

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

_____)	
INTEX RECREATION CORPORATION,)	
)	
Plaintiff/Counterclaim-Defendant,)	
)	
v.)	Civil Action No. 04-1785 (PLF)
)	
TEAM WORLDWIDE CORPORATION,)	
)	
Defendant/Counterclaim-Plaintiff.)	
_____)	

OPINION

Ten years ago, defendant Team Worldwide Corporation (“TWW”) accused plaintiff Intex Recreation Corporation (“Intex”) of infringing the claims of TWW’s inflatable product patent. This lawsuit followed, and with it, the initiation of discovery, proceedings on a motion to dismiss, a reexamination by the U.S. Patent and Trademark Office (“PTO”), and claim construction proceedings.

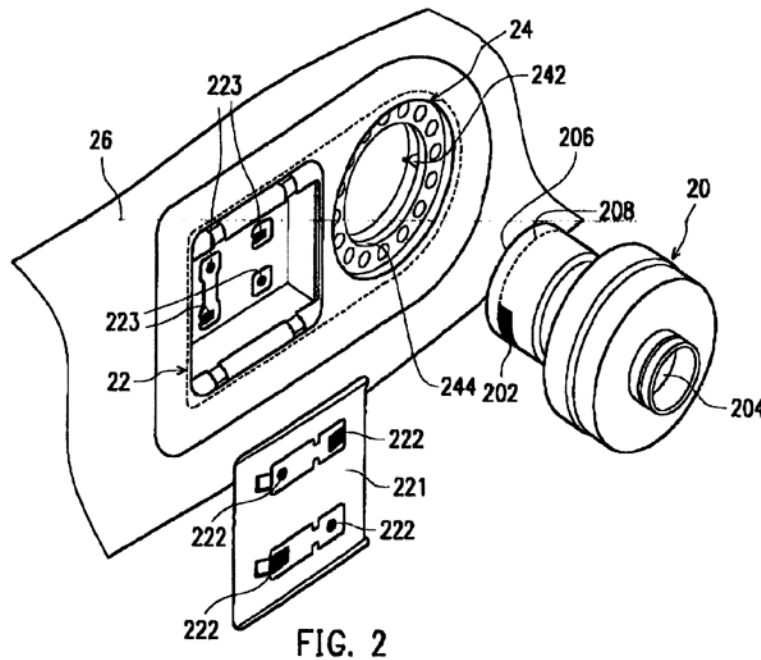
The issue that spurred this lawsuit – whether the air mattresses manufactured by Intex infringe any of the patent claims asserted by TWW – is now before the Court on the parties’ cross-motions for summary judgment. The question of infringement turns primarily on whether the air mattresses manufactured by Intex contain “sockets” as that term is used in TWW’s patent. After careful review of the patent documents, relevant legal authorities, and the arguments made by the parties in their papers and at oral argument on February 25, 2014, the Court concludes that Intex’s air mattresses do not contain “sockets” or their equivalents, and that Intex’s products therefore do not infringe TWW’s patent. The Court will grant Intex’s motion

for summary judgment, deny TWW's motion for summary judgment, and enter judgment for Intex on the issue of non-infringement.¹

¹ The papers reviewed in connection with the pending motions include the following: plaintiff's amended complaint ("Am. Compl.") [Dkt. No. 4]; defendant's answer to plaintiff's complaint and counterclaim ("TWW Answer and Counterclaim") [Dkt. No. 10]; United States Patent No. 6,793,469 B2 [Dkt. No. 10-1]; Opinion and Order granting in part and denying in part defendant's motion to dismiss, Intex Recreation Corp. v. Team Worldwide Corp., 390 F. Supp. 2d 21 (D.D.C. 2005); Magistrate Judge Robinson's claim construction decision, Intex Recreation Corp. v. Team Worldwide Corp., 541 F. Supp. 2d 113 (D.D.C. 2008); the undersigned's claim construction decision, Intex Recreation Corp. v. Team Worldwide Corp., --- F. Supp. 2d ---, 2013 WL 5328372 (D.D.C. 2013); the parties' briefs on claim construction, including plaintiff's motion for claim construction [Dkt. No. 141]; defendant's second motion for claim construction ("TWW Claim Constr. Mot.") [Dkt. No. 140-3], plaintiff's objections to Magistrate Judge Robinson's decision [Dkt. No. 147]; defendant's opposition to plaintiff's objections ("TWW Obj. Opp.") [Dkt. No. 156], and the transcript of the June 9, 2011 hearing on plaintiff's objections ("June 9, 2011 Tr.") [Dkt. No. 206]; declaration of Edward J. Naidich in support of plaintiff's previous motion for summary judgment ("Naidich Decl.") [Dkt. No. 155-5]; joint status report of November 12, 2010 ("Jt. Status Rpt.") [Dkt. No. 180]; defendant's motion for summary judgment ("TWW SJ Mot.") [Dkt. No. 211]; defendant's statement of material undisputed facts ("TWW SMF") [Dkt. No. 211-2]; declaration of Andrew R. Kopsidas in support of defendant's summary judgment motion ("Kopsidas Decl.") [Dkt. No. 211-3]; plaintiff's motion for summary judgment ("Intex SJ Mot.") [Dkt. No. 212]; plaintiff's statement of material undisputed facts ("Intex SMF") [Dkt. No. 212]; declaration of Andrew M. McCoy in support of plaintiff's summary judgment motion ("McCoy Decl.") [Dkt. No. 212-3]; plaintiff's opposition to defendant's summary judgment motion ("Intex SJ Opp.") [Dkt. No. 216]; plaintiff's statement of disputed material facts in support of its opposition to defendant's summary judgment motion ("Intex SMF Resp.") [Dkt. No. 216]; defendant's opposition to plaintiff's summary judgment motion ("TWW SJ Opp.") [Dkt. No. 217]; defendant's statement of disputed material facts in support of its opposition to plaintiff's summary judgment motion ("TWW SMF Resp.") [Dkt. No. 217-2]; defendant's reply in support of its summary judgment motion ("TWW SJ Reply") [Dkt. No. 219]; plaintiff's reply in support of its summary judgment motion ("Intex SJ Reply") [Dkt. No. 220]; parties' summary judgment hearing exhibit list ("Hr'g Ex. List") [Dkt. No. 221]; and the expert reports submitted by the parties, including the June 19, 2006 Expert Report of Dr. Steven Dubowsky ("Dubowsky Rpt.") [Dkt. No. 211-5], the August 28, 2008 Rebuttal Expert Report of Dr. Dubowsky ("1st Supp. Dubowsky Rpt.") [Dkt. No. 99-8], the November 1, 2013 Expert Report of Dr. Dubowsky ("2d Supp. Dubowsky Rpt.") [Dkt. No. 215-1], the January 25, 2011 Expert Report of John F. Berninger ("Berninger Rpt.") [Dkt. 216-2], and the December 12, 2013 Expert Report of Mr. Berninger ("Supp. Berninger Rpt.") [Dkt. No. 212-2].

