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Note

HILTON DAVIS AND THE DOCTRINE OF EQUIVALENTS--AN INSUBSTANTIAL DIFFERENCE

Keith A. Robb¹

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Prior to *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*, the doctrine of equivalents consisted of the function-way-result test and its arguably inconsistent application.¹ The United States Court of Appeals for the Federal Circuit used *Hilton Davis* in an attempt to clarify the doctrine of equivalents by asking whether it requires any steps in addition to the function-way-result test.² The court had ordered the parties to the suit to file supplemental briefs to address this question and two others.³ Deciding whether the doctrine of equivalents requires additional steps *276 involves consideration of the relevant factors used in applying the doctrine and the policies behind equivalent infringement analysis.

The Federal Circuit in *Hilton Davis* held that determining infringement under the doctrine of equivalents "requires proof of insubstantial differences between the claimed and accused products or processes."⁴ The court found that analysis of claimed inventions and accused devices under the doctrine of equivalents includes consideration of all evidence relevant to substantiality of the differences.⁵ Relevant evidence may include evidence of interchangeability known to those skilled in the

art, evidence of copying, and a variety of other factors.⁶ The function-way-result test remains a test for the doctrine of equivalents,⁷ but it is supplemented by other evidence relevant to substantiality of the differences.

Considering the Federal Circuit's emphasis that infringement under the doctrine of equivalents means that there is an insubstantial difference between the accused device and the claimed invention, the function-way-result test better fits into the analysis as one form of relevant evidence, rather than as a test for infringement. The Federal Circuit's present view of the doctrine of equivalents broadens the scope of the doctrine by permitting more evidence to be used in equivalents analysis.⁸ But, merely describing the test as determining an insubstantial difference between a claimed invention and an accused device does not guide application of the test. This paper discusses evidence relevant to the test, then suggests how to use the factors in applying the test.

I. Policies Behind the Doctrine of Equivalents

The doctrine of equivalents exists between competing policies of patent law. The ultimate goal of patent law is to "promote the Progress of Science and useful Arts" through the grant to inventors of an exclusive right for a limited time.⁹ The *277 doctrine grew from competing policies that promote this goal.¹⁰ The Supreme Court viewed the doctrine of equivalents as a way to provide continued meaning to a patent grant.¹¹ In defining the function-way-result test, the Court described the doctrine as a way to prevent theft of the "benefit of the invention."¹² Limiting an inventor to the precise words of the claim would allow others to take the invention while leaving an inventor with the form of the patent, but not its benefit.¹³ Broadening the right to exclude allows an inventor to retain the benefit of an invention. Patents, however, must distinctly claim the subject matter of the patent.¹⁴ Thus, competing policies of allowing inventors the benefit of their inventions while requiring distinct claims influence the doctrine. The claims of a patent must be distinct so as to provide the public with fair notice of an invention's boundaries, but a patentee must be protected from those who would try to steal the benefit of the invention.¹⁵ Application of the doctrine balances between competing policies promoting the useful arts.

In appropriate circumstances, this balance between policies broadens the scope of equivalents of the patent. Application of the doctrine is often referred to as an exception to the rule that patentees are limited to their claims.¹⁶ This exception broadens the right to exclude others.¹⁷ In effect, the rule treats the claims as examples that may be expanded to the extent that external factors, such as the prior art, will allow.¹⁸ Expanding the right to exclude provides the inventor with the entire benefit of the patent by covering an accused device that embodies the invention but does not literally meet the patent claims.¹⁹ This expansion of the patent right meets the policy of giving a patent holder the benefit of his invention. Its overuse, however, may diminish the policy of providing notice to the public through patent *278 claims. Viewing the doctrine as an exceptional remedy furthers the purpose of allowing the public to rely on the claims.²⁰ Courts applying the doctrine of equivalents should consider how its use furthers the policies behind the doctrine.

II. Evidence Relevant to the Doctrine of Equivalents

A variety of factors in addition to the function-way-result tripartite test affect the doctrine of equivalents. These factors include whether the invention is considered to be pioneering or whether the patentee is attempting to enlarge the claim coverage to include disclosed but unclaimed subject matter.²¹ Determining equivalents involves interpreting the claims in relation to the prior art, representations in the patent specification and prosecution history, and the circumstances of the individual case.²² These factors affect the scope of equivalents in different ways.

