

United States District Court,  
E.D. Virginia, Alexandria Division.

**BLACK & DECKER (U.S.) INC., et al,**  
Plaintiffs.

v.

**UNIVERSAL SECURITY INSTRUMENTS, INC., Global Con Corporation, Lloyd Fan, the Coleman  
Company, Inc., and John Does 1-10,**  
Defendants.

C.A. No. 95-1512-A

**June 13, 1996.**

Holder of patent for ball and socket connector sued alleged infringers. One defendant moved for summary judgment. The District Court, Ellis, J., held that alleged infringer's flexible flashlight did not infringe patent, either literally or under doctrine of equivalents.

Motion for summary judgment granted.

5,449,206. Not infringed.

Amy Sanborn Owen, Miles & Stockbridge, Fairfax, Virginia, for Plaintiffs.

Craig Crandall Reilly, Kathleen Joanna Lynch Holmes, Murphy, McGettigan, Richards & West, P.C.,  
Alexandria, Virginia, for Universal.

David Henry Voorhees, Merek & Voorhees, Alexandria, Virginia, for Coleman Company, Inc.

### ***MEMORANDUM OPINION***

**ELLIS, District Judge.**

This is a patent infringement action in which one of several defendants seeks summary judgment on claims of both literal infringement and infringement under the doctrine of equivalents with respect to one of the patents in suit. Central to the resolution of this motion are the interpretation of the patent claims and the application of the doctrine of file wrapper estoppel. Because these matters involve no disputed material facts, summary disposition on infringement is appropriate here.

#### **I.**

Plaintiff Lockwood Products, Inc. owns U.S. Patent No. 5,449,206 (the " '206 patent"), which describes and

claims a ball and socket connector. Plaintiff Black & Decker, FN1 a designer and manufacturer of tools and other consumer products, is the exclusive licensee under the '206 patent, which it uses in connection with the manufacture and sale of a flexible flashlight sold under the trademark "Snakelight." In this litigation, Lockwood Products and Black & Decker (hereinafter referred to collectively as "plaintiffs") allege, *inter alia*, FN2 that defendants Universal Security Instruments, Inc. and The Coleman Company ("Coleman") are infringing the '206 patent. FN3 At issue specifically here is plaintiffs' allegation that Coleman's flexible flashlight, the "Job Pro," infringes the '206 patent. Coleman denies this allegation, arguing instead that it is entitled to summary judgment because, as a matter of law, the Job Pro does not infringe the '206 patent either literally or under the doctrine of equivalents.

FN1. More precisely, the name "Black & Decker" refers collectively to a number of entities that are plaintiffs in this action-Black & Decker (U.S.) Inc., Black & Decker, Inc., and The Black & Decker Company.

FN2. Plaintiffs have also alleged infringement of other patents practiced in the Snakelight flashlight, as well as unfair competition and various trademark violations.

FN3. Also originally named in this action were Global Con Corporation, Lloyd Fan, and John Does I-X. By Order dated March 29, 1996, a motion for default judgment was granted against Global Con and Lloyd Fan. Plaintiffs have not as yet identified the John Does, who plaintiffs believe to be additional manufacturers, distributors, and financial backers of the accused products.

In addition, also pending in this division is the case of *Black & Decker v. GSL Engineering, Ltd., C.A. 95-1250-A*, where Black & Decker alleged infringement of the '206 patent by another accused device. Although the matter, when tried, resulted in a verdict for the plaintiffs, the accused device in that case differed from the one at issue in this suit, and the defendants did not contest infringement in the manner in which it is contested here.

The '206 patent, entitled "Ball and Socket Joint with Internal Stop," issued September 12, 1995. The invention it claims is composed of two hose connectors that fit together to form a hose assembly. Specifically, the first connector includes opposite ball and socket elements with a passageway through them. The socket element has a cavity for receiving the ball element of a second hose connector, and the ball and socket connect in a manner allowing flexible movement of the hose assembly with minimal risk that the connectors, and thereby the hose assembly, will separate. This result is obtained through the mechanism of a small internal protrusion, or stop, located at the end of one connector, which fits into an opening at the opposite end of a second connector. Thus, in essence, each pair of connectors locks together through two separate connections-one between a ball and socket, the other between an internal stop and its receiving opening. The '206 patent includes 17 claims, of which three (1, 8, and 12) are independent.