I. BACKGROUND

The background of this case was summarized in the Court's September 24, 2013 Claim Construction Opinion and is reviewed only briefly here. Intex and TWW are manufacturers of air mattresses of the sort used in homes and on camping trips. They disagree as to the scope of United States Patent No. 6,793,469 B2 ("the '469 Patent"), currently owned by TWW. The invention claimed by the '469 Patent is an inflatable product comprised of an inflatable body, a socket, an electric pump that includes a pump body and an air outlet, and a battery case. See '469 Patent col.1 lines 30-35; id. at col.7 line 24–col.8 line 60. Two embodiments (examples) of the pump-socket connection in the claimed invention are shown below:



'469 Patent, fig. 2 (depicting first embodiment).

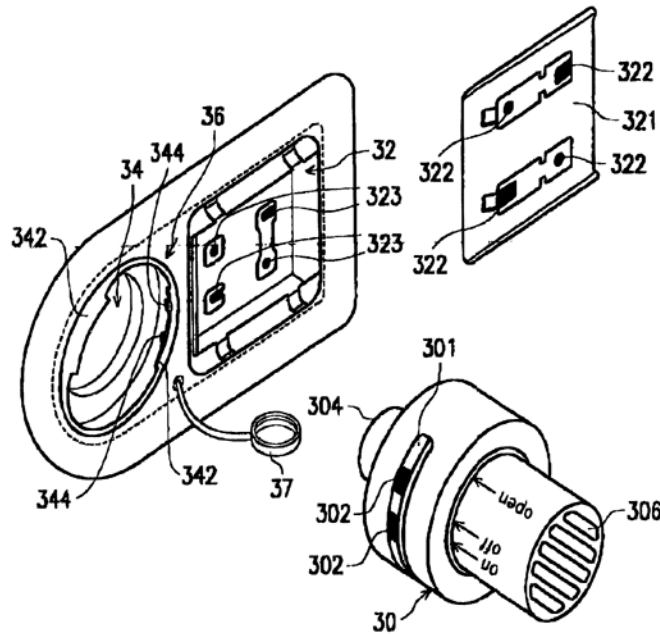


FIG. 4

'469 Patent, fig. 4 (depicting second embodiment).

On October 8, 2004, shortly after obtaining the '469 Patent, TWW sent a cease-and-desist letter to Intex in which TWW accused Intex of selling inflatable air mattresses that infringed the '469 Patent. TWW Answer and Counterclaim ¶ 7. In response, Intex filed this civil action against TWW, seeking a declaration of non-infringement as to the '469 Patent and a declaration of its invalidity.² TWW, in turn, filed a counterclaim asserting that Intex has infringed and continues to infringe the patent.

After discovery and resolution of a motion to dismiss, claim construction proceedings were held before Magistrate Judge Deborah A. Robinson, who issued her Markman decision on March 3, 2008. Intex Recreation Corp. v. Team Worldwide Corp., 541 F. Supp. 2d

² Intex's non-infringement claim is Count I of the Amended Complaint; in addition, Intex sought a declaration that the patent was invalid under 35 U.S.C. §§ 102 and 103 (Count II) and a declaration of invalidity as a result of inequitable conduct (Count III). See Am. Compl. The Court dismissed Count III on September 30, 2005. See Intex Recreation Corp. v. Team Worldwide Corp., 390 F. Supp. 2d 21 (D.D.C. 2005) ("Intex I").

113 (D.D.C. 2008) (“Intex II”).³ Intex timely objected to certain constructions in Magistrate Judge Robinson’s decision. Proceedings on these objections, however, were stayed pending the PTO’s reexamination of the ’469 Patent, which ultimately led to the PTO’s issuance of an *ex parte* reexamination certificate, in which the PTO confirmed that the ’469 Patent claims are patentable. See Jt. Status Rpt. 2. On September 24, 2013, the Court issued an opinion and order adopting in part and setting aside in part Magistrate Judge Robinson’s decision. Intex Recreation Corp. v. Team Worldwide Corp., --- F. Supp. 2d ----, 2013 WL 5328372 (D.D.C. 2013) (“Intex III”). The parties then filed cross-motions for summary judgment: TWW moved for a finding of literal infringement, and Intex moved for a finding of non-infringement, both literally and under the doctrine of equivalents.

II. LEGAL STANDARDS

Determining whether a patent has been infringed involves a two-step analysis: first, the Court must construe the relevant claim language to determine the meaning and scope of the patent claims; and second, the Court must compare the construed claims to the accused device to determine whether each claim element is present, either literally or equivalently. Markman v. Westview Instr., Inc., 52 F.3d 967, 976 (Fed. Cir. 1995), aff’d, 517 U.S. 370 (1996); see also Freedman Seating Co. v. American Seating Co., 420 F.3d 1350, 1356-57 (Fed. Cir. 2005); Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206 F.3d 1408, 1413 (Fed. Cir. 2000).

