

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

ULTRA-MEK, INC.,)	
)	
Plaintiff and)	
Counter Defendant,)	
)	
v.)	1:18CV281
)	
UNITED FURNITURE INDUSTRIES,)	
INC., OISEYS INTERNATIONAL,)	
INC., MAN WAH HOLDINGS LTD.,)	
JIANGSU YULONG SMART)	
TECHNOLOGY CO., LTD.,)	
REMACRO MACHINERY)	
TECHNOLOGY CO., LTD.,)	
TAIZHOU CHENGUANG VEHICLE CO.,)	
LTD., and MAN WAH (USA), INC.,)	
)	
Defendants and)	
Counter Claimants.)	

MEMORANDUM OPINION AND ORDER

OSTEEN, JR., District Judge

Presently before this court is the disputed construction of the patent claim limitation "opposed first and second ends." This court will begin by summarizing the case's background and then proceed to analyze the disputed claim limitation. This court concludes that the limitation should be construed as "the lengthwise extremities of the [power actuating unit/actuating unit/linear actuating unit], wherein length is defined by the axis in which the [power actuating unit/actuating unit/linear actuating unit] moves forwardly and rearwardly."

I. FACTUAL AND PROCEDURAL BACKGROUND

Plaintiff Ultra-Mek, Inc. is the owner of two patents that each describe a reclining chair. (First Am. Compl. (Doc. 31) ¶¶ 22-25.) The patents are U.S. Patent Number 8,016,348 (the “’348 patent”) and U.S. Patent Number 8,297,693 (the “’693 patent”). (Ex. A (“’348 patent”) (Doc. 31-1); Ex. B (“’693 patent”) (Doc. 31-2).)

Plaintiff sued Defendants United Furniture Industries, Inc., Oiseys International, Inc., Man Wah Holdings Ltd., Jiangsu Yulong Smart Technology Co., Ltd.,¹ Remacro Machinery Technology Co., Ltd., Taizhou Chenguang Vehicle Co., Ltd., and Man Wash (USA), Inc. (together, “Defendants”), alleging they had infringed these patents. (First Am. Compl. (Doc. 31) ¶¶ 73-88.) The case proceeded to claim construction, and this court construed disputed claim terms. (Doc. 124.) This court did not construe the phrase “opposed first and second ends,” as used in claims 7 and 13 of the ’348 patent and claim 1 of the ’693 patent. (See id.)

The case progressed to the summary judgment stage, and this court denied the parties’ summary judgment motions. (Doc. 174 at

¹ Ultra-Mek’s First Amended Complaint named “New Man Wah Vehicle Co.” as a defendant, but that entity was later substituted for Jiangsu Yulong Smart Technology Co., Ltd. (Doc. 81.)

40.)² However, the summary judgment opinion included language that was dismissive of Plaintiff's literal infringement theory because the allegedly infringing mechanism "does not have literal opposed ends in the format envisioned by the patent." (Id. at 25.) Based on this language, Defendants filed a motion in limine to exclude any trial "testimony asserting that claims 7, 13, and 14 of the '348 patent and claims 1, 2, and 4-7 of the '693 patent are literally infringed." (Doc. 180 at 3.)

This court denied that motion as unripe, (Doc. 214 at 15), and the parties agreed to file supplemental claim construction briefs regarding the phrase "opposed first and second ends," (Doc. 211 at 32). Those briefs were filed, (Pl.'s Suppl. Claim Construction Br. ("Pl.'s Br.") (Doc. 215); Defs.' Claim Construction Br. Regarding "Opposed First and Second Ends" ("Defs.' Br.") (Doc. 219)), as were briefs responding to the opposing party's proposed construction, (Docs. 223, 224). After reviewing the briefing, this court shared with the parties the construction it was considering and gave the parties an opportunity to comment. (Doc. 230.) Both parties availed themselves of that opportunity. (Docs. 231, 232.)

² All citations in this Memorandum Opinion and Order to documents filed with the court refer to the page numbers located at the bottom right-hand corner of the documents as they appear on CM/ECF.