Like the invention claimed by the '206 patent, the connectors of Coleman's Job Pro flashlight are also composed of ball and socket portions that fit together to form a flexible yet secure hose assembly. FN4 The specific mechanism for fitting these connectors together is rather simple: the ball portion of the Coleman product has a bulge at the end which fits into a cooperating groove in the socket end of a second connector. Thus, the precise question presented here on summary judgment is whether Coleman is entitled to judgment, as a matter of law, that its connectors do not infringe the claims of the '206 patent, either literally or under the doctrine of equivalents.

FN4. The design and function of the accused Job Pro flashlights are undisputed.

## II.

[1] [2] [3] [4] Infringement analysis proceeds in two steps. First, a court defines the patented invention by interpreting the patent's claims. FN5 Then, in the second step, the trier of fact compares the accused device with the claims as interpreted. *See, e.g.,* Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 758 (Fed.Cir.1984). If each element of a claim is found in the accused device, either literally or in the form of a substantial equivalent, there is infringement. But if even one element is missing, both literally and in the form of a substantial equivalent, there is no infringement. FN6 Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935 (Fed.Cir.1987) (*en banc*), *cert. denied*, 485 U.S. 961, 108 S.Ct. 1226, 99 L.Ed.2d 426, *cert. denied*, 485 U.S. 1009, 108 S.Ct. 1474, 99 L.Ed.2d 703 (1988). Such is the case here. Because the '206 patent describes elements not found in the accused device, either literally or under the doctrine of equivalents, there is no infringement.

FN5. The Supreme Court has recently made clear that claim interpretation is a question for the court to decide, rather than a question for the jury. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (U.S. April 23, 1996).

FN6. At the summary judgment stage, the second step of the analysis involves determining whether material issues of fact remain to be tried. Lifescan, Inc. v. Home Diagnostics, Inc., 76 F.3d 358, 359 (Fed.Cir.1996) (stating that "the issue of infringement is amenable to summary judgment only when there is no genuine issue of material fact as to whether correctly interpreted claims read upon the accused device").

### A. *Literal infringement*

[5] [6] As the claims measure the property right conferred by a patent, claim interpretation properly begins with the language of the claims themselves. *See* SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107 (Fed.Cir.1985). And in aid of interpreting the claim language, courts may, in appropriate circumstances, look to the language of the other claims, the patent's prosecution history, and the patent's specifications, including any figures or preferred embodiments. *See, e.g.,* Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995), *aff'd*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996); Senmed, Inc. v. Richard-Allan Medical Indus., 888 F.2d 815, 818-19 (Fed.Cir.1989).

[7] Here, Claim 1 of the '206 patent requires a

body including a *socket engaging end surface at the first end portion, the first end portion defining a stop receiving opening* which is open through the socket engaging end surface and which is a portion of the passageway, the *socket engaging end surface being the external surface of the first end portion of the body....*

(emphasis supplied). The claim states clearly that the "socket engaging end surface" is the first end portion of the connector. It then states that the first end portion contains the stop receiving opening. Thus, the "socket engaging end surface" is the portion of the connector containing the stop receiving opening. In more

simple terms, according to Claim 1, the hole into which the stop fits must be on the end of the connector that in turn fits into the socket. And, conversely, the stop must be located in the socket end of the connector.

Similarly, Claim 1 further requires a

body also including *an internal socket receiving cavity or opening at the second end portion*; and the body including a stop projecting longitudinally from the body and into the internal socket receiving cavity, whereby *when the socket engaging end surface of a first of said connectors is inserted into the internal socket receiving cavity of a second of said connectors, the stop of the second connector is inserted into the stop receiving opening of the first connector* to limit the relative pivoting of the connectors.