“[L]iteral infringement requires that each and every limitation set forth in a claim appear in an accused product.” Frank’s Casing Crew & Rental Tools, Inc. v. Weatherford Int’l, Inc., 389 F.3d 1370, 1378 (Fed. Cir. 2004)). A product that does not literally infringe a claim,

³ See Markman v. Westview Instr., Inc., 52 F.3d 967 (Fed. Cir. 1995), aff’d, 517 U.S. 370 (1996).

however, nevertheless may infringe under the doctrine of equivalents “if differences between the accused device and the claimed invention are ‘insubstantial.’” Desper Prods., Inc. v. QSound Labs, Inc., 157 F.3d 1325, 1338 (Fed. Cir. 1998). TWW, as the patentee, has the burden of establishing infringement at trial. See Medtronic, Inc. v. Mirowski Family Ventures, LLC, 134 S. Ct. 843, 846 (2014).

Whether an accused product infringes the properly construed claims of a patent is a question of fact. Desper Prods., Inc. v. QSound Labs, Inc., 157 F.3d at 1332. As with other types of civil litigation, however, summary judgment is available and appropriate in a patent infringement case when “there is no genuine issue as to any material fact and the movant is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a); see Taurus IP, LLC v. DaimlerChrysler Corp., 726 F.3d 1306, 1326 (Fed. Cir. 2013); Frank’s Casing Crew & Rental Tools, Inc. v. Weatherford Int’l, Inc., 389 F.3d at 1378; C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc., 911 F.2d 670, 672 (Fed. Cir. 1990).

III. DISCUSSION

A. Claims 14-17 Of The ’469 Patent

The ’469 Patent sets forth 17 claims, but only Claims 14 through 17 are relevant to this patent infringement action. See TWW SJ Mot. 1. These claims are listed in the table below:

Claim	Claim Language
14	An inflatable product including: an inflatable body; a socket built in the inflatable body; an electric pump, including a pump body and an air outlet, connected to the socket to pump the inflatable body, wherein the pump body is wholly or partially located in the socket; a connector provided on the electric pump for connecting an external power to actuate the electric pump.
15	The inflatable product as claimed in claim 14 , wherein the pump body can be received partially or wholly in the socket in a first direction for inflating the inflatable body, and received in a second direction for deflating the inflatable body.
16	An inflatable product including: an inflatable body; a socket built in the inflatable body; an electric pump, including a pump body and an air outlet, connected to the socket to pump the inflatable body, wherein the pump body is wholly or partially located in tile (sic) socket, a portion of the electric pump is inserted into tile (sic) socket, and the portion of the electric pump and the socket are matched with each other to prevent an air leakage therebetween.
17	The inflatable product as claimed in claim 16 , wherein the pump body can be received partially or wholly in the socket in a first direction for inflating the inflatable body, and received in a second direction for deflating the inflatable body.

'469 Patent col.8 lines 29-60 (bold in original).

Of particular importance, the Court has construed the term “socket” as “a structure that fits and holds onto an inserted part so that the structure and the part are detachably connected to each other.” Intex III, 2013 WL 5328372, at *16. In so doing, the Court distinguished certain inflatable products in which the electric pump could be easily inserted into and removed from a socket in the inflatable body – which were claimed by the '469 Patent – from unclaimed inflatable products in which the pump was permanently housed inside the

mattress. See id. at *10-11 (noting that certain socket-less embodiments with permanent pumps were disclosed but not claimed in the patent specification).

Also relevant here, the term “electric pump” is construed as “an electronically powered machine or device for raising, compressing, or transferring fluids, including gases,” Intex II, 541 F. Supp. 2d at 118-19, and the term “pump body” is construed as “the main part of the electric pump and to be a separate and distinct element from the air outlet.” Intex III, 2013 WL 5328372, at *16.

B. The Accused Devices

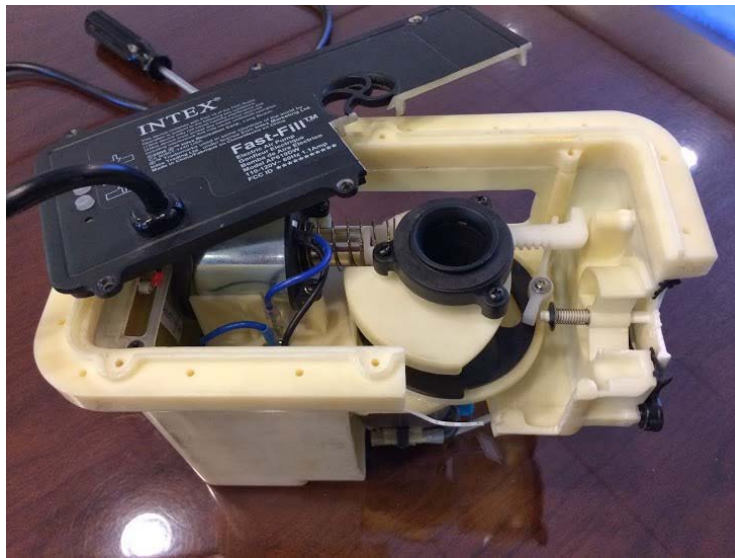
In manufacturing its air bed products, Intex employs two types of pumps accused of infringing the ’469 Patent. See TWW SMF ¶ 1; Intex SMF Resp. ¶ 1. The first type, referred to as the “Pump A” models, includes model numbers 619RW and 619RL. TWW SMF ¶ 1; Intex SMF Resp. ¶ 1. The second type, the “Pump B” models, includes model numbers AP619, 639, and 626R. TWW SMF ¶ 1; Intex SMF Resp. ¶ 1. There is no dispute with respect to the structure of the accused pumps. Intex SMF ¶ 13; TWW SMF Resp. ¶ 13.

The Pump A model can inflate, but not deflate, an air mattress. TWW SMF ¶ 6; Intex SMF Resp. ¶ 6. The housing of the pump, which is built into an air mattress, serves as an opening into which various pump components – such as the motor, impeller unit, solenoid, and circuit board – are placed and fastened with screws. Intex SMF ¶¶ 14-15; TWW SMF Resp. ¶¶ 14-15. The faceplate of the pump also is connected to the housing with screws. Intex SMF ¶¶ 15-16; TWW SMF Resp. ¶¶ 15-16. The Pump A model requires between ten and eleven screws, and requires substantial disassembly to remove the pump components from the air mattress. Intex SMF ¶¶ 16-17; TWW SMF Resp. ¶¶ 16-17. The pump can be powered on by flipping a switch located on the faceplate, or by using a tethered remote. TWW SMF ¶ 6; Intex

SMF Resp. ¶ 6. Male bayonet-type connectors are provided to receive power from an AC power cord. TWW SMF ¶ 8; Intex SMF Resp. ¶ 8.

