IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF NORTH CAROLINA
ASHEVILLE DIVISION
CIVIL CASE NO. 1:15-cv-00192-MR

AGIO INTERNATIONAL COMPANY, LTD.,	)	
Plaintiff,	)	**MEMORANDUM OF**
vs.	)	**DECISION AND ORDER**
ZHEJAING LONGDA FORGE CO., LTD., and JMH TRADING INTERNATIONAL MANAGEMENT, LLC, d/b/a World Source,	)	
Defendants.	)	

THIS MATTER is before the Court for construction of the claims found in U.S. Patent Nos. 6,293,624 ("the '624 Patent") and 6,585,323 ("the '323 Patent"). The asserted patents relate to sling chairs. The Plaintiff asserts Claims 1-5 of the '624 Patent and Claims 1-4, 6, 7, 9-11, and 14-16 of the '323 Patent.

I. BACKGROUND

A. Overview of the Patents

The asserted patents relate to furniture items known as sling chairs, or chairs generally having "a fabric seating member [that] is stretched taut between and retained by entrapment within side rails." '624 Patent at 1:53-

56.[1] Claim 1 of the '624 Patent and Claims 1, 6, and 11 of the '323 Patent are independent and generally recite sling chair components including: a fabric seat panel with flexible rods inserted into loops at opposite panel edges, a pair of side rails, and a rigid cross member. The side rails have a channel or "slot" for receiving and retaining the flexible rod, and a "socket" for receiving an end of the rigid cross member. Dependent claims recite features such as "at least one leg."

The common specification describes embodiments of a sling chair having a fabric panel 14 stretched between two side rails 20, 22 to form the seat of the chair. See, e.g., '624 Patent Fig. 1 (showing an exemplary sling chair embodiment). Sides of fabric panel 14 include a loop 36 surrounding a flexible rod 44. '624 Patent at 3:26-47. The loop and rod may be inserted into what the specification labels a "keyhole shaped slot 38," which "includes a relatively wide section 40 and a relatively narrow neck section 42 which passes entirely through the wall of side rail 20." '624 Patent at 3:33-36. Wide section 40 is internal to the side rail (except at the terminal ends of the side

[1] The '323 patent is a continuation of the '624 Patent. A "continuation" application uses the same specification as the parent application. See NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1289 (Fed. Cir. 2005) ("As continuations of that single parent application, these patents contain the same written descriptions as the [parent] patent."). Common claim terms are thus construed the same for both patents. Id. at 1293. For the sake of simplicity, this memorandum cites only to the '624 Patent specification using the column:line-line format.

rail), and the neck section 42 is exposed to an outside surface to allow the fabric panel to exit the side rail. '624 Patent at 3:38-44. The excerpt from Figure 3 of the '624 Patent shows the neck section 42 prevents the loop 36 and rod 44 from passing out of the slot 38, thereby trapping the fabric panel in place. '624 Patent at 3:45-51. The slide rail slot arrangement may be included on side rails to form a fabric panel seat.

The specification also discloses a socket and cross member arrangement. The demonstrative embodiment shows side rails 20 and 22, each with a respective extension 24 and 26. Each extension has a socket 30 configured to accept ends 32 or 34 of a cross member 28. '624 Patent at 3:5-10. Cross member 28 is both ornamental and has a structural function to keep the side rails 20, 22 spaced apart. '624 Patent at 2:65-3:1. When the cross member's length is "at least as great in magnitude" as the fabric panel's width, the panel becomes adequately tight for use as a chair. '624 Patent at 3:9-17. The side rail sockets and the cross member ends may be "configured other than as circular, thereby serving as keys opposing rotation of cross member 28 within sockets 30." '624 Patent at 3:19-22. Although socket 30 in Fig. 3 is shown as having a dumbbell shape, the specification explicitly teaches that the socket need not be limited to the shape shown in disclosed embodiments. '624 Patent at 3:22-25. Similarly, the specification

acknowledges that the disclosed embodiments are "susceptible to variations and modifications that may be introduced thereto without departing from the inventive concept." '624 Patent at 4:1-4. For example, although leg assemblies 16 and 18 connected to frame 12 (see, e.g., '624 Patent at 2:51-57), the specification teaches that "legs may be modified from the embodiment depicted" and are shown as "exemplary only and [are] not intended in a limiting sense." '624 Patent at 4:16-17 and 4:39-41.

