

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 AND ORDER

This matter is before the Court on plaintiff’s objections to Magistrate Judge Deborah Robinson’s claim construction decision. Plaintiff Intex Recreation Corporation asserts that Judge Robinson misconstrued the terms “socket” and “pump body”, as used in the air mattress patent owned by defendant Team Worldwide Corporation. After careful consideration of the arguments made in the parties’ papers and at oral argument, the relevant legal authorities, and the entire record in this case, the Court sets aside in part and adopts in part Judge Robinson’s decision.<sup>1</sup> The Court sustains plaintiff’s objection to Judge Robinson’s construction of “socket”

---

<sup>1</sup> The papers reviewed in connection with the pending motion 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. 6,703,469 B2 (“the ’469 Patent”) [Dkt. No. 10-1]; plaintiff’s answer to defendant’s counterclaim (“Intex Answer”) [Dkt. 15]; 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) (“Intex I”); June 30, 2006 Referral Order (“Referral Order”) [Dkt. No. 68]; defendant’s memorandum in support of its first motion for claim construction and partial summary judgment (“TWW Mot. Claim Constr. and Part. Summ. J.”) [Dkt. No. 102-2]; defendant’s memorandum in support of its second motion for claim construction (“TWW’s Claim Constr. Mot.”) [Dkt. No. 140-3]; Forman Declaration, attached as Exhibit 1 to defendant’s second motion for claim construction (“Forman Decl.”) [Dkt. No. 140-1]; plaintiff’s claim construction brief (“Intex’s Claim Constr. Br.”) [Dkt. No. 141]; Ruddy Declaration, attached as

and accepts the alternative construction proposed by plaintiff. The Court overrules plaintiff's objection regarding the term "pump body" and will adopt Judge Robinson's construction of that term, with a slight modification.

## I. INTRODUCTION

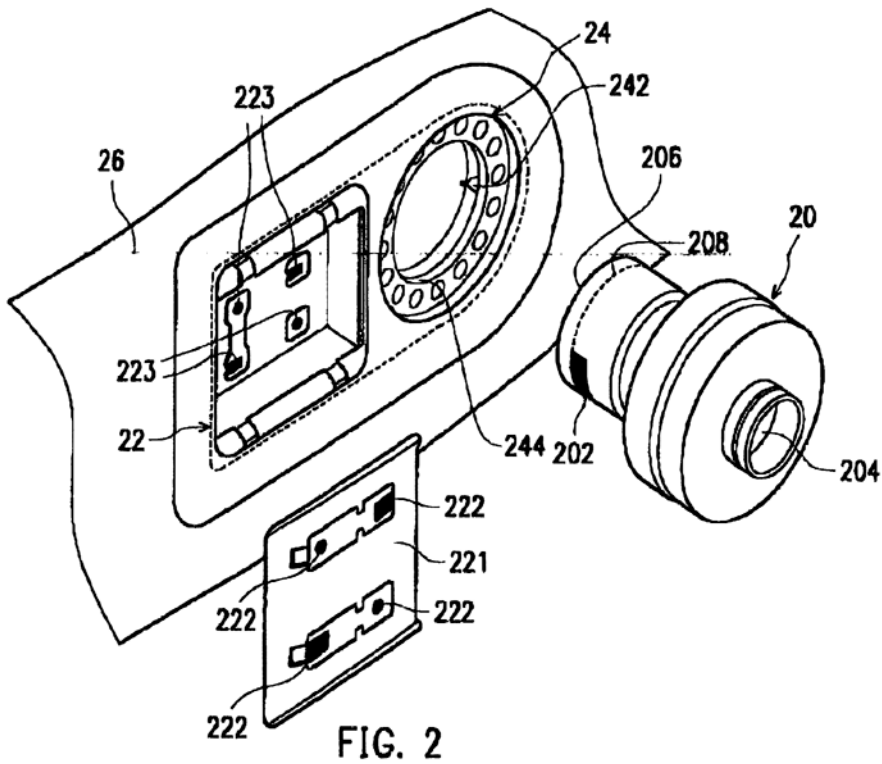
This case involves a dispute between two manufacturers of air mattresses of the sort used in homes and on camping trips. Plaintiff Intex Recreation Corporation ("Intex") and defendant Team Worldwide Corporation ("TWW") disagree as to the scope of United States Patent No. 6,703,469 B2 ("the '469 Patent"), currently owned by TWW. See U.S. Patent No. 6,703,469 B2 (filed December 18, 2000). The invention claimed by the '469 Patent is an air mattress 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 ll.30-35 (Summary of the Invention); id. at col.7 ll.24-35, col.8 ll.24 – col.9 ll.60 (Claims).

TWW notes that unlike prior designs of air mattresses, which were inflated by electric pumps located on the outside of the inflatable body, this product could be inflated by inserting the pump body "partially or wholly" into a socket located *within* the inflatable body of the mattress, thus permitting a user to inflate or deflate the mattress without having to manually hold the electric pump in place. See TWW Claim Constr. Mot. 3. Intex points out that the invention claimed under the '469 Patent departs from the prior art by enabling a user to inflate

---

Exhibit 1 to plaintiff's claim construction brief ("Ruddy Decl.") [Dkt. No. 141-1]; Prosecution History of the '469 Patent, Forman Decl. Ex. B ("Pros. History") [Dkt. No. 140-6 *et seq.*]; the parties' joint statement of undisputed claim construction evidence ("Jt. Stmt") [Dkt. No. 142]; Magistrate Judge Robinson's Claim Construction Opinion and Order, Intex Recreation Corp. v. Team Worldwide Corp., 541 F. Supp. 2d 113 (D.D.C. 2008) ("Intex II"); plaintiff's objections to Magistrate Judge Robinson's Opinion and Order ("Intex Obj.") [Dkt. No. 147]; defendant's opposition to plaintiff's objections ("TWW Opp.") [Dkt. No. 156]; plaintiff's reply in support of its objections ("Intex Rep.") [Dkt. No. 160]; defendant's supplemental brief ("TWW Supp.") [Dkt. No. 184]; plaintiff's supplemental brief ("Intex Supp.") [Dkt. No. 186]; and the transcript of the June 9, 2011 hearing on plaintiff's objections ("Tr.") [Dkt. No. 206].

and deflate the mattress by changing the rotation of the electric pump. Intex Obj. 12-14. Figures 2 and 4 in the '469 Patent, which depict the first and second embodiments of the claimed invention, are reproduced below.<sup>2</sup>



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

---

<sup>2</sup> For ease of reference to the '469 Patent, the figures reproduced here are labeled using the same numbering as used in the patent specification.

