United States District Court,
M.D. Pennsylvania.

ARLINGTON INDUSTRIES, INC,
Plaintiff.
v.
BRIDGEPORT FITTINGS, INC,
Defendant.

Nov. 7, 2003.

Defendant filed motions for summary judgment on the claims of willful infringement of patents for electrical connector to replace previous units that required the use of two hands to screw the device into an electrical junction box. The District Court, Conner, J., held that: (1) summary judgment in favor of defendant was precluded on infringement of various claims; (2) genuine issue of material fact existed as to whether patents were invalid as anticipated by prior art; (3) genuine issue of material fact existed as to whether patents for electrical connector were invalid for failure to disclose the best mode for producing the adaptor; (4) summary judgment in favor of defendant was precluded on willfulness issue; and (5) defendant could not be found liable for damages for alleged infringement that accrued before date on which patentee notified defendant of the alleged infringement.

Motions granted in part and denied in part.

Court-Filed Expert Resumes

5,171,164, 5,266,050. Construed.

Alan Baron, Kathryn L. Clune, Dorsey & Whitney, Christopher S. Casieri, Mark L. Hogge, Dorsey & Whitney, LLP, Washington, DC, Auzville Jackson, Jr., Richmond, VA, David M. Barasch, Robert J. Tribeck, Thomas A. French, Rhoads & Sinon, LLP, Harrisburg, PA, Kristan B. Burch, Stephen E. Noona, Kaufman and Canoles, Norfolk, VA, Michael R. Mey, Wormuth, Mey & Sulla, L.L.P., Scranton, PA, Rori-Elizabeth Sinks, Dorsey & Whitney, LLP, New York City, for Plaintiff.

Alan M. Anderson, C. Erik Hawes, Renee L. Jackson, Stuart K. Ford, Fulbright & Jaworski, L.L.P., Minneapolis, MN, Joseph G. Ferguson, Rosenn Jenkins & Greenwald, LLP, Scranton, PA, Robert N. Gawlas, Jr., Rosenn, Jenkins & Greenwald, LLP, Wilkes Barre, PA, for Defendant.

MEMORANDUM

CONNER**, District Judge.**

Presently before the court are three motions for summary judgment (Docs. 75, 76, 77) filed by defendant,

Bridgeport Fittings, Inc. ("Bridgeport"), seeking judgment in its favor on the claims of willful patent infringement asserted by plaintiff, Arlington Industries, Inc. ("Arlington"). In support of its motions, defendant argues that (1) its products do not infringe on the patents owned by plaintiff, (2) the underlying patents on which plaintiff bases its allegations are invalid, and, (3) even if defendant's products are found to infringe on plaintiff's patents, defendant did not act willfully and, in any event, cannot be held liable for damages before plaintiff notified defendant of the purported infringement.

The motions have been extensively briefed by the parties and are now ripe for disposition. For the following reasons, the motions will be granted in part and denied in part.

I. ***Factual Background*** FN1

FN1. In accordance with the standard of review for a motion for summary judgment, the following statement presents the undisputed facts in the light most favorable to plaintiff. *See infra* Part II.

In 1992, Arlington developed a new type of electrical connector to replace previous units that required the use of two hands to screw the device into an electrical junction box. (Doc. 113 para. 2; Doc. 118, Ex. 29 at 56-58). This connector consists of a smooth hollow cylinder with two ridges, located on one edge and on the middle, that extend around the connector's outer circumference. FN2 (Doc. 83, Exs. A, B). Between these ridges, and encompassing the circumference of the connector, sits an unattached circular adaptor with several outward-bent pieces cut from the metal of the adaptor. (Doc. 83, Exs. A, B). The adaptor, made of flexible spring metal, includes a gap in its circumference, permitting it to expand over the outer ridge of the connector and contract on the intermediate portion, where it is held in place by the two ridges. (Doc. 83, Exs. A, B). When inserted into the hole of a junction box, the walls of the box force the outward-bent pieces of the adaptor down until they extend beyond the inner wall, allowingthem to spring back out, locking the adaptor and connector in place. (Doc. 83, Exs. A, B).

FN2. This description applies only to one embodiment of the device, as disclosed in the specifications section of the patent, and should not be interpreted as describing all variations of the design permitted under the claims of the patents. (*See* Doc. 83, Exs. A, B).

Between 1992 and 1993, the inventors of the device, employees of Arlington, sought and obtained two patents, numbers 5,266,050 ("Patent '050") and 5,171,164 ("Patent '164"), on the design of the connector, described as a "quick-connect fitting for electrical junction boxes." (Doc. 83, Exs. A, B; Doc. 115 para.para. 1, 2). In accordance with statutory requirements, *see* 35 U.S.C. s. 112, both patents include a detailed specifications section, containing descriptions and illustrations of the various embodiments of the invention, and a claims section, listing the specific elements and limitations of the protected design. (Doc. 83, Exs. A, B). The claims section of Patent '050 provides, in pertinent part, as follows:

1. A quick connect fitting for an electrical junction box comprising:

a hollow electrical connector through which an electrical conductor may be inserted having a leading end thereof for insertion in a hole in an electrical junction box;

a circular spring metal adaptor surrounding said leading end of said electrical connector which has a leading

end, a trailing end, and an intermediate body;

at least two outwardly sprung members carried by said metal adaptor near said trailing end of said adaptor which engage the side walls of the hole in the junction box into which said adaptor is inserted;

at least two spring locking members carried by said metal adaptor that spring inward to a retracted position to permit said adaptor and locking members to be inserted in a hole in an electrical junction box and spring outward to lock said electrical connector form [sic] being withdrawn through the hole;

said circular spring metal adaptor being less than a complete circle that is of a relaxed diameter less than the diameter of the hole into which it is to be inserted with said spring locking members extending radially outward beyond the diameter of the hole into which they are to be inserted; and

an arrangement on said connector for limiting the distance said connector can be inserted into the hole in the junction box.

2. The quick connect fitting of claim 1 wherein said spring locking members are integral with and lanced out of said circular spring metal adaptor.

....

4. The quick connect fitting of claim 2 wherein said connector has a flange and shoulder with an intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

5. The quick connect fitting of claim 1 wherein said connector has a flange and shoulder with intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

....

7. A quick connect fitting for an electrical junction box comprising:

a hollow electrical connector through which an electrical conductor may be inserted having a leading end thereof for insertion in a hole in an electrical junction box;

a circular spring metal adaptor surrounding said leading end of said electrical connector which has a leading end, a trailing end, and an intermediate body;

said connector has a flange and shoulder with an intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder;

at least two spring locking members carried by said metal adaptor that spring inward to a retracted position to permit said adaptor and locking members to be inserted in a hole in an electrical junction box and spring outward to lock said electrical connector form [sic] being withdrawn through the hole; and

an arrangement on said connector for limiting the distance said connector can be inserted into the hole in the

junction box.