B. Prosecution History

The '624 Patent issued on September 25, 2001 from an application filed on April 18, 2000.[2] The '323 Patent is a continuation of the '624 Patent, and issued on July 1, 2003 from an application filed on September 24, 2001. The Examiner issued a first action notice of allowance on the '624 Patent, allowing the claims as filed. [Doc. 33, Ex. D at 72-76]. Prosecution of the '323 Patent included a June 5, 2002 office action in which the Examiner issued a statutory double patenting rejection in view of the '624 Patent. [Doc. 33, Ex. E at 46-49]. In its October 7, 2002 response, the applicant cancelled the pending claims and added new Claims 7-20. [Id. at 123-37]. The December 23, 2002 office action rejected pending Claims 17 and 18 for

[2] Copies of the prosecution histories are attached to the Plaintiff's Claim Construction Brief [Doc. 33] as Exhibits D and E.

alleged new matter and Claims 2-5 and 7-20 for indefiniteness, but indicated that Claims 2-5, 7-16, 19, and 20 would be allowable if amended to overcome the rejections. [Id. at 138-43]. Applicant's February 4, 2003 amendment cancelled Claim 17 and revised the remaining claims to overcome the indefiniteness rejection. [Id. at 147-63]. The Examiner issued a notice of allowance shortly thereafter. [Id. at 164-66].

II. THE PRINCIPLES OF CLAIM CONSTRUCTION

The first step in making a determination of patent infringement is a construction of the claims of the patent in order to determine the scope of each claim. Bell Atlantic Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001). This determination, called claim construction, is a question of law for the Court. Id.; Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). In claim construction, the Court determines the meaning of the words used in the claims. Id. at 976. Only when the claim is properly understood can a determination be made as to whether it reads on an accused device or is invalid. Id.

"Claim construction seeks to ascribe the 'ordinary and customary meaning' to claim terms as they would be understood to a person of ordinary skill in the art at the time of invention." Liberty Ammunition, Inc. v. United

States, 835 F.3d 1388, 1395 (Fed. Cir. 2016), cert. denied, 137 S. Ct. 1825 (2017) (citing Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)). A person skilled in the art will read the claim terms in the context of not only the claims in dispute but also "in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313. The Federal Circuit has cautioned, however:

> The written description . . . is not a substitute for, nor can it be used to rewrite, the chosen claim language. Specifications teach. Claims claim. Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.

SuperGuide Corp. v. DirecTV Enters., Inc., 358 F.3d 870, 875 (Fed. Cir. 2004) (internal citations and quotation marks omitted).

Where the claim language and specification provide an unambiguous construction, it is unnecessary to consult the prosecution history. See Interactive Gift Exp., Inc. v. Compuserve Inc., 256 F.3d 1323, 1334 (Fed. Cir. 2001). The prosecution history may be consulted to ascertain if the inventor made any express representations in obtaining the patent regarding its scope and the meaning of the claims. Bell Atlantic, 262 F.3d at 1269. Only as a last resort should extrinsic evidence, such as expert witness

testimony or learned treatises, be consulted. "In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996).

In the end, "[t]he construction that stays true to the claim language and [that] most naturally aligns with the patent's description of the invention will be . . . the correct construction." Renishaw P.L.C. v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

III. CLAIM CONSTRUCTION

A. Disputed Claim Elements Appearing in Both Patents

The following disputed claim elements appear in asserted claims from both patents. Because these terms are used in related patents, they should be given the same meaning in both the '624 and '323 Patents. NTP, 418 F.3d at 1293.

