same way and have substantially the same function and result as the claimed invention."<sup>69</sup> *Pennwalt* represents the last case in which the CAFC directly addressed the two approaches<sup>70</sup> and as a result has generated much comment.<sup>71</sup>

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59. *Pennwalt*, 833 F.2d at 938.

60. *Id.* at 937.

61. *Id.* at 934, 939.

62. *Id.* at 935.

63. *Id.* at 939 (Bennett, J., dissent).

64. *Pennwalt*, 833 F.2d at 949.

65. *Id.* at 954.

66. *Id.* at 935.

67. More correctly, this is said what the "patentee legally had the right to exclude others from making, using, or selling." See 35 U.S.C. § 271.

68. *Pennwalt*, 833 F.2d at 937.

69. *Id.* at 940. Judge Bennett, dissenting, emphasized: "the purported 'element-by-element comparison' was never the extent of the doctrine of equivalents analysis under our here-ignored precedents which *also* required that the analysis be undertaken in *light of the entirety* of the accused device and the entirety of the [patented device]." *Id.* (emphasis added). The opinion does not address the case where infringement is found under the "as a whole" approach, but not under the "element-by-element" approach, a very likely situation.

70. In *Malta v. Schmulerich Carillons, Inc.*, 952 F.2d 1320 (Fed. Cir. 1991), the court still made no clear statement. The dissent states, "[t]he panel majority finds an inadequate showing

The CAFC has identified other corollary issues relevant to this continuing conflict between approaches to be considered under a doctrine of equivalents analysis. The court stated in *Pennwalt* that, while there must be in the accused structure the equivalent of every claim limitation, these equivalents do not necessarily have to be a corresponding component.<sup>72</sup> The CAFC has recognized "[o]ne-to-one correspondence of components is not required, and elements or steps may be combined without *ipso facto* loss of equivalency."<sup>73</sup>

But the CAFC has made it clear that all *limitations* of a claim, or an equivalent of the limitations, must be present in the accused device for there to be infringement under the doctrine of equivalents. The CAFC in *Lemelson v. United States*,<sup>74</sup> stated that each element is "material and essential," and in 1990 in *Becton Dickinson & Co. v. C.R. Bard, Inc.*,<sup>75</sup> the court reiterated that "whether necessary or not, after issuance, all limitations in a claim are material and must be met exactly or equivalently in an accused device to find that the accused device works in the same way."<sup>76</sup>

The CAFC has oscillated on another issue that stems from considerations of limitations of a claim, that of whether the "heart" or "gist" of the invention is a factor to consider when determining if a limitation exists in the accused device. The CAFC, in 1984, prior to the acceptance of the element-by-element approach in *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*,<sup>77</sup> indicated that there is a "heart" of an invention that can be considered. The court stated, "[a]lthough there is no legally recognized 'essence' or 'heart' of the

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of why the elements work in the same way", implying that an element-by-element approach was taken by the majority. *Id.* at 1339 (Newman, J., dissent). *But see* discussion *infra* part I.E. *See also* Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 1238 (Fed. Cir. 1989) (holding a jury interrogatory prejudicial because it "isolated [one] specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety.").

71. *See* Lau, *supra* note 44; Adelman, *supra* note 10; Adelman & Francione, *supra* note 10; 4 DONALD S. CHISUM, PATENTS § 18.04[1] (1990).

72. *Coming Glass Works v. Sumitomo Elec. U.S.A.*, 868 F.2d 1251 (Fed. Cir. 1989).

73. *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978, 989 (Fed. Cir. 1989), *modified*, 872 F.2d 978 (Fed. Cir. 1989). *See also* Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 1238 (Fed. Cir. 1989) (holding a jury interrogatory prejudicial because it "isolated [one] specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety.").

74. 752 F.2d 1538, 1551 (Fed. Cir. 1985).

75. 922 F.2d 792, 798 (Fed. Cir. 1990).

76. *Becton Dickinson*, 922 F.2d at 798. *See also* Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1539 (Fed. Cir. 1991) ("To work 'in substantially the same way,' all the limitations of the claim must be satisfied at least equivalently."); *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 1449 (Fed. Cir. 1991) ("To support an infringement determination, an accused device must embody exactly each claim limitation or its equivalent.").

77. 750 F.2d 1569 (Fed. Cir. 1984).

invention in determining validity, . . . it can be applicable in a determination of infringement under the doctrine of equivalents."<sup>78</sup> However, in 1987, in a footnote in *Perkin-Elmer Corp. v. Westinghouse*,<sup>79</sup> the CAFC called these references to the "heart" or "gist" of the invention "dicta," and said that these cases<sup>80</sup> should not imply that claim limitations can be ignored as insignificant or immaterial in determining infringement.<sup>81</sup> In other words, even if a certain claim limitation were not the heart, or the most important part of the invention, it still must be met in order to find equivalence. This seems to imply an element-by-element approach. The court said these "dicta" indicated only what *Graver Tank* set forth, that one should not be able to appropriate an invention through an insubstantial change that does not substantially change the function performed by the claimed device. Judge Newman took issue with what she termed the court's changing of precedent without so saying. In her dissent she argued that "this important issue should be confronted directly, as a matter of public policy," and she continued by stating that failure to reach a consistent application of precedent will be destructive to the purposes of the patent system.<sup>82</sup>

The CAFC emphasis that insubstantial changes should not be allowed to defeat an infringement challenge suggests an element-by-element approach. The element-by-element analysis will allow small changes, which may be important to a deliberating jury. This approach requires consideration of each and every element in a claim, whereas the "as a whole" approach may allow certain changes, minor, although not insubstantial, to be completely overlooked.<sup>83</sup>

At present, *Pennwalt* has not been overruled. Accordingly, the element-by-element approach seems the proper approach, and cannot be said to be a basis for reversal.<sup>84</sup> This comment will argue for the

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78. *Id.* at 1582.

79. 822 F.2d 1528 (Fed. Cir. 1987).

80. The case cited *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861 (Fed. Cir. 1985) and *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569 (Fed. Cir. 1984), both of these cited *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563 (Fed. Cir. 1983).

81. *See Perkin-Elmer*, 822 F.2d at 1531 n.6.

82. *Id.* at 1535. *See also* *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226, 1240 (Fed. Cir. 1989) ("[T]here is no error in considering 'the principle of the claimed invention.'").

83. *See infra* part II.D.

84. *Cf. London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991) ("plaintiff must show the presence of every element or its substantial equivalent in the accused device.") (quoting *Lemelson v. United States*, 752 F.2d 1538, 1551 (Fed. Cir. 1985)); *Lear Seigler, Inc. v. Sealy Mattress Co. of Mich.*, 873 F.2d 1422 (Fed. Cir. 1989) (indicating that without explicit testimony to the jury on the three *Graver Tank* elements there is a risk that the jury will simply compare the claimed and accused device as to overall similarity).

element-by-element approach<sup>85</sup> and will propose a jury instruction to that end. But there is still considerable uncertainty on which approach to use. One author, in view of modern rulings of the CAFC, has stated that the "as a whole" test for equivalents "apparently still lives."<sup>86</sup> Another author proposes the doctrine of equivalents inquiry involves both the element-by-element and the "as a whole" approach.<sup>87</sup> This theory suggests that a court should look to each element in the claimed and accused device, and then to the device as a whole when determining the range of equivalents for each element.<sup>88</sup> In *Pennwalt*, Judge Nies asserts, "[a]n infringement standard as vague as application of the 'invention as a whole,' which permits claim limitations to be read out of the claim, would nullify statutory requirements and violate due process."<sup>89</sup> While Judge Bennett, for the dissent in the same case, claims that an element-by-element approach is "little more than a redundant literal infringement inquiry."<sup>90</sup> Nonetheless, an element-by-element analysis is the best approach to follow, in that it is consistent with *Pennwalt*.

#### B. *Determination of the Range of Equivalents for the Doctrine of Equivalents*

The range given to the equivalents of a claim must be determined before an analysis under the doctrine of equivalents can be performed. The word "equivalents" implies a range, or scope, of possibilities. The CAFC has addressed the determination of the range without many conflicts in its decisions. As such, this part of the law concerning the doctrine is well established. Still, these factors are relevant for a jury instruction, and accordingly are presented herein and include the prior art, prosecution history estoppel, and the distinction between a pioneer verses a non-pioneer patent.

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85. See *infra* part II.D.

86. Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 859 (May 1990). Cf. *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226 (Fed. Cir. 1989) (implying that it was prejudicial to isolate one claim element from the others in a jury interrogatory because the perspective obtained by viewing the invention in its entirety is lost.).

87. Lau, *supra* note 44.

88. *Id.* at 862.

89. *Pennwalt*, 833 F.2d at 954 (Nies, J., additional views). The statutory requirements refers to 35 U.S.C. § 112, which requires the invention to be described in full, clear and concise language. The due process violation is a lack of notice to the public and competitors as to what the patent encompasses.