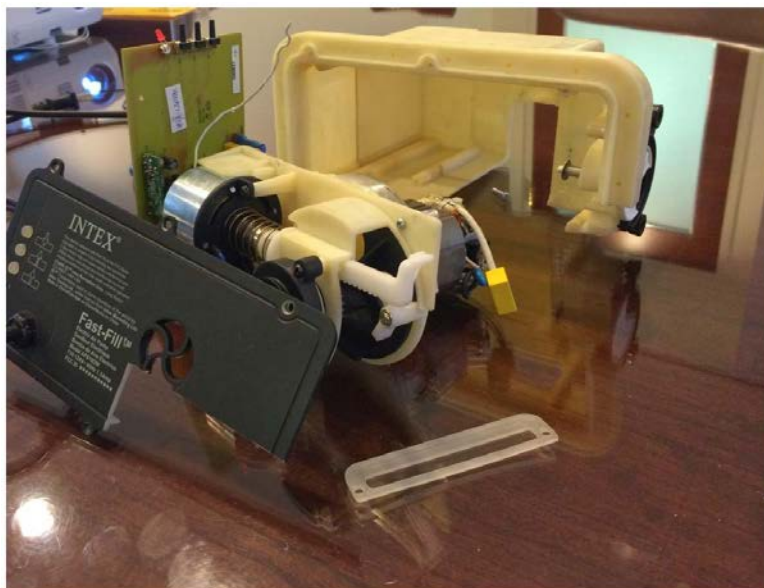
At oral argument, counsel for Intex introduced as physical exhibits for the Court's inspection examples of the Pump A model. See Hr'g Exs. 4, 4A, 7. The Pump A model is depicted below in photographs 1 through 3, supplied by Intex, and in a simplified illustration, Dr. Dubowsky's Figure 8, prepared by TWW's expert.

Photograph 1: Pump A



McCoy Decl. ¶ 8, Ex. 4 at 2 (corresponding to Hearing Exhibit 7); see Hr'g Ex. List at 2.

Photograph 2: Pump A



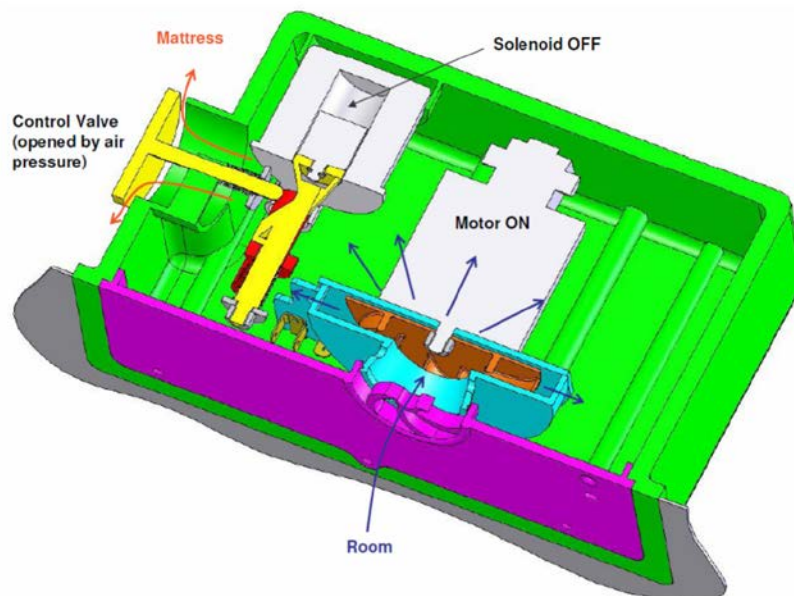
McCoy Decl. ¶ 8, Ex. 4 at 8 (corresponding to Hearing Exhibit 4); see Hr'g Ex. List at 2.

Photograph 3: Pump A



Naidich Decl. ¶ 4, Ex. 2 at 2.

Dr. Dubowsky's Figure 8: Pump A Configuration, Inflating



2d Supp. Dubowsky Rpt. 8.

In contrast to the Pump A model, the Pump B model can be used to both inflate and deflate the mattress. TWW SMF ¶ 9; Intex SMF Resp. ¶ 9. Similar to the Pump A model, however, the Pump B model contains a housing that is built into the interior of an air mattress. Intex SMF ¶ 19; TWW SMF ¶ 9. The housing in Pump B, like that in Pump A, serves as an opening into which components are placed and fastened with screws. Intex ¶¶ 16-20; TWW SMF ¶¶ 16-20. A faceplate is connected to the housing with screws. Intex SMF ¶ 21; TWW SMF Resp. ¶ 21. Between eight and ten screws are used in the assembly of the Pump B models, and substantial disassembly is required to remove the pump from an air mattress. Intex SMF ¶¶ 21-22; TWW SMF Resp. ¶¶ 21-22. Unlike Pump A, Pump B models include a valving mechanism. Intex SMF ¶ 20; TWW SMF Resp. ¶ 20. Pump B products are compatible with both AC and DC power packs, and contain male bayonet-type connectors provided on the

electric pump to receive the AC or DC electrical power. TWW SMF ¶ 15; Intex SMF Resp. ¶ 15.

During oral argument, counsel for Intex introduced several Pump B devices as physical exhibits for the Court's inspection. See Hr'g Exs. 1-3, 3A, 5, and 6. Examples of the Pump B model are depicted below in photographs 4 through 6, supplied by Intex, and in the illustration, Dr. Dubowsky's Figure 3, prepared by TWW's expert.