1. "rigid cross member"

Claim 1 of the '624 Patent includes the following limitation:

> 1. A sling chair comprising a frame, . . . wherein said frame includes
>
> * * *
>
> a **rigid cross member** having length at least as great in magnitude as said width of said fabric seat panel, a first end, and a second end, wherein each one of said first end and said second end of **said cross member**

> is dimensioned and configured to be received in close cooperation by one of said sockets.

‘624 Patent at 4:49-67 and 5:1-10 (emphasis added). Claims 1, 6, and 11 of the ‘323 Patent include the following related limitation:

> a **rigid cross member** having a first end and a second end, wherein each one of said first end and said second end of **said cross member** is dimensioned and configured to be received in close cooperation by one of said sockets.

‘323 Patent at 5:4-7; 5:35-39; 6:28-31 (emphasis added).

The Plaintiff contends that the term “rigid cross member” should be construed, in accordance with its plain and ordinary meaning, as requiring only a member for crossing the sling chair (i.e., extending between side rails) that is rigid (i.e., not flexible). The Defendant, on the other hand, proposes that the term “rigid cross member” be construed in context as part of the phrase in which it appears. Thus, for Claim 1 of the ‘624 Patent, the Defendant contends that the phrase should be construed as “a generally horizontal member extending past the interior side of the slot in each of the side rails and into the sockets of the rail and where the ends of member have the same shape as and are just slightly smaller in size than the socket so as to be held securely in the socket without need of further securing devices such as screws.”

The specification broadly discloses embodiments in which "side rails [are] adapted to accept cross members which span and space apart the two side rails." '624 Patent at 1:58-64; see also '624 Patent at 1:66-2:9 and 2:57-3:25; see also Fig. 1 (showing cross member 28 crossing chair 10). The specification refers to "cross member" approximately twenty times, but it refers to a "rigid cross member" only once. See '624 Patent at 2:65 (describing cross member 28 in Fig. 1). There is nothing in the specification that suggests that "rigid cross member" is intended to be any different than "cross member." Indeed, cross member 28 is described as maintaining side rails in a "spaced apart relation," a description which suggests rigidity. See, e.g., '624 Patent at 2:67-3:1. Thus, a plain reading of the specification appears to support the Plaintiff's construction of "rigid cross member," that is, a member for crossing the sling chair (i.e., extending between side rails) that is rigid (i.e., not flexible).

The Defendant argues that the Plaintiff's proposed claim construction of "rigid cross member" fails because it attempts to divorce the rigid cross member from its function as defined by the claim term and the specification in an effort to broaden the claims of the '624 and '323 Patents. The Defendant argues that the specification clearly delineates the significance and function of requiring use of the "rigid cross member," namely that this

cross member performs the structural functions of holding the side rails apart and maintaining sufficient tension to provide support to the person seated on the chair:

> Those portions of side rails 20, 22 extending beyond fabric panel 14, which while be[ing] termed extensions 24, 26, engage a rigid cross member 28. Cross member 28 is both ornamental and also performs a structural function. Namely, cross member 28 holds side rails 20, 22 in spaced apart relation**.**

'624 Patent at 2:63-3:1.

> Cross member 28 has length at least as great in magnitude as the width of fabric seat panel 14, so that after assembly in the configuration shown in FIG. 1, seat panel 14 is maintained under sufficient tension as to provide a slightly resilient supporting surface for a person seated on chair 10.

'624 Patent at 3:12-17. In order to accomplish these functions, the Defendant argues, the cross member must be "generally horizontal," as any other configuration would fail to adequately hold the rails in a space apart relation or maintain sufficient tension in the fabric seat panel.

The Defendant further argues that the claim requirement that the ends of each cross member be "dimensioned and configured to be received in close cooperation by one of said sockets" could not be met if the ends of the socket were a different shape or substantially smaller than, the same size as, or larger than the socket. Rather, the Defendant argues, the rigid cross

member must be the same shape and just slightly smaller in size than the socket without the need for additional securing devices. Indeed, the Defendant argues, if the ends had a different shape, they would by definition not be "in close cooperation with" the sockets.