90. *Id.* at 940 (Bennett, J., dissenting).

## 1. Prior Art

The prior art is the existing state of public knowledge in a particular art at the time the invention is made. It includes all publications, issued patents, and all other knowledge deemed to be publicly available.<sup>91</sup> To receive a patent, the invention, i.e., the promotion or advancement of the sciences,<sup>92</sup> must be non-obvious to one skilled in the art.<sup>93</sup> The Supreme Court has defined the non-obviousness of an invention with respect to the prior art: "Under [35 U.S.C.] § 103, the scope and content of the prior art are to be determined; differences between the prior art and the [patented claims] are to be ascertained" and if this difference would not be obvious to a person having ordinary skill in the art, the claim is said to be non-obvious,<sup>94</sup> thereby satisfying one of the three requirements for patentability.<sup>95</sup> Re-phrased, to be considered patentable subject matter, the invention must go beyond the prior art, and must advance the sciences in a non-obvious way.

When determining the range of equivalents given to a claim being interpreted under the doctrine of equivalents, the range cannot be extended to encompass the prior art.<sup>96</sup> If the range included the prior art, the patentee could claim more than the patent disclosed. This produces unfairness to those trying to design around, or improve upon, the patent, or anyone relying on the patent. In *Wilson Sporting Goods Co. v. David Geoffrey & Associates*,<sup>97</sup> the CAFC established an approach to prior art limitations to assist the court and the jury in determining the extent to which the prior art limited the scope of the claims. In *Wilson*, Judge Rich stated:

To simplify analysis and bring the issue [of extent of claims with respect to the prior art] onto familiar turf, it 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 the hypothetical claim could have been allowed by the PTO over the prior art. If not, then it would be improper to permit the patentee to

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91. See generally 35 U.S.C. § 102(a)&(b).

92. See *supra* text accompanying note 1.

93. 35 U.S.C. § 103.

94. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 9 (1966).

95. The other two requirements are that the invention be useful and that it be novel. See 35 U.S.C. § 101.

96. *E.g.*, *Stewart-Warner Corp. v. City of Pontiac, Mich.*, 767 F.2d 1563, 1572 (Fed. Cir. 1985).

97. 904 F.2d 677 (Fed. Cir. 1990).

obtain that coverage in an infringement suit under the doctrine of equivalents.<sup>98</sup>

Judge Rich suggested that to assist the court, and jury, in understanding the extent of the range of the prior art, a hypothetical claim, for the patented device, should be created. To comply with the Judge's suggestion, this claim should be written to make the accused device clearly and literally infringe. This claim should be suggested by counsel. This claim would then be viewed from the perspective of a patent examiner, at the time the patent was applied for, to decide if the claim would have been allowed to be patented, because it would not encompass the prior art. The burden of proof would be on the patentee to prove the range it seeks to encompass through the doctrine of equivalents would not cover the prior art.<sup>99</sup>

*Wilson* dealt with the dimple arrangement on the surface of a golf ball, with the inventor's intention to create a more symmetrical distribution of dimples. The claims as written were complicated,<sup>100</sup> as were the mathematical analysis performed by the court<sup>101</sup> when applying the new test. The CAFC reversed the lower court's infringement judgment, finding that, by using the hypothetical claim approach, the district court had improperly extended the scope of the claims. The CAFC has embraced this approach by using it again in *Key Manufacturing Group, Inc. v. Microdot, Inc.*<sup>102</sup> suggesting its embrace by the CAFC.

## 2. Prosecution History Estoppel

In addition to the prior art, prosecution history estoppel also serves as a limitation when determining the range of equivalents.

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98. *Id.* at 684.

99. *Id.* at 685.

100. Claim 1 stated:

A golf ball having a spherical surface with a plurality of dimples formed therein and six great circle paths which do not intersect any di[m]ples, the dimples being arranged by dividing the spheroidal [sic] surfaces into twenty spherical triangles corresponding to the faces of a regular icosahedron, each of the twenty triangles being sub-divided into four smaller triangles consisting of a central triangle and three apical triangles by connecting the midpoints [of the sides] of each of said twenty triangles along great circle paths, said dimples being arranged so that the dimples do not intersect the sides of any of the central triangles.

4 D. CHISUM, *supra* note 71, § 18.04[2] (quoting the language of *Wilson Sporting Goods Co.*, 904 F.2d 677).

101. *See* 4 D. CHISUM, *supra* note 71, § 18.04[2].

102. 925 F.2d 1444 (Fed. Cir. 1991). *See also* *Insta-Foam Products, Inc. v. Universal Foam Systems, Inc.*, 906 F.2d 698 (Fed. Cir. 1990) ("the hypothetical claim drawn to encompass [the accused infringer's product] would not have been unpatentable under 35 U.S.C. § 103 in view of the [pertinent prior art] patent.").

When the patentee submits her application to the Patent and Trademark Office (PTO), it is checked to make sure it is all in order and inserted into a folder, or "file wrapper"<sup>103</sup> which is given to the examiner to review. All correspondence between the patentee and PTO are put into the file wrapper, and the entire package is known as the prosecution history.<sup>104</sup> During the prosecution of the patent, the patentee may be required to amend or narrow the claims as submitted in order to avoid the prior art. By narrowing the claims during the application process in order to receive the patent, the patentee will generally be considered to have placed a limitation on their claim in the patent.<sup>105</sup> Prosecution history estoppel then prevents the patentee from recovering, through the use of the doctrine of equivalents, what she has given up during prosecution in order to acquire the patent.<sup>106</sup> In other words, as one federal circuit has explained, it is a defense used by the accused infringer and "only applies where infringement is shown under the doctrine of equivalents."<sup>107</sup>

Prosecution history estoppel only applies to doctrine of equivalents infringement, not literal infringement.<sup>108</sup> In *Loctite Corp. v. Ultraseal Ltd.*,<sup>109</sup> the court discussed two ways the prosecution history is used for a determination of infringement. First, it may be used to "interpret the language of the claims of a patent" when the court is considering literal infringement.<sup>110</sup> This is not using the prosecution history for estoppel, but using it to clarify and interpret. Secondly, it is used as an estoppel to limit the doctrine of equivalents. The court stated, "[a]pplication of prosecution history estoppel . . . should be performed as a legal matter on a case-by-case basis."<sup>111</sup>

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103. This "file wrapper" is literally a three flapped folder, where one flap folds over the middle one and then the opposite flap folds over it to form a wrapper around the file. Prosecution history estoppel used to be referred to as file wrapper estoppel until the CAFC changed the terminology.

104. See *supra* note 56.

105. See *Pennwalt*, 833 F.2d at 934 (patentee's addition of "position indicating means" in a claim in order to avoid the prior art was considered a limitation on the claim, resulting in a finding of no infringement when the accused device did not have this limitation.).

106. See *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126, 136 (1942); *Dixie USA, Inc. v. Infab Corp.*, 927 F.2d 584, 588 (Fed. Cir. 1991).

107. *Olympic Fastening Sys., Inc. v. Textron, Inc.*, 504 F.2d 609, 615 (6th Cir. 1974), *cert. denied*, 420 U.S. 1004 (1975).

108. See *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565 (Fed. Cir. 1983); *Phillips Petroleum Co. v. United States Steel Corp.*, 673 F. Supp. 1278 (D. Del. 1987), *aff'd*, 865 F.2d 1247 (Fed. Cir. 1989).

109. 781 F.2d 861 (Fed. Cir. 1985).

110. *Id.* at 870.

111. *Id.* at 871.



A 1989 CAFC case, *Senmed, Inc. v. Richard-Allan Medical Industries*,<sup>112</sup> illustrates the effect of this estoppel. The patentee changed the words in a claim from "toward" to "on" when describing the position of staples on a medical stapler to the patent examiner in order to distinguish his proposed improvement from the prior art and receive a patent. The prior art indicated that certain staples were moved to a point "above" (as opposed to "on") another point. The patent examiner and the patentee agreed that the words "toward" and "above" had the same meaning for this device, but "on" meant something different from "above." Changing the word "toward" to the word "on," which altered the meaning of the claim, avoided the prior art to allow patentability. At trial, the patentee indicated that "on" meant "between the upper surface . . . and the lower [surface]," a definition accepted by the district court.<sup>113</sup> The CAFC, however, in granting a JNOV of the verdict of infringement under the doctrine of equivalents, stated, "Th[e district court's] claim interpretation, however, is incontestably inconsistent with the position taken by [the patentee] during prosecution of his patent application . . . [thus the] claim interpretation cannot stand."<sup>114</sup> The court's decision implies that since the patentee changed the word "toward" to "on" to avoid the prior art, which referred to "above," the patentee could not argue that "on" means "between" in order to establish infringement of his patent.