II. CLAIM CONSTRUCTION

The Federal Circuit has emphasized “that a district court may (and sometimes must) . . . supplement its claim constructions . . . to the extent necessary to ensure that final constructions serve their purpose of genuinely clarifying the scope of claims for the finder of fact.” In re Papst Licensing Digit. Camera Pat. Litig., 778 F.3d 1255, 1261 (Fed. Cir. 2015). Such supplemental construction of the phrase “opposed first and second ends,” as used in claims 7 and 13 of the ‘348 patent and claim 1 of the ‘693 patent is appropriate here. The parties agree that the phrase should be construed consistently across the three claims despite minor differences in claim language, (compare Pl.’s Br. (Doc. 215) at 1 n.1, with Defs.’ Br. (Doc. 219) at 2), reflected in the bracketed language below:

wherein the [power actuating unit/actuating unit/linear actuating unit] includes opposed first and second ends, and wherein the first end of the [power actuating unit/actuating unit/linear actuating unit] moves forwardly as the seating unit moves from the upright position to the TV position, and wherein the second end of the [power actuating unit/actuating unit/linear actuating unit]³ moves rearwardly when the seating unit moves from the TV position to the fully reclined position.

³ For ease of reference, this court will hereinafter use the term “actuating unit” as shorthand to collectively refer to the power actuating unit, actuating unit, and linear actuating unit.

'348 patent (Doc. 31-1) at 10:9-15, 11:14-12:3 (emphasis added);
'693 patent (Doc. 31-2) at 9:45-51 (emphasis added)).

The following chart sets forth each party's preferred construction of "opposed first and second ends":

Plaintiff's Construction	Defendants' Construction
opposed first and second points on the [power actuating unit/actuating unit/linear actuating unit] that are connected to the [reclining/actuating] mechanism	Plain and ordinary meaning; wherein an "end" is one of the lengthwise extremities of the [power actuating unit/actuating unit/linear actuating unit]

(Pl.'s Br. (Doc. 215) at 1; Defs.' Br. (Doc. 219) at 2.)

The Federal Circuit instructs courts construing patent claims to give claim language its "ordinary and customary meaning" as 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 1303, 1313 (Fed. Cir. 2005) (en banc). Although "[i]n 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. at 1314, that is not the case here. As an example of such commonly understood language, the Federal Circuit cites a case where the word "or" did "not require elaborate interpretation" because it was not a "technical term[] of art" and thus was construed in accordance with its plain and

ordinary meaning. Brown v. 3M, 265 F.3d 1349, 1352 (Fed. Cir. 2001). In contrast, the phrase “first and second opposed ends” is less widely utilized language with a much less readily apparent common understanding and consequently may have a particular meaning to a person of ordinary skill in the art. See Phillips, 415 F.3d at 1314. Therefore, this court rejects the opening language from Defendants’ proposed construction that calls for the phrase to be construed pursuant to its “[p]lain and ordinary meaning.” (Defs.’ Br. (Doc. 219) at 2.) This court will instead consult evidentiary “sources available to the public that show what a person of skill in the art would have understood [the] disputed claim language to mean.” Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004).

The court begins with the intrinsic evidence because “[t]he intrinsic record in a patent case is the primary tool to supply the context for interpretation of disputed claim terms.” V-Formation, Inc. v. Benetton Grp. SpA, 401 F.3d 1307, 1310 (Fed. Cir. 2005). The first category of intrinsic evidence that will be addressed is “the claims themselves [which] provide substantial guidance as to the meaning of particular claim terms.” Phillips, 415 F.3d at 1314.

Plaintiff maintains that the claims containing the disputed language are referring to “the functional ends of the actuator—not its physical extremities—which translate the linear force created by the actuator into the movement of the seating unit.” (Pl.’s Br. (Doc. 215) at 3.) Plaintiff asserts its construction explains how the opposed first and second ends provide this functionality and will aid the jury “by explaining how those functional ends are configured.” (Id.) Defendants disagree and argue that “within the claims, ‘opposed’ modifies ‘ends,’ which makes sense when an end is understood as a lengthwise extremity, but conversely makes little sense if ends are merely points anywhere on the actuating unit.” (Defs.’ Br. (Doc. 219) at 4.)

This court is unpersuaded by both parties’ arguments. Courts are to consider “the words of the claims themselves” when examining claim language. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Here, the claim limitation in which the phrase “opposed first and second ends” appears only explains what direction the ends move (forwardly and rearwardly) and when that movement occurs (in two stages as the seating unit reclines). (’348 patent (Doc. 31-1) at 10:9-15, 11:14-12:3; ’693 patent (Doc. 31-2) at 9:45-51.)