A. Pioneering Patent or Crowded Field

A spectrum from a pioneering patent to one in a crowded art influences the range of equivalents available to the patentee. The doctrine of equivalents applies to both pioneer patents and patents made of a combination of known elements.²³ An invention's place along this spectrum depends on the circumstances of the invention.²⁴ The range of technological advance is mirrored in gradations of equivalents.²⁵ A pioneer patent would be entitled to receive the widest range of *279 equivalents, whereas an improvement patent in a crowded art would be entitled to a very narrow range of equivalents.²⁶

Part of the difficulty in determining the range applicable to an invention is in defining what constitutes a pioneer patent. One definition of a pioneer patent describes it as "a distinct step in the progress of the art, distinguished from a mere improvement or perfection of what had gone before."²⁷ Such a distinct step must go farther than merely meeting the requirements of

patentability. Similarly, a pioneer patent can be considered as one in an area with little or no prior art.²⁸ While prior art can act to limit the scope of equivalents, an absence of prior art leaves room for a larger range of equivalents.²⁹ Pioneering status is not conferred just for commercial success for the invention, as many inventions enjoy commercial success.³⁰

The spectrum of equivalents changes the scope of equivalents, but not the way infringement is determined.³¹ A patentee may have the scope of equivalents of the invention's claims expanded, but the range will still be limited by the structural and functional limitations of the claims.³² In essence, the more innovative the invention, the broader its range of equivalents.

B. Prior Art

Prior art acts to limit the range of equivalents, for equivalents may not include what the prior art discloses.³³ The doctrine of equivalents expands the right to exclude, rather than expanding the patent claims.³⁴ A patentee cannot use the doctrine to obtain "coverage which he could not lawfully have obtained from the PTO by literal claims."³⁵ Matter within the public domain cannot be included in the *280 range of equivalents.³⁶ To illustrate the extent that prior art limited the range, the court in *Wilson Sporting Goods* developed the hypothetical claims test.³⁷ Prior art limits the available range, so the closer the pertinent prior art to the claims in issue, the narrower the range of equivalents.

C. Prosecution History

In addition to the prior art, the prosecution history also acts to limit the range of equivalents. Prosecution history will serve to limit the scope of equivalents by excluding interpretations that the patentee disclaimed in order to obtain claim issuance during prosecution.³⁸ Disclaimer applies when a patent applicant affirmatively relinquishes the subject matter during prosecution.³⁹ Relinquishment becomes estoppel because a competitor should be able to reasonably rely upon the applicant's giving up of subject matter which causes a patent to issue.⁴⁰ Prosecution history estoppel prevents a patentee from regaining through litigation subject matter that was given up during prosecution.⁴¹ Estoppel in this manner limits equivalents to a range bound by subject matter relinquished in prosecution.

E. Copying

Copying may be used as a factor in an application of the doctrine of equivalents. An early Supreme Court case described a patent's claims as covering the patentee's described invention and "all other forms which embody his invention."⁴² Equivalents infringement would occur if the accused device copied the "principle or mode of operation" even if it differed in form.⁴³ The Court found that a patent grant described the invention and its form and claimed that form plus "every form in which [the] invention may be copied."⁴⁴ Evidence of copying a patented invention can be found through insubstantial changes from the claimed invention, as *281 a copyist is likely to "introduce minor variations to conceal and shelter the piracy."⁴⁵ Evidence of copying was an important element of early doctrine of equivalents analysis.

The focus on using equivalents to stop copyists continued in *Graver Tank*, where the Supreme Court recognized that permitting copying threatened to make the patent grant a "hollow and useless thing."⁴⁶ The Court explained that limiting infringement analysis to only literal infringement would allow copyists to evade the literal language of a claim while appropriating the benefit of the invention. The Court warned that "[s]uch a limitation would leave room for--indeed encourage--the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, although adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of patent law."⁴⁷

The Federal Circuit in *Hilton Davis* maintained this standard by describing copying as relevant to proof of an insubstantial difference.⁴⁸ Although a copyist might try to conceal the copy, as long as the copy is substantially the same as the invention, it infringes.⁴⁹ Evidence of copying can be relevant to equivalents analysis. While the practice of copying was a motivating factor in the development of the doctrine of equivalents, it has been relegated to a relevant, but not determinative issue.