### 3. Pioneer vs. Non-Pioneer Patent

The third factor for determining the range of equivalents is whether the patent is a pioneer patent. The Supreme Court has long recognized "the range of equivalents depends upon and varies with the degree of invention,"<sup>115</sup> and a patent of an entirely new device, i.e., a pioneer patent, will cover a greater range of equivalents than that of a device that only improves upon an existing device, i.e., an improvement or non-pioneer patent. A pioneer patent has been defined as a patent having "the position occupied by the invention in the art to which it pertains, or which it creates . . . ."<sup>116</sup> An inventor has a pioneer patent when the invention is "a function never before performed, a wholly novel device, or one of such novelty and importance as to mark a distinct step in the progress of the art . . . ."<sup>117</sup> An

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112. 888 F.2d 815 (Fed. Cir. 1989).

113. *Id.* at 820 (emphasis added).

114. *Id.* at 820.

115. *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405 (1908).

116. *MAC Corp. of Am. v. Williams Patent Crusher & Pulverizer Co.*, 767 F.2d 882, 884 n.3 (Fed. Cir. 1985).

117. *Boyd Power-Brake Co. v. Westinghouse*, 170 U.S. 537, 569 (1898).

example of this type of patent is the handheld calculator, the first of its kind, in *Texas Instruments, Inc. v. United States International Trade Commission*.<sup>118</sup>

Conversely, an improvement patent is a patent for an improvement in a previously patented device. This common type of patent is similar to the patents-in-suit found in *Pennwalt*,<sup>119</sup> *Lear Seigler Inc. v. Sealy Mattress Co. of Michigan*,<sup>120</sup> and *Malta v. Schulmerich Carillons, Inc.*<sup>121</sup> This patent is only a minor advancement in the progress of the sciences, or is only a minor change in a field that is already filled with various patents.

A pioneer patent is given a broad range of equivalents, whereas an improvement patent is, inherently, given a narrow range of equivalents. The CAFC has stated “[i]t has long been recognized that the range of permissible equivalents depends upon the extent and nature of the invention, and may be more generously interpreted for a basic invention than for a less dramatic technological advance.”<sup>122</sup> One lower court opined that the reason for a broad range of equivalents for a pioneer patent is because of the difficulty of drafting claims for a patent in an entirely new field.<sup>123</sup> Thus, to allow a broad range of equivalents is an equitable way to protect and encourage the inventor with a pioneer invention, without which other improvement patents may well not have been possible.<sup>124</sup>

This comment’s proposed jury instruction reflects the requirements of these three limitations, the prior art, prosecution history estoppel, and pioneer vs. improvement patent, on the range of equivalents.

### C. *Post Patent Technology*

The jury must consider whether technology that is developed after the issuance of a patent, of which the inventor could not have been aware, can still infringe a patent under the doctrine of equivalents. Although earlier courts had held that the doctrine of equivalents was

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118. 805 F.2d 1558 (Fed. Cir. 1986), *reh’g denied*, 846 F.2d 1369 (Fed. Cir. 1988).

119. See *supra* text accompanying notes 53-60.

120. 873 F.2d 1422 (Fed. Cir. 1989) (patent on mattress box spring “springs”).

121. 952 F.2d 1320 (Fed. Cir. 1991) (patent on method for changing the tone of musical hand chimes while playing them).

122. *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 805 F.2d 1558, 1563 (Fed. Cir. 1986), *reh’g denied*, 846 F.2d 1369 (Fed. Cir. 1988). See also *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1457 (Fed. Cir. 1991) (“The claimed invention is a mechanical combination in a crowded field . . . . Such an invention is entitled only to a narrow range of equivalents.”).

123. *Moore v. United States*, 211 U.S.P.Q. 800 (Ct. Cl. Trial Div. 1981).

124. *Id.*

not applicable to technology discovered after the patent was issued,<sup>125</sup> the CAFC has made it clear that technology developed after the patent issues can still infringe the patent through the doctrine of equivalents. *Hughes Aircraft Co. v. United States*<sup>126</sup> gave the CAFC one of its first opportunities to address the issue in 1983. The patent owned by Hughes was a means of controlling a satellite through a means for receiving and executing control signals from the ground.<sup>127</sup> After the issuance of the patent, improvements in microprocessor technology made it possible for certain functions to be performed by the microprocessor on the satellite rather than on the ground. The court found infringement because the inventor is not required to predict all future developments that will enable the practice of the invention.<sup>128</sup> The court affirmed this ruling in *Moleculon Research Corp. v. CBS, Inc.*<sup>129</sup>

#### D. Evidentiary Requirements For a Jury Trial

In 1984, the CAFC first addressed some specific evidentiary requirements for a jury to consider for infringement under the doctrine of equivalents. In *Nestier Corp. v. Menasha Corp., Lewisystem Division*,<sup>130</sup> Nestier obtained a patent for stackable tote boxes, in which the lids of the boxes were indented to receive a similar box. The lids also had "interfitting raised and depressed areas" to "enhance security" and provide strength for stacking.<sup>131</sup> At the close of trial, both parties submitted jury instructions that did not include instructions on the doctrine of equivalents. No infringement was found by the jury under a literal infringement inquiry. On appeal, Nestier, the patent holder, argued reversible error since the court did not instruct the jury on the doctrine of equivalents infringement.<sup>132</sup>

The CAFC upheld the decision of the jury. In doing so, the court held that, in order to establish infringement under the doctrine of equivalents, the patentee must provide "evidence and argument concerning the doctrine and each of its elements" of function, way and result.<sup>133</sup> The court further clarified that equivalence must be estab-

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125. See 4 D. CHISUM, *supra* note 71, § 18.04[3].

126. 717 F.2d 1351 (Fed. Cir. 1983).

127. See discussion *supra* part I.A.

128. *Hughes Aircraft*, 717 F.2d at 1364-1365.

129. 872 F.2d 407, 409 (Fed. Cir. 1989) ("Although a 'partial variation in technique,' an embellishment made possible by post-[patent] technology, does not allow the accused device to escape the 'web of infringement' . . .").

130. 739 F.2d 1576 (Fed. Cir. 1984).

131. *Id.* at 1578.

132. *Id.*

133. *Id.* at 1579.

lished “with respect to the claims of the patent,” not “for the commercial structures involved.”<sup>134</sup> The court noted that a jury must be explicitly told that a doctrine of equivalence analysis is to be used and that the party will be presenting evidence showing equivalence of the function, way and result.<sup>135</sup> In *Nestier*, the appellate court reasoned that the jury was not told that the doctrine of equivalents could serve as a basis for a finding of infringement.

In 1989, the CAFC again addressed the evidentiary requirements for doctrine of equivalents finding of infringement in *Lear Seigler, Inc. v. Sealy Mattress Co. of Michigan*.<sup>136</sup> Both parties were manufacturers of mattress box springs. Lear Seigler’s (LSI) patent-in-suit involved a certain style of spring. The jury found infringement under the doctrine of equivalents and awarded LSI \$2.8 million in damages.<sup>137</sup> The CAFC granted Sealy their motion for JNOV, finding that the evidence and argument presented to the jury was inadequate and did not support a finding of equivalents.

The CAFC in *Nestier*<sup>138</sup> required that explicit evidence be presented to the jury showing the equivalents of function, way and result and that the jury be informed that the patentee is relying on the doctrine of equivalents for a finding of infringement.<sup>139</sup> Five years later, in *Lear Seigler*,<sup>140</sup> the court heightened this requirement by “requir[ing] that the three *Graver Tank* elements must be presented in the form of particularized testimony and linking argument.”<sup>141</sup> First, there must be separate testimony showing the accused and the claimed devices perform substantially the same function, separate testimony that the two objects perform that function in substantially the same way, and separate testimony showing that the two objects obtain sub-

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134. *Id.*

135. *Nestier*, 739 F.2d at 1579.

136. 873 F.2d 1422 (Fed. Cir. 1989).

137. *Id.* at 1423-24.

138. *Nestier*, 739 F.2d at 1576.

139. In *Lear Seigler*, argument was advanced that *Nestier* should be distinguished because infringement under the doctrine was “disavowed” by the patentee in *Nestier*, whereas in *Lear Seigler*, the patentee clearly relied on the doctrine. Thus *Nestier* was satisfied because the explicit testimony of the three *Graver Tank* elements was an *alternative* to the clear expression of reliance on the doctrine of equivalents. The court rejected this argument, saying that the disavowance of the doctrine was dicta in the rationale of the opinion, because the result would have been the same without it. *Lear Seigler*, 873 F.2d at 1427.

140. 873 F.2d 1422.

141. *Id.* at 1426 (emphasis added).

stantially the same result.<sup>142</sup> This is the particularized testimony the court required.<sup>143</sup>

The second requirement is the linking argument, which connects the separate testimony together; the court referred to this as "testimony reasonably served to articulate the comparison"<sup>144</sup> of the equivalence of the two devices. The court required that a party "explicitly delineate to the jury, through testimony and argument" the equivalence between the two items.<sup>145</sup> Absent this delineation, the jury cannot find infringement under the doctrine.