The Defendant contends that the specification also supports its proposed construction that the ends of the cross member fit securely in the socket without the use of other securing devices such as screws. When discussing the connecting the leg assemblies, the specification states that the leg assemblies may be connected to the frame "in any suitable way," including the use of bolts. '624 Patent at 2:53-57. In contrast, the specification describes the ends of the cross member being inserted, received, accepted or engaged in the hollow openings (i.e., sockets) in close cooperation, without any mention of any use of screws or bolts.

With respect to Claim 1 of the '624 Patent, the Defendant notes that the patentee used a phrase that is nearly identical to that in Claims 1, 6, and 11 of the '323 Patent with the sole distinction being that Claim 1 of the '624 Patent includes a further limitation that the cross member has a "length at least as great in magnitude as said width of said fabric seat panel." Because the remaining language of the phrase already requires that the cross member be received in close cooperation with the sockets, the Defendant

contends that this additional language must be understood to mean that cross member must actually be long enough that it is as long as the fabric seat panel that has been secured inside the side rails.

The Defendant's construction for "rigid cross member" is erroneous for several reasons. First, there is nothing in the plain language of the claims themselves to justify the limitations proposed by the Defendant. The Defendant's proposed construction introduces several phrases not used in either the claims and which impermissibly narrow the claim scope. For example, there is no claim recitation relating to a "generally horizontal" cross member. Indeed, the claims are silent as to the position of one socket relative to another socket, thereby permitting a wide variety of configurations, horizontal and otherwise. Further, the specification does not describe a "generally horizontal member," nor does it provide guidance on what qualifies as "generally horizontal." To the extent Figures 1-3 support the Defendant's "rigid cross member" construction, importing limitations from embodiments is not permitted. See SuperGuide, 358 F.3d at 875.

Further, nothing in the specification or claims requires a rigid cross member to have "the same shape as and be just slightly smaller in size than the socket." Indeed, the specification teaches that "exact configuration of ends 32, 34 and of sockets 30 is not critical provided that frame 12 will

maintain the assembled condition shown in FIG. 1." '624 Patent at 3:22-25. In other words, the patentee recognized the broad range of possible cross member and socket configurations and did not intend to limit the claims to a specific configuration as the Defendant contends.

Additionally, there is no support in the intrinsic evidence for limiting the scope to embodiments in which the "rigid cross member" is "held securely in the socket without need of further securing devices such as screws." The specification is silent about whether the cross member should be secured with or without securing devices, and states that the "exact configuration" is not critical. '624 Patent at 3:22-25. The phrase "close cooperation" does not justify this limitation: the specification uses "close cooperation" for the spatial relationship of the cross member and sockets; there is nothing to imply that it describes the cross member's fit into the sockets.[3] See '624 Patent at 3:9-19.

For all of these reasons, the Court concludes that the term "rigid cross member" as used in the '624 and '323 Patents should be construed to mean

[3] The Defendant's proposed construction of "rigid cross member" appears to be premised on the assumption that the asserted claims are limited to a fully assembled chair. The Plaintiff contends that the asserted claims are *not* limited to a fully assembled chair, but rather recite components in a manner that covers both assembled and disassembled embodiments. The Court need not resolve this issue at this stage of the proceedings, as it has no bearing on the construction of the disputed claims before the Court.

a member for crossing the sling chair (i.e., extending between side rails) that is rigid (i.e., not flexible).

2. "socket"

The term "socket" appears in independent Claim 1 and dependent Claim 3 of the '624 Patent as follows:

> 1. A sling chair comprising a frame . . . wherein said frame includes
>
> a first side rail having an interior side and a second side rail having an interior side, . . . wherein each side rails has
>
> a key shaped slot extending longitudinally therealong, . . . and
>
> an extension bearing a **socket** therein, wherein said extension extends beyond said slot and said **socket** opens to said interior side of its associated said side rail; and
>
> a rigid cross member having length at least as great in magnitude as said width of said fabric seat panel, a first end, and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said **sockets**.

'624 Patent at 4:49-67 and 5:1-10 (emphasis added).

> 3. The sling chair according to claim 1, wherein each said **socket** of each said side rail is configured as a key opposing rotation of said cross member in said **socket**.