Photograph 4: Pump B



McCoy Decl. ¶ 9, Ex. 5 at 2 (corresponding to Hearing Exhibit 5); see Hr'g Ex. List at 2.

Photograph 5: Pump B



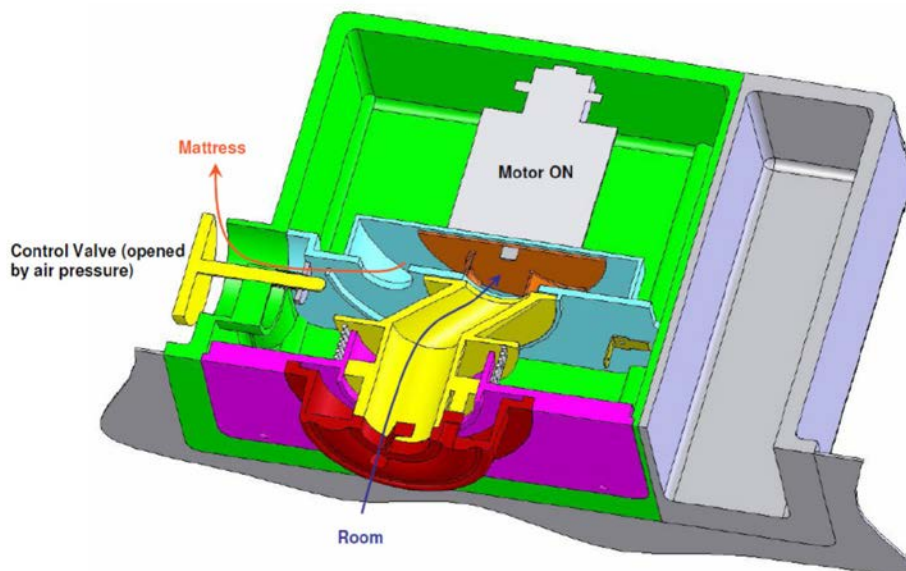
McCoy Decl. ¶ 9, Ex. 5 at 6 (corresponding to Hearing Exhibit 3); see Hr'g Ex. List at 1.

Photograph 6: Pump B



Naidich Decl. ¶ 7, Ex. 5 at 3.

Dr. Dubowsky's Figure 3: Pump B Configuration, Inflating



2d Supp. Dubowsky Rpt. 7.

C. The Accused Devices Do Not Literally Infringe The '469 Patent

As noted, “literal infringement requires that each and every limitation set forth in a claim appear in an accused product.” Frank’s Casing Crew & Rental Tools, Inc. v. Weatherford Int’l, Inc., 389 F.3d at 1378. “Any deviation from the claim precludes . . . a finding [of literal infringement].” Telemac Cellular Corp. v. Topp Telecom, Inc., 247 F.3d 1316, 1330 (Fed. Cir. 2001).⁴ “There can be no literal infringement where a claim requires two separate structures and one such structure is missing from an accused device.” Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP, 616 F.3d 1249, 1255 (Fed. Cir. 2010) (citing Gaus v. Conair Corp., 363 F.3d 1284, 1288-90 (Fed. Cir. 2004))

⁴ An element or limitation is a “discretely claimed component of a patent claim.” Black’s Law Dictionary 597 (9th ed. 2009). Each element or limitation in a patent claim “is deemed material to defining the scope of the patented invention.” Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co., 520 U.S. 17, 29 (1997).

When the parties agree on the features of the accused device, the question of literal infringement “collapses into claim construction” and can be decided as a matter of law. Desper Prods., Inc. v. QSound Labs, Inc., 157 F.3d at 1332-33. When construing claims, “a court generally must give claim terms ‘their ordinary and customary meaning’ as those terms would have been understood by ‘a person of ordinary skill in the art in question,’” – here, the field of pneumatics. Intex III, 2013 WL 5328372, at *4 (quoting Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005 (en banc))). Because each claim of the ’469 Patent includes the limitation of a socket, and because a person of ordinary skill in the art of pneumatics would find that no socket is present in the accused devices, there can be no literal infringement.

Intex maintains that each device introduced at oral argument and represented in the photographs and figures above is a self-contained electric pump, and that this pump is directly welded to the inflatable mattress. Intex SJ Opp. 21-26. According to Intex, no separate socket is necessary or present. Id. By contrast, TWW contends that the electric pump in the accused products is comprised solely of the inner pump components – including the motor, impeller unit, solenoid and circuit board – and the pump’s faceplate. TWW SJ Mot. 14-18. The housing surrounding these components is not part of the pump, TWW asserts; rather, according to TWW, the housing itself is a separate socket. Id. Under TWW’s interpretation of the accused products, Pump A contains all of the elements recited in Claims 14 and 16, and Pump B contains all of the elements in Claims 14 through 17. See TWW SJ Mot. 1, 23. There are two fatal problems with TWW’s theory.

1. The Pump Housing In The Accused Devices Is Part Of The Electric Pump

If the housing surrounding the inner pump components is part of the electric pump, then it cannot satisfy the separate claim element of a socket. This conclusion flows from

the general rule that when a patent claim lists elements separately, as the '469 Patent does with the pump and the socket, those elements are considered to be “distinct component[s]” of the patented invention. Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP, 616 F.3d at 1254 (internal quotation omitted). For example, in Becton, the Federal Circuit found that a claim listing a “hinged arm” and a “spring means connected to said hinged arm” called for two *separate* structural elements: the hinged arm and the spring means. Id. at 1253-55. These two elements could not be present in the same structure. Id. Likewise, if the housing in Intex’s devices is part of the electric pump, the housing cannot also satisfy the separate claim limitation of a socket. For the reasons below, the Court finds no genuine dispute of fact as to this issue; it is clear that a person of ordinary skill in the field of pneumatics would view the housing in the accused devices to be part of the electric pump, not a distinct structural element. The Court therefore must conclude that the housing does not satisfy the socket limitation.