The CAFC emphasized, "[a]bsent the proper . . . showing of how plaintiff compares the function, means, and result of its claimed invention with those of the accused device, a jury is more or less put to sea without guiding charts when called upon to determine infringement under the doctrine of equivalents."<sup>146</sup> It would be difficult for a jury to rationally find all three elements absent given specific instructions regarding identification of the three elements. Accordingly, the court stated that there is "too much risk the jury will simply compare the two inventions as to overall similarity, in violation of *Graver Tank*."<sup>147</sup> Because there "was neither argument nor evidence explicitly setting forth" the equivalence of result, function, and means, the court held that the district court should not have instructed the jury on the doctrine.<sup>148</sup> Because the case was "improvidently submitted" to the jury on the doctrine, the JNOV grant was proper.<sup>149</sup>

In *LSI*, a \$2.8 million verdict for the patentee was reversed because of the judge's failure, and likely the patentee's attorney's failure, to understand this requirement. While there may have actually been infringement under the doctrine, the evidentiary requirements were not met; thus there could be no finding of infringement. The *LSI* decision may seem to have eliminated any uncertainty in what is required from an evidentiary standpoint for a finding of infringement

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142. See *id.* at 1425. For a commentary on *Lear Seigler* explaining what the case required for evidentiary proof of the doctrine of equivalents, see Wawrzyniak, *Proving Patent Infringement Under the Doctrine of Equivalents: The Specific Evidentiary Requirements for Getting to the Jury*, 55 Mo. L.R. 1105 (1990).

143. Note that this is called "testimony" by the court, implying that only testimonial evidence is adequate to establish the equivalency of function, way and means of the two devices. See *Malta v. Schmuleric Carillons, Inc.*, 952 F.2d 1320, 1331 (Fed. Cir. 1991) (Michel, J., concurrence) (implying that this distinction is not dispositive to the case).

144. *Lear Seigler*, 873 F.2d at 1426.

145. *Id.* at 1425.

146. *Id.* at 1425-26.

147. *Id.* at 1427.

148. *Id.* at 1426.

149. *Lear Seigler*, 873 F.2d at 1426.

under the doctrine of equivalents. However, in 1991, another JNOV was granted because the CAFC held that the proper evidence was not presented.

E. *Malta v. Schmulerich Carillons, Inc. Indicates the Recent Evidentiary Uncertainty in the Doctrine of Equivalents Infringement Inquiry*

*Malta v. Schmulerich Carillons, Inc.*<sup>150</sup> illustrates the CAFC's uncertainty regarding exactly what is required to find infringement under the doctrine of equivalents. This 1991 case was decided against the patentee because of the patentee's failure to present the requisite evidence to the jury for a finding of infringement under the doctrine of equivalents. The patentee lost a \$950,000 jury verdict on a JNOV motion, even though both parties in the dispute apparently felt the jury instruction was an adequate and correct description of the law.<sup>151</sup> The dissent criticized the panel majority on the particular issue of law on which the JNOV is affirmed by pointing out that "Schulmerich did not request jury instructions on any of the points on which the panel's majority opinions now rely."<sup>152</sup>

Both Malta and Schmulerich were manufacturers of hand chimes for musical performances, and, as is common in infringement suits, Malta was a former employee of Schmulerich.<sup>153</sup> Malta received a patent for a hand chime that was easily adjusted "on-the-fly" while being played to produce different loudness of sound, and sued Schulmerich for infringement of this patent based on hand chimes that Schulmerich was manufacturing.<sup>154</sup> The jury found for Malta, but Schulmerich was granted a JNOV for non-infringement of the patent under the doctrine of equivalents.<sup>155</sup>

The patent had two claims at issue,<sup>156</sup> numbers two and three of the patent, and the jury in an interrogatory found that, while claim

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150. 952 F.2d 1320 (Fed. Cir. 1991).

151. *Id.* at 1342 (Newman, J., dissenting) ("The parties agreed on the law to be applied. There was no objection to the jury instruction.")

152. *Id.* *But see infra* text accompanying notes 178-79, discussing Schmulerich's defense in the trial court.

153. *Id.* at 1323. Combined, the two companies supplied about 95% of the handbell market. *Id.* at 1323.

154. *Id.* at 1323.

155. *Malta*, 952 F.2d at 1323-24.

156. Claims 2 and 3 are the relevant claims. Claim 3 provides:

3. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof, said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper

three had not been literally infringed, it had been infringed under the doctrine of equivalents. Claim two was not considered for unrelated reasons. The relevant part of claim three referred to the part of the clapper of the chime that hits the surface of the bell as having "striking buttons" with different degrees of hardness.<sup>157</sup> Adding somewhat to the confusion, claims two and three both contained reference to a picture of the claimed device as described by each claim (i.e., two separate pictures). The accused device resembled the picture related to *claim two*, yet the claim at issue in the appeal was claim three, which showed a picture different from the accused chime.<sup>158</sup>

The appellate court found that the "striking button" language of claim three, when compared to other claims and the words in the specification, was a *limitation* of the claim, making claim three a narrower claim than, for instance, claim two, which merely used the words "striking surface."<sup>159</sup> To infringe under the doctrine of equivalents, the accused device must contain that limitation or an equivalent thereof.<sup>160</sup> Because the clapper of the accused device did not use "buttons" of differing hardness to vary the loudness, but had three pairs of "striking surfaces" with differing characteristics, the majority found that the claim limitation of "buttons" was not met and there

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member at its free extremity, said clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft and including a plurality of *striking buttons* positioned in opposed pairs around the outer periphery thereof and wherein *each pair* of buttons has a different degree of hardness; means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs of *buttons* in striking relation to said bell; and detent means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position.

*Id.* at 1322.

Claim 2 differed only in that it required an indexing means on the handle and clapper assembly instead of the coacting means, and instead of "buttons" requires "at least three opposed pairs of surface portions wherein each of said pairs has a different degree of hardness." *Id.* Claim 2 was not at issue in the appeal and it required the addition of an additional element (the indexing means) which was not present in the accused chime.

157. See *supra* note 156. Claim two, instead of requiring "buttons" required "at least three opposed pairs of *surface portions*." (Emphasis added). Further, in the description of the device in the specification (prior to the claims), the use of the word "buttons" is again used to refer to claim three, whereas "striking surfaces" is used in claim two. *Malta*, 952 F.2d at 1322.

158. See *Malta*, 952 F.2d at 1322.

159. *Id.* at 1327.

160. The majority, implying approval of *Pennwalt's* approach, quotes the rationale in part: "[there can be no finding of infringement] because the patentee did not establish the presence, in the accused device, of every claim element 'or its substantial equivalent.'" *Id.* at 1325. See also *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528 (Fed. Cir. 1987) (even though application of the doctrine of equivalents extends the protection of the patent beyond the literal words of the claims, it is not proper "to erase a plethora of meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement.").

could not be a finding of infringement. The clapper in the accused device was made of a single plastic material. The clapper had three pairs of striking surfaces. To vary the loudness of the chime, one pair of surfaces had a hole drilled in the clapper material, another pair was the plastic surface of the clapper with no hole behind it, and the third surface was the plastic clapper material covered with felt.<sup>161</sup> The claimed “buttons” were of materials of “a different degree of hardness.”<sup>162</sup> What the court found, then, was that the claim in the patent actually was “exceeded” because of the narrower claim description of claim three.<sup>163</sup> Where there is a “broad term in one claim, but a narrower term . . . in another claim, the implication is that infringement of the second claim can be avoided by not meeting the narrower term.”<sup>164</sup>

In affirming the JNOV, the court explained that there was *insufficient testimony* as to “*why* the overall function, way, and result of the accused device are substantially the same as those of the claimed device and *why* the plastic/slotted plastic/felt arrangement is the equivalent of the claimed buttons limitation.”<sup>165</sup> The court indicated that the failure of Malta’s case was that there was “not sufficiently particularized evidence”<sup>166</sup> of *why* the “striking button” limitation of the claim is the equivalent of the “striking surfaces” of the accused device. Borrowing from the *Lear Seigler, Inc. v. Sealy Mattress*<sup>167</sup> rationale, without this type of evidence the jury is “put to sea without guiding charts”<sup>168</sup> and is “left to its own imagination on the technical issue of equivalency.”<sup>169</sup>

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161. *Malta*, 952 F.2d at 1326.

162. See claim language, *supra* note 156.

163. *Malta*, 952 F.2d at 1327. The court quotes the *Perkin-Elmer* court’s insight into this issue when it said although the doctrine of equivalents allows protection beyond the words of the patent, “it is not proper to erase a plethora of meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement.” *Id.* at 1327.

164. *Id.*

165. *Id.*

166. *Id.* The concurrence makes this point clear.