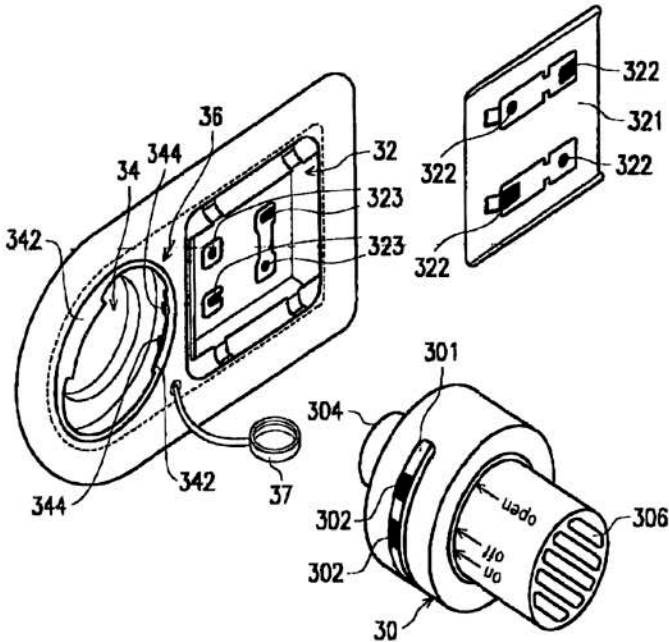


FIG. 4

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

## II. PROCEDURAL HISTORY

Tony Wang, the inventor of the '469 Patent, and founder and president of TWW, submitted his application for this patent to the United States Patent and Trademark Office (“PTO”) on December 18, 2000. '469 Patent at [22].<sup>3</sup> Mr. Wang assigned the still-pending patent application to TWW on May 28, 2003. Pros. History at TWW000280. After an initial rejection of the application by the PTO and a series of amendments by Mr. Wang, the PTO approved the application, and issued the '469 Patent on September 21, 2004. '469 Patent at [45].

On October 8, 2004, shortly after obtaining the '469 Patent, TWW sent a cease-and-desist letter to Intex in which TWW alleged that Intex’s sale of air mattresses with built-in

<sup>3</sup> Mr. Wang’s full name, as listed on the '469 patent, is Wang Cheng Chung. See TWW Claim Constr. Mot. at 2 n.1.

pumps infringed the '469 Patent. See TWW Answer and Counterclaim ¶ 7. In response, on October 14, 2004, Intex filed this civil action against TWW, seeking a declaration of non-infringement as to the '469 Patent and a declaration of its invalidity under 35 U.S.C. §§ 102 and 103. See Am. Compl.<sup>4</sup> TWW, in its answer, denies that Intex is entitled to any relief, and has filed a counterclaim asserting that Intex has infringed and continues to infringe one or more claims of the '469 Patent. TWW Answer and Counterclaim. Both parties agree that a finding of infringement likely depends on whether or not this Court concludes that the air mattresses produced by Intex contain a “pump body” (or its equivalent) that is wholly or partially located in a “socket,” as those terms are used in the '469 Patent. TWW Mot. Claim Constr. and Part. Summ. J. 1, 10; Intex Obj. 18-19.

On June 30, 2006, with the consent of both parties, the undersigned referred this case pursuant to Rule 72 of the Federal Rules of Civil Procedure to Magistrate Judge Deborah Robinson “for management of all pre-trial matters, including for the purpose of issuing reports and recommendations on any dispositive motion.” Referral Order at 1.

On June 26 and June 29, 2007, Magistrate Judge Robinson conducted a two-day Markman hearing for the purpose of construing nine disputed claim terms in the '469 Patent. See Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996). She subsequently issued a Memorandum Opinion and Order adopting two of the constructions proposed by Intex and seven of the constructions proposed by TWW. Intex II, 541 F. Supp. 2d at 121. Intex timely filed its objections to Magistrate Judge Robinson’s construction of the claim terms “socket” and “pump body”. TWW filed no objections to Magistrate Judge Robinson’s claim constructions. After the

---

<sup>4</sup> The amended complaint also sought a declaration of the '469 Patent’s invalidity on the basis that TWW engaged in inequitable conduct in prosecuting its application for that patent. See Intex I, 390 F. Supp. 2d at 22. The Court dismissed Intex’s inequitable conduct claim on September 30, 2005. See id. at 26.

case was stayed pending the PTO's reexamination of the '469 Patent, the parties filed supplemental briefs and presented their arguments to this Court at a hearing on June 9, 2011.

### III. LEGAL STANDARDS

#### A. *Standard of Review*

TWW contends that 28 U.S.C. § 636(c) deprives this Court of authority to review Magistrate Judge Robinson's decision, as the parties agreed to refer all pre-trial proceedings to Judge Robinson. TWW Supp. 2-3; see 28 U.S.C. § 636(c) (permitting direct appeal of any judgment issued by magistrate judge to relevant court of appeals, where parties have consented to such referral); FED. R. CIV. P. 73 (same). But reference to 28 U.S.C. § 636(c) and the corresponding Federal Rule of Civil Procedure – Rule 73 – is inappropriate here. In their joint report to this Court, the parties expressly confined their consent to a referral pursuant to Rule 72, see June 29, 2006 Joint Report at 1 (Dkt. No. 64), which permits review by the district court judge of orders issued by the magistrate judge. FED. R. CIV. P. 72(a); see LOC. CIV. R. 72.2(c). The parties expressly refrained from consenting to a referral under Rule 73. June 29, 2006 Joint Report at 1; see Fed. R. Civ. P. 73(c). In its Referral Order, the Court made clear that this was a Rule 72 referral, specifically advising the parties that if they wanted to broaden the referral to be one under Rule 73 – “thereby securing the opportunity to appeal any judgment directly to the court of appeals” – they should file a consent form “setting forth such an election.” Referral Order at 1. No such consent form was ever filed.

When a party objects under Rule 72 to a magistrate judge's determination with respect to a non-dispositive matter, the Court must modify or set aside all or part of the magistrate judge's order if it is “clearly erroneous” or “contrary to law.” FED. R. CIV. P. 72(a); see also LOC. CIV. R. 72.2(c). The “clearly erroneous” standard “applies to factual findings and

discretionary decisions[.]” Am. Center for Civ. Justice v. Ambush, 794 F. Supp. 2d 123, 129 (D.D.C. 2011) (quoting Coleman v. Sterling, Civ. Action. No. 09-1595, 2011 WL 2005227, at \*2 (S.D. Cal. May 23, 2011)). The clearly erroneous standard is met when, “although there is evidence to support [a determination], the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.” Id. (quoting Federal Savs. & Loan Ins. Corp. v. Commonwealth Land Title Ins. Co., 130 F.R.D. 507, 508 (D.D.C. 1990)). “The ‘contrary to law’ standard, by contrast, permits *de novo* review of a magistrate judge’s legal conclusions.” Id. (citing First Am. Corp. v. Al-Nahyan, 2 F. Supp. 2d 58, 60 (D.D.C. 1998)).