8. A quick connect fitting for an electrical junction box comprising:

a hollow electrical connector through which an electrical conductor may be inserted having a leading end thereof for insertion in a hole in an electrical junction box;

a circular spring metal adaptor surrounding said leading end of said electrical connector which has a leading end, a trailing end, and an intermediate body;

at least two outwardly sprung members carried by said metal adaptor near said trailing end of said adaptor which engage the side walls of the hole in the junction box into which said adaptor is inserted;

at least two spring locking members carried by said metal adaptor that spring inward to a retracted position to permit said adaptor and locking members to be inserted in a hole in an electrical junction box and spring outward to lock said electrical connector from being withdrawn through the hole; and

an arrangement on said connector for limiting the distance said connector can be inserted into the hole in the junction box.

(Doc. 83, Ex. B). Similarly, the claims section of Patent '164 provides, in pertinent part, as follows:

1. A quick connect fitting for an electrical junction box comprising:

a hollow electrical connector through which an electrical conductor may be inserted having a leading end thereof for insertion in a hole in an electrical junction box;

a circular spring metal adaptor surrounding said leading end of said electrical connector which also has a leading end, a trailing end, and an intermediate body, said circular spring metal adaptor being less than a complete circle when on the electrical connector and when separated from said electrical connector has a relaxed diameter, less than the diameter of the portion of the connector which it surrounds;

at least two spring locking members carried by said metal adaptor that spring inward to a retracted position to permit said adaptor and locking member to be inserted in a hole in an electrical junction box and spring outward to lock said electrical connector from being withdrawn through the hole; and

an arrangement on said connector for limiting the distance said connector can be inserted into the hole in the junction box.

2. The quick connect fitting of claim 1 which further includes:

at least two outwardly sprung members carried by said metal adaptor near said trailing end of said adaptor which engage the side walls of the hole in the junction box into which said adaptor is inserted.

3. The quick connect fitting of claim 1 wherein:

said circular spring metal adaptor has an opening in the circumference of said circular spring metal adaptor

that extends through the entire length which permits the said adaptor to be expanded to a larger diameter.

4. The quick connect fitting of claim 1 wherein said spring locking member are integral with and lanced out of said circular spring metal adaptor.

5. The quick connect fitting of claim 4 wherein said connector has a flange and shoulder with smooth intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

....

8. The quick connect fitting of claim 1 wherein said connector has a flange and shoulder with intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

9. The quick connect fitting of claim 1 wherein said connector has a flange and shoulder with smooth intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

10. The quick connect fitting of claim 1 which further includes:

a series on inward-bent tensioner/threading tangs lanced from said circular spring adaptor that are staggered to coincide with threads on a standard electrical connector to permit the threading thereon of such adaptor.

11. The quick connect fitting of claim 10 wherein said tensioner/threading tangs are in the shape of triangles that dig in to resist the unthreading thereof.

(Doc. 83, Ex. A). Both patents were assigned to Arlington at the time that they were obtained. (Doc. 83, Exs. A, B).

In May 1992, the president of Bridgeport obtained a copy of Arlington's connector at a trade show and brought it to the attention of other executives and employees of Bridgeport. (Doc. 118, Ex. 10 at 76, 80). Soon thereafter, employees of Bridgeport embarked on what Arlington deems a "studied course" to "copy" Arlington's product. (Doc. 112 at 9; Doc. 118, Exs. 11, 12). Bridgeport purportedly sought to avoid infringement of Arlington's patents with "minor design changes." (Doc. 118, Exs. 11, 12). At the same time, attorneys for Bridgeport attempted to obtain an amendment to a patent already owned by Bridgeport "to encompass the connector presently being marketed by Arlington" and, thus, to "eliminate Arlington's ring" from patent protection. (Doc. 118, Ex. 6 at 1; Doc. 118, Ex. 7; Doc. 118, Ex. 8 at 107).

When these efforts failed, Bridgeport abandoned its drive to develop a ring connector until 1998, when Bridgeport employees approached Arlington's vendor of ring connectors about supplying similar units to Bridgeport. (Doc. 118, Ex. 13 at 49 50). The vendor was initially "uncomfortable" about selling similar products to a competitor of Arlington, a major customer of the vendor. However, Bridgeport employees supposedly assured the vendor that Bridgeport held a patent that encompassed and predated Arlington's claims, even though Bridgeport did not. (Doc. 118, Ex. 13 at 49-50). Relying on this avowal, the vendor, working with Bridgeport,eventually established a process to manufacture a connector that looked and functioned like Arlington's design. (Doc. 118, Ex. 13 at 49-50; Doc. 118, Exs. 17, 18; Doc. 118, Ex. 19 at

224-25).

The final Bridgeport design, as intended, shares many of the same features of the Arlington design. The Bridgeport connector has raised ridges at the leading end and the middle of the connector, respectively identified as the shoulder and flange. Between the raised ridges, in the "intermediate portion," sits a circular spring metal adaptor. (Doc. 115 para. 29). Unlike the preferred embodiment of the Arlington design, the intermediate portion of the Bridgeport connector is not a perfect cylinder, but has "steps" at either end, alongside the shoulder and flange, on which the adaptor sits. (Doc. 83, Ex. H). The adaptor, like the Arlington design, has small outward-bent pieces serving as spring locking members and a gap in its circumference permitting the adaptor's expansion over the ridge of the connector. (Doc. 83, Ex. G). However, unlike the Arlington embodiment, the gap in the adaptor, rather than being a straight cut in the circumference, is in a curved "tongue and groove" configuration. (Doc. 83, Exs. G, H; Doc. 115 para. 30). The Bridgeport adaptor generally is designed to have an inner diameter greater than the outer diameter of the connector, but the effects of the manufacturing processes sometimes result in the production of adaptors with a greater diameter than the connectors. (Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17; Doc. 119, Ex. 41 at 4-5). In addition, Bridgeport planned to produce a type of adaptor with interior "dimples," which would further reduce the inner diameter of the adaptor. (Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17; Doc. 119, Ex. 41 at 4-5).

In 1999, after the design process was complete, Bridgeport assigned a catalog number to the product and sought a legal opinion on whether sale of the device would infringe upon Arlington's patent.FN3 (Doc. 83, Ex. Q). Bridgeport provided to its patent attorney, an individual with many years of patent law experience, documents describing its product and requesting a comparison with Patents '050 and '164.FN4 (Doc. 83, Ex. R). In its disclosure to its attorney, Bridgeport indicated that its design included a circular adaptor with a diameter greater than the portion of the connector that it surrounds. However, Bridgeport allegedly failed to provide its counsel with information concerning the reduced inner diameter of the adaptors caused by the addition of "dimples" and by the effects of the manufacturing processes. (Doc. 83, Ex. R; Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17; Doc. 119, Ex. 41 at 4-5).

FN3. A factual dispute exists as to whether Bridgeport sold the device before obtaining the opinion letters. The president of Bridgeport testified in a deposition that the opinions were obtained a year after Bridgeport began selling its product. (Doc. 118, Ex. 10 at 118). However, counsel for defendant later sent an errata sheet purporting to "correct" this statement, suggesting that all opinion letters were obtained prior to introduction of Bridgeport's device. (Doc. 118, Ex. 37).