(emphasis supplied). This emphasized language reinforces the conclusion that the internal stop in Claim 1 must be located in the end of the connector with the socket receiving cavity.FN7

FN7. This sensible conclusion may be further illustrated by inserting, in brackets, simpler language in lieu of the emphasized technical terms:

[T]he body also including an *internal socket receiving cavity or opening* [socket] at the second end portion; and the body including a *stop* [protrusion] *projecting longitudinally from the body and into the internal socket receiving cavity* [projecting into the socket], whereby when the *socket engaging end surface* [the part that fits into the socket, i.e., the ball] of a first of said connectors is inserted into the *internal socket receiving cavity* [socket] of a second of said connectors, the *stop* [protrusion] *of the second connector* [the one with the socket] is inserted into the *stop receiving opening* [hole into which the protrusion fits] *of the first connector* [the one with the part that fits into the socket, i.e., the ball]....

(emphasis supplied). Using only the simpler terms, the claim reads as follows:

[A] body also including a socket at the second end portion; and the body including a protrusion projecting into the socket, whereby when the part that fits into the socket-i.e., the ball-of Connector 1 is inserted into the socket of Connector 2, the protrusion of Connector 2 is inserted into the hole into which the protrusion fits, which is located in Connector 1....

And, simply put, the first passage quoted from Claim 1 similarly describes a "socket engaging end surface," or the part that fits into the socket (the ball) located at the first end portion, which also has a "stop receiving opening," or hole into which the protrusion fits.

This interpretation of Claim 1 finds support in the figures of the '206 patent specification. These figures depict connectors that fit together in a manner quite different from, if not the exact opposite of, the manner in which the Coleman connectors fit together. Thus, in the '206 figures, the *ball* portion contains the opening that receives the protrusion from the *socket* portion, rather than the other way around. These figures quite clearly illustrate the same limitations reflected in the plain language of the claims, namely, that the internal stop protrude into the socket portion of the connector, and, conversely, that the stop receiving opening be located in the ball portion.

In the accused products, by contrast, the stop receiving opening, or hole, is in the socket itself. It follows that these products do not contain a "socket engaging end surface," or ball, with a "stop receiving opening," as required by Claim 1 of the '206 patent. Moreover, in the accused products, the part analogous to a stop is located on the socket engaging end surface, or ball. In these products, there is no stop in the socket, as

required by the patent. Accordingly, there is no literal infringement, as the accused device does not incorporate all the elements of the patent claim at issue. *See, e.g., Lantech, Inc. v. Keip Mach. Co.*, 32 F.3d 542, 547 (Fed.Cir.1994); *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535 (Fed.Cir.1991).

Plaintiffs attempt to avoid this conclusion by arguing that the Coleman products do indeed have a stop that projects into the socket. This argument, however, has a fatal flaw. A Coleman stop projects or extends into a Coleman socket only when two connectors are coupled together. In other words, a stop projecting into a socket is not a feature or element of a single Coleman connector, as it is with the single connector described by the '206 patent. And it is clear that when the '206 patent refers to a stop projecting into the socket, it is referring only to a single connector, not to two coupled together.FN8

FN8. Thus, the portion of Claim 1 describing the location of the stop refers repeatedly to the "body" of a connector:

[T]he body also including an internal socket receiving cavity or opening at the second end portion; and the body including a stop projecting longitudinally from the body and into the internal socket receiving cavity....

Significantly, it is only when the claim describes how the stop functions that two separate connectors are referenced:

[W]hereby when the socket engaging end surface of a first of said connectors is inserted into the internal socket receiving category of a second of said connectors, the stop of the second connector is inserted into the stop receiving opening of the first connector to limit the relative pivoting of the connectors.

The import of this is clear. Claim 1 requires that the stop project into the socket of a single connector, not of two connectors coupled together.

The same analysis applies to Claim 8 FN9 and Claim 12.FN10

FN9. Claim 8 requires

a first connector having a first female portion [the socket], an opposite first male portion [the thing-i.e., the ball-that fits into the socket] and a first longitudinal axis;

a second connector having a second female portion, an opposite second male portion and a second longitudinal axis, *the second male portion* [i.e., the ball of Connector 2] *having an interior wall which defines a longitudinally extending stop receiving opening* [the hole into which the stop, or protrusion, fits]....