Because “[t]he interpretation of patent claims is exclusively a question of law,” this Court’s review is *de novo*. In re Papst Licensing GmbH & Co. KG Litig., 670 F. Supp. 2d 16, 27 (D.D.C. 2009) (citing Markman v. Westview Instruments, Inc., 517 U.S. 370); see also Solvay S.A. v. Honeywell Int’l, Inc., 622 F.3d 1367, 1379 (Fed. Cir. 2010) (“Claim construction is a question of law, which we review *de novo*.”) (citing Cybor Corp v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (*en banc*)). This *de novo* review includes any factual findings underlying the magistrate judge’s analysis of the claims. See Gillespie v. Dywidag Sys. Int’l, USA, 501 F.3d 1285, 1289 (Fed. Cir. 2007) (citing Cybor Corp v. FAS Techs., Inc., 138 F.3d at 1451).<sup>5</sup>

---

<sup>5</sup> In issuing an Opinion and Order, rather than a Report and Recommendation, Magistrate Judge Robinson assumed that claim construction was a non-dispositive matter. Compare FED. R. CIV. P. 72(a) (providing that magistrate judge, when deciding a non-dispositive matter, should issue a “written order stating the decision”), with FED. R. CIV. P. 72(b)(1) (providing that magistrate judge must issue a report and recommendation for dispositive matters). As noted *supra* at 5, however, it is possible that claim construction will be dispositive of the underlying patent infringement claims. This provides an alternate basis for *de novo* review, as the Federal Rules of Civil Procedure require plenary review of decisions of magistrate judges on dispositive matters. FED. R. CIV. P. 72(b)(3); see also Von Holdt v. A-1 Tool Corp., 636 F. Supp. 2d 726, 729-30 (N.D. Ill. 2009) (reviewing magistrate judge’s report and recommendation on patent claim construction *de novo* because decision was likely dispositive to

### B. Claim Construction Generally

The claims of a patent “particularly point[] out and distinctly claim[] the subject matter which the inventor . . . regards as his invention.” 35 U.S.C. § 112(b); see also HERBERT F. SCHWARTZ & ROBERT J. GOLDMAN, PATENT LAW AND PRACTICE 120 (6th ed. 2008). In other words, the claims “define what is protected, *i.e.*, what a patentee has the right to exclude the public from making, using, importing, offering for sale, or selling.” Gillespie v. Dywidag Sys. Int’l, USA, 501 F.3d at 1289 (citing Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*)). When construing disputed claim terms, the Court looks to the claim construction principles outlined in Phillips v. AWH Corp., 415 F.3d at 1311-24.

When construing the claims of a patent, 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 at the time of the invention.” Phillips v. AWH Corp., 415 F.3d at 1312-13 (collecting cases).<sup>6</sup> Of fundamental importance is the claim language itself. See id. at 1314. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” Id. (citing Brown v. 3M, 265 F.3d 1349, 1352 (Fed. Cir. 2001)); see, e.g., Acumed LLC v. Stryker Corp., 483 F.3d 800, 805 (Fed. Cir. 2007) (construing the term “curved”).

---

underlying claims); Shuffle Master, Inc. v. Awada, 2:04-CV-0980, 2007 WL 4166109, at \*1 (D. Nev. Nov. 16, 2007) (same).

<sup>6</sup> The pertinent science at issue here is that of “pneumatics,” *i.e.*, “a branch of mechanics that deals with the mechanical properties of gases (as weight, pressure, elasticity).” WEBSTER’S THIRD NEW INT’L DICTIONARY 1746 (1993); see also id. (“pneumatic pump”: “an air-exhausting pump”).



When construing a disputed claim term, however, the Court should not confine its inquiry to the claim language, but rather should examine how a person of ordinary skill in the art would read the claim term “in the context of the entire patent, including the specification.” Phillips v. AWH Corp., 415 F.3d at 1313. The specification must contain “a written description of the invention, and of the manner and process of making and using it,” in “full, clear, concise, and exact terms . . . .” 35 U.S.C. § 112(a). The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” Phillips v. AWH Corp., 415 F.3d at 1315 (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). As the court explained in Phillips:

The importance of the specification in claim construction derives from its statutory role. The close kinship between the written description and the claims is enforced by the statutory requirement that the specification describe the claimed invention in “full, clear, concise, and exact terms.”

Phillips v. AWH Corp., 415 F.3d at 1316 (quoting 35 U.S.C. § 112, para. 1 (2000)).

“[A] court ‘should also consider the patent’s prosecution history, if it is in evidence.’” Phillips v. AWH Corp., 415 F.3d at 1317 (quoting Markman v. Westview Instruments, Inc., 52 F.3d at 980)). The prosecution history “consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent.” Id. Because the prosecution history involves “an ongoing negotiation between the PTO and the applicant . . . it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” Id. (collecting cases). Nevertheless, the prosecution history can give insight into “how the PTO and the inventor understood the patent,” id., 415 F.3d at 1317 (citing Lemelson v. Gen. Mills, Inc., 968 F.2d 1202, 1206 (Fed. Cir. 1992)), and “whether the inventor

limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” Id. (citing Vitronics Corp. v. Conceptronic, Inc., 90 F.3d at 1582-83).

District courts also may consider the claim terms in light of extrinsic evidence, “which ‘consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.’” Phillips v. AWH Corp., 415 F.3d at 1317 (quoting Markman v. Westview Instruments, Inc., 52 F.3d at 980). The Federal Circuit has cautioned district courts, however, against relying too heavily on extrinsic evidence, noting that it is “in general . . . less reliable than the patent and its prosecution history in determining how to read claim terms,” as it is often possible for the parties to develop extrinsic evidence that obscures the true meaning of the claim terms, as understood by a person of ordinary skill in the relevant art. Id. at 1318-19. Thus, where the meaning of a claim term is clear “from the intrinsic evidence alone, it is improper to rely on extrinsic evidence other than that used to ascertain the ordinary meaning of the claim limitation.” Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc., 262 F.3d 1258, 1268-69 (Fed. Cir. 2001).

A court must construe the claims “in light of the claim language . . . not in light of the accused device.” Cohesive Techs., Inc. v. Waters Corp., 543 F.3d 1351, 1367 (Fed. Cir. 2008) (citing Exigent Tech., Inc. v. Atrana Solutions, Inc., 442 F.3d 1301, 1310 n.10 (Fed. Cir. 2006)). Focusing on the accused device before interpreting the claims “would make infringement a matter of judicial whim.” In re Papst Licensing GmbH & Co. KG Litig., 670 F. Supp. 2d at 28 (quoting SRI Int’l v. Matsushita Elec. Corp. of America, 775 F.2d 1107, 1118 (Fed. Cir. 1985)). A court may consider the accused device, however, “when determining what aspect of the claim should be construed.” Cohesive Techs., Inc. v. Waters Corp., 543 F.3d at 1367.

## IV. DISCUSSION

### A. Claims 14-17 of the '469 Patent

The '469 Patent sets forth 17 claims, but only claims 14 through 17 are directly relevant to this patent infringement action. As the patent states:

What is claimed is . . . .

**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 the 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 the  
(sic) socket, a portion of the electric pump is inserted into  
the (sic) socket, and the portion of the electric pump and  
the socket are matched with each other to prevent an air  
leakage there between.

**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 ll.29-60 (emphasis added).

## *B. Socket*

### 1. Magistrate Judge Robinson's Construction

In the claim construction proceedings before Magistrate Judge Robinson, TWW proposed that “socket” be construed as “an opening or hollow that forms a holder for something.” TWW Claim Constr. Mot. 1; see also Intex II, 541 F. Supp. 2d at 117. Intex urged Judge Robinson to adopt a narrower construction: “a structure that fits and holds onto an inserted part so that the structure and the part are detachably connected to each other.” Intex Claim Constr. Br. at 17; see also Intex II, 541 F. Supp. 2d at 116. After considering the parties’ arguments, Judge Robinson agreed with TWW and adopted that the broader construction of socket as “an opening or hollow that forms a holder for something.” Intex II, 541 F. Supp. 2d at 118.

In doing so, Magistrate Judge Robinson relied on the approach articulated in Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193 (Fed. Cir. 2002). See Intex II, 541 F. Supp. 2d at 115-16. In that case, the Federal Circuit encouraged district courts to consult with extrinsic sources such as dictionaries, instructing that “if more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings.” Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d at 1203 (citing Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1343 (Fed. Cir. 2001)).