As the Court observed in its Markman Opinion, an electric pump typically will include a pump housing. Intex III, 2013 WL 5328372, at *15 (“[B]ecause the Court finds that the claims require a pump that is detachably connected to a socket . . . the Court would expect that the typical electric pump designed in accordance with the '469 Patent would contain a housing to cover the fan and motor.”). Indeed, TWW conceded that “in certain embodiments, there may be a pump housing and, in certain embodiments, the housing may be a part of the main part of the pump.” TWW’s Obj. Opp. 32.

Intex has submitted evidence that the pump housing in the accused devices would be considered by a person of ordinary skill in the art to be part of the pump itself. The housing naturally is considered as part of the pump, according to Intex’s expert, “because without [the housing], the pumps would not work.” Supp. Berninger Rpt. ¶ 15. The pumps in the accused

devices only function within pressurized chambers; without a housing to maintain the necessary pressure, the pump is useless. Id. Intex also points to evidence that a pump housing has been considered to be part of a pump in related proceedings before the PTO. Berninger Rpt. ¶¶ 14-16. Intex’s arguments are consistent with the Court’s observation that the electric pump usually will include a housing. Intex III, 2013 WL 5328372, at *15.⁵

By contrast, TWW points to no expert testimony or other evidence suggesting that a person of ordinary skill in the art would view the pump housing as something separate from the pump itself, and responds to Intex’s evidence only with attorney argument. TWW Reply 6-8. TWW observes that the housing can be disconnected from other pump components during disassembly, and then argues that this fact proves that the housing cannot be considered part of the pump. Id. As noted, TWW does not provide any expert evidence to support this proposition. Moreover, its argument makes no sense. Various other pump components – such as the faceplate and the impeller unit – can be disconnected from each other during disassembly; this does not mean that each component corresponds to a discrete limitation of the patent claim. The inquiry is whether a person of ordinary skill in the art would view the components as together comprising a pump – not whether the individual components can be physically taken apart.

Because there is no genuine question that the pump housing in the accused devices would be viewed as part of the pump itself, the housing cannot satisfy the separate claim

⁵ Intex also draws the Court’s attention to the testimony of TWW’s expert, who states that “[i]f an engineer or consumer were to purchase something described as an ‘electric pump’ that only had an air compressor and attached electric motor (*lacking a housing*, air inlets and outlets, appropriate power connections, etc.), it would not meet their expectations of a useful device.” See 1st Supp. Dubowsky Rpt. ¶ V.e.iii (emphasis added). The Court draws no inferences from this testimony, however, as it is not clear whether the housing referenced by Dr. Dubowsky is the impeller housing within the pump or the housing surrounding the other pump components.

limitation of a socket. Neither party has suggested that any other element in the accused devices is a socket. The Court therefore concludes that the claim limitation of a socket is not present in the accused devices.

2. Even If The Housing Is Not Part Of The Pump, It Does Not Meet The Definition Of A Socket, As Construed By This Court

Even if the pump could logically refer only to the various inner pump components and faceplate – such that the housing constitutes some other, non-pump element – the housing does not meet the definition of a “socket.” As construed in the Court’s Markman opinion, the term “socket” is “a structure that fits and holds onto an inserted part so that the structure and the part are detachably connected to each other.” Intex III, 2013 WL 5328372, at *16. In the claim construction proceedings, the parties and the Court used the phrase “to fit and hold onto” as meaning “to grip,” akin to a light bulb socket that fits and holds onto a light bulb, or electric socket that fits and holds a plug, or, as discussed at oral argument, a lid that fit and holds onto a mason jar. See, e.g., id. at *7; TWW’s Obj. Opp. 16, 17, 43 (objecting to “fit and hold onto/grip” construction).

Unlike a light bulb socket, electric socket or mason jar lid, the housing in the accused devices does not fit and hold onto the pump components. As demonstrated at oral argument, if the pump components are placed inside the housing, and the housing is turned upside down, the pump components fall out of the housing. See Supp. Berninger Rpt. ¶¶ 21-22. The eight to eleven screws, which attach the inner pump components to the housing, are necessary to create a tight fit. Id.; see also Dubowsky Rpt. ¶ VI(a)(iii), (b)(iii); 2d Supp. Dubowsky Rpt. ¶ IV(d).

Nor are the pump components “detachably connected” to the housing. For example, to detach the impeller unit from the housing in a Pump A product, a user must first remove the faceplate by unscrewing the six screws that attach the faceplate to the housing. *Intex SMF* ¶ 17; *TWW SMF Resp.* ¶ 17. The user must then remove four screws attaching the impeller unit to the housing. *Id.* The user cannot remove the pump components from the inflatable body without effectively disassembling the pump. And while counsel for TWW insists that being “detachably connected” is no different from the ability to be “disassembled” – a “semantic” difference rather than one of substance, *see* *TWW SJ Opp.* 10 – the Court cannot agree. Removing eight to eleven screws with a screwdriver is quite different in form from turning the lid of a mason jar or unscrewing a light bulb; the one constitutes a time-consuming disassembly while the other is a seconds-long turning of a lid or bulb.

TWW also contends that the distinction between a socket and a housing is purely semantic and not substantive. *TWW Opp.* at 2. But the Court rejected TWW’s virtually identical argument that a socket was equivalent to a chamber in its *Markman* Opinion. *Intex III*, 2013 WL 5328372, at *9-12. For the same reasons, it rejects TWW’s argument here. Equating a socket and a housing would require the Court to ignore entirely the “fit and hold” and “detachably connected” aspects of a socket as already construed.

In sum, the Court finds that the accused products do not contain a “socket,” as construed by the Court, and therefore do not literally infringe Claims 14 through 17 of the ’469 Patent.

D. The Accused Devices Do Not Infringe Under The Doctrine Of Equivalents

TWW next argues that even if the housing is not literally a socket, it is equivalent to a socket, and thus falls within the patent’s scope under the doctrine of equivalents. The

doctrine of equivalents holds that a patent's scope "is not limited to its literal terms but instead embraces all equivalents to the claims described." Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 535 U.S. 722, 732 (2002) (citing Winans v. Denmead, 56 U.S. 330, 347 (1854)).