FN4. Bridgeport also sought opinion on the potential infringement of patent number 5,373,106, also owned by Arlington. (Doc. 83, Ex. R at 1). Arlington does not contend in the current action that Bridgeport's products infringe upon this patent.

Based on Bridgeport's representation that its adaptor had "a relaxed diameter which is greater than the diameter of the portion of the connector about which the [adaptor] is mounted," the attorney concluded that the Bridgeport design did not infringe Patent '164, which claims use of an adaptor with a relaxed diameter "less than the diameter of the portion of the connector which it surrounds." (Doc. 83, Ex. A; Doc. 83, Ex. R at 2). Although the letter found that Bridgeport's design likely infringed on Patent '050, which claims use of an adaptor with a relaxed diameter "less than the diameter of the [junction box] hole," the attorney

suggested that Patent '050 would likely be vulnerable to a claim of invalidity "for failing to adequately define [sic] over the existing prior art." (Doc. 83, Ex. B; Doc. 83, Ex. R at 4-5). To avoid the "substantial" expense of litigation, the letter recommended either re-designing the product or filing a request with the United States Patent and Trademark Office for re-examination of the validity of Patent '050. (Doc. 83, Ex. R at 6-7).

Soon after receiving this letter, Bridgeport sought and obtained another opinion from a different law firm, also with substantial experience in patent litigation. (Doc. 83, Ex. N). Again, Bridgeport disclosed that its design included an adaptor having a "relaxed diameter less than the surrounded portion of the connector" but purportedly withheld information concerning the effects of additional "dimples" or of the manufacturing processes on the inner diameter of the adaptor. (Doc. 83, Ex. N at 10; Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17; Doc. 119, Ex. 41 at 4-5). Like the previous opinion, the law firm's letter concluded that Bridgeport's design did not infringe Patent '164 and that, although Patent '050 likely covered Bridgeport's product, it was likely invalid.FN5 (Doc. 83, Ex. N at 1-2, 10, 24).

FN5. In a supplemental letter, the same law firm concluded that Patent '164 was also likely invalid. (Doc. 83, Ex. O at 1).

Bridgeport commenced marketing of its product in 1999 or 2000.FN6 On January 3, 2001, Arlington sent to Bridgeport its first communication concerning the sales. Titled a "Notice of Infringement of U.S. Patent Nos. 5,266,050 and 5,171,164," the letter asserted that Bridgeport's product infringed on Patents '050 and '164 and "demanded an accounting for each unit made and sold." (Doc. 83, Ex. S). When it did not receive a satisfactory response, Arlington commenced the current action for patent infringement on March 19, 2001, alleging that Bridgeport's product infringes upon claims 1, 2, 4, 5, 7, and 8 of Patent '050 and claims 1, 2, 3, 4, 5, 8, and 9 of Patent '164. (Doc. 115 para. 3).

FN6. *See supra* note 3 (discussing factual dispute over timing of the start of sales).

II. ***Standard of Review***

Federal Rule of Civil Procedure 56 permits the entry of summary judgment against a party on an issue or a claim when "the pleadings, depositions, answers to interrogatories and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." FED.R.CIV.P. 56(c); *see also* Saldana v. Kmart Corp., 260 F.3d 228, 231-32 (3d Cir.2001). In resolving a motion for summary judgment, courts should not weigh conflicting evidence or make factual findings but, rather, should "consider all evidence in the light most favorable to the non-moving party" to determine whether "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Schnall v. Amboy Nat'l Bank, 279 F.3d 205, 209 (3d Cir.2002). Summary judgment is appropriate when a party "fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial." Celotex Corp. v. Catrett, 477 U.S. 317, 322-23, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986).

III. ***Discussion***

In granting persons the "exclusive Right" to the use of their discoveries for a limited time, patent law promotes public innovation by rewarding individual inventors with a limited monopoly over their designs.

U.S. CONST. art. I, s. 8, cl. 8; Mazer v. Stein, 347 U.S. 201, 219, 74 S.Ct. 460, 98 L.Ed. 630 (1954) ("The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.' "). To obtain a patent, the inventor must clearly and expressly define the scope of his or her claim in the patent application, making what was previously secret and innovative at once known and ascertainable to the general public. 35 U.S.C. s. 112; Markman v. Westview Instruments, Inc., 517 U.S. 370, 373, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In exchange for this disclosure, the patent vests its holder with the ability to challenge and enjoin the development or sale of competing designs that infringe upon the patented claims, ensuring that only the holder will derive the financial benefits from the invention. 29 U.S.C. s.s. 281-284; Mazer, 347 U.S. at 219, 74 S.Ct. 460 ("Sacrificial days devoted to such creative activities deserve rewards commensurate with the services rendered."); Grant v. Raymond, 31 U.S. (6 Pet.) 218, 242, 8 L.Ed. 376 (1832) (mem.) ("[The patent] is the reward stipulated for the advantages derived by the public for the exertions of the individual, and is intended as a stimulus to those exertions.").

Thus, the patent process presents a two-edged sword. On the one side, it advances innovation by ensuring that individuals who invest time and resources into production of a new design receive the benefits of the sale and marketing of that device without unfair appropriation by competitors. On the other side, it suppresses innovation by discouraging those working in related fields from examining and developing designs that could possibly be viewed as infringing upon the patented claim. At the essence of patent law is this inherent tension between the need to protect inventors and the desire to permit continued work in related fields. Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 63, 119 S.Ct. 304, 142 L.Ed.2d 261 (1998) ("[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time.").

To accommodate these competing principles, patent law places primary reliance on the terms of the patent itself. Markman, 517 U.S. at 388-91, 116 S.Ct. 1384. In the "claims" section of the patent, the inventor must expressly define the elements and limitations of the design, "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112. Further, the inventor must explain in detail the specifications of the invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same." *Id*. By focusing on the claims advanced in the patent, and limiting its scope to the language employed by the inventor, courts may give full effect to the inventor's original intent while preserving the ability of other individuals in related fields to continue their work without fear of unintentional infringement. Pfaff, 525 U.S. at 63, 119 S.Ct. 304.

[1] The necessity of uniformity and certainty in this determination, and the nature of the determination as more akin to statutory interpretation than factual finding, mandates construction of claim language by the court, not the jury, as a question of law. Markman, 517 U.S. at 390-91, 116 S.Ct. 1384. Thus, as a threshold matter in any patent case, whether dealing with alleged infringement of a patent by another party or with the asserted invalidity of the patent itself, the court must determine the nature and scope of the claims advanced by examining the language used in the patent. *Id.;* Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1339 (Fed.Cir.2003).