Applying this standard, Judge Robinson found that nothing in the intrinsic record narrowed the term “socket” from the broader definition put forth by TWW. Intex II, 541 F. Supp. 2d at 117-18. Although she found that the embodiments referring to sockets all contained detachable connections, she concluded that these embodiments could not be used to limit the claims. Id. In addition, she noted that in a related patent the term “detachably connected” was

used; the fact that the term “detachably connected” was not used in the ’469 Patent claims suggested to her that a permanent connection was possible. Id.

In Phillips, the Federal Circuit clarified that the principles outlined in Texas Digital should no longer guide a district court’s consideration of dictionary definitions. The court held that the methodology adopted in Texas Digital “placed too much reliance on extrinsic sources such as dictionaries . . . and too little on intrinsic sources, in particular the specification and prosecution history.” Phillips v. AWH Corp., 415 F.3d at 1320. As the Federal Circuit explained:

The main problem with elevating the dictionary to such prominence is that it focuses the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent. . . . [I]f the district court starts with the broad dictionary definition in every case and fails to fully appreciate how the specification implicitly limits that definition, the error will systematically cause the construction of the claim to be unduly expansive.

Phillips v. AWH Corp., 415 F.3d at 1321. Instead of “starting with a broad definition and whittling it down,” the Federal Circuit directed district courts to “instead focus[] at the outset on how the patentee used the claim term in the claims, specification, and prosecution history.” Id. While a judge remains free to consult a dictionary “at any time,” id. at 1322 (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d at 1585), the district court must focus on how the term is used in the patent documents. Id. at 1322-23.

After a careful review of the record in light of Phillips, and with particular attention to the patent claim language, its specification, and its prosecution history, the Court concludes that “socket” was erroneously construed by the magistrate judge, and instead should be construed in the narrower manner proposed by Intex. As discussed below, “socket” is

properly construed as “a structure that fits and holds onto an inserted part, so that the structure and the part are detachably connected to each other.”

## 2. The Language of the Claims

Neither party suggests that the term “socket” has a special meaning in the field of pneumatics. See generally Intex Obj.; see TWW Opp. 2 (“[T]his case involves common terms that describe a straightforward consumer product. The term[] ‘socket’ . . . [is] not arcane or highly technical.”). Each party proposes a plausible definition that generally is consistent with how the word “socket” is used in everyday life. Intex’s proposed construction of “a structure that fits and holds onto an inserted part, so that the structure and the part are detachably connected to each other,” is consistent with how the term typically is used when describing mechanical connections, such as a light bulb socket, or an electric socket. In these cases, a socket is part of a detachable connection that attaches to an insertable part. See, e.g., AM. HERITAGE COLL. DICTIONARY 1292 (3d ed. 1997), Ruddy Decl. Ex. J (defining socket as “[a]n opening or a cavity into which an inserted part is designed to fit: a light bulb socket”). But a socket has a broader meaning as well, and can refer to non-detachable connections; when describing a ball and socket joint, or an eye socket, for example, the definition of socket as “an opening or hollow that forms a holder for something” is more applicable. See WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY 1119 (1991), Forman Decl. Ex. 3 (defining socket as “an opening or hollow that forms a holder for something, <an electric bulb~> <the eye~>”). The fact that this broader meaning is more appropriate in the context of anatomical connections perhaps weighs in favor of the narrower construction proposed by Intex, but either proposed construction can be said to comport with the plain language of the term.

The language of the claims thus does not resolve the matter. And the surrounding claim language sheds little light on how the term “socket” should be construed in the context of the ’469 Patent. It is clear from dependent claims 15 and 17 that the socket *can* form a detachable connection to the pump, since the claims specify that the pump may be removed from the socket, rotated, and reinserted in order to deflate the mattress. ’469 Patent, col. 8, ll.40-44, 56-60. But is detachability an essential characteristic of the socket described in independent claims 14 and 16? Claims 14 and 16 provide simply that the electric pump is “connected to the socket.” *Id.* col. 8, ll.34, 50. There is no indication from the language of claims 14 and 16 as to whether the connection is permanent or detachable.<sup>7</sup>

Thus, despite the parties’ best arguments, the Court finds that the claim language itself does not compel one construction of the term “socket” over the other. The rest of the specification and the patent’s prosecution history – to which the Federal Circuit in Phillips next directs the Court – are more helpful.

### 3. The Patent Specification and Prosecution History

Usually, the specification of the patent “is dispositive; it is the single best guide to the meaning of a disputed term.” Phillips v. AWH Corp., 415 F.3d at 1315 (quoting Vitronics

---

<sup>7</sup> TWW invokes the principle of claim differentiation to argue that if certain dependent claims require detachability, the independent claims must not contain this requirement. TWW Opp. 39. Generally, the principle of claim differentiation provides that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” Phillips v. AWH Corp., 415 F.3d at 1315 (citing Liebel–Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004)). Although the Court agrees with this basic principle, it is inapplicable here, as each of the dependent claims adds a new requirement that goes beyond simply requiring detachability. *See* ’469 Patent, col. 7, ll.52-55 (reciting claim 7, which requires that socket and pump be connected using threads and screws); *id.* col. 8, ll.40-44, 56-60 (reciting dependent claims 15 and 17, which add element of multi-directional pump).

Corp. v. Conceptronic, Inc., 90 F.3d at 1582). The specification of the '469 Patent contains a section entitled "Summary of the Invention," which describes the claimed invention as follows:

An object of the present invention is to provide a modified airbed, which is inflated and deflated in a different way from the conventional way mentioned above.

The airbed of the present invention includes an inflatable body, a socket, an electric pump and a battery case. The socket is built in the airbed. The electric pump is *detachably connected* to the socket to pump the airbed. The battery case is also built into the airbed for ease of loading batteries that supply the electric pump with power.

'469 Patent col.1 ll.30-35 (emphasis added).

This summary, which expressly characterizes the invention *as a whole* as having a detachable connection between the pump and socket, provides clear support for Intex's proposed claim construction. And "a statement in a specification that describes the invention *as a whole* can support a limiting construction of a claim term." Am. Piledriving Equip., Inc. v. Geoquip, Inc., 637 F.3d 1324, 1334 (Fed. Cir. 2011) (emphasis added) (citing C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 864 (Fed. Cir. 2004)); see also Nystrom v. TREX Co., Inc., 424 F.3d 1136, 1143 (Fed. Cir. 2005) (noting that the "Background of the Invention" section in the specification "frame[d] the invention in the context" of a disputed limitation); Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1348-49 (Fed. Cir. 2004) (giving weight to limitations described in the "Summary of the Invention" section). "That is especially true where . . . other statements and illustrations in the patent are consistent with the limiting description." Am. Piledriving Equip., Inc. v. Geoquip, Inc., 637 F.3d at 1334.

The relevant embodiments are consistent with this narrower definition of the term "socket." Ten embodiments are disclosed. See '469 Patent col.1 l.47 – col.7 l.11. Embodiments 1 through 7 are described as having "sockets," and in each of these embodiments, the term



“socket” appears to describe a structure that fits and holds onto the electric pump; the pump is “fitted into,” “fitted in,” “put in” or “screwed together” with the socket. ’469 Patent, col. 2 l.66, col. 3 ll.31-32, col. 4 l.44, col. 5 l.37, col. 6 l.22.<sup>8</sup> Alongside a “Summary of the Invention” that describes the plug as detachably connected from the socket, these embodiments support Intex’s proposed construction.