Contrary to Plaintiff’s argument, nothing in the express language of the claims—or even their readily apparent purpose—

conclusively dictates that the opposed first and second ends are the actuating unit's functional ends. Defendants' argument is equally unavailing because the mere use of the word "opposed" does not require that the ends be understood as "lengthwise extremities." Even if the ends were understood as "points" elsewhere on the actuating unit (as Plaintiff wishes), those ends could still conceivably and fairly be described as "opposed." No evidence has been presented that a person of ordinary skill in the art would readily understand the word "opposed" to inherently require that the ends be any certain distance or stand in any particular positional relationship with one another.

Because the claims themselves do not resolve the ambiguity of the disputed term, this court will examine the patents' specification as "[c]laims must be read in view of the specification, of which they are a part." Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). Patents' specifications "contain[] a written description of the invention that . . . enable[s] one of ordinary skill in the art to make and use the invention." Id. at 978. "[T]he 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, 415 F.3d at 1315 (quoting Vitronics, 90 F.3d at 1582).

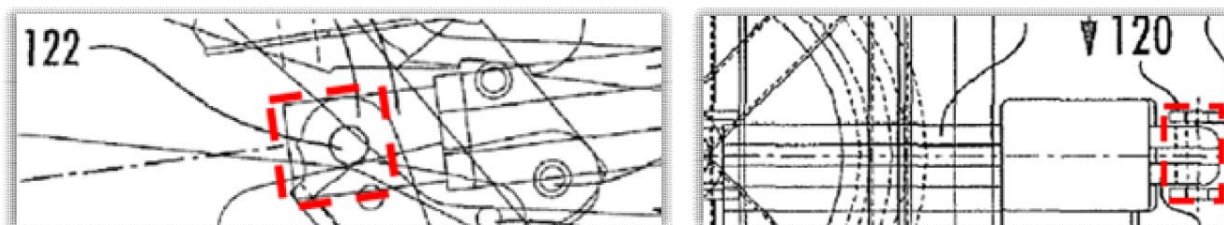
Nevertheless, “particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments.” Electro Med. Sys., S.A. v. Cooper Life Scis., Inc., 34 F.3d 1048, 1054 (Fed. Cir. 1994).

While both parties insist the patents shared specification’s⁴ use of the word “end” supports their proposed construction, Defendants have the better argument. Plaintiff cites language from the specification in which the phrases “rear end” and “front end” are used; Plaintiff insists that this “shows that the patentee knew how to restrict an ‘end’ to the front or back, i.e. to a ‘lengthwise extremity’—and deliberately chose not to do so” in the claim limitations at issue. (Pl.’s Br. (Doc. 215) at 5.) But Defendants point to half a dozen instances where “the specification uses end to refer to a lengthwise extremity of a component,” one of which does so without using the modifiers “front” and “rear,” or any other adjective, before the word “end.” (Defs.’ Br. (Doc. 219) at 4-5 (describing, inter alia, a “link 31, which is attached at either end . . . at pivots 22, 27,” where figure 4 shows those pivots at the lengthwise

⁴ The two patents’ specifications appear identical. (Compare ‘348 patent (Doc. 31-1) at 4-17, with ‘693 patent (Doc. 31-2) at 4-17.)

extremities of link 31 (internal quotation marks omitted) (emphasis added)).)

The specification offers further support for Defendants' proposed construction. Defendants explain that the specification shows an "'end' of the linear actuator, which is the end of the 'rod 118,' attaches to the 'projecting bracket 46' at 'pivot 122,' which is at one lengthwise extremity of the actuating unit, whereas the other 'end' is at pivot 120 at the other lengthwise extremity of the actuating unit." (Id. at 3 (quoting '348 patent at 6:50-58).) This is visible in figures from the patents that Defendants have cropped and annotated:



(Id. (excerpting and annotating figs.2A, 5).) Because "claims are not to be interpreted by adding limitations appearing only in the specification," Electro Med. Sys., 34 F.3d at 1054, this embodiment does not by itself suffice to conclude that the "opposed first and second ends" claim limitation should be construed pursuant to Defendants' proposed "lengthwise extremity" construction. Nonetheless, it lends support to Defendants' construction because the patents' specification serves as the

"best guide to the meaning of" the disputed claim language. Vitronics, 90 F.3d at 1582.

That the specification supports the "lengthwise extremity" construction differentiates this case from Presidio Components, Inc. v. AVX Corporation, 825 F. App'x 909 (Fed. Cir. 2020), an unpublished Federal Circuit decision on which Plaintiff relies, (Pl.'s Br. (Doc. 215) at 2, 4). Presidio found no error in a construction of "end" that was broader than a "lengthwise extremity" because, inter alia, there was "nothing in the specification to" support the "lengthwise extremity" construction. See 825 F. App'x at 917. In contrast, the patents' specification here supports a narrower construction because of its use of the word "end" and an embodiment it describes. Thus, this case is more similar to Advanced Steel Recovery, LLC v. X-Body Equipment, a published Federal Circuit decision affirming the construction of "proximate end" as "the extreme or last part lengthwise" because, inter alia, that construction was supported by the patent's specification. 808 F.3d 1313, 1317-18 (Fed. Cir. 2015).