The purpose of the doctrine of equivalents is to "prevent[] an accused infringer from avoiding infringement by changing only minor or insubstantial details of a claimed invention while retaining their essential functionality." Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1424 (Fed. Cir. 1997) (citation omitted). It should be noted, however, that a finding of infringement under the doctrine of equivalents is "the exception and not the rule." EPOS Techs. Ltd. v. Pegasus Techs. Ltd., 916 F. Supp. 2d 88, 92 (D.D.C. 2013) (citing London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed. Cir. 1991)). The doctrine's reach is limited by the recognition that it "necessarily adds uncertainty to the scope of patent claims, and thereby detracts from the public-notice function of patent claims and risks deterring non-infringing and potentially innovative endeavors." Freedman Seating Co. v. American Seating Co., 420 F.3d at 1358.

1. Claim Vitiating

Equivalence is an issue of fact ordinarily preserved for a jury. Charles Machine Works, Inc. v. Vermeer Mfg. Co., 723 F.3d 1376, 1380-81 (Fed. Cir. 2013). But summary judgment may be awarded to an alleged infringer if the patentee fails to point to "particularized testimony and linking argument" of equivalence. American Calcar, Inc. v. American Honda Motor Co., Inc., 651 F.3d 1318, 1338-39 (Fed. Cir. 2011) (internal quotation omitted). Where the record evidence "is such that no reasonable jury could determine two elements to be equivalent," a finding that an accused product infringes a claim under the doctrine of equivalents

would vitiate that claim element and is erroneous as a matter of law. Charles Machine Works, Inc. v. Vermeer Mfg. Co., 723 F.3d at 1380 (internal quotation omitted); accord Taurus IP, LLC v. DaimlerChrysler Corp., 726 F.3d at 1326; Freedman Seating Co. v. American Seating Co., 420 F.3d at 1358.

The Federal Circuit has articulated two tests for determining equivalence. One is to inquire whether the differences between an element in an accused device and an element in the patent claim are “insubstantial.” Mirror Worlds, LLC v. Apple Inc., 692 F.3d 1351, 1357 (Fed. Cir. 2012) (quoting Voda v. Cordis Corp., 536 F.3d 1311, 1326 (Fed. Cir. 2008)). Another is to examine whether the disputed feature “performs substantially the same function in substantially the same way to obtain substantially the same result” as the feature in the claimed invention. Id. (internal quotation omitted); see also Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. 17, 39 (1997). Thus, “saying that a claim element would be vitiated is akin to saying that there is no equivalent to the claim element in the accused device based on the well-established ‘function-way-result’ or ‘insubstantial differences’ tests.” Brilliant Instruments, Inc. v. GuideTech, LLC, 707 F.3d 1342, 1347 (Fed. Cir. 2013) (internal quotation omitted). The inquiry into equivalence must be performed “on an element-by-element basis.” Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. at 40; see also Freedman Seating Co. v. American Seating Co., 420 F.3d at 1358.

Although TWW asserts that there are genuine questions of material fact as to the issue of equivalence, the Court disagrees and finds that summary judgment of non-infringement under the doctrine of equivalents is appropriate here. The two-part analysis tracks the Court’s earlier discussion of literal infringement. First, for the reasons discussed *supra* at 15-17, the housing surrounding the pump components in Intex’s products is part of the electric pump itself,

and there simply is no element that corresponds to the socket element in the patent claims. The accused devices therefore cannot be held to infringe as equivalent, as “an accused product or process is not infringing unless it contains *each* limitation of the claim, either literally or by an equivalent.” Freedman Seating Co. v. American Seating Co., 420 F.3d at 1358 (emphasis added).

Second, even if permitted to view the housing as distinct from the pump, a jury could not reasonably conclude on the record evidence that the housing performs “substantially the same function in substantially the same way to obtain substantially the same result” as the socket in the ’469 Patent. See Mirror Worlds, LLC v. Apple Inc., 692 F.3d at 1357. The function-way-result analysis of TWW’s expert, Dr. Dubowsky, consists of a single, albeit lengthy sentence:

[T]he [housing] in the accused products performs *substantially the same function* as the socket recited in the claims and as construed by the Court (i.e., allowing the pump to be disposed wholly or partially inside the inflatable body, and yet be detachable if necessary, such as for servicing, cleaning, inspection or otherwise); in *substantially the same way* (i.e., by providing a compartment inside the flexible inflatable element that fits and holds the pump, so that the two are detachably connected to each other); to achieve *substantially the same result* (i.e., allowing the electric pump to stably pump the inflatable body without being held manually, providing a configuration that is compatible with conventional bedding and bed frames, and allowing for a more compact configuration that is functionally and aesthetically appealing, and yet be detachable if desired or necessary.)

2d Supp. Dubowsky Rpt. ¶ IV(g) (emphasis added).

Dr. Dubowsky gives no explanation of how he arrived at his conclusions about the “function,” “way,” or “result” of the socket. The function-way-result analysis requires “an examination of the claim and the explanation of it found in the written description of the patent.”

Aquatex Indus., Inc. v. Techniche Solutions, 479 F.3d 1320, 1326 (Fed. Cir. 2007) (internal

quotation marks omitted). But Dr. Dubowsky does not link his analysis to the patent claims or specification. He does not explain his conclusion that the socket's *function* is "allowing the pump to be disposed wholly or partially inside the inflatable body, and yet be detachable if necessary, such as for servicing, cleaning, inspection or otherwise," and he certainly does not connect this purported function to anything in the specification. Dr. Dubowsky makes no attempt, for example, to reconcile his theory of the socket's function with the requirement in Claims 15 and 17 that the socket permit detachment for purposes of deflating the mattress. See '469 Patent col.8 lines 29-60 (emphasis added).