F. Independent Development and Designing Around the Patent

Other related factors relevant to application of the doctrine of equivalents are independent development and designing around

the patent. If independent development results in a device significantly different from the claimed invention, the devices may not be substantially similar even if the accused device “might perform substantially the same function in the same way to obtain the same result.”⁵⁰ Using independent development in this manner protects accused infringers from liability even if an accused device fits within the tripartite test. In applying the doctrine of equivalents in *Graver Tank*, the Supreme Court noted, “[w]ithout some explanation or indication that [the accused device] was developed by independent research, the trial court could properly infer that the accused [device] is the result of *282 imitation rather than experimentation or invention.”⁵¹ This statement is consistent with the idea that designing around patents is acceptable.⁵² Independent development and designing around a patent help an accused infringer to avoid a judgment of infringement under the doctrine.⁵³

Evidence of independent development is relevant in infringement analysis to protect those who do not know a patent exists but develop an invention similar to the claimed invention.⁵⁴ Protecting independent development does not undermine protections against copying, as copying suggests that an accused infringer knew of the patent and tried to evade the claims through insubstantial changes.⁵⁵ An independent developer who has no knowledge of a patent cannot steal the benefit of an invention.

Designing around a patent is distinguishable from copying.⁵⁶ Designing around a patent is encouraged as a way to innovate, whereas copying amounts to stealing the invention.⁵⁷ A successful design around, however, should result in a device that does not infringe a patent either literally or equivalently. Copying should be viewed as being at the opposite end of a spectrum from both independent development and designing around.⁵⁸ This spectrum influences application of the doctrine of equivalents. Scope of equivalents is broader at the copying end of the spectrum, meaning an accused device is more likely to infringe. At the other end of the spectrum, the doctrine results in narrower scopes and decreases the likelihood that an accused device infringes.

***283 III. Test for the Doctrine of Equivalents**

A. Insubstantial Difference

Doctrine of equivalents analysis may begin with the question, “has a substantial change been made?”⁵⁹ If this question is answered in the negative, then the application of the doctrine is desirable and the accused may be held liable for infringement.⁶⁰

An insubstantial difference appears as a slight change from the literal claims of the patent.⁶¹ Differences that are unimportant and add nothing to the device, but manage to avoid the claim language are considered insubstantial.⁶² Whether a change adds nothing to the accused device should be viewed from the perspective of one skilled in the art.⁶³ If one skilled in the art sees a change as adding “nothing of significance,” then that change is insubstantial and the accused device is equivalent to the claimed invention.⁶⁴ It has been found that if a patented device and accused device operate under the same principle, then the differences are insubstantial.⁶⁵ In general, the greater the similarity between the accused device and the claimed invention, the greater the likelihood of a court applying the doctrine of equivalents.⁶⁶

Proving infringement under the doctrine of equivalents requires proof of insubstantial differences between the claimed invention and the accused device.⁶⁷ The *Hilton Davis* court based this statement of the test on Supreme Court precedent and listed examples of Federal Circuit precedent which had used the standard of insubstantial differences.⁶⁸ *Hilton Davis* also included a list of evidence relevant to the test. The court, however, did not rank the factors beyond describing the factors as relevant.

The factors relevant to the doctrine of equivalents may be analyzed so as to give clearer meaning to the phrase “insubstantial differences.” Although the *284 doctrine of equivalents is “not the prisoner of formula,”⁶⁹ it is helpful to arrange the relevant evidence in order to clarify the test for infringement. Some of the evidentiary factors provide meaning as to “insubstantial,” while other factors provide meaning to “difference.” Analysis of differences should focus upon the claimed invention and the accused device, while factors relating to the circumstances of the invention, the inventor, or the accused infringer will affect the amount of difference that should be called insubstantial. A useful distinction between factors applicable to differences and factors applicable to insubstantiality is whether the factors relate to the accused device or whether they lead to an inference related to the range of equivalents.

B. Factors Relating to “Difference”

When defining “difference” in equivalents analysis one must compare the accused device with the claimed invention. A limited analysis of the accused device and the claimed invention allows for a clear focus on the differences between them. The function-way-result tripartite test focuses on the differences and provides meaning to the term.