TWW presents two arguments as to why the Court should not discern a limitation of detachability from embodiments 1 through 7. First, TWW points to embodiments 8 through 10, which refer to a fan and motor fitting either detachably *or permanently* into a chamber within the mattress. See ’469 Patent, col.6 ll.26-65 (describing how fans are received in chambers, and need not be removed for deflation); id. at col.7 ll.2-3 (describing tenth embodiment, in which “[t]he first and second fans and motors . . . are *permanently or detachably connected* to the airbed”) (emphasis added). According to TWW, these embodiments make clear that the term “socket” can refer to one end of a non-detachable connection. Second, even if embodiments 8 through 10 were disregarded and embodiments 1 through 7 were taken as the universe of ’469 Patent embodiments – as Intex advocates – TWW asserts that the claim term “socket” should not be limited to the disclosed embodiments.

Turning to TWW’s first argument, the Court observes that while embodiments 8 through 10 are included in the patent documents, there is a disconnect between the language used

---

<sup>8</sup> Although the parties devote most of their attention to the question of detachability, the parties also dispute the fit-and-hold requirement in Intex’s proposed construction. TWW Opp. at 17-18. TWW asserts that the embodiments are inconsistent with any limitation requiring that the socket provide a fitting or gripping function. Pointing to the first embodiment, TWW refers to the O-ring which can be placed in either the socket or on the side of the pump in order to prevent air from leaking out of the mattress. Arguing that the socket does not contain a mechanism to create an airtight seal in the latter version of the embodiment, TWW argues that the embodiment is inconsistent with a fit-and-hold requirement. See TWW Opp. at 17. But a fit-and-hold limitation is different from a limitation requiring an airtight seal. The first embodiment simply suggests that the socket need not contain a mechanism to create an airtight seal.

in these embodiments and the language of the claims. While the '469 Patent refers to placing a “pump body” into a “socket,” the written descriptions provided for embodiments 8 through 10 refer to a “chamber” in which fans and motors can be housed. Despite this inconsistent terminology, however, TWW maintains that “the specification describes all ten examples as embodiments of Mr. Wang’s invention,” and that the term “socket” is equivalent to “chamber.” See TWW Opp. 5.

TWW’s argument might be persuasive if not for the prosecution history, which unequivocally demonstrates that embodiments 8 through 10 do not teach the claims in the '469 Patent. As discussed below, when Mr. Wang first filed the patent application for the '469 Patent, he included several claims that he later withdrew during the prosecution of the patent. See Pros. History at TWW000249-50 (letter withdrawing certain claims); id. at TWW000207-10 (showing original claims). But Mr. Wang never modified the embodiments that were described in his original application. Embodiments 8 through 10 teach claims that Mr. Wang abandoned prior to approval of the patent. They therefore are wholly irrelevant to construing the term “socket” in the '469 patent.

To explain further: The prosecution history shows that the original application contained 18 claims. Former claims 1 through 11, 17, and 18 each described an inflatable body containing a socket into which an electric pump could be inserted, and former claim 14 described a mode of inflating and deflating an inflatable product using an electric pump that contained a fan. Pros. History at TWW000207-10.

The original application also contained four claims that described a different mattress design. Former claims 12 and 13 recited a mattress that included an inflatable body, in which a “chamber” was located, “communicating the inside and the outside of the inflatable

body.” Pros. History at TWW000209. A fan was placed permanently in the chamber to channel air in and out of the inflatable body, and a motor – either permanently or detachably connected to the chamber – was used to rotate the fan in one direction to inflate the mattress and in another direction to deflate it. Id. at TWW000209. Neither former claim 12 nor 13 mentioned a socket or an electric pump. Id. at TWW000209.

The eighth and ninth embodiments, which were provided in Mr. Wang’s original application and which remain (inadvertently, it seems) in the final patent, appear to teach former claims 12 and 13. For example, the eighth embodiment is described as follows:

Referring to FIG. 13A [reproduced below], an airbed **80** of an eighth embodiment of the invention is provided a cover **85**, a chamber **84**, a fan **81** received in the chamber **84**, a motor **82** for rotating the fan **81**, a plurality of rechargeable batteries **88** for supplying the motor **82** with power, and a switch **83** for actuating the motor **82**. . . . The chamber **84** has a nozzle **841** communicating the chamber **84** and the outside of the airbed **80**, and a hole communicating the chamber **84** and the inside of the airbed **80**. In the inflating operation, the user pushes the switch **83** to actuate the motor **82** and fan **81**. Then, outside air is pumped into the airbed **80** through the nozzle **841** and the hole **842**. After the airbed **80** is filled with air, the user closes the nozzle with the cover **85** to prevent the airbed from leaking. Referring to FIG. 13B, in the deflating operation, the user takes away the cover **85** and pushes the switch **83** to rotate the motor **82** and fan **81** in reverse. Then, air inside the airbed **60** is pumped out.

In the eighth embodiment, the fan **81** is received in a chamber **84** and is driven by an outside motor **82**. However, it is understood that the fan and motor can be housed together to operate.

’469 Patent col.6 ll.25-49 (emphasis added).

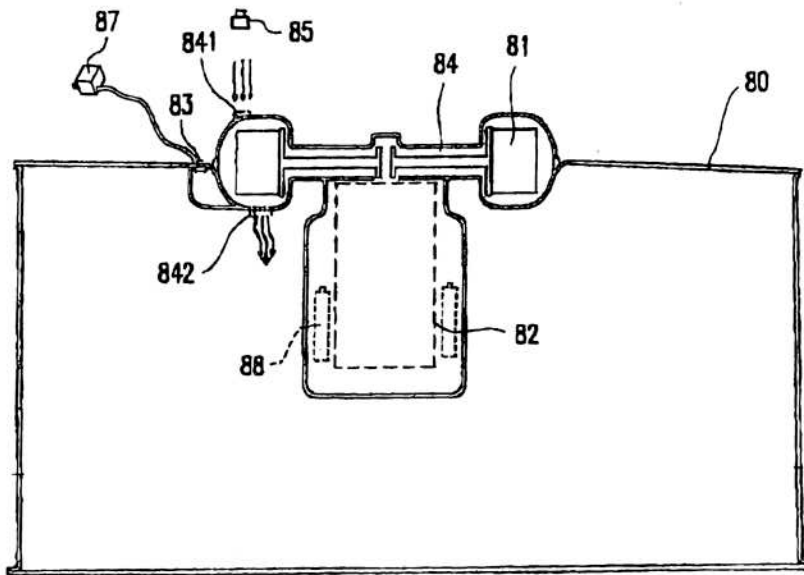


FIG. 13A

'469 Patent, fig. 13A (depicting eighth embodiment).