Dr. Dubowsky also asserts that the housing operates in the same *way* as the socket, "by providing a compartment inside the flexible inflatable element that fits and holds the pump, so that the two are detachably connected to each other." 2d Supp. Dubowsky Rpt. ¶ IV(g) (emphasis added). This statement does not suffice to raise an inference that the housing in the accused products operates in the same way as a socket in the claimed invention. Not only does Dr. Dubowsky merely paraphrase the Court's construction of the term "socket," but he misinterprets the phrases "fit and hold" and "detachably connected" as used by the Court. Dr. Dubowsky concedes that the housing remains attached to the pump components only through the use of screws. Id. ¶ IV(d). This is not a "fit and hold" connection. Dr. Dubowsky also notes that in order to remove the pump, a user cannot do so manually, but must take the pump apart with a screw driver. Id. This is not "detachably connected." Where an expert's statements "rest on an incorrect claim interpretation . . . they do not create a factual dispute." Wiener v. NEC

Electronics, Inc., 102 F.3d 534, 542 (Fed. Cir. 1996), abrogated on other grounds, Cybor Corp. v. FAS Technologies, Inc., 138 F.3d 1448 (Fed. Cir. 1998).⁶

Construing the housing as equivalent to the socket would render meaningless the “fit and hold” and “detachably connected” aspects of this element – which the Court found critical in its Markman Opinion. This is untenable. “It is important to ensure that the application of the doctrine [of equivalents] . . . is not allowed such broad play as to effectively eliminate that element in its entirety.” Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. at 29.

2. Additional Defenses To Infringement Under The Doctrine Of Equivalents

Intex also argued in its papers that its devices do not infringe under the doctrine of equivalents because the structures contained in the accused devices were foreseeable at the time of the invention. See Intex SJ Mot. 31-34; see also Johnson & Johnston Assocs., Inc. v. R.E. Serv. Co., Inc., 285 F.3d 1046, 1056-59 (Fed. Cir. 2002) (en banc) (Rader, J., concurring) (proposing foreseeability limitation to doctrine of equivalents). As Intex conceded at oral argument, however, this defense is foreclosed by the Federal Circuit’s recent decision in Ring & Pinion Serv. Inc. v. ARB Corp. Ltd., --- F.3d ----, 2014 WL 627623 (Fed Cir. 2014), where a unanimous panel held that “[t]here is not, nor has there ever been, a foreseeability limitation on the application of the doctrine of equivalents.” Id. at *2.

Intex instead presented an alternative argument that the principle of disclosure-dedication bars TWW from alleging infringement. The disclosure-dedication principle holds that “when a patent drafter discloses but declines to claim subject matter . . . this action dedicates that unclaimed subject matter to the public.” Johnson & Johnston Assocs., Inc. v. R.E. Serv. Co., Inc., 285 F.3d at 1054. Intex contends that the accused devices are analogous to the so-called

⁶ As discussed at oral argument, Intex does not challenge Dr. Dubowsky’s “result” analysis. See also Intex SJ Opp. 24-25.

“chamber” embodiments disclosed but not claimed in the ’469 Patent specification. Because this argument has not been fully briefed, and because the Court finds non-infringement under the doctrine of equivalents on the ground of claim vitiation, the Court does not reach the question of whether disclosure-dedication provides an alternative basis for a finding of non-infringement.

E. The Court Finds No Reason To Revisit Its Construction of Socket

As discussed above, the Court has construed the term socket to require a “fit and hold” connection with the pump – i.e., the socket must grip the pump like a light bulb socket, electric socket or top of a mason jar. TWW asks this Court to interpret the “fit and hold” requirement more broadly. In support of its argument, TWW asserts that certain embodiments disclosed in the patent specification have sockets that do not firmly grip or immobilize a pump and invokes the principle that “an interpretation which ‘excludes a [disclosed] embodiment from the scope of the claim is rarely, if ever, correct.’” SJ Reply 9 (quoting Accent Packaging, Inc. v. Leggett & Platt, Inc., 707 F.3d 1318, 1326 (Fed. Cir. 2013)). TWW’s argument is meritless.

TWW points to the third disclosed embodiment, in which a pump is inserted into a socket, and a cover may be placed on top of the pump. TWW SJ Reply 9; see ’469 Patent col. 4 lines 3-65. TWW argues that this cover can serve a holding function similar to the function performed by the screws in the accused devices. TWW SJ Reply 9; see also 2d Supp. Dubowsky Rpt. ¶ IV(f). But this argument is directly contradicted by the patent specification, which states that the cover is used to protect the pump from water – not to hold the pump in place. ’469 Patent col. 4 lines 55-60; see also June 9, 2011 Tr. 47:8-16 (argument of TWW counsel) (explaining that cover is used to protect socket from wet environment). In the third embodiment, the socket clearly fits and holds onto (attaches to or grips) the pump. See ’469 Patent col. 4 lines 27-54

(describing flanges on pump and corresponding grooves on the socket that permit the pump and socket to be “firmly connected together”).

At oral argument, TWW asserted for the first time that the first embodiment disclosed in the specification lacks an immobilizing or gripping socket-pump connection. Counsel for TWW posited that the first embodiment requires the user to hold the pump in place while inflating the mattress. This interpretation of the first embodiment is plainly incorrect. TWW has previously asserted that the claimed invention allows the user to inflate or deflate the mattress *without* having to manually hold the electric pump in place, see TWW Claim Constr. Mot. 3, and its new reading of the first embodiment conflicts with these earlier assertions. Moreover, the Court reads the description of the first embodiment as requiring that the pump and socket be attachable, since the specification notes that the user must “*detach[]* the electric pump from the socket” in order to deflate the airbed. See ’469 Patent col. 3 lines 4-6 (emphasis added; citations to drawings omitted).

In its Markman opinion, the Court rejected TWW’s assertion that a socket should be broadly construed as an “opening or holder for something.” Intex III, 2013 WL 5328372, at *12-13, 16. TWW renews this argument in disguised form by arguing for a broad reading of the phrases “fit and hold” and “detachably connected” as used in the Court’s Opinion. TWW has failed to persuade the Court that there is any reason to reconsider its construction.

IV. CONCLUSION

For the foregoing reasons, the Court will grant plaintiff Intex's motion for summary judgment of non-infringement and will deny defendant TWW's motion for summary judgment.

An Order consistent with this Opinion will issue this same day.

DATE: March 10, 2014

/s/_____
PAUL L. FRIEDMAN
United States District Judge