The tripartite test illustrates differences between the claimed invention and the accused device. This test considers any possible similarity.⁷⁰ Established use of the tripartite test can continue, but in cases where other relevant evidence is involved, the test will help to define the substantiality of the difference rather than follow its older role of completely determining equivalents infringement. Investigating function, way, and result and the associated evidence will adequately describe the differences. It is therefore the appropriate test to give meaning to the differences part of equivalents analysis.

C. Factors Relating to “Insubstantial”

Several factors considered relevant to equivalents infringement provide meaning to the term “insubstantial.” Essentially, these factors expand or contract the meaning of insubstantial depending upon the circumstances surrounding the case. If equivalents is not to be “the prisoner of formula,” a test must include room to consider individual circumstances of an accused infringement. Factors such as copying and pioneer status should expand the range of devices covered by insubstantial, whereas factors like the prior art, independent development, and known interchangeability in the art should decrease that range.

Evidence of copying forces the meaning of insubstantial to include a greater range of different devices. This use of evidence of copying advances the goal of *285 protecting patent claims against bad actors. Evidence of copying suggests an accused infringer attempted to evade the literal meaning of the claims while taking the benefit of the invention. Only by expanding the meaning of insubstantial difference can the doctrine of equivalents prevent this.

In addition to copying, the pioneer status of a patent broadens the range of insubstantial. If a patent is pioneering, the patentee should be able to capture the greater benefit associated with a pioneering invention. In contrast, a patent in a crowded field would receive a narrow definition of insubstantial, and therefore a narrower range of equivalents. Varying the meaning of insubstantial based on pioneering status protects the benefits of a pioneering invention to its inventor.

Several factors, however, act to decrease the scope of insubstantial. Evidence of independent development, designing around the patent, and prior art should decrease the range of differences considered insubstantial. Independent development does not provide information about differences between a claimed invention and an accused device.⁷¹ It does, however, provide information as to the alleged infringement. This factor does not suggest that an accused infringer is attempting to steal any benefit from a patentee. In the absence of literal infringement, an accused infringer who independently developed his invention should be able to create a device closer to a claimed invention without being found liable for infringement.

Evidence of an accused infringer designing around a patent should also act to alter the scope of insubstantial. Designing around a patent does not inform as to differences between an accused device and a claimed invention. It does, however, suggest that the accused infringer attempted to avoid the meaning of the claims. In this sense, designing around a patent will slightly contract the range of insubstantial. If the purpose of the doctrine of equivalents is to prevent theft of the benefit of an invention, limiting the meaning of insubstantial will allow an inventor to retain benefits from an invention while permitting another inventor room to create a device that does not infringe.

Another factor acting to limit the meaning of insubstantial is the prior art. The range of equivalents cannot be expanded to include the prior art, though an exception to this is known interchangeability to those skilled in the art. *Hilton Davis* lists interchangeability as a factor expanding insubstantiality.⁷² *Hilton Davis* mentions *286 interchangeability of an ingredient,⁷³ which suggests interchangeability differs from prior art. Thus, prior art prevents insubstantial from covering a device known in the prior art.

Generally, the factors that influence the scope of insubstantial do not directly relate to the differences between an accused device and a claimed invention. For example, an accused infringer may provide information that he attempted to design around a patent. Such evidence provides little information about the differences between the accused device and the claimed invention, because it is possible that the accused infringer failed to successfully design around the claimed invention and

decided to copy the invention. Instead, these factors provide information and support inferences regarding the circumstances surrounding the alleged infringement. By limiting these factors as to the meaning of insubstantial, a trier of fact will be able to vary the range of equivalents to a scope appropriate to the circumstances of the alleged infringement.

IV. A Restated Test for the Doctrine of Equivalents

The policies underlying patent law have shaped the relevant factors behind the scope of equivalents. Use of these factors in the doctrine of equivalents provides certainty in the scope of patent rights. Through exclusion from the range of equivalents of such things as the prior art and matters relinquished during prosecution, the public can rely upon the scope of the claims granted and the right to exclude granted to a patentee. Creating a range of equivalents, however, protects the patentee's right to exclude. The doctrine protects an invention without expanding the right to cover subject matters dedicated to the public. These factors define various ranges corresponding to the essence of the invention. Greater innovation receives a greater range for the right to exclude, which in turn does more to encourage invention.