[2] [3] [4] [5] [6] The touchstone of claim construction is the "ordinary and customary meaning" of the terms of the claim. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). To determine this plain meaning, courts should review relevant definitions provided in general and technical reference

materials and the usage of the term in other provisions of the claims section. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1367-68 (Fed.Cir.2003); Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1177 n. 4 (Fed.Cir.2002). Other intrinsic evidence, such as the specifications section or the prosecution history of the patent, may support or complement this "ordinary and customary" meaning, but such evidence may not contradict this interpretation unless the materials clearly disclose the inventor's intent to act as "his own lexicographer" by defining a term or limiting the scope of the claim. Vitronics, 90 F.3d at 1582. Only when the claim language is ambiguous may the court resort to extrinsic aids, such as testimony from experts in the field, to assist in the construction of claim language. *Id*. Thus, the plain meaning of a term, as discerned from reference materials and usage in the context of the claims, controls over contrary evidence unless the proponent of the opposing interpretation provides compelling grounds for a departure based on the language of the patent. *N*. Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281, 1296 (Fed.Cir.2000); Vitronics, 90 F.3d at 1583. After the court arrives at the proper construction of the disputed terms, allegations of infringement or invalidity may be submitted to the fact finder for resolution. E-Pass Techs., 343 F.3d at 1368.

A. *Infringement*

[7] The appropriate construction of claim language, as a matter of law, provides the basis on which the fact finder may determine, as a matter of fact, whether the challenged design infringes either literally or equivalently on the patented invention. K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1366 (Fed.Cir.1999). Literal infringement does not require exact identity of design and substance, but requires the presence of all elements and limitations of the claim in the infringing design. *N*. Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 945 (Fed.Cir.1990). Accordingly, "[t]he addition of features does not avoid infringement, if all the elements of the patent claims have been adopted." *Id*.

[8] [9] Even if an accused product does not literally infringe a claim of the patent at issue, it may infringe the patent under the "doctrine of equivalents." K-2 Corp., 191 F.3d at 1366. Equivalency, also a question of fact, may be found if "the elements of the accused device are substantially equivalent to the corresponding elements of the asserted claim." Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997). While the doctrine of equivalents contemplates coverage of designs not literally outlined in the claim language, the doctrine cannot apply if the "theory of equivalence would vitiate a claim limitation." Tronzo v. Biomet, Inc., 156 F.3d 1154, 1160 (Fed.Cir.1998) (citing Warner-Jenkinson, 520 U.S. at 29, 117 S.Ct. 1040). Put simply, the doctrine cannot defeat the plain meaning of the claims. *Id*.

Infringement analysis proceeds under an incremental approach, the proper construction of claims serving as the foundation on which resolution of infringement issues may be built. The following discussion will follow this archetype, construing each disputed phrase as a matter of law before determining whether the claims, as construed, permit a factual finding of either literal or equivalent infringement.

1. "*Surrounding" the "Leading End*"

[10] In support of non-infringement, Bridgeport first argues that its connector, which includes an adaptor that encloses the intermediate portion but not the shoulder of the connector, does not "surround[ ]" the "leading end" of the connector, as required by all claims of Patents '050 and '164:

[A] hollow electrical connector through which an electrical conductor may be inserted having a leading end thereof for insertion in a hole in an electrical junction box; a circular spring metal adaptor *surrounding* said *leading end* of said electrical connector which has a leading end, a trailing end, and an intermediate body....

(Doc. 83, Exs. A, B (emphasis added)). To construe this phrase, the court will analyze its two elements, "surrounding" and "leading end," separately.

"Surrounding," as defined by *Webster's Third New International Dictionary,* means "to be situated or found around, about, or in a ring around" or "to cause to be encompassed, encircled, or enclosed with something." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2302 (Philip Babcock Gove ed., 1993). Thus, "surrounding" is not necessarily limited to circumstances in which a force or thing completely envelopes-separating entirely from the outside-an individual or item.FN7 Rather, the term may be used more loosely to describe any situation in which an outer boundary significantly borders an underlying entity. *See, e.g., id.* ("[T]he house [was] surrounded on three sides by a wide veranda").

FN7. The claim terms do not describe an adaptor that "completely" or "entirely" surrounds the connector. Such limiting language would connote an item that totally encircles, without breaks, the underlying connector. That the patentee chose not to use this language suggests that such a limited meaning was not intended. *See* Vitronics, 90 F.3d at 1582.

Other claim language supports the broader interpretation of "surrounding" as significantly bordering, rather than completely encircling. Several claims require the "circular spring metal adaptor [to be] less than a complete circle when on the electrical connector," meaning that a part of the underlying connector is necessarily exposed through the gap in the adaptor. Further, because these claims dictate that the adaptor be held in place by the flange and shoulder, which is concededly part of the connector's "leading end" (Doc. 115 para. 19), the adaptor cannot completely enclose the leading end of the connector. Consistency of interpretation across the claims demands that the term be imbued with its broader meaning. *See* Georgia-Pacific Corp. v. U.S. Gypsum Co., 195 F.3d 1322, 1331 (Fed.Cir.1999). Accordingly, the court will construe "surrounding," as used in this context, as describing an adaptor that significantly borders the circumference of the "leading end" of the connector.

Examining the second aspect of the phrase, "leading end," *Webster's Third New International Dictionary* defines "leading" as "being in advance during normal ... movement" and "leading edge" as "[t]he forward edge of ... something that itself moves." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1284. While this definition conceivably refers to only the outermost extremity of the connector, as Bridgeport suggests, it could also reasonably mean a larger part of the end of the connector, including the entirety of the portion that is inserted into the junction box. *Compare id.* at 747 (defining "end" as "the extreme, ultimate, or most remote section") *with id.* (defining "end" as "the portion of an area ... that lies at or by the termination").

The context of the phrase in the claims sections of the patents establishes that the latter interpretation is correct. The first claim of both patents describes the "leading end" of the connector as the part "for insertion in [the] hole in [the] electrical junction box." Other claims, providing for an embodiment of the design for use with a threaded adaptor, require the adaptor to fit over a "threaded section of said electrical connector leading end," meaning that the "leading end" cannot refer only to the edge of the device but must include the length of the connector that is covered by the adaptor. Thus, the claim itself defines "leading end" as that portion of the connector intended for insertion into the hole of the junction box, not merely the outermost edge.FN8

FN8. Clearly, it makes little sense to interpret the phrase "leading end" to refer only to the outermost portion of the connector-the top of the cylindrical connector and not the rounded sides-because, so interpreted, the "leading end" would include no spatial area that an adaptor could surround. Perhaps recognizing the illogical nature of this construction, Bridgeport focuses its argument on the premise that the patent documents provide an alternative, and more conceptually feasible, definition of the connector's "leading end" as its "raised shoulder"-the ridge extending around the circumference of one end of the connector. This interpretation, although deficient in other respects, would at least provide a surface on which the adaptor, and Bridgeport's contentions, could conceivably rest.

Attempting to overcome this interpretation, entitled to a "heavy presumption" of accuracy, *see* CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002), Bridgeport argues that the inventor provided an explicit definition of the phrase, trumping its otherwise plain meaning, in the following descriptive paragraph in the specifications section:

FIG. 4 illustrates a view of the zinc die-cast connector ... with the spring steel adaptor ... attached. The flange ... is the trailing end and *raised shoulder ... is the leading end*. They are shown holding the spring steel adaptor in place.