For me what is fatal in this record is the failure of Mr. Malta to separate and explicate his comparative analysis of “way” . . . [c]onsequently, there was insubstantial evidence of infringement under the doctrine of equivalents as to way . . . . . The jury was not separately and explicitly told [that drilling slots in the] *same* plastic material is an equivalent “way” compared to attaching striking buttons made from *different* materials . . . and [while] Mr. Malta may have briefly implied that the way was also essentially the same, the jury certainly was not told how and why that was so.

*Id.* at 1328-30.

167. *Lear Seigler*, 873 F.2d at 1426-27.

168. *Malta*, 952 F.2d at 1327.

169. *Id.*



The majority required testimony to prove why, considering the "striking surface" language in claim two (which is the claim *not* at issue), and the differing "striking buttons" language, in claim three, the range of equivalents for claim three should be so expanded to include a "striking surface" as an equivalent of "striking button." The argument might be posed: "if patentee had intended to include a striking surface as part of his claim in claim three, why did he not use the same language as in claim two?" This is the point in the majority argument that both the concurrence and the dissent miss.

Judge Newman argued in her dissent that there was "substantial evidence"<sup>170</sup> for a reasonable jury to support its finding. She spelled out specific testimony given by Malta and explained how this is adequate testimony to prove the three elements of the *Graver Tank* test. Rather than addressing the limitation issue of the majority, she focused on the evidence provided as to function, way, result, and specifically considered "way." She argued, "[a]s to way, there was substantial evidence of how the tone is changed on rotation of the clapper, due to the change in hardness of the surface in the striking, for the claimed and accused bell."<sup>171</sup> The dissent argued that the majority has "invoked a new requirement of proof of equivalency: proof not only of the three *Graver Tank* 'prongs' of 'function, way, and result', but also a fourth prong of 'why.'"<sup>172</sup>

The concurrence explained this purported misunderstanding by Judge Newman, but still does not address the majority's concern of the equivalent of a limitation.<sup>173</sup> Judge Michel's concurring opinion stated, "[the dissent's] characterization of the majority's holding is inaccurate. Because often substantial proof of equivalence of 'way' can be made only by an explanation of 'how and why', the apparently separate requirement of proof of 'why' is actually only an elaboration on the requirement of equivalence as to 'way.'"<sup>174</sup> The concurrence

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170. *Id.* at 1333 (Newman, J., dissenting).

171. *Id.* at 1340. The judge makes a similar comment on many occasions in her opinion, e.g., "There was substantial evidence not only as to this specific claim element but also as to the invention as a whole, leaving no theory of equivalency uncovered", *id.* at 1340; "Malta also presented substantial evidence that the way the striking surfaces produce their various tones is by varying their degree of hardness . . .", *id.* at 1340; and, [after discussing the testimony about the three *Graver Tank* elements] "[t]he evidence was thorough and, if anything, redundant", *id.* at 1341.

172. *Id.* at 1334.

173. The decision is not clear as to whether the concurrence was adding his view to what the majority stated, but it appears more to address the dissent's concern about what *Lear Seigler* requires: "I set forth these concurring views in order to clarify *Lear Seigler*." *Malta*, 952 F.2d at 1331. In addition, approximately half of the concurrence is under the heading "III. THE DISSENT." *Id.* at 1330.

174. *Malta*, 952 F.2d at 1330.

never addressed the limitation issue, but focused on the lack of “substantial . . . , separate and explicit” testimony regarding “how and why” the “way” element of the function/way/result test was substantially similar in the claimed and accused devices.<sup>175</sup>

*Malta's* treatment of the “element-by-element” versus the “as a whole” approach is not dispositive either way on the issue. As discussed above, the equivalent limitation issue was the key issue. But the majority stated that its holding had two bases. Judge Rich explained that there was insufficient explanation as to both 1) why the overall function, way, and result of the accused device are substantially the same as those of the claimed device and 2) why the plastic/slotted plastic/felt arrangement is the equivalent of the claimed buttons limitation.<sup>176</sup> He never discussed, though, why there was insufficient evidence regarding the *overall* function, way, and result test. He focused his discussion on the equivalence of limitations, the second part of his two part reason, throughout his doctrine of equivalents analysis. The first part of his reason can only be considered dicta because Schmulerich's defense at trial was the issue of equivalent limitations discussed in the majority opinion.<sup>177</sup> The opinion provides no insight, discussion, or even case authority for the doctrine of equivalents inquiry to be based on “overall” comparison of function/way/result.<sup>178</sup>

The court's three different opinions are illuminative of the confusion in the court regarding this enduring issue. Judge Rich's majority opinion cites the *Lear Seigler* court's fear that the jury will simply compare the accused and claimed device as to overall similarity if the jury is not given particularized testimony.<sup>179</sup> Yet in the next paragraph, he referred to the *overall* function/way/result test evidence<sup>180</sup> as the first issue for which there has not been adequate testimony. While that statement would seem to be a clear expression of the chosen approach, the majority performed an element-by-element analysis to uphold the lower court's JNOV. By focusing on the two words, “striking buttons,” the opinion viewed a particular element of the claim. This element of the claim is not even the advancement over the prior art of the patent; that attribute is described as the ability to

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175. See *id.* at 1328-31.

176. *Id.* at 1327.

177. See *id.* at 1323 (discussing the proceedings of the trial court).

178. The majority cites cases, e.g., *Pennwalt* (element-by-element) and *Hughes Aircraft Co. v. United States*, 717 F.2d 1351 (Fed. Cir. 1983) (“as a whole”), that have been rationalized as being both element-by-element cases and “as a whole” cases, but these cases are cited for other reasons. See the discussion, *supra* part A., for these opinions with respect to the two different approaches.

179. *Malta*, 952 F.2d at 1327.

180. *Id.*

change the surfaces while playing the chimes.<sup>181</sup> The plastic/slotted plastic/felt surfaces were also known in the prior art.<sup>182</sup>

Had the overall function/way/result been applied, the court's analysis would likely have produced a different result. The overall function of the invention was to allow the striking surfaces to be changed while playing the chime; the accused device performed a substantially similar function. This function was performed by rotating the clapper during play to change the surface striking the bell; the accused device worked in substantially the same way and produced substantially the same result of different loudness of sounds. An "as a whole" approach would have led to infringement under the doctrine of equivalents, but to Malta's chagrin, this approach was not used.

Neither the dissenting nor the concurring judges could define which method to use. Judge Newman's dissent expressed ambivalence toward the requisite approach. She explains "[t]here was substantial evidence not only as to this specific claim element but also as to the invention as a whole, leaving no theory of equivalency uncovered."<sup>183</sup> Yet, her opinion follows the majority's element-by-element approach without criticism. Judge Michel's concurrence only implied that the "as a whole" approach is the proper consideration. He stated that a jury verdict can only survive a JNOV motion if substantial evidence is presented "that explicitly and separately compares the function/way/result of the accused device with the function/way/result of the claimed invention to show that they are substantially the same."<sup>184</sup> But, like the dissent, he focused his opinion on the quantity and presentation of evidence regarding the equivalence of "way" of the *same* plastic striking surface and modifications compared to striking buttons made of *different* material, the corresponding elements in the two devices.<sup>185</sup>

With *Malta* and *Lear Seigler* as examples, the court continues to appear uncertain of the specific evidentiary requirements for a doctrine of equivalents infringement finding. In *Malta*, the CAFC disagrees on the proper approach or test for the doctrine of equivalents, and gives no indication of the test to be used in the future.

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181. *Id.* at 1337 (Newman, J., dissent) ("It was explained to the jury that what was new in Malta's bells was his means for rapidly changing the striking surface during a musical performance.").

182. *Id.* at 1339 (Newman, J., dissent).

183. *Id.* at 1340 (Newman, J., dissent).

184. *Malta*, 952 F.2d at 1329.

185. *Id.* at 1329.

PART II: SUMMARY OF THE ISSUES FOR A DOCTRINE OF  
EQUIVALENTS ANALYSIS

A. *The Doctrine Generally*

The doctrine of equivalents was developed to avoid a fraud being performed on the patent, and as such, it made the patent an effective legal right.<sup>186</sup> The CAFC noted, “[t]he essence of the doctrine of equivalents is that it permits recovery for infringement where the accused device does *not* fall within the literal scope of the claims.”<sup>187</sup> If an accused device can be proven to perform substantially the same function, in substantially the same way, to obtain substantially the same result as a claimed device, there is infringement under the doctrine of equivalents. From this general statement there inherently follows certain requirements. The doctrine of infringement is only reached after there is no literal infringement.<sup>188</sup> Under the *Graver Tank* rationale, the change or substitution in the accused device, which makes it “different” than the claimed device, must be insubstantial before equivalency is determined.<sup>189</sup>

B. *Limitation on the Range of Equivalents*

The doctrine is an equitable doctrine, hence, it is not bound by strict rules for the court to follow.<sup>190</sup> Accordingly, with a pioneer patent, patent claims are generally given a broad range of equivalents, whereas when the invention is considered an improvement patent, the range of equivalents allowed is more narrow.<sup>191</sup> Other limitations have been placed on the range that can be given to equivalents. This range cannot encompass anything that was in the prior art<sup>192</sup> nor can the patentee extend the scope to cover that which he has given up to make the claim patentable—prosecution history estoppel.<sup>193</sup> New technology created after the issuance of a patent will not necessarily allow one to escape infringement under the doctrine.<sup>194</sup>

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

187. *Environmental Instruments, Inc. v. Sutron Corp.*, 877 F.2d 1561, 1565 (Fed. Cir. 1989).