(emphasis supplied). Again, this language makes clear that the ball portion must have the opening that catches the stop and thereby ensures that the two pieces fit together snugly yet flexibly.

FN10. Claim 12 requires, *inter alia*,

the body including a single *external socket engaging surface at the first end portion* and a single *internal socket defining cavity at the second end portion*, the *first end portion including a stop receiving passageway which communicates with the socket defining cavity* to provide an internal passageway from the first to the second end portions, the socket defining cavity of each connector being sized to pivotally receive the socket engaging surface of another connector so as to interconnect the plurality of connectors, and each connector

also including *a stop projecting into the interior of the socket defining cavity, the stop of said each connector projecting into the stop receiving passageway of an adjoining connector when interconnected....*

(emphasis supplied). Again, this language makes clear that the stop must be located in the socket end of the connector, with the hole into which the stop fits located in the ball end.

Accordingly, Coleman is entitled to summary judgment with respect to plaintiffs' claim for literal infringement of the '206 patent.

### ***B. Doctrine of equivalents***

[8] [9] Of course, a finding that an accused product does not literally infringe a patent does not end the infringement inquiry. Under the doctrine of equivalents, a patent, not literally infringed, may nonetheless be infringed if the accused device is substantially identical to the patent claims. *See, e.g.,* Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc., 62 F.3d 1512 (Fed.Cir.1995) (*en banc*), *cert. granted*, 516 U.S. 1145, 116 S.Ct. 1014, 134 L.Ed.2d 95 (1996); Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 70 S.Ct. 854, 94 L.Ed. 1097 (1950). A common method of proving substantial identity is through the so-called "function, way, result" test. Thus, if an accused device performs substantially the same function as the device claimed by a patent, in substantially the same way, to reach substantially the same result, the accused device may infringe under the doctrine of equivalents. *See* Hilton Davis, 62 F.3d at 1518; Graver Tank, 339 U.S. at 608, 70 S.Ct. at 856. In essence, the doctrine of equivalents allows a patentee to extend the reach of his patent claims to capture devices that, while not literally infringing, differ from the patented invention only insubstantially. Hence, the doctrine protects the patentee from "fraud on the patent" perpetrated by the "unscrupulous copyist" who might otherwise emasculate the patentee's rights in his invention by means of an insignificant change or substitution that takes the copy outside the patent's literal language. Graver Tank, 339 U.S. at 607, 70 S.Ct. at 855.

[10] [11] There are, however, limitations to the expansive reach of patent claims provided by the doctrine of equivalents. Significantly for this analysis, one such limitation may arise by virtue of the doctrine of prosecution history or file wrapper estoppel. *Hoganas AB v. Dresser Industries, Inc.*, 9 F.3d 948 (Fed.Cir.1993); *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 870 (Fed.Cir.1985). Under this doctrine, representations made by an inventor during the prosecution of the patent in suit may limit the scope of the patent as issued and therefore preclude a finding of infringement under the doctrine of equivalents. This is a sensible limitation, for

a patentee should not be able to obtain, through the doctrine of equivalents, coverage of subject matter that was relinquished during prosecution to procure issuance of the patent.

*Hoganas*, 9 F.3d at 951-52. Thus, when an accused product falls outside the scope of the patent claim as delimited during its prosecution history, there can be no infringement under the doctrine of equivalents, even if the accused product otherwise meets the criteria of equivalency—that is, even if the accused product differs only insubstantially from the patented invention with respect to function, way, and result. *See* *Pall Corp. v. Micron Separations*, 66 F.3d 1211, 1218-19 (Fed.Cir.1995).

[12] In this case, Coleman claims that representations made during the prosecution of the '206 patent limit its scope to devices having a stop located in the socket of the connector such that the stop extends into a receiving opening in the ball of another connector when the two are joined together. Thus, the precise

question here is whether the prosecution history of the '206 patent demonstrates that its inventor relinquished any claim to connecting devices having a stop on the ball portion and a stop receiving opening on the socket portion. This is a question of law for the Court. *See, e.g.,* Hoganas, 9 F.3d at 952 ("prosecution history estoppel is a question of law").