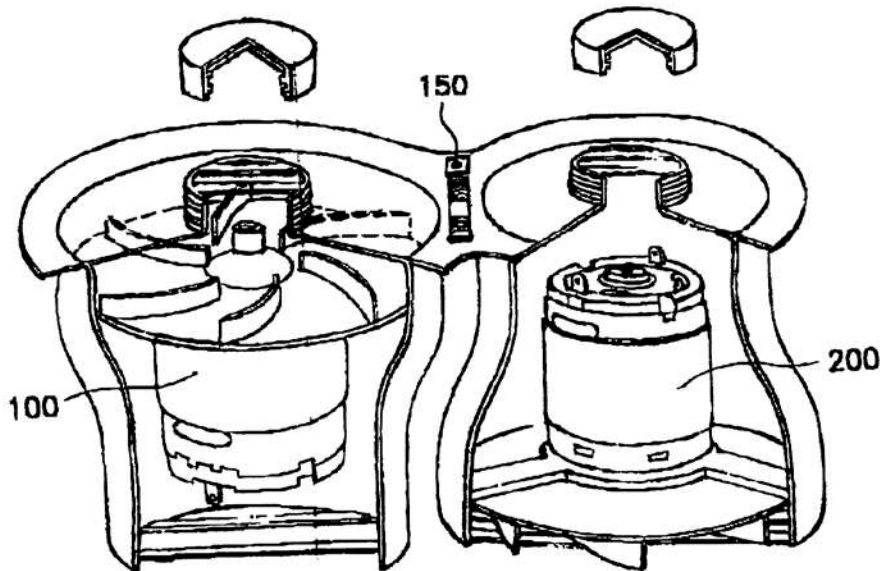
Former claims 15 and 16, also included in Mr. Wang's initial application, described another version of the mattress containing an inflatable body in which two electric pumps were housed: one pump for inflating the body and another for deflating it. Pros. History at TWW000210. These pumps could be either permanently or detachably connected to the inflatable body. *Id.* Neither former claim 15 nor former claim 16 referred to a socket. *Id.*

The tenth embodiment, provided in Mr. Wang's original application and present in the final patent document, teaches former claims 15 and 16. The description of the tenth embodiment is as follows:

Referring to FIG. 15 [reproduced below], in a tenth embodiment of the present invention, a first fan and motor **100** and a second fan and motor **200** are housed in different chambers. The first and second fans and motors **100**, **200** are permanently or detachably connected to the airbed (not shown). Furthermore, the motors **100** and **200** are actuated by rechargeable batteries (not shown) or by an external power (not shown) via a connector **150**. In the inflating operation, the first fan and motor **100** is actuated to

pump the airbed (not shown) while the second fan and motor **200** is at rest. In the deflating operation, the first fan and motor **100** is at rest while the second fan and motor **200** is actuated to pump air inside the airbed out.

'469 Patent col. 6 l.66 – col.7 ll.11 (emphasis added).



**FIG. 15**

'469 Patent, fig. 15 (depicting tenth embodiment).

On April 22, 2002, in response to his original application, the PTO notified Mr. Wang that it was imposing a “restriction requirement.” See Pros. History at TWW000244-48.<sup>9</sup> The PTO had determined that Mr. Wang’s patent application actually referred to four distinct inventions: (I) the mode of inflation and deflation described in claim 14; (II) the inflatable product described in claims 1 through 11, 17 and 18; (III) the inflatable product described in

---

<sup>9</sup> 35 U.S.C. § 121 provides that if “two or more independent and distinct inventions” are claimed within one patent application, the Director of the PTO may restrict the application to one of the inventions.

claims 12 and 13; and (IV) the inflatable product described in claims 15 and 16. See id. at TWW000246. In order to proceed forward, Mr. Wang would have to choose one category of claims to pursue in the present application and withdraw the others, with leave to pursue them in separate applications. See id. at TWW000246-47.<sup>10</sup>

In response, in December 2002, Mr. Wang notified the PTO that he elected to pursue claims 1 through 11, 17 and 18 from his original application, and he withdrew claims 12 and 13 (the single chamber claims), claim 14 (the mode of inflation and deflation), and claims 15 and 16 (the dual chamber claims). See Pros. History at TWW000249-50. On July 11, 2003, Mr. Wang resubmitted his patent application with only thirteen claims, all of which were contained in his original application, although some were renumbered. Id. at TWW000287-84. About one year later, on April 7, 2004, Mr. Wang submitted an amendment to his application, adding four dependent claims to the patent, bringing the total number of claims to 17. Id. at TWW000345. Absent from his 2003 application or 2004 amendments were former claims 12, 13, 15, and 16, *i.e.*, the claims describing fans and motors housed in one or more chambers.<sup>11</sup> But the descriptions of the embodiments that taught these claims – embodiments 8 through 10, and figures 13A through 15 – were present and unaltered in the final application.

The prosecution history thus clearly indicates that embodiments 8 through 10 do not teach the claims in the '469 Patent. Yet TWW points to these embodiments as reflecting the

---

<sup>10</sup> In distinguishing between the different categories, the Examiner stated that the second category of claims corresponded to an invention that “inflates and deflates by reversing orientation of the motor,” while the third category described an invention that “reverses the direction of rotation of the motor.” See Pros. History at TWW000247. The fourth category corresponded to a product that “uses two motors, one for inflation and the other for deflation.” Id.

<sup>11</sup> Former claims 12 and 13 were pursued in Divisional Application No. 10/459,690. See Ruddy Decl., Ex. D, Prosecution History of Divisional Application No. 10/459,690, Supp. Jan. 10, 2005 Am. at 3 (January 10, 2005 supplemental amendment requesting that former claims 12 and 13 be included in divisional patent application).

'469 Patent claim terms. See TWW Opp. 5. This is plainly incorrect. Where a patent specification includes embodiments that reflect claims that were withdrawn from that patent application and pursued in another, the presence of those embodiments do not serve to broaden the scope of the patent. See Acco Brands, Inc. v. Micro Sec. Devices, Inc., 346 F.3d 1075, 1079 (Fed. Cir. 2003) (“The presence in the [patent’s] specification of embodiments carried over from the parent application, but claimed in other patents, does not serve to broaden the scope of the [patent’s] claims that were the subject of the divisional application.”). This correlates to the “bedrock principle” of patent law that “the *claims* of a patent define the invention to which the patentee is entitled the right to exclude.” Phillips v. AWH Corp., 415 F.3d at 1312 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d at 1115) (emphasis added).

TWW next argues that even if the Court finds that embodiments 8 through 10 do not teach the '469 patent claims (as the Court must), the limitation of a detachable, fit-and-hold connection should not be read into the claims simply because that feature appears in embodiments 1 through 7. TWW Opp. 2-3; 34-35. In other words, the fact that the relevant embodiments use the term socket in the context of a detachable connection does not mean that the term socket should be construed as implicitly requiring a detachable connection.

It is true that claims generally should not be confined to the disclosed embodiments, where no other intrinsic evidence supports the limitation. As the Federal Circuit noted in Phillips,

[A]lthough the specification often describes very specific embodiments of the invention, [the court] ha[s] repeatedly warned against confining the claims to those embodiments. . . . That is not just because section 112 of the Patent Act requires that the claims themselves set forth the limits of the patent grant, but also because persons of ordinary skill in the art rarely would confine their

definitions of terms to the exact representations depicted in the embodiments.

Phillips v. AWH Corp., 415 F.3d at 1323. And the '469 Patent itself notes that the claims are not intended to be coextensive with the embodiments disclosed. '469 Patent col.7 ll.14-22 (“While the invention has been described by way of example and in terms of the preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiments.”).