188. *Graver Tank*, 339 U.S. 605.

189. *Id.*

190. *See, e.g., Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1361 (Fed. Cir. 1983) (“The doctrine is judicially devised to do equity.”).

191. *See supra* text accompanying notes 115-24.

192. *See supra* text accompanying notes 91-102.

193. *See supra* text accompanying notes 103-14.

194. *See supra* part I.C.

C. *Evidentiary Requirements to Prove Infringement Under the Doctrine of Equivalents*

The CAFC has stated its testimonial and evidentiary requirements for a finding of infringement under the doctrine of equivalents. Infringement and equivalency are questions of fact.<sup>195</sup> Therefore, the party trying to prove infringement under the doctrine must make it clear to the jury that they are, in fact, going to try to prove infringement under the doctrine of equivalents.<sup>196</sup> They must present to the jury evidence of separate and explicit testimony showing the substantial similarity of the three *Graver Tank* elements of function, way, and result between the accused and claimed devices.<sup>197</sup> This evidence must be in the form of particularized testimony to each element of the claim and a linking argument to connect them together to show the substantial similarity of the two devices.<sup>198</sup>

D. *The Element-By-Element Analysis Should be Performed*

Although there is arguably no clear holding as to whether the doctrine of equivalents is applied to the device "as a whole" or element-by-element, the element-by-element analysis is the approach the CAFC should follow. An element-by-element approach is not incorrect, yet whether or not it is compelled is unclear.<sup>199</sup>

The CAFC is clear that claim limitations cannot be ignored,<sup>200</sup> whether necessary or not.<sup>201</sup> This requirement, at a minimum, requires a court utilizing a doctrine of equivalents inquiry to perform an element-by-element inquiry of the claim to discover limitations. Each element should be considered a limitation because the addition of elements causes a claim to be more narrow. As more elements are added, the claimed device encompasses less and less subject matter because each element pares down what the inventor has legally claimed. Also, it follows that, as elements are removed from a claim, the claim broadens and encompasses more subject matter. Thus, as elements are added or removed, the effect on the claims is to limit or expand them.

Because each element or its equivalent must be present in the accused device, and each element is considered a limitation, there must be an element-by-element approach conducted regardless of

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195. See, e.g., *Malta*, 952 F.2d at 1325.

196. See *Lear Seigler*, 873 F.2d 1422.

197. See, e.g., *id.*

198. *Id.*

199. See *Pennwalt*, 833 F.2d 931.

200. E.g., *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534 (Fed. Cir. 1991); *Pennwalt*, 833 F.2d 931.

201. See, e.g., *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792 (Fed. Cir. 1990).

method of analysis. If, in performing a doctrine of equivalents inquiry, an element is not found in the accused device, the court next must search to see if there is an equivalent to the claimed element, or limitation, in the accused device. If there is no equivalent, there can be no infringement.

The element-by-element approach should also be followed because, if an "as a whole" approach is used, then some limitations may be completely read out of a claim. This holds true where limitations may be required to be added to a claim in order to gain patentability over the prior art. *Pennwalt* exemplifies this concept: where the PTO examiner required the inventor to add the means for continuously indicating position of the fruit in order to avoid the prior art. The accused device did not contain this function, and the court found there was no infringement.<sup>202</sup> If the *Pennwalt* court had performed an analysis looking at the claimed and accused devices as a whole, it is likely that infringement would have been found. It has been argued that this approach is no more than a redundant literal infringement inquiry. However, that argument fails because a literal infringement inquiry is given no range of equivalents; for literal infringement, the claimed device must read directly on the accused device.<sup>203</sup>

To accept the "as a whole" approach potentially raises an entirely new issue which would abrogate the efficiency of the approach. Under an "as a whole" approach, it may be difficult to determine exactly what the "whole" encompasses. As the changes in the accused device become more minor in the overall view of the device, the jury must decide whether they can consider the remoteness of the change in looking at the device overall. Even if differences between the two devices are recognized, the jury, instructed to look at the device from a broad perspective, will not know whether or not this can be considered in its determination. Hence, the jury might look at the device from an overall point of view, and a minor change, which may be enough to avoid infringement, would be dismissed as insubstantial.

An element-by-element approach would eliminate the uncertainty as to whether a court can consider the "heart" or "gist" of an invention, thereby avoiding a finding of infringement.<sup>204</sup> By viewing each element of a claim, and requiring that element or its substantial equivalent be in the accused device, whether an element is the "heart" or "gist" of the invention becomes moot.

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202. See *supra* text accompanying notes 53-60.

203. See *Pennwalt*, 833 F.2d at 934 (Bennett, J., dissenting).

204. See *supra* text accompanying notes 77-82.

The CAFC's recognition of the increasing importance of the "way" part of the function/way/result test for the doctrine of equivalents<sup>205</sup> favors an element-by-element approach. Judge Bennett, in his dissenting opinion in *Pennwalt*, discussed the importance of the "way" inquiry: "the relevant inquiry, as it is in nearly all doctrine of equivalents analysis, is whether the accused device and the claimed invention perform the same overall function to achieve the same overall result *in substantially the same way*."<sup>206</sup> Generally, when a device infringes, the "result" and "function" will inherently be the same.<sup>207</sup> The device will be designed to perform some particular task (function) to achieve a particular result (the end result of the patented device). The most obvious difference is therefore the "way" the function is performed. Thus, the import of a doctrine of equivalents inquiry is the "way" part of the analysis. This does not mean that the "function" and "result" parts of the test can be ignored; only that these elements generally are not the key points of issue.

An "as a whole" approach may allow both "function" and "result" to overwhelm the importance of "way." In other words, a jury performing an "as a whole" analysis may tend to view only the function and result between the two devices, which tend to be similar, and abrogate any distinctions in the "way." Because the CAFC has made it clear that the "way" should not be overlooked, an element-by-element approach is favorable.

By following the element-by-element approach, the jury's awareness of the similarities and differences of the two devices enhances the jury's ability to make a better-informed decision regarding infringement. Evidence presented to the jury that proves each element of the claim or its substantial equivalent in the accused device provides a thorough presentation of the two devices. A lay jury would likely be inclined to view the two devices as to overall similarity. This is espe-

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205. See *Malta*, 952 F.2d at 1327 ("[W]hile the [accused and claimed devices] are described as being alternatives to each other, they are not equivalent in 'way.'"); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1539 (Fed. Cir. 1991) (determining the accused device "does not work in substantially the same way as the claimed device."); *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 939 F.2d 1540 (Fed. Cir. 1991) (holding the district court did not err in finding the accused devices operated in substantially the same manner as the claimed invention.); *Spectra Corp. v. Lutz*, 839 F.2d 1579, 1582 (Fed. Cir. 1988) (While the "function (dyeing) and the result (dyed material) are broadly the same. . . [t]he ways in which that function are performed and the result is obtained . . . are entirely distinct.").

206. *Pennwalt*, 833 F.2d at 940-41 n.3 (Bennett, J., dissenting). One commentator has noted, "In most cases, the issue is almost invariably whether the accused device performs the overall function in substantially the same way as the claimed invention." Adelman & Francione, *supra* note 10, at 687-88.

207. This would be an *infringer's* purpose—to get the same "result." If it were not the same "function", infringement likely would not be an issue.

cially true with more complex devices, where the distinctions may be difficult to understand or even "blur" in the juror's mind throughout lengthy expert testimony and trial. Hence, even if the jury were only slightly inclined to view the two objects overall, the presentation of evidence required by the element-by-element approach will allow them to see the two devices from the perspective of their relative complexity. This is especially important in cases in which a patent seems to be simple but is in fact quite complex, like the dimple pattern on a golf ball. This presentation also provides the jury with an understanding of any limitations on the claimed device, which must be considered when performing a doctrine of equivalents analysis, regardless of approach.

Admittedly, an advantage of the "as a whole" approach is its evidentiary simplicity. Relative to the element-by-element approach, which requires presentation of evidence for similarity of each and every element of the claimed device, the "as a whole" approach requires only evidence as to overall function/way/result between the claimed and accused devices. But this distinction is not enough to compel the use of the "as a whole" approach. The burden of an evidentiary showing should not be enough to encourage the court to select an approach that may result in findings of infringement, where a more detailed look at the evidence would have revealed important distinctions that would lead to a finding of no infringement. In light of the realization of the court that the focus of a doctrine of equivalents analysis is in equivalence of "way," the court could require that only the "way" of the two devices should be presented in evidence in the detail required by "particularized testimony and linking argument" for each and every element.<sup>208</sup> Additionally, the trial court could seek stipulation by the parties as to equivalence of function and result, reducing the evidentiary requirements at trial.