Plaintiff raises one more intrinsic evidence source: prior art cited in the patents. (Pl.'s Br. (Doc. 215) at 6.) "[P]rior art cited in a patent . . . constitutes intrinsic evidence." Kumar v. Ovonic Battery Co., 351 F.3d 1364, 1368 (Fed. Cir.

2003). Prior art citations can be examined to see how a disputed patent claim term was previously used. Id. (explaining that a claim term may be construed based on "its usage in the prior art that was cited in the patent"). But here the language Plaintiff proffers from a prior art citation does not include any terms that are in the disputed claim limitation at issue. (Pl.'s Br. (Doc. 215) at 6 ("[O]ne prior art reference cited on the face of the patents at issue explains with respect to linear actuators that 'its ultimate embodiment is a matter of choice, the requirement being simply that the two relative pivots 9 and 15 can be drawn together and spread apart.'" (quoting Doc. 216-2 at 3:20-24)).) Thus, the probative value of this evidence is limited and outweighed by the specification evidence supporting Defendants' proposed construction.

To summarize, three sources of intrinsic evidence have been put forward by the parties: the claim language, the specification, and a prior art citation from the patents. The claim language is ambiguous, and the prior art citation is of limited probative value; consequently, the specification tips the scale decisively in favor of Defendants' "lengthwise extremity"

construction.⁵ The Federal Circuit has held that when construing claims the specification usually "is dispositive," Phillips, 415 F.3d at 1315, and it is in this case. However, this court stresses that the adoption of the "lengthwise extremity" construction does not limit the claimed actuating unit to solely the rod-style actuator disclosed in the specification.

To provide greater clarity and to orient the direction of "lengthwise," this court will add language to the construction defining "length" as "the axis in which the [power actuating

⁵ The parties also proffer various extrinsic evidence sources. But because extrinsic evidence is inherently less reliable, it should only be consulted when the intrinsic evidence fails to resolve a disputed term's ambiguity. See Vitronics, 90 F.3d at 1583 ("In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.").

Here, the intrinsic evidence itself conclusively resolves the disputed term's ambiguity so there is no need to examine any extrinsic evidence. Indeed, the extrinsic evidence advanced by the parties exemplifies the inherent weaknesses in such evidence. Defendants offer three dictionary definitions that define "end" in accordance with their proposed construction. (Defs.' Br. (Doc. 219) at 3-4.) But "claims are construed as they would be understood by a hypothetical person of skill in the art," and these definitions are from general purpose dictionaries which are not "written by or for skilled artisans and therefore may not reflect the understanding of a skilled artisan in the field of the patent." Phillips, 415 F.3d at 1318. The extrinsic evidence Plaintiff marshals—testimony from its expert and one of the patents' inventors, (Pl.'s Br. (Doc. 215) at 5-6)—is even less reliable, Vitronics, 90 F.3d at 1585 (Because dictionaries "are accessible to the public in advance of litigation . . . [t]hey are to be preferred over" "testimony, whether it be of . . . a technical expert, or the inventor, on the proper construction of a disputed claim term.").

unit/actuating unit/linear actuating unit] moves forwardly and rearwardly.” This language prevents a party from attempting to describe a different direction for “length”—such as laterally across the actuating unit—and claiming the extremities according to that direction are the “lengthwise extremities” of the actuating unit. That would be inconsistent with the patent and is foreclosed by this clarifying language.

III. CONCLUSION

For the reasons set forth herein, this court construes the “opposed first and second ends” claim limitation as “the lengthwise extremities of the [power actuating unit/actuating unit/linear actuating unit], wherein length is defined by the axis in which the [power actuating unit/actuating unit/linear actuating unit] moves forwardly and rearwardly.”

Within five days of the issuance of this Order, the parties shall meet and confer to discuss whether in light of this adopted construction there is a need for additional expert reports, expert disclosures, and summary judgment briefing. If so, the parties shall set deadlines to complete this work, including any responsive briefing, by July 11, 2022.

IT IS SO ORDERED.

This the 2nd day of June, 2022.

William L. Ostun, Jr.
United States District Judge