But Intex does not urge the Court to infer detachability simply because all of the relevant embodiments show a detachable connection (although they do). Rather, Intex argues that the Court should discern a detachability requirement from the manner in which Mr. Wang and TWW used the term socket throughout the prosecution of the patent, including in the description of the embodiments. See Intex Obj. 7, 12-14, 39-41.

As discussed *supra* at 17-22, TWW used the term “socket” in its description of embodiments 1 through 7, all of which have a detachable pump-socket connection. TWW used the term “chamber” when it recited former claims 12, 13, 15, and 16 or described embodiments of those claims, all of which require a connection that is permanent or has the option of being permanent. See Pros. History at TWW000209-10 (reciting former claims); '469 Patent col.6 ll.25-49 (describing eighth embodiment); '469 Patent col. 6 l.66 – col.7 ll.11 (describing tenth embodiment).<sup>12</sup>

Because Mr. Wang consistently used the term “socket” when describing embodiments with detachable connections, and consistently used the term “chamber” when describing embodiments with connections that had the option of being permanent, the Court concludes that the terms refer to distinct concepts. See Bell Atl. Network Servs., Inc. v. Covad

---

<sup>12</sup> Although former claims 15 and 16 do not use either the term “socket” or the term “chamber,” see Pros. History at TWW000210, the embodiment that teaches claims 15 and 16 – the tenth embodiment – uses the term “chamber” to describe in the opening in which the fans and motors are permanently or detachably placed. '469 Patent col. 6 l.66 – col.7 ll.11.



Commc'ns Grp., Inc., 262 F.3d at 1270 (giving narrower construction to claim term “mode” as distinct from “rate” where “patentees, throughout the specification, use the terms ‘rate’ and ‘mode’ to refer to separate and distinct concepts”).<sup>13</sup> TWW’s proposed construction – “an opening or hollow that forms a holder for something” – would disregard this distinction, while Intex’s proposed construction – “a structure that fits and holds onto an inserted part, so that the structure and the part are detachably connected to each other” – preserves it.

In light of this prosecution history, the “Summary of the Invention” section discussed *supra* at 16, which explicitly states that the electric pump “is detachably connected to the socket,” ’469 Patent col. 1 l.32-33, and the patent documents as a whole in this case, it is clear that a person of ordinary skill in the art would understand the term “socket” in the context of a detachable connection.

#### 4. Related claims

Finally, TWW argues that U.S. Patent Number 6,332,760 (“the ’760 Patent”) – a related patent – demonstrates that “socket” must be construed broadly to cover both permanent and detachable connections. TWW Opp. 37-38; see U.S. Patent Number 6,332,760 (filed Apr. 4, 2000); ’469 Patent at [63] (noting relationship to application that led to the ’760 Patent). Claims 1 and 8 of the ’760 Patent refer to a pump being “detachably connected” to a socket. ’760 Patent col.1 l.22; id. col.2 l.34. According to TWW, this proves that the term “socket” itself does not denote detachability – if it did, the term “detachably” in the ’760 Patent would be redundant. TWW Opp. 37.

The Court does not find this argument persuasive. The Federal Circuit has noted that where the specification and prosecution history indicate that a claim term should be read

---

<sup>13</sup> At one point, when describing the ninth embodiment, Mr. Wang uses the term “housing” as synonymous with “chamber”. ’469 Patent col.6 l.66 – col.6 ll.47-65.

narrowly, the occasional use of a redundant modifier does not expand the scope of that term. See Nystrom v. TREX Co., Inc., 424 F.3d 1136, 1143-44 (Fed. Cir. 2005); Tandon Corp. v. United States Int’l Trade Comm’n, 831 F.2d 1017, 1023-24 (Fed. Cir. 1987) (finding that, in light of other intrinsic evidence, “the inclusion of the term ‘non-gimballed’ in claim 5 did not require that claims 1 and 12 be read to encompass a gimballed first transducer”). In Nystrom, the court considered whether the claim term “board” should be construed as requiring that it be made out of wood. The plaintiff patent-owner asserted that the term “board” in one claim should not be limited to conventional wood boards, in light of language in other claims referring to a “*wood decking board*.” Nystrom v. TREX Co., Inc., 424 F.3d at 1143 (emphasis added). The Federal Circuit rejected this argument. While noting that the use of different words or phrases – “board” at one place, “wood decking board” at another – usually implies a difference in meaning, the court went on to clarify that this principle should yield to other intrinsic evidence. Id. at 1143-46. In light of the fact that the claim language, the “Background of the Invention” section, and the prosecution history indicated that the term “board” should be read narrowly as composed of wood, the Federal Circuit gave little weight to the fact that this construction occasionally rendered the adjective “wood” redundant. Id.

Nystrom is instructive in this case. As in Nystrom, the general description of the invention, the specification as a whole, and the prosecution history indicate that the disputed claim term – here, “socket” – should be read narrowly, as necessarily part of a detachable connection. The fact that the claims of a related patent describe a socket as being “detachably connected” to a pump does not broaden the meaning of the term. See Tandon Corp. v. United States Int’l Trade Comm’n, 831 F.2d at 1024 (“[O]ne can not interpret a claim to be broader than what is contained in the specification and claims as filed.”).

## 5. Extrinsic Evidence

“[I]f the meaning of the claim limitation is apparent from the intrinsic evidence alone, it is improper to rely on extrinsic evidence other than that used to ascertain the ordinary meaning of the claim limitation.” Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc., 262 F.3d at 1268-69 (internal citation omitted). Because the Court finds that the intrinsic evidence, particularly the specification and the prosecution history of the patent, compels it to construe “socket” to mean “a structure that fits and holds onto an inserted part so that the structure and the part are detachably connected to each other,” it need not consider the expert testimony submitted by either party. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d at 1584 (“[W]here the patent documents are unambiguous, expert testimony regarding the meaning of a claim is entitled to no weight.”).

### *C. Pump Body*

In the proceedings before Magistrate Judge Robinson, TWW proposed that the term “pump body” should be construed as the “main part of the pump.” TWW Claim Constr. Mot. 1. Intex proposed a more specific construction: “a housing that surrounds the other components of the pump.” Intex Claim Constr. Mot. 18. After considering the parties’ arguments, Magistrate Judge Robinson construed the term “pump body” in the manner proposed by TWW. Intex II, 541 F. Supp. 2d at 118 (finding that TWW’s construction was “consistent with the law governing claims construction,” and concluding that “the ordinary meaning to a person skilled in the art of pumps, would consider pump body to mean the main part of the pump.”)

In its objections to Magistrate Judge Robinson’s opinion, Intex again asserts that “pump body” should be construed as “a housing that surrounds the other components of the

pump.” Intex Obj. 2. Intex has requested, however, that if the Court chooses to affirm Judge Robinson’s construction, it should clarify that the “main part of the pump” must include a pump housing. Intex Obj. 27; see also Tr. 19:18-20:1 (“[W]e’re saying that the pump body, whatever else it is, it includes the housing that surrounds the other components of the pump . . . TWW, in this case, should not be able to frame arguments that the pump body does not include that housing.”). TWW maintains that the construction “main part of the pump,” without further limitation or clarification, is most appropriate.