(Doc. 83, Exs. A, B (emphasis added)). However, this short description, neither relied upon nor repeated elsewhere in the specifications or the claims, lacks the "clarity, deliberateness, and precision [required] to impart an unaccustomed meaning to an otherwise clear claim term." K-2 Corp., 191 F.3d at 1364. The statement appears only in reference to a specific embodiment of the invention, and does not expressly limit the scope of other claims. Indeed, the patent itself disclaims such an intent by stating that the "descriptions [included in the specifications section] ... should not be construed as limiting the scope of the invention but as merely providing illustration" and that "the scope of the invention should be determined by the appended claims and their legal equivalents rather than by the examples given." (Doc. 83, Exs. A, B). The proposed alternative meaning set forth by Bridgeport conflicts not only with the definition set forth in the claims themselves but also with the patent's directive to abstain from reliance on the specifications for the interpretation of terms. Thus, this meaning must be rejected in favor of the ordinary and customary construction of the phrase. FN9 *See* Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998) ("[T]he claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim, [and] ... the resulting claim interpretation must, in the end, accord with the words chosen by the patentee to stake out the boundary of the claimed property."); SRI Int'l v. Matsushita Elec. Corp. of America, 775 F.2d 1107, 1121 n. 14 (Fed.Cir.1985) ("Specifications teach. Claims claim.").

FN9. Even assuming *arguendo* that this paragraph could reasonably be viewed as establishing a controlling definition of terms, the description does not support Bridgeport's proposed meaning. Language in the claim section, quoted previously, identifies the "connector" as having only a "leading end" and the "adaptor" as having "a leading end, a trailing end, and an intermediate body." The provision upon which Bridgeport relies describes a unit with both a "trailing end" and a "leading end," and, as such, must refer to the *adaptor,* which has both components, and not the connector, which has only a "leading end."

Further, accepting Bridgeport's contention that the specifications section defines the "leading end" of the connector as the "raised shoulder" would render certain terms of the claims superfluous. Claim 1 of Patents '050 and ' 164 requires all connectors to have a "leading end." However, subsequent claims dictate that the

connector also include, in addition to the limitations expressed in claim 1, a "flange and shoulder." (Doc. 83, Exs. A, B). Assuming Bridgeport's interpretation, it would be unnecessary to state in subsequent claims that the connector includes a shoulder since the term "leading end" would inherently include this element.FN10 Because Bridgeport's interpretation would render terms of the claims superfluous, it should be rejected in favor of a construction that gives meaning to all language. *See* Union Pacific Corp. v. United States, 5 F.3d 523, 526 (Fed.Cir.1993). The phrase "leading end," as used in the claims at issue, refers to that portion of the connector that fits within the junction box. Thus, the court will construe the phrase "surrounding said leading end" as describing an adaptor that significantly borders the circumference of that part of the connector that fits within the junction box.

FN10. Additionally, interpreting this paragraph to refer to the connector would result in the middle of the connector, where the flange is located, being deemed the "trailing end" of the connector, a clearly implausible construction.

[11] Applying this construction to the claims at issue, and viewing the facts in the light most favorable to Arlington, sufficient evidence exists to support Arlington's contention of literal infringement. The adaptor of Bridgeport's device extends around most of the circumference of the intermediate portion of the connector. Although the adaptor does not encompass the shoulder, it does encircle a significant part of the end of the connector intended "for insertion in [the] hole in [the] electrical junction box." These facts, if established at trial, support a finding of literal infringement, rendering summary judgment on these claims improper.

2. "*Lanced*"

[12] Second, Bridgeport argues that, because the production of the spring lockingmembers on its adaptor involves the removal of metal, rather than only the cutting thereof, the process does not constitute "lanc [ing]," as required by claims 2, 3, and 4 of Patent '050 and claims 4 and 5 of Patent '164:

The quick connect fitting of claim 1 wherein said spring locking members are integral with and *lanced* out of said circular spring metal adaptor.

(Doc. 83, Exs. A, B (emphasis added)). Turning again to reference materials to ascertain plain meaning, *Webster's Third New International Dictionary* defines "lance" as "to make an incision," *see* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1268, and technical manuals define "lancing" as "cutting a slit of any shape part way across [a] strip or blank ... [in order] to free a section of the piece so that it can be bent," *see* ARTHUR D. ROBERTS & SAMUEL C. LAPIDGE, MANUFACTURING PROCESSES (1977). These materials do not state that "lancing" cannot also include the removal of metal. To the contrary, according to these definitions, a "lanced out" member of an adaptor is a portion formed by one or more cuts in the metal of the adaptor, with or without the removal of additional material.

The context in which the term is used supports this interpretation. The claim language mandates that the spring locking members be not only "lanced out" of but also "integral with" the adaptor. This additional limitation requires that the members be a part of the same piece of metal as the adaptor, *see* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1173 (defining "integral" as "formed as a unit with another part" and giving as an example "the steam chest may be an integral part of the turbine casing or may be bolted to it"), but it does not suggest, as Bridgeport contends, that metal cannot be removed during or after the lancing process.FN11 Neither the general and technical reference materials nor the claims and

specifications support Bridgeport's interpretation that no metal may be removed during the production process. Accordingly, the court will not read such a limitation into the claim language. *See* Specialty Composites v. Cabot Corp., 845 F.2d 981, 987 (Fed.Cir.1988). Hence, the court will construe "lanced" to mean a process in which one or more cuts are made in the metal of the adaptor to form a spring locking member, with or without the removal of additional material.

FN11. For example, cutting additional metal from the end of a spring locking member would not detach it from the adaptor, rendering it no longer "integral with" it, but would only lessen the size of the piece.

[13] Applying this construction, and considering the evidence in the light most favorable to Arlington, a reasonable jury could conclude that Bridgeport's product literally infringes on Arlington's patents. Bridgeport's design requires the making of several cuts into the metal of the adaptor to allow certain sections, the spring locking members, to be bent away from the plane of the adaptor. That this process involves the removal of metal does not disqualify it as "lancing." The motion for summary judgment on these claims will be denied.

3. "*Carried on [the] Intermediate Portion*"

[14] Bridgeport next contends that summary judgment on claims 4, 5, and 7 of Patent '050 and claims 5, 8, and 9 of Patent '164 is warranted because Bridgeport's adaptor has raised steps at either end of the intermediate portion, meaning that the adaptor is not "carried on" the intermediate portion of the connector. These claims provide, in pertinent part, as follows:

The quick connect fitting of claim 2 wherein said connector has a flange and shoulder with an[FN12] intermediate portion there between with said adaptor *carried on* said intermediate portion and held in position by said flange and shoulder.

FN12. In claims 5 and 9 of Patent '164, the word "an" is replaced with "smooth." (Doc. 83, Ex. A).