Hilton Davis restated the test for infringement under the doctrine of equivalents as an inquiry into insubstantial difference. The opinion listed relevant factors, but did not arrange the factors within the test. An easier way to view the test involves arranging the relevant evidence to define infringement under the doctrine of equivalents. The function-way-result test illustrates the meaning of difference, while the remaining factors work to develop the scope of what will be considered insubstantial. Such an arrangement of the test makes use of the factors now considered in equivalents analysis and leaves room to add new factors as appropriate.

*287 Factors within the test will have different effects on the result of equivalents analysis. Existing case law illustrates the use of the tripartite test, though now it will exist within the test of infringement under the doctrine of equivalents. It will continue to be widely used in equivalents cases. But, now that it illustrates differences between a claimed invention and an accused device, the tripartite test will not always determine the result of equivalents analysis. The factors relating to the meaning of insubstantial, however, will determine the result of equivalents analysis by varying the meaning of insubstantial. Factors such as copying, pioneer status, and known interchangeability in the art will support a broader scope for the meaning of insubstantial, and therefore, increase the likelihood of a finding of infringement under the doctrine of equivalents. Factors such as prosecution history estoppel, a crowded field, independent development, and designing around a patent will decrease the scope of insubstantial and decrease the likelihood of a finding of equivalents. Ordering the factors within the test of an insubstantial difference will ease application of the test.

Footnotes

^{a1} J.D. candidate, The University of Texas School of Law, May 1996.

¹ 62 F.3d 1512, 35 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1995) (en banc) (per curiam), *cert. granted*, 64 U.S.L.W. 3570 (U.S. Feb. 26, 1996) (No. 95-728).

² *Id.* at 1516, 35 U.S.P.Q.2d at 1644.

³ One of the questions ordered addressed was the following:
Does a finding of patent infringement under the doctrine of equivalents require anything in addition to proof of the facts that there are the same or substantially the same (a) function, (b) way, and (c) result, the so-called triple identity test of *Graver Tank v. Linde Air Products Co.*, 339 U.S. 605, 85 USPQ 328 (1950), and cases relied on therein? If yes, what?
Hilton-Davis Chem. Co. v. Warner Jenkinson Co., No. 93-1088, 1993 WL 761179 (Fed. Cir. Dec. 3, 1993).

⁴ *Hilton Davis*, 62 F.3d at 1521-22, 35 U.S.P.Q.2d at 1638. The court described the case as “an opportunity to restate--not to revise--the test for infringement under the doctrine of equivalents.” *Id.* at 1516, 35 U.S.P.Q.2d at 1644.

⁵ *Id.* at 1518, 35 U.S.P.Q.2d at 1645.

6 *Id.* at 1519, 35 U.S.P.Q.2d at 1646.

7 *Id.* at 1518, 35 U.S.P.Q.2d at 1645 (“When a trial record presents only evidence of function, way, and result, then application of the doctrine will necessarily rest on function, way, and result alone. When a record presents other evidence relevant to the substantiality of the differences, however, the fact-finder must consider it.”).

8 Evidence of infringement under the doctrine of equivalents includes all evidence relevant to substantiality of the differences. *Id.* at 1518, 35 U.S.P.Q.2d at 1645. “Neither the Supreme Court nor this court limits the types of evidence that either party may proffer in support of a factor it considers probative of infringement under the doctrine.” *Id.* at 1522, 35 U.S.P.Q.2d at 1648.

9 U.S. CONST. art. I, § 8, cl. 8.

10 *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d (BNA) 1456, 1458 (Fed. Cir. 1991).

11 *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607, 85 U.S.P.Q. (BNA) 328, 330 (1950).

12 *Id.* at 608, 85 U.S.P.Q. at 330 (quoting *Royal Typewriter Co. v. Remington Rand*, 168 F.2d 691, 692, 77 U.S.P.Q. (BNA) 517, 518 (2d Cir. 1948)).

13 *Id.* at 607, 85 U.S.P.Q. at 330.

14 35 U.S.C. § 112 (1994).

15 *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d (BNA) 1456, 1458 (Fed. Cir. 1991).