'624 Patent at 5:13-15 (emphasis added).

The term “socket” appears in Claims 1, 3, 6, 7, 11, and 16 of the ‘323 Patent as follows:

> 1. A sling chair comprising a frame . . . ., wherein said frame comprises:
>
> a first side rail and a second side rail defining a seat;
>
> each said first and second side rail having walls defining an open, longitudinal channel therein . . . ;
>
> each said first and second side rail further having an extension section defining a **socket** therein, wherein said extension section extends beyond said longitudinal channel defined in said side rail and said **socket** opens to an interior side of its associated said side rail; and
>
> a rigid cross member having a first end and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said **sockets**.

‘323 Patent at 4:53-67 and 5:1-7 (emphasis added).

> 3. The sling chair according to claim 1, [w]herein each said **socket** of each said side rail has a key shaped configuration to oppose rotation of said cross member in said **socket**.

‘323 Patent at 5:11-13 (emphasis added).

> 6. A sling chair comprising a frame for receiving a fabric panel . . . wherein said frame comprises:
>
> a first side rail and a second side rail;
>
> each said first and second side rail having walls defining an open, longitudinal C-shaped channel therein . . .;

each said first and second side rail further having an extension section defining at least one **socket** therein, wherein said extension section of said side rail extends beyond said longitudinal C-shaped channel and said **socket** opens to an interior side of its associated said side rail; and

a rigid cross member having a first end and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said **sockets**.

'323 Patent at 5:19-38 (emphasis added).

7. The sling chair according to claim 6, wherein each said **socket** of each said side rail has a key shaped configuration to oppose rotation of said cross member in said **socket**.

'323 Patent at 5:39-41 (emphasis added).

11. A sling chair comprising a frame . . ., wherein said frame comprises:

a first side rail and a second side rail defining a seat;

each said first and second side rail having walls defining a[n] interior pocket section within each said side rail;

said first side rail further having a longitudinal neck section opening. . .;

said first side rail further having an extension section defining a **socket** therein, wherein said extension section extends beyond said longitudinal opening defined in said first side rail and said **socket** opens to an interior side of said first side rail; and

said second side rail further having a longitudinal neck section opening. . .;

said second side rail further having an extension section defining a **socket** therein, wherein said extension section extends beyond said longitudinal opening defined in said second side rail and said **socket** opens to an interior side of said second side rail; and

a rigid cross member having a first end and a second end, wherein said first end and said second end of said cross member are dimensioned and configured to be received in close cooperation by a respective one of said **sockets**.

'323 Patent at 5:50-54 and 6:1-31 (emphasis added).

16. The sling chair according to claim 11, wherein each said socket of each said side rail has a key shaped configuration to oppose rotation of said cross member in said **socket**.

'323 Patent at 6:46-49 (emphasis added).

The Plaintiff contends that the term "socket" should be given its plain and ordinary meaning, that is, "a hollow portion into which something fits." See, e.g., http://www.dictionary.com/browse/socket (last visited Feb. 6, 2018) (defining "socket" as "a hollow part or piece for receiving or holding some part or thing"). The Plaintiff argues that a person of ordinary skill would find no basis in the specification to depart from this plain meaning, as the specification simply teaches a socket for receiving a cross member. Additionally, the Plaintiff notes, Figures 2 and 3 show exemplar socket 30 as a dumbbell-shaped hollow portion into which an end of cross member 28 fits.

The Defendant does not construe "socket" individually, but instead construes the entire claim phrase in which "socket" appears along with other elements. Specifically, the Defendant contends that the phrases in Claim 1 of the '624 Patent and Claims 1, 6, and 11 of the '323 Patent which include both the extension and the socket, should be construed as "a section of the side rail which forms an additional length after the slot and includes an opening on the side facing the interior of the chair, where the opening forms a holder to accept a rigid cross member therein."