[13] There is little doubt here that the inventor of the '206 patent relinquished coverage of a ball containing a stop device that fits into a socket. After the initial application for what became the '206 patent, the PTO rejected the claims as anticipated by U.S. Patent No. 4,739,801 to Kimura *et al.* and U.S. Patent No. 2,117,152 to Crosti. Then, in an attempt to distinguish the Kimura reference, the inventor made the following statements:

*Instead of the projecting stop required by Claim 24 [now Claim 1 of the '206 patent], Kimura has a shoulder formed in a socket portion of a connector, the shoulder being located along a transverse plane through the socket portion. When the end of the ball-like portion of a Kimura connector contacts the shoulder ... the shoulder will act as a fulcrum and facilitate the rotation of the opposite side of the ball-like portion of a Kimura connector.... In contrast, a projecting stop as required by Claim 24 in effect traps the end of the ball portion of a connector between the stop and wall of the socket to more securely hold connectors together. The shoulder formed in the interior of the Kimura socket is simply not a stop which projects longitudinally into the internal socket receiving cavity as required by Claim 24.*

(emphasis supplied). Thus, the inventor was attempting to limit the claims to a connector with a stop projecting into the socket of the connector and into the passageway of an adjacent connector to trap the ball of the adjacent connector against the wall of the socket. And in attempting to distinguish the Crosti reference, the inventor stated:

In Crosti, the male end of his pipe includes three projecting elements 6, 7 and 8. The female portion of the Crosti pipe includes flanges 10, 11 and 12 with flange 10 being inserted between elements 6 and 7, flange 11 being inserted between elements 7 and 8, and flange 12 being exteriorly of flange 8.

*Thus, in Crosti, the flange 6 does not receive a stop interiorly of this flange nor is this flange 6 the external surface of the male portion of the Crosti pipe.*

(emphasis supplied). This representation was plainly an attempt to limit the claims of the application to a connector with a receiving device on the male portion of the connector. Based on the inventor's representations limiting the claims in this manner to avoid the Kimura and Crosti patents, the PTO issued a notice of allowance. Accordingly, plaintiffs should be estopped now from claiming coverage of subject matter contrary to the claim limitations asserted to distinguish the '206 claims from those contained in the Kimura and Crosti references.FN11 *See, e.g.,* Hoganas, 9 F.3d 948; Loctite, 781 F.2d 861. The inventor of the '206 patent surrendered any claim to features analogous to those plaintiffs now claim infringe under the doctrine of equivalents, and summary judgment of non-infringement under that doctrine is therefore appropriate.FN12

FN11. This is not, as plaintiffs argue, an attempt to create an estoppel using only one of several distinctions an inventor cited *in combination* to avoid a prior art reference. *See, e.g.,* Read Corp. v. Portec, Inc., 970 F.2d 816 (Fed.Cir.1992) ("Every statement made by a patentee during prosecution to distinguish a prior art reference does not create a *separate* estoppel."). Neither statement relied on here to create an estoppel was a single piece of a combination of distinctions. In distinguishing the Kimura reference, for example, the

inventor of the '206 patent clearly made only a single representation limiting his invention to a connector containing a stop in its female portion, as opposed to the male or "shoulder" portion of the Kimura device. And this single representation also distinguishes the patented invention from the accused device, which contains a stop in its male portion.

FN12. Plaintiffs attempt to avoid this conclusion by arguing that Coleman's designer, David Bamber, admitted that Coleman's "Job Pro" and the '206 invention share substantially the same function, way, and result. This argument, however, is unavailing. Even were the Court to accept plaintiffs' questionable characterization of Bamber's testimony, it is clear that prosecution wrapper estoppel trumps the "function, way, result" test under the doctrine of equivalency. *See, e.g.,* Pall Corp., 66 F.3d at 1218-19.

Because Coleman's "Job Pro" products do not infringe the '206 patent either literally or under the doctrine of equivalents, Coleman is entitled to summary judgment on plaintiffs' infringement claims. An appropriate Order shall issue.

E.D.Va.,1996.

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