(Doc. 83, Exs. A, B (emphasis added)). According to the dictionary definition, to "carry" is "to sustain the weight or burden of" or to "bear." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 343. Thus, the court will construe "carried on" to mean that the weight of the adaptor is supported in some manner by the intermediate portion of the connector, defined in the claims as that part of the connector between the flange and shoulder.FN13

FN13. To the extent that Bridgeport argues that the phrase "carried on" requires the adaptor to contact the entire intermediate portion of the connector, this interpretation defies plain meaning and common sense. A ship may "carry" cargo without that cargo covering the entire surface of the vessel and a person may "carry" a blanket without draping the blanket evenly over his or her skin. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 343. "Carried on" means that the weight of the adaptor is supported in some fashion by all or part of the intermediate portion of the connector.

[15] Under this construction, Bridgeport's demand for summary judgment on these claims clearly lacks merit. The steps of the Bridgeport connector admittedly fall between the flange and the shoulder of its

connectors, meaning that they constitute part of the intermediate portion of the connector. Because the weight of the adaptor rests on these steps, a reasonable jury could find that the Bridgeport adaptor is "carried on [the] intermediate portion" of its connector, rendering summary judgment on these claims improper.

4. "*Smooth*"

[16] Bridgeport next argues that the steps of the intermediate portion of its connectors preclude a finding that the intermediate portion is "smooth," as required by claims 5 and 9 of Patent '164:

The quick connect fitting of claim 1 wherein said connector has a flange and shoulder with *smooth*[FN14] intermediate portion there between with said adaptor carried on said intermediate portion and held in position by said flange and shoulder.

FN14. In claims 4, 5, and 7 of Patent '050 and in claim 8 of Patent '164, the word "smooth" is either deleted or replaced with "an." (Doc. 83, Exs. A, B).

(Doc. 83, Exs. A, B (emphasis added)). "Smooth," according to *Webster's Third New International Dictionary,* means "having a continuously even surface" or "being without roughness, points, bumps, or ridges." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2152. Under this definition, the intermediate portion must have an even surface area, without threading or ridges of any type. This definition is not contradicted elsewhere in the patent documents. To the contrary, the specifications repeatedly illustrate a figure with an intermediate portion that is a perfect cylinder. *See* Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995) (en banc) ("Claims must be read in view of the specification ...."), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

As an alternative to this ordinary meaning, Arlington contends that the patentee expressly defined, in the specifications sections of the patent, "smooth" as merely "unthreaded"-not necessarily completely even. The "operation" passage of the specifications section explains that the purpose of requiring a "smooth central section" is to ensure "good contact" between the adaptor and connector. It states that one "embodiment" of the invention "is designed to be used with a number of existing threaded connectors" in "common use in the electrical industry today." (Doc. 83, Exs. A, B). While this language clearly describes a potential embodiment of the invention with an uneven intermediate portion, it does not disavow or disclaim the scope of the claims 5 and 9 of Patent '164, as required to rebut the ordinary and customary meaning of the terms. E-Pass Techs., 343 F.3d at 1368-69.

[17] [18] Design alternatives exist for every invention, and the fact that the inventor chose to illustrate the embodiment of certain claims but not others does not alter the scope of the unillustrated claims. *Id.* As stated previously, the court should refrain from importing limitations from the specifications into the claims themselves unless the patent clearly expresses such an intent. *Id.* While several claims of Patent '164 provide for a variation that includes a threaded adaptor, these claims refer to a separate embodiment of claim 1, independent from the elements outlined in claims 5 and 9. The limiting adjective "smooth" of claims 5 and 9 neither affects nor is affected by the provisions for a threaded connector in the other claims. The statements on which Arlington bases its arguments, which plainly describe only one possible "embodiment" of the invention, are insufficient to defeat the plain meaning of "smooth." *See* id. The court will construe "smooth" to mean an even surface area without threading or ridges of any type.

[19] On the basis of this construction, Bridgeport's device, as a matter of law, cannot infringe on claims 5 and 9 of Patent '164. The intermediate portion of the Bridgeport design includes two steps, meaning that the entire portion is not "smooth," as contemplated by the claims of Arlington's patent. Because these steps place Bridgeport's device outside of the language used in the patent claims, Arlington cannot establish literal infringement.

In further defense against summary judgment, Arlington argues that the doctrine of equivalents applies because the steps in Bridgeport's design serve the same function as the completely "smooth" intermediate portion of the Arlington model-that is, ensuring a satisfactory electrical connection. As discussed previously, although the doctrine of equivalents may permit a finding of infringement by a design otherwise outside the claim language, the doctrine cannot apply if the "theory of equivalence would vitiate a claim limitation." Tronzo, 156 F.3d at 1160 (citing Warner-Jenkinson, 520 U.S. at 29, 117 S.Ct. 1040). Regardless of Arlington's assertion of equivalent effect, application of the doctrine in this case would effectively eliminate the term "smooth" from the claim. Indeed, it would permit any series of threading or ridges to be employed in the intermediate portion so long as a good electrical connection was maintained. In fact, other claims of the Arlington patents do omit the term "smooth" to allow for the inclusion of threading on the connectors, suggesting that the inclusion of the term in claims 5 and 9 of Patent '164 was intended to exclude the very types of designs that Arlington now seeks to cover. The doctrine of equivalents cannot be used to vary the ordinary meaning of the claims of a patent, and, as such, has no application here. The court will grant Bridgeport's motion for summary judgment for non-infringement as to claims 5 and 9 of Patent '164.

5. "*Relaxed Diameter*"

[20] Next, Bridgeport argues that the fact that its designs indicate an adaptor with a relaxed diameter greater than the outer diameter of the connector compels summary judgment in its favor on claims 1, 2, 3, 4, 5, 8, and 9 of Patent '164, which provide, in pertinent part, as follows:

[A] circular spring metal adaptor surrounding said leading end of said electrical connector which also has a leading end, a trailing end, and an intermediate body, said circular spring metal adaptor being less than a complete circle when on the electrical connector and when separated from said electrical connector has a *relaxed diameter,* less than the diameter of the portion of the connector which it surrounds[FN15]....

FN15. In contrast, claim 1 of Patent '050 requires that the relaxed diameter be "less than the diameter of the hole into which it is to be inserted." (Doc. 83, Ex. B).

(Doc. 83, Exs. A, B (emphasis added)). Again resorting first to reference materials, *Webster's Third New International Dictionary* defines "relaxed" as "set at rest" and "relax" as to "lessen the tension or pressure of." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1917. Thus, the "relaxed diameter" of a circle is the diameter FN16 as measured when any outside force or pressure has been removed. *See also id*. (defining "relaxation" as "the adjustment of a system to a state of equilibrium following the abrupt removal of some influence"). This construction is apparently conceded by both parties (Doc. 115 para.para. 28, 30-34), and, indeed, the claims themselves identify the adaptor as "relaxed" when it is removed from the larger-diameter connector. The court will construe "relaxed diameter" to mean the diameter of the adaptor when it is removed from the connector.

FN16. "Diameter" is "the length of a straight line through the center of an object." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 623. Neither party disputes the meaning of this term. *See* Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc., 200 F.3d 795, 803 (Fed.Cir.1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.").