In support of this construction, the Defendant argues that, in the specification, the patentee expressly distinguished the present invention from prior sling chairs on the basis that the invention includes a section of the side rail which forms an additional length after the slot. '624 Patent at 2:1-3 ("In a departure from conventional slings, the side rail extends beyond the slot, the extension having sockets for accepting the ends of each cross member."); see also '624 Patent at 2:63-65 (describing Fig. 1: "Those portions of side rails 20, 22 extending beyond fabric panel 14, which while [sic] be termed extensions 24, 26, engage a rigid cross member 28."). The Defendant further argues that the specification makes clear that the opening (i.e., sockets) must be on the interior sides of the rails. See '624 Patent at 3:6-8 (describing in Fig. 2 that "[e]ach extension 24 or 26 of side rail 20 or 22

has a socket 30 formed in the interiorly facing surface of the respective side rail 20 or 22. Socket 30 opens to the interior side of its associated side rail 20 or 22…").

The Defendant argues that additional excerpts from the specification support its proposed construction of the term "socket" as an opening that forms a holder to accept a rigid cross member therein. See '624 Patent, Abstract ("Each side rail has an extension bearing a socket *which accepts insertion of* one end of the cross member.") (emphasis added); 2:1-3 ("In a departure from conventional slings, the side rail extends beyond the slot, the extension *having sockets for accepting the ends* of each cross member.") (emphasis added); 2:3-5 ("During assembly, the side rails are spread apart until the cross member are *inserted into engagement* with the side rails.") (emphasis added). Further, the Defendant contends that those skilled in the art would understand by viewing Figures 2 and 3 in the '624 Patent that the invention incorporates the traditional mortise (hole) and tenon (tongue) type joint, which has long been used in the furniture industry. In order for this type of joint to be effective, the Defendant argues, the tenon formed on the end of the cross member must fit *directly* into the mortise or socket.

The Defendant's proposed construction must be rejected. The use of "opening" and "opening forms a holder" to define "socket" creates ambiguity,

as it is unclear whether the "opening" would pass entirely through the side rail (which would prevent the cross member from keeping the side rails spaced-apart) or what "forms a holder" means, as the specification does not use that phrase. Accordingly, the Court adopts the plain meaning construction of the term "socket" proposed by the Plaintiff, that is, a hollow portion into which something fits.

3. "leg"

The term "leg" appears in dependent Claim 2 of the '624 Patent and dependent Claims 2, 9, and 14 of the '323 Patent. Specifically, these claims describe the sling chair claimed in a preceding independent claim along with the following limitation: "at least one leg connected to said first rail and said second rail, wherein said leg projects downwardly from said frame." '624 Patent at 5:10-12; '323 Patent at 5:8-10; 5:44-46; 6:39-42.

The Plaintiff contends that the term "leg" requires only a member to support the sling chair above a floor or ground. The Plaintiff argues that this construction is supported by the specification, which teaches that the sling chair may include legs to support frame 12 above a floor or ground and provides leg assemblies 16 and 18 connected to frame 12 as examples. See '624 Patent at 2:51-2; see also '624 Patent at 4:17-19 ("side rails 20, 22 could incorporate downwardly oriented projections serving in place of separate

legs"); 4:16-17 and 4:39-41 (noting that "legs may be modified from the embodiment depicted" and are shown as "exemplary only and [are] not intended in a limiting sense").

The Defendant does not construe the term "leg" individually, but instead construes entire claim phrases reciting "leg" as "a support for the chair *which contacts* the frame and the ground and projects down from the frame" (for the '624 Patent, Claim 2) or "a support for the chair *which contacts* both the first and second rails and the ground" (for the '323 Patent, Claims 2, 9, and 14). The Defendant contends that its proposed construction is supported by both the prior art, and the dictionary definition of "leg," which defines a leg as a support of a piece of furniture and showing the exemplar types of furniture legs, all of which would contact both the furniture frame and the floor.

The Defendant's construction must be rejected, as it improperly replaces "connected to" with "contact," in contravention of the plain language of the claims. The phrase "connected to" is clear and is consistent with the specification's acknowledgement that legs may be modified from the preferred embodiment. Further, there is no reason to include a limitation that the leg "contacts the both the first and second rails and the ground" as such is neither required by the plain language of the claims or the specification.