16 *Coleco Indus., Inc. v. United States Int’l Trade Comm’n*, 573 F.2d 1247, 1258, 197 U.S.P.Q. (BNA) 472, 481 (C.C.P.A. 1978) (Rich, J., concurring). *See also London*, 946 F.2d at 1538, 20 U.S.P.Q. at 1458; *International Visual Corp. v. Crown Metal Mfg.*, 991 F.2d 768, 774, 26 U.S.P.Q.2d (BNA) 1588, 1592-93 (Fed. Cir. 1993) (Lourie, J., concurring).

17 *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 398, 29 U.S.P.Q.2d (BNA) 1767, 1769 (Fed. Cir. 1994) (citing *Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 684, 14 U.S.P.Q.2d (BNA) 1942, 1948 (Fed. Cir.), *cert. denied*, 498 U.S. 992 (1990)). *See also Coleco*, 573 F.2d at 1257, 197 U.S.P.Q. at 480 (explaining that the doctrine extends claims beyond their literal meaning); *Baltimore Therapeutic Equip. Co. v. Loredan Biomedical, Inc.*, 26 F.3d 138, 30 U.S.P.Q.2d (BNA) 1672, 1677 (Fed. Cir. 1994) (Rich, J., concurring) (unpublished).

18 *Claude Neon Lights, Inc. v. E. Machlett & Son*, 36 F.2d 574, 576 (2d Cir. 1929) (Hand, J.).

19 *Coleco*, 573 F.2d at 1255, 197 U.S.P.Q.2d at 478.

20 *London*, 946 F.2d at 1538, 20 U.S.P.Q.2d at 1458-59. The Federal Circuit explained:
Application of the doctrine of equivalents is the exception, however, not the rule, for if the public comes to believe (or fear) that the language of patent claims can never be relied on, and that the doctrine of equivalents is simply the second prong of every infringement charge, regularly available to extend protection beyond the scope of the claims, then the claims will cease to serve their intended purpose.
Id. *But see* *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1521, 35 U.S.P.Q.2d (BNA) 1641, 1648 (Fed. Cir.

1995) (citing *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (1929)) (“Indeed, the Supreme Court has more than once stated that every patent owner is entitled to invoke the doctrine of equivalents....”).

21 *International Visual Corp. v. Crown Metal Mfg.*, 991 F.2d 768, 775, 26 U.S.P.Q.2d (BNA) 1588, 1593 (Fed. Cir. 1993) (Lourie, J., concurring).

22 *See Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608-09, 85 U.S.P.Q. (BNA) 328, 330 (1950); *Coleco*, 573 F.2d at 1255, 197 U.S.P.Q.2d at 478.

23 *Graver Tank*, 339 U.S. at 608, 85 U.S.P.Q. at 330.

24 *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978, 987, 10 U.S.P.Q.2d (BNA) 1338, 1346 (Fed. Cir. 1989).

25 *Id.*

26 *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362, 219 U.S.P.Q. (BNA) 473, 481 (Fed. Cir. 1983).

27 *Texas Instruments, Inc. v. United States Int’l Trade Comm’n*, 846 F.2d 1369, 1370, 6 U.S.P.Q.2d (BNA) 1886, 1888 (Fed. Cir. 1988) (quoting *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 562 (1898)).

28 *Id.*

29 *See infra* part II.B.

30 *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1532, 3 U.S.P.Q.2d (BNA) 1321, 1324 (Fed. Cir. 1987).

31 *See Texas Instruments*, 846 F.2d at 1370, 6 U.S.P.Q.2d at 1888.

32 *Perkin-Elmer*, 822 F.2d at 1532, 3 U.S.P.Q.2d at 1324.

33 *See We Care, Inc. v. Ultra-Mark Int’l Corp.*, 930 F.2d 1567, 1571, 18 U.S.P.Q.2d (BNA) 1562, 1564-65 (Fed. Cir. 1991).

34 *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 684, 14 U.S.P.Q.2d (BNA) 1942, 1948 (Fed. Cir. 1990).

35 *We Care*, 930 F.2d at 1570, 18 U.S.P.Q.2d at 1564 (citing *Wilson Sporting Goods*, 904 F.2d 677, 684, 14 U.S.P.Q.2d (BNA) 1942, 1948 (Fed. Cir. 1990)).

36 *Insta-Foam Prod., Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 704, 15 U.S.P.Q.2d (BNA) 1295, 1299 (Fed. Cir. 1990).