[21] At this stage in the proceedings, considering the evidence in the light most favorable to Arlington, the court cannot say that Bridgeport's products do not, as a matter of law, infringe on the claims at issue. Bridgeport may establish at trial that the inner diameter of its adaptors exceeds the outer diameter of its connectors, but Arlington has presented evidence, in the form of expert reports and deposition testimony, that some of Bridgeport's designs include "dimples" that lessen the inner diameter of the adaptor and that Bridgeport's manufacturing processes have produced units in which the connector has a greater diameter than that of the relaxed adaptor. (Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17; Doc. 199, Ex. 41 at 4-5). Because clear factual issues remain to be decided, summary judgment on these claims is inappropriate.

6. "*Less Than a Complete Circle*"

[22] Finally, Bridgeport argues that summary judgment is warranted because its adaptor includes a circumferential gap in a "tongue and groove" configuration, not a gap with straight, parallel lines, as purportedly mandated by the "less than a complete circle" limitation of claims 1, 2, 4, and 5 of Patent '050 and claims 1, 2, 3, 4, 5, 8, and 9 of Patent '164:

[S]aid circular spring metal adaptor being *less than a complete circle* FN17 that is of a relaxed diameter less than the diameter of the hole into which it is to be inserted with said spring locking members extending radially outward beyond the diameter of the hole into which they are to be inserted....

FN17. In claim 1 of Patent '164, the phrase "less than a complete circle" is immediately proceeded by the clause "when on the electrical connector." (Doc. 83, Ex. A).

(Doc. 83, Exs. A, B (emphasis added)). According to *Webster's Third New International Dictionary,* "less" means "of reduced ... extent[or] degree" or "inferior." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1296. It further defines "complete" as "entire," "perfect," or "fully realized," and a "circle" as a figure bounded by a single "closed curve," called the "circumference." *See* id. at 408, 465. Thus, the phrase "less than a complete circle" refers to a rounded figure that is not entirely bounded by a single circumferential line. Nothing in the claim language contradicts this meaning, and, in fact, claim 14 of Patent '164 expressly equates "divided circumference" with being "of less than a complete circle." (Doc. 83, Ex. A).

Against this plain meaning, Bridgeport argues that the patentee provided an express definition of the phrase in the illustrations included in the specifications section, several of which show circular adaptors with their circumference "broken by a gap with straight, parallel sides." However, while this illustration certainly shows a possible embodiment of the invention, it does not purport to limit the methods by which a "less than complete circle" may be produced. *See* E-Pass Techs., 343 F.3d at 1369 (cautioning against "importing limitations from the specifications into the claims"). A curved cut, no less than a straight cut, produces a complete division in the circumference of the adaptor, rendering the adaptor "less than a complete circle" as required by the claims. The court will construe the phrase "less than a complete circle" to mean a rounded figure in which the circumferential line is divided or broken by any means.

[23] Bridgeport's adaptor includes a circumferential divide (Doc. 83, Ex. G), facially meeting the limitations described in the claims of the Arlington's patents. Even if the gap is formed in a tongue and groove configuration, the Bridgeport design involves an adaptor that is "less than a complete circle," permitting a finding of infringement by a reasonable jury. Thus, the court will deny the motion for judgment as a matter of law on these claims.

B. ***Invalidity***

[24] [25] Non-infringement proving a less-than-perfect connection to summary judgment, Bridgeport also asserts the defense of invalidity. Proof that a patent should not have been issued, and was thus invalid from inception, defeats a claim of infringement. *See, e.g.,* Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc., 344 F.3d 1186, 1193-94 (Fed.Cir.2003). Federal statutes establish several prerequisites to obtaining a patent, including, among others, that the design be unanticipated and that the patent disclose the "best mode" of practicing the invention. 35 U.S.C. s.s. 102-103. Because a patent is presumed valid, the challenging party bears the burden of establishing invalidity by clear and convincing evidence. *Id*. s. 282; Union Carbide, 308 F.3d at 1187. In this case, Bridgeport asserts the invalidity of the Arlington patents based on allegations that a previous patent anticipated Arlington's design and that the Arlington patents fail to disclose the best mode for producing the adaptor.

1. ***Anticipation***

[26] [27] Because the underlying basis for issuance of a patent is originality of design, a showing that the patented invention was wholly anticipated by a prior claim renders the patent invalid. Akamai Techs., 344 F.3d at 1193-94. To establish anticipation of an existing patent, the burden is on the challenging party to show, by clear and convincing evidence, that the prior art "expressly or inherently describes each and every limitation set forth in the patent." Trintec Indus., Inc. v. Top-U.S.A. Corp., 295 F.3d 1292, 1295 (Fed.Cir.2002). The lack of an express limitation in the patented design does not defeat a finding of anticipation if the challenging party establishes that "the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." *Id*. (quoting In re Robertson, 169 F.3d 743, 745 (Fed.Cir.1999)). Thus, to establish anticipation by prior art, the challenging party must establish that each and every descriptive element and limitation contained in the prior art is also contained, either expressly or inherently, in the new design. *Id*.

[28] In this case, Bridgeport claims that a prior patent, issued to one Michael J. Conners in 1939 for his "cable connector for outlet boxes" ("Conners Patent"), anticipates every element of the Arlington patents for the quick connect fitting. (*See* Doc. 83, Ex. C). The Conners Patent makes the following claim:

A cable connector for outlet boxes comprising a tubular member adapted for insertion in a knock-out opening of an outlet box, said tubular member having a plurality of elongated slots in its side walls, an outstanding annular flange upon the outer end of said tubular member, a band encircling the inner end of said tubular member, a plurality of resilient fingers extending from said encircling band in the direction of the outer end of the tubular member, there being a resilient finger for each of said slots, certain of said resilient fingers being of such length that their free ends are spaced with respect to the afore-mentioned flange upon the outer end of the tubular member, a distance substantially equal to the thickness of the wall of the outlet box to which the tubular member is attached, and at least one of said members being long enough to extend substantially to said afore-mentioned annular flange and into the knock-out opening of the outlet box, and conductor engaging means carried by said last mentioned finger and held in conductor

engaging position by its engagement with the defining edge of the knock-out opening in which the connector is positioned.[FN18]

FN18. Another claim included in the Conners Patent delineates fewer limitations than the one quoted above and will not be reproduced here. (*See* Doc. 83, Ex. C).

(Doc. 83, Ex. C). Bridgeport contends that the "tubular member," the "encircling band," and the "resilient fingers" of the Conners Patent anticipate, respectively, the "hollow electrical connector," the "circular spring metal adaptor," and the "spring locking members" of Patents '050 and ' 164.

However, the "spring metal" limitation applied to the Arlington adaptor distinguishes the Arlington designs from the Conners Patent. Initially, the Conners Patent discloses no express limitation that the "encircling band" be made of spring metal, unlike the claims of the Arlington patents. (Doc. 83, Ex. C). Further, the Conners Patent suggests no inherent requirement that the band be able to expand apart and contract to its original shape, the function that the "spring metal" limitation of the Arlington patents is intended to perform.FN19 (*See* Doc. 83, Exs. A, B, C). In fact, the specifications section of the Conners Patent shows a band that is a full circle, with no division or cut in its circumference that would permit expansion or contraction. (Doc. 83, Ex. C). Thus, a reasonable jury could find that the Conners Patent does not disclose, either inherently or expressly, the "spring metal" limitation of Patents '050 or '164. Accordingly, the court will deny summary judgment on this ground.