#### 1. Pump Body: “Main Part of Pump” or “Pump Housing”?

As with their arguments regarding “socket”, neither party suggests that the term “pump body” has a specific technical meaning in the field of pneumatics. See TWW Opp. 2, 26; see generally Intex Obj. And again, both parties provide plausible definitions that comport with everyday usage of the term “body”. Compare TWW Opp. 26 (citing AM. HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (2000), for definition of “body” as “[t]he main or central part”), with Intex Obj. 28 (noting that “‘auto body’ is the shell or housing that surrounds an automobile”).

Upon review of the parties’ papers and the patent documents, the Court concludes that the term “pump body” refers broadly to “the main part of the pump,” to be distinguished from the air outlet, and is not confined to the housing surrounding other parts of the pump.

The Court begins its analysis, of course, with the language of the claims. Disputed claims 14 and 16 recite “an electric pump, including a pump body and an air outlet,” and require that the “the pump body is wholly or partially located in the socket.” ’469 Patent col.8 ll.33-35, 49-52. Claims 15 and 17 specify that in the claimed invention, “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.” Id. col.8 ll.40-43,

57-59 (emphasis added). Absent from the claims is any discussion of what comprises the pump body; nor is there any discussion of a pump housing.

The meaning of the term “pump body” is not immediately clear from the claim language, although two inferences can be made: first, the term “pump body” describes only part of the electric pump; and second, the air outlet is distinct from the pump body. The fact that the pump body and the air outlet are the only elements specified as comprising the electric pump arguably implies that the pump body consists of everything in the electric pump except the air outlet.

The '469 Patent specification provides little guidance. This specification is devoid of details about the pump body or pump housing, and the disclosed embodiments are consistent with each party's proposed construction. In the first embodiment, depicted by figure 2, *supra* at 3, a large portion of the electric pump's housing, but not the portion containing the inner workings of the pump, is inserted into the socket. In the second embodiment, shown at figure 4, *supra* at 4, most of the pump, including the fan and motor surrounded by a housing, is inserted into the socket. Because the pump body must be “wholly or partially located in the socket” to fall within the scope of the patent claims, these embodiments indicate that the “pump body” is not limited to the fan, motor, or other inner workings of the pump. But these embodiments, and the others disclosed in the specification, do not clearly favor either party's construction.

Fortunately, the prosecution history again is particularly helpful in clarifying the meaning of this disputed term. When Mr. Wang submitted his patent application, the claims that later became claims 14 and 16 recited “an electric pump connected to the socket to pump the inflatable body.” See Pros. History at TWW000208-10 (showing former claims 11 and 18,

which became claims 14 and 16, respectively); *id.* at TWW000289-90. These claims in Mr. Wang’s application were rejected as obvious and anticipated by the prior art, which included devices where the mattress was inflated by inserting the air outlet of an electric pump into a socket in the inflatable body, while the rest of the electric pump remained outside of the inflatable body. *See id.* at TWW000257, TWW000260, TWW000263. Mr. Wang amended his claim to clarify that the claimed invention contained an electric pump that included “a pump body and an air outlet,” and that the pump body was “wholly or partially located in the socket.” *Id.* at TWW000289-90; TWW000292. In other words, the term “pump body” functioned to clarify that a device would not fall within the scope of the ’469 Patent claims if the electric pump remained *outside* the inflatable body, and connected to the socket only via an air outlet. This prosecution history makes clear that the term “pump body” was not intended to refer to the housing of the pump – or any specific part of the pump – but rather refers broadly to the “main part of the pump.”<sup>14</sup>

The construction proposed by TWW and adopted by Magistrate Judge Robinson was confirmed by a recent decision issued by the PTO. When reviewing the ’469 Patent during an *ex parte* reexamination proceeding, the PTO noted that the language of the independent claims, which recite “an electric pump, including a pump body and an air outlet,” would lead “persons of ordinary skill in the art . . . [to] recognize that the pump has two parts: a body and an air outlet.” Ex parte Team Worldwide Corporation, No. 2010-2223, at \*6 (B.P.A.I. July 22, 2010), (Dkt. No. 184-1). After noting that the specifications were consistent with the

---

<sup>14</sup> Intex points to one document in the prosecution history, in which Mr. Wang referred to an electric pump as having a “pump body (i.e., inflator housing).” *See* Pros. History at TWW000292. Intex argues that the use of “i.e.” shows that the housing and pump body were viewed as synonymous. In light of the document as a whole, however, the Court finds that a more natural interpretation is that Mr. Wang was simply referring to the housing of the inflator as *part* of the pump body, and distinguishing it from the air outlet, the only other labeled element in that drawing.

construction of “main part of the pump,” the PTO construed the term “pump body” substantially in accordance with Magistrate Judge Robinson’s construction, defining it as “the main part of the electric pump and to be a separate and distinct element from the air outlet.” Id. at \*7; see also Tr. 27:14-18.

The plain language of the claims, the prosecution history, and the findings of the PTO all lead the Court to conclude that the term “pump body” refers to the main part of the electric pump, as distinct from the air outlet.

## 2. Whether Housing is a Required Element of the Pump Body

Perhaps recognizing the weakness of its initial argument, Intex presses an alternative construction for “pump body” in its objections. It now asserts that “an equally valid . . . alternative construction would be ‘the main part of the electric pump, including the housing, and to be a separate and distinct element from the air outlet.’” Intex Supp. 6; see also Intex Obj. 11; Tr. 19:18-20:1; id. 21:13-16; id. 25:8-11. In other words, Intex asks the Court to construe the term “pump body” as necessarily including a pump housing. TWW, for its part, objects to any implication that a pump body must have a housing, and asserts that reading this limitation into the claims is inappropriate and unsupported by the record. TWW Opp. 12, 31-32.

All of the disclosed embodiments contain pumps surrounded by a housing. And because the Court finds that the claims require a pump that is detachably connected to a socket, *supra* at 25-27, 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. TWW itself concedes 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 Opp. 32.

But neither the '469 Patent claims nor its specification mention housing with regard to the electric pump, which suggests that a housing should not be construed to be a necessary element of the pump body. And the Court may not read a limitation from the embodiments into the claims, where there is no other evidence in the patent documents that such a limitation was intended. Phillips v. AWH Corp., 415 F.3d at 1323. As TWW correctly notes, “[a]dding such a limitation would unduly narrow the scope of the claims and would do just what Phillips warns against – import a limitation from certain embodiments into the claims.” TWW Opp. 32.

Because nothing in the claims or the specification mentions a pump housing, it would be improper for the Court to read a limitation into the claims simply because the disclosed embodiments all share that common feature. Nor does the Court find that anything in the prosecution history clearly indicates that the electric pump necessarily must contain a housing.

The Court therefore affirms Magistrate Judge Robinson’s construction that the “pump body” is “the main part of the pump.” Because it finds that the PTO’s construction is also correct, and provides greater specificity, it modifies the construction of “pump body” to be “the main part of the electric pump and to be a separate and distinct element from the air outlet.” Although the pump body will usually include a housing surrounding other pump components, the Court concludes that such housing is not a necessary element of the pump body.

For the foregoing reasons, it is hereby

ORDERED that the Court sets aside in part and adopts in part [145] Magistrate Judge Robinson’s decision; it is



FURTHER ORDERED that the term “socket” is construed as “a structure that fits and holds onto an inserted part so that the structure and the part are detachably connected to each other”; and it is

FURTHER ORDERED that 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.”

SO ORDERED.

DATE: September 24, 2013

/s/ \_\_\_\_\_  
PAUL L. FRIEDMAN  
United States District Judge