37 *Wilson Sporting Goods*, 904 F.2d at 684, 14 U.S.P.Q.2d at 1948.

38 *Zenith Lab. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1421, 30 U.S.P.Q.2d (BNA) 1285, 1288 (Fed. Cir. 1994) (citing *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452, 227 U.S.P.Q. (BNA) 293, 296 (Fed. Cir. 1985)).

39 Haynes Int'l, Inc. v. Jessop Steel Co., 8 F.3d 1573, 1578, 28 U.S.P.Q.2d (BNA) 1652, 1656 (Fed. Cir. 1993).

40 *Id.*

41 *Id.* at 1577, 28 U.S.P.Q.2d at 1655.

42 Winans v. Denmead, 56 U.S. (15 How.) 330, 342 (1853).

43 *Id.*

44 *Id.* at 343.

45 Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607, 85 U.S.P.Q. (BNA) 328, 330 (1950).

46 *Graver Tank*, 339 U.S. at 607, 85 U.S.P.Q. at 330.

47 *Id.*, 85 U.S.P.Q. at 330.

48 Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 U.S.P.Q.2d (BNA) 1641, 1646 (Fed. Cir. 1995) (“[C]opying suggests that the differences between the claimed and accused products or processes--measured objectively--are insubstantial.”).

49 Sanitary Refrigerator Co. v. Winters, 280 U.S. 30, 42 (1929).

50 International Visual Corp. v. Crown Metal Mfg., 991 F.2d 768, 774, 26 U.S.P.Q.2d (BNA) 1588, 1593 (Fed. Cir. 1993) (Lourie, J., concurring).

51 *Graver Tank*, 339 U.S. at 612, 85 U.S.P.Q. at 332.

52 Slimfold Mfg. Co. v. Kinkead Indus., Inc., 932 F.2d 1453, 1457, 18 U.S.P.Q.2d (BNA) 1842, 1845-46 (Fed. Cir. 1991).

53 *Id.*, 18 U.S.P.Q.2d at 1845.

54 It is important to note that this does not protect independent development that resulted in a literally infringing device, but is evidence as to the scope of the patentee’s right to exclude.

55 Charles Grenier & Co. v. Mari-Med Mfg., Inc., 962 F.2d 1031, 1036, 22 U.S.P.Q.2d (BNA) 1526, 1530 (Fed. Cir. 1992).

56 London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538, 20 U.S.P.Q.2d (BNA) 1456, 1458 (Fed. Cir. 1991).

57 *Id.*

58 *International Visual*, 991 F.2d at 775, 26 U.S.P.Q.2d at 1593.

59 *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1457, 18 U.S.P.Q.2d (BNA) 1842, 1846 (Fed. Cir. 1991).

60 *Id.*

61 *See Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 612, 85 U.S.P.Q. (BNA) 328, 332 (1950).

62 *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043, 25 U.S.P.Q.2d (BNA) 1451, 1454 (Fed. Cir. 1993).

63 *Id.*

64 *Id.*

65 *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (1929).

66 *International Visual*, 991 F.2d at 775, 26 U.S.P.Q.2d at 1593.

67 *Hilton Davis*, 62 F.3d at 1521-22, 35 U.S.P.Q.2d at 1648.

68 *Id.* at 1517-18, 35 U.S.P.Q.2d at 1644-45.

69 *Id.* at 1518, 35 U.S.P.Q.2d at 1645 (quoting *Graver Tank*, 339 U.S. at 609, 85 U.S.P.Q. at 330).

70 *Id.*

71 The Federal Circuit does not find independent development directly relevant to infringement analysis under the doctrine of equivalents. *Id.* at 1520, 35 U.S.P.Q.2d at 1647. The Federal Circuit explains that independent development “provides no information about the substantiality of the differences.” *Id.* This suggested arrangement of the test for the doctrine of equivalents acknowledges that independent development does not relate to differences between a claimed invention and an accused device, but does find it relevant in determining the meaning of insubstantial.

72 *Hilton Davis*, 62 F.3d at 1519, 35 U.S.P.Q.2d at 1646 (quoting *Graver Tank*, 339 U.S. at 609, 85 U.S.P.Q. at 331).

73 *Id.* (“According to the Supreme Court, ‘[a]n important factor’ to be considered, quite apart from function, way and result, ‘is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.’”).