FN19. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2209-10 (defining "spring" as "be[ing] capable of moving by elastic force" and "springback" as "the capacity or tendency of a ... shaped elastic material (as a metal) to revert to its original form").

2. *Best Mode*

[29] The "best mode" requirement dictates that the specifications section of the patent "set forth the best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. s. 112. As demonstrated by this language, "the existence of a best mode is a purely subjective matter depending on what the inventor actually believed at the time the application was filed." Bayer AG v. Schein Pharms., Inc., 301 F.3d 1306, 1314 (Fed.Cir.2002). The subjective nature of this inquiry renders it a factual issue, one reserved for the jury in the absence of unmistakable evidence that the inventor knew of, yet withheld, a preferred embodiment of the device when filing the patent application. *Id*.

[30] In this case, Bridgeport's evidence fails to meet this strict standard. Bridgeport relies primarily on deposition testimony that an inventor of the quick connect fitting was aware of the design before the patent filing date to establish that the inventor failed to disclose the best mode for practicing the invention. (Doc. 117 para. 20). However, Arlington presents contrary evidence, in the form of a declaration by the same inventor, that, although he was aware of the design, he did not know that it was the best embodiment at the time of filing. (Doc. 118, Ex. 3 para.para. 9-10). Rather, according to this declaration, he did not focus on the tongue and groove design as the preferred method until after the filing of the application and after he had conducted testing on several alternative models. (Doc. 118, Ex. 3 para.para. 9-11). Resolution of this conflicting testimony is a question for the jury, not the court, and the motion for summary judgment on this ground will be denied.

C. *Willful Infringement*

[31] [32] Bridgeport argues that, even if its products are found to infringe on the disputed claims, Arlington has failed to present evidence of willful action by Bridgeport to support the imposition of treble damages. *See* 35 U.S.C. s. 284. "Willful" infringement requires the trier of fact to determine, by clear and convincing evidence, that the infringing party acted contrary to "an objective standard of reasonable commercial behavior in the same circumstances." Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1583 (Fed.Cir.1996). Relevant considerations in this inquiry include the party's knowledge of the existence of the infringed patent, the party's intentional disregard for the property rights of the patentee, and any related unethical behavior. *Id*. Of particular relevance is whether the party obtained a legal opinion prior to marketing the product. *See* Amsted Indus. Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 182 (Fed.Cir.1994). However, a favorable legal opinion will not insulate an infringer from a finding of willfulness if it was obtained after the course of action was already decided or only as protection from an infringement lawsuit. *Id.;* Am. Med. Sys., Inc. v. Med. Eng'g Corp., 6 F.3d 1523, 1531 (Fed.Cir.1993). Thus, the pertinent focus is not on the conclusions reached in the opinion but on the infringer'sgood faith in relying on those conclusions. Amsted Indus., 24 F.3d at 182.

[33] In this case, sufficient factual questions-regarding Bridgeport's knowledge of its own potential infringement and the adequacy of its disclosures to counsel-exist to enable a reasonable jury to conclude that Bridgeport acted outside the bounds of commercial reasonableness. The letters provided to Bridgeport opine that its designs do not infringe the patent claims because the inner diameter of Bridgeport's adaptor exceeds the outer diameter of the underlying connector. (Doc. 83, Exs. N, R). However, Arlington presented evidence suggesting that Bridgeport withheld from its attorneys information concerning the reduced inner diameter caused by (1) the planned addition of "dimples" on the adaptor and (2) the effects of the manufacturing processes. (Doc. 83, Exs. N, R; Doc. 119, Ex. 38 para.para. 3-9, 13, 15, 17). Further, Bridgeport's knowledge of the Arlington design since the early 1990s and its unsuccessful attempts to "copy" the design over the course of several years may suggest that Bridgeport's withholding of this information constituted part of an intentional effort to infringe upon Arlington's design. (*See* Doc. 113 para.para. 1, 3, 4; Doc. 118, Exs. 11, 12). While these conclusions are not certain, they are not unreasonable. Resolution of these factual issues is for the jury, and, as such, the court will deny the motion for summary judgment on this ground.

D. *Limitation on Damages*

[34] Finally, Bridgeport contends that it cannot be found liable for damages that accrued before January 3, 2001, the date on which Arlington notified Bridgeport by letter of the alleged infringement. To qualify for an award of damages under 35 U.S.C. s. 287, the patentee must first provide to the alleged infringer either constructive notice of the infringement, through a "patented" mark on the infringed product itself, or actual notice of the infringement, through "affirmative act on the part of the patentee which informs the defendant of [the] infringement." Amsted Indus., 24 F.3d at 187; *see* 35 U.S.C. s. 287(a). Under this provision, if a patentee fails to mark its products as patented, it may recover damages "only for infringement occurring after" it has provided actual notice to the infringer. *Id*. The focus of the notification inquiry is on the actions of the patentee; the defendant's knowledge of the violation through other sources is "irrelevant" to this issue. Amsted Indus., 24 F.3d at 187; *see also* Gart v. Logitech, Inc., 254 F.3d 1334, 1345-46 (Fed.Cir.2001) (stating that, in making the notice determination, the fact finder "cannot take into consideration the knowledge or understanding of the alleged infringer, but must focus on the action of the patentee"), *cert. denied,* 534 U.S. 1114, 122 S.Ct. 921, 151 L.Ed.2d 886 (2002).

[35] That Arlington neither included a "patented" marking on its products nor sent a letter concerning the alleged infringement until January 3, 2001, is undisputed. Hence, the sole question is whether Bridgeport received actual notice of the infringement from Arlington prior to this date. Arlington argues, based substantially on Bridgeport's solicitation of legal opinion letters, that Bridgeport had "actual knowledge, and thus notice," of the alleged infringement at the time that it commenced marketing of is product. However, this argument improperly conflates "knowledge" and "notice." Section 287 requires more than mere knowledge by the accused infringer of the violation: it mandates that the patentee take affirmative action to protect its rights by notifying the infringer of the purported violation. See Amsted Indus., 24 F.3d at 187. That Bridgeport had knowledge of the potential infringement does not relieve Arlington of its burden to convey its accusations to Bridgeport. The undisputed facts establish that Arlington took no action to notify Bridgeport of the alleged infringement until January 3, 2001, and, for this reason, the court will grant Bridgeport's motion for summary judgment as to the demand for damages that accrued prior to that date.

IV. *Conclusion*

For the foregoing reasons, the court will grant defendant's motions for summary judgment with respect to plaintiff's demands for damages for infringement of claims 5 and 9 of Patent '164 and for damages that allegedly accrued before January 3, 2001. The motions will be otherwise denied.