As a practical matter, if the CAFC does not clarify this issue, the element-by-element approach should be followed by the patentee when presenting her case to the jury. A presentation of evidence that follows the element-by-element approach necessarily includes evidence that would be required for an "as a whole" approach. Accordingly, the proposed jury instruction will follow the element-by-element approach.

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208. See Wawrzyniak, *supra* note 142.



E. *Doctrine of Equivalents as Applied to a 35 U.S.C. section 112-6 "Means-Plus-Function" Claim Element*<sup>209</sup>

Generally patent claims describe structure, not function.<sup>210</sup> For example, a claim may read: "A resistor that comprises 1) a ceramic core; 2) a coating of carbon on the core; and 3) a stripe of conductive material at each end of the core in electrical contact with the carbon coating." All these descriptions are of structure of the claim, not how it operates, or functions. But Congress determined certain claims would be more efficiently described as a function 35 U.S.C. section 112, paragraph 6, provides, in part, an "element in a claim for a combination may be expressed as a means or step for performing a specified function." This is referred to as "means for" or "means plus function" language. A claim of this nature might read: "A resistor that comprises: 1) a ceramic core; 2) a coating of carbon on the core; and 3) means at each end of the core for controlling the flow of electrons across the carbon surface at each end of the core."

An issue that will confront a jury when determining infringement under the doctrine of equivalents is how to analyze an equivalent of a "means-plus-function" claim. Section 112-6 states that a claim with such an element "shall be construed to cover the corresponding structure, materials, or acts described in the specification and *equivalents* thereof."<sup>211</sup> The "equivalents" under a section 112-6 inquiry and "equivalents" under the doctrine of equivalents are different.<sup>212</sup> Infringement under section 112-6 is literal infringement.<sup>213</sup> Under the literal infringement of section 112-6, the issue is whether the "means in the accused device is structurally equivalent to the means described in the specification."<sup>214</sup> This is not the complete inquiry as to literal infringement, because the element in the accused device and the ele-

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209. For a more thorough discussion of the background and purpose of 35 U.S.C. § 112, paragraph 6, see 4 CHISUM, *supra* note 71, § 8.04[2].

210. See, e.g., *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228 (1942) (a patentee may not broaden his claims by describing the product in terms of function). See *supra* note 58.

211. 35 U.S.C. § 112 (emphasis added).

212. See *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575 (Fed. Cir. 1985); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988). Cf. *Carl Zeiss Stiftung v. Renishaw PLC*, 740 F. Supp. 1038, 1045, (S.D.N.Y. 1990), *rev'd in part, vacated in part*, 945 F.2d 1173 (Fed. Cir. 1991) ("One oddity of patent law is that literal infringement can be on a type of equivalence, which is held to be different from the 'doctrine of equivalents.'").

213. See *Data Line Corp. v. Micro Technologies, Inc.*, 813 F.2d 1196 (Fed. Cir. 1987) (noting under § 112-6 "infringement is said to be 'literal' as distinguished from infringement under the doctrine of equivalence."); *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978 (Fed. Cir. 1989), *modified*, 872 F.2d 978 (Fed. Cir. 1989).

214. *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1536 (Fed. Cir. 1991); *accord* *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569 (Fed. Cir. 1991).

ment in the claimed device must also perform exactly the same function; if they do not, section 112-6 equivalency is not involved.<sup>215</sup> “If, as a threshold matter, the recited *functions* are not performed by the accused device, there can be no literal infringement.”<sup>216</sup>

In a section 112-6 analysis, the court must compare the means that are described in the specification of the claimed device with the means for performing the function in the accused device. If the means in the accused device are the *same* as in the specification, or *equivalent* to those in the specification, and it is performing the same function, this element “reads on” the claimed element in a literal infringement analysis. The equivalents of a section 112-6 inquiry are more limited than the doctrine of equivalents “equivalents” inquiry.<sup>217</sup> The scope of section 112-6 equivalents is confined to the structures expressly disclosed in the specifications and corresponding equivalents.<sup>218</sup> Thus, if the wording of section 112-6 limiting the means to those described in the specification or the equivalent thereof did not exist, an element of a claim when described as a “means for” performing a function would, if read literally, encompass *any and all* means for performing the function.

As an example, if the specification for the resistor described above stated that the means for controlling the flow of electrons across the carbon core consisted of an aluminum based metal, a similar device that used a sodium based metal would not infringe. But any aluminum based metal, not just one with a specific quantity of aluminum, would infringe. Without the limitation described in the specification, the sodium based metal device, or *any* device that controlled the flow of electrons across a carbon core, would also infringe. Section 112-6 operates to cut back on the *means* literally encompassed by the claim, but it “has *no effect* on the *function* specified—it does not extend the element [of the claim] to equivalent functions.”<sup>219</sup> Thus, with the resistor example, if an accused device had a function for the third ele-

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215. *Pennwalt*, 833 F.2d at 934.

216. *Spindelfabrik Suessen-Schurr v. Schubert & Salzer Maschinenfabrik AG*, 829 F.2d 1075, 1085 (Fed. Cir. 1987) (emphasis added).

217. *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978 (Fed. Cir. 1989), *modified*, 872 F.2d 978 (Fed. Cir. 1989).

218. *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569 (Fed. Cir. 1991). *Accord Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533 (Fed. Cir. 1991). Naturally, one author has indicated, “But it would not take two minutes for any patent lawyer to come up with examples of the question, ‘What is or is not equivalent to a particular disclosed device?’” Tom Arnold, *Recent Developments in Patent Law*, in PROCEEDINGS OF THE TWENTY-SIXTH ANNUAL INSTITUTE ON PATENT LAW 1-32, (Carol Holgren ed., 1989).

219. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580 (Fed. Cir. 1989) (emphasis added). *Accord Pennwalt*, 833 F.2d at 934.

ment of changing the flow of electrons only when there was a certain specified quantity of electrons flowing across the carbon surface, a *literal* infringement claim under section 112-6 would fail even if the function was found to be equivalent.

Contrast this with a doctrine of equivalents analysis. Under the doctrine of equivalents, the range of equivalent means are not limited by the specification.<sup>220</sup> Furthermore, it must be decided whether the accused device performs substantially the same function in substantially the same way to achieve substantially the same result.<sup>221</sup> The section 112-6 inquiry does not involve the tripartite test. In addition, when determining "equivalents" in a doctrine of equivalents inquiry, other factors such as the prior art and the prosecution history must be considered;<sup>222</sup> these play no part in a section 112-6 equivalents inquiry.

The issue arises, then, as how to analyze a "means-plus-function" claim when the doctrine of equivalents is being used to determine infringement. The key to a doctrine of equivalents inquiry where a claim has "means-plus-function" language is to look to the "function" performed.<sup>223</sup> Recall that when looking at a "means-plus" element in a claim during a literal infringement inquiry, the function performed must be exactly the same in the accused and claimed device.<sup>224</sup> Therefore, section 112-6 claim language can be considered under the doctrine of equivalence only if the accused device is found to have a *substantially similar function* that is performed in substantially the same way to achieve substantially the same result as the claimed device. If there is no substantially similar function, there is no infringement.

Next, when determining substantially the same "way" when no explicit "way," or means, is specified, as in a "means-plus" claim, the court can only look to those means described in the specification and their equivalents. This is the same as in a literal infringement inquiry where the claims use "means-plus" language. It is the standard section 112-6 inquiry. Once these means are ascertained, the court must look to the same factors viewed to determine the range of equivalents

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220. See *supra* part I.B.

221. D.M.I., Inc. v. Deere & Co., 755 F.2d 1570 (Fed. Cir. 1985).

222. See *supra* part I.B.

223. This is implied in *Pennwalt's* majority opinion. The majority indicated that the district court did not err by looking to the specifications to determine if a § 112-6 means-for element had an equivalent in the accused device, and the court continued, "but it is readily apparent that the [district] court did not limit its infringement analysis. The court also looked for equivalent *functions*." *Pennwalt*, 833 F.2d at 936.

224. See *supra* text accompanying note 216. Literal infringement requires the claimed subject matter to "read on" the accused subject matter. See *supra* text accompanying notes 30-31.

for a non-“means-for” claim,<sup>225</sup> and determine the range of equivalents for the “means-for” claim. This may result in a larger range of equivalents when “means plus” language is used because of the different possibilities of “means.” For each “means,” or its equivalent, in the specifications, there will be a corresponding range of “equivalents” when applying the “substantially the same way” language of a doctrine of equivalents analysis.

Thus, in the resistor example, under a doctrine of equivalents analysis, a sodium based metal used as the third element may be a substantially similar means of controlling the electron flow, if it is determined that aluminum and sodium based “controls” are substantially similar. Thus, a device using this technique may infringe under the doctrine of equivalents.

When a claim is phrased in “means-plus” language in accordance with section 112-6 and the doctrine of equivalents is used for infringement, the analysis still requires determination of the equivalents of “way” of the function/way/result test. But the equivalents, for the “way” part of the test, are for the equivalents of the means “described in the specification [or the means’] equivalents thereof.”<sup>226</sup>

### PART III: PROPOSAL OF STANDARD JURY INSTRUCTION

#### A. *Purpose of a Standard Jury Instruction*

A standard jury instruction would provide courts, attorneys, patentees, and competitors with a clearer understanding of what the law requires regarding infringement under the doctrine of equivalents. In addition, it would provide a list of issues that the jury must consider and also dictate what testimony and evidence which would need to be presented. The use of a standard instruction would minimize confusion and conflicts, and tend to reduce the number of appeals<sup>227</sup> to the CAFC in patent issues. The CAFC has indicated that there is a general desire to minimize these items in the federal judicial system.<sup>228</sup> The development and acceptance of a standard instruction would reduce erroneous jury decisions, such as those in *Malta*<sup>229</sup> and *Lear Seigler*.<sup>230</sup>

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225. These factors include the prior art, the prosecution history, the other claims, pioneer vs. non-pioneer and are discussed in this comment. See S.R.I. Int'l v. Matsushita Elec. Corp., 775 F.2d 1107 (Fed. Cir. 1985).

226. 35 U.S.C. § 112-6.

227. *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850 (Fed. Cir. 1991).

228. *Id.*

229. *Malta v. Schmulerich Carillons, Inc.*, 952 F.2d 1320 (Fed. Cir. 1991).

230. *Lear Seigler*, 873 F.2d 1422.

### B. *Issues Presented in a Doctrine of Equivalents Instruction*

This comment has covered the issues in a jury instruction. The courts have held that questions of equivalency and infringement are questions of fact, to be decided by the jury.<sup>231</sup> Claim interpretation is a question of law, to be decided by the court.<sup>232</sup> But the CAFC has indicated that interpreting claims sometimes requires the resolution of factual issues. In *C.R. Bard, Inc. v. Advanced Cardiovascular Systems, Inc.*,<sup>233</sup> the CAFC explained, “[c]laim interpretation may depend upon conflicting evidentiary material which can give rise to a genuine factual dispute. Resolution of any such factual dispute is required for proper claim interpretation.”<sup>234</sup> Hence, a factual dispute must be resolved by the jury before the court can interpret the claims. If the court interprets the claims as encompassing the accused device, then the jury can decide whether equivalency and infringement exist.

Although the CAFC has determined that the claim interpretation is a question of law, the jury must also interpret claims when determining if there is equivalency. The court cannot be expected to put into words its interpretation of how broad the scope is for equivalency. The court can only decide if the claims may be interpreted to cover the accused device and thus submit the issue to the jury. Then the jury has the task of determining if the evidence presented regarding the prosecution history, prior art, the other claims, etc., allows the claim to be extended to cover the accused product; in other words, the jury determines the range of *equivalency*. Then, after equivalency is decided, the jury determines infringement. It is not possible for the jury to consider equivalency without knowing or interpreting the scope of the claims. For this reason, the factors regarding the scope of the claims have been included in the proposed jury instruction.

### C. *Amenability of a Standard Instruction*

A standard instruction is possible. It must be “both legally correct and sufficiently comprehensive to address factual issues for which there is disputed evidence of record.”<sup>235</sup> This comment has reviewed the issues of the doctrine of equivalents. Some of these issues have

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231. See, e.g., *Graver Tank*, 339 U.S. at 609 (“A finding of equivalence is a determination of fact.”); *Malta*, 952 F.2d at 1325 (“The issues of infringement and of equivalency are issues of fact.”); *Oakley, Inc. v. Int’l Tropic-Cal, Inc.*, 923 F.2d 167, 169 (Fed. Cir. 1991) (“Infringement is a question of fact.”).

232. See, e.g., *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 1448 (Fed. Cir. 1991) (“Claim interpretation is a question of law.”).

233. 911 F.2d 670 (Fed. Cir. 1991).

234. *Id.* at 673.

235. *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 854 (Fed. Cir. 1991).

been resolved by the CAFC, while others have been clouded by uncertainty. For the important and unsettled issue of the “element-by-element” versus the “as a whole” approach, the proposed instruction presents an “element-by-element” approach.<sup>236</sup> Should the CAFC have the desire and opportunity to issue an opinion contrary to this approach, the instruction will obviously need to be rewritten. Due to the conflicting results on the issue, a standard jury instruction needs to be established. Although the CAFC may, given the opportunity, resolve the issue, further delay in delineating a standard will only exacerbate the conflict.

In composing this instruction, the instruction given in *Malta*,<sup>237</sup> which both parties and the court felt were adequate, was viewed as a starting point. The issues discussed in this comment were added in accordance with the law as it has been interpreted and created<sup>238</sup> by the CAFC. It has been said that the doctrine is an equitable one and equivalence is not the prisoner of formula.<sup>239</sup> As such, special explanations that may be appropriate embellish the instruction to emphasize an issue and thus reflect change in the law by producing a different instruction.

The proposed instruction contains terms of art that have been defined throughout this comment. These terms are not defined in the instruction itself. First, the jury should at a minimum be familiar with these terms by the end of the trial. Secondly, this instruction is only relevant to resolve the doctrine of equivalents issue. Presumably, there will be instructions on other issues, such as literal infringement. As a foundation to all these instructions, definitions of all the terms of art should be given by the court. These definitions are important, but they are collateral to the issue of this comment and are not formulated herein.

#### D. *Proposed Jury Instruction for Doctrine of Equivalents Infringement*

The following is the proposed jury instruction. Its syntax is as if it were being read to the jury by the judge:

Infringement under the doctrine of equivalents may exist if the accused device performs substantially the same function in substantially the same way to achieve substantially the same result as the

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236. See *supra* part II.D.

237. *Malta*, 952 F.2d at 1342 (dissent).

238. See *Graver Tank*, 339 U.S. 605. There is no mention of the doctrine of equivalence in 35 U.S.C. §§ 1-367.

239. See *Graver Tank*, 339 U.S. 605.

claimed device. When determining this, you must consider each and every element in the claim. Each element is a limitation, causing the claim to cover less subject matter, and is not in the claim inadvertently. If an element in the claim is not present in the accused device, you must determine if there is an equivalent of the function that the element performs in the accused device. If there is no equivalent of the element, there is no infringement.

What constitutes equivalency must be determined considering the prosecution history, the prior art and whether the patent is a pioneer or improvement patent. The scope of equivalency cannot encompass what was abandoned or surrendered during prosecution of the patent. The scope also cannot extend so far as to cover subject matter that is in the prior art, or knowledge that was already available to the public in any form. The smaller the advance over the prior art the more narrow the range of equivalents.

The claims describe the patent. Equivalents must be established with respect to the claims of the patent, not for the commercial purposes for which the claimed or accused products are used, or what the inventor describes in the specification.

If the accused device uses technology or a product that has been developed after the issuance of the patent, this does not mean that the accused device cannot necessarily infringe. You still must determine whether the new technology in the accused device performs substantially the same function in substantially the same way to achieve substantially the same result as the claimed device.

To find infringement, you must have been provided explicit evidence that particularly points out each element in the accused device and claimed device and been explicitly told how and why each element in the accused device performs substantially the same function in substantially the same way to achieve substantially the same result as each element in the claimed device. There must have been evidence presented to you showing an explicit comparison between the two devices in terms of function, way, and result of the elements in each. If this was not presented to you, you cannot find infringement under the doctrine of equivalents.

If section 112-6 language is used in the claim at issue, the following paragraphs should be added to the instruction, immediately following the first paragraph of the instruction. Again, it is emphasized that a different instruction must also be presented describing the section 112-6 "means-plus-function" type of claim, as well as the relevant terms of art, but it is not included here as it is beyond the scope of this comment.

The claim at issue uses "means plus function" language. To find infringement of this claim under the doctrine of equivalents

requires a two step analysis. You must first determine the "means" that are claimed in the patent. These are described only by the claim language, the means described in the specification, and equivalents to the means described in the specification. These equivalents are not related to equivalents under the doctrine of equivalents. The accused device *must* have the same means, or you cannot find infringement of the "means plus function" language. Recall, for this determination, the "means" are the same as the "way" of the function/way/result test.

Second, and only after completion of the first step, you must determine, from all of the possible means established from the first step, if the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result as the claimed device. When determining whether the two devices perform in substantially the same way, you must consider the range of equivalents to *all* the means which the patentee has claimed in [his] [her] patent.