Accordingly, the Court construes the term "leg" as used in the '624 and '323 Patents as a member to support the sling chair above a floor or ground.

B. Claim Elements Unique to the '624 Patent

1. "key shaped slot"

The term "key shaped slot" appears in Claims 1, 5 and 6 of the '624 Patent as follows:

> 1. A sling chair comprising a frame . . . wherein said frame includes
>
> a first side rail having an interior side and a second side rail having an interior side, . . . wherein each side rails has
>
> a **key shaped slot** extending longitudinally therealong, wherein said **key shaped slot** of each said side rail has a first section passing entirely through said rail and a second section communicating with said first section and located within said rail, wherein said first section of **each said slot** has a width and said second section of **each said slot** has a width greater than that of said first section of **each said slot** and is dimensioned and configured to receive one said rod after said rod is passed through one said loop of said fabric seat panel ….

'624 Patent at 4:49-67 (emphasis added).

> 5. The sling chair according to claim 1, wherein each said side rail is configured to surround said second section of said **key shaped slot**, wherein only said first section of said **key shaped slot** is exposed at the exterior of said side rail.

'624 Patent at 5:19-22 (emphasis added).

> 6. A sling chair comprising a frame, . . . wherein said frame includes
>
> a first side rail having an interior side and a second side rail having an interior side, . . . wherein each side rail has
>
> a **key shaped slot** extending longitudinally therealong, wherein said **key shaped slot** of each said side rail has a first section passing entirely through said rail and a second section communicating with said first section and located within said rail, wherein said first section of each said sloth has a width and said second section of each said slot has a width greater than that of said first section of each said slot and is dimensioned and configured to receive one said rod after said rod is passed through one said loop of said fabric seat panel, wherein each said side rail is configured to surround said second section of said **key shaped slot**, wherein only said first section of said **key shaped slot** is exposed at the exterior of said side rail, and
>
> an extension bearing a socket therein, wherein said extension extends beyond **said slot** and said socket opens to said interior side of its associated said side rail ….

‘624 Patent at 5:23-31 and 6:1-20 (emphasis added).

The Plaintiff contends that the use of the term “key shaped slot” in the ‘624 Patent refers to the side rail channels that receive the fabric loop 36 and flexible rod 44, and should be construed as “having a relatively wide section inside the side rail and a relatively narrow neck section exposed at the exterior of side rail,” in view of the written description. The Defendant, on

the other hand, construes the term "key shaped" slot to refer to a slot "shaped with a large circular area connected to a smaller rectangular area."

The specification teaches the use of keyhole shaped slots 38, which are described as having a "relatively wide section 40 and a relatively narrow neck section 4" that is "exposed at the exterior of side rail 20 …." '624 Patent at 3:33-39. According to the specification, the "overall visual effect of slot 38 is that of a keyhole." '624 Patent at 3:38. The fabric loop 36 and flexible rod 44 are inserted into the wide section 40 such that the fabric extends out of the neck section 42. '624 Patent at 3:38-44.

The Defendant's proposed construction improperly limits the slot to a specific geometry not even present in the written description. Neither the specification nor the claims reference a *circular* area in a side rail slot, much less specify a specific geometric relationship. Rather, the specification broadly describes slot 38 as having a wide section and narrow neck section, unlimited with respect to either section's shape. Further, the Patent's drawings also fail to support the Defendant's proposed construction. See '624 Patent, Fig. 3 (showing slot 38 as having a rectangular wide section with an hourglass-shaped neck section). The Court concludes that the Plaintiff's proposed construction is true to the claim language and most naturally aligns with the written description. Accordingly, the Court construes the term "key

shaped slot" as a slot having a relatively wide section inside the side rail and a relatively narrow neck section exposed at the exterior of side rail.

2. "an extension bearing a socket therein, wherein said extension extends beyond said slot and said socket opens to said interior side of its associated said side rail"

This element appears in Claim 1 of the '624 Patent as follows:

> 1. A sling chair comprising a frame . . . wherein said frame includes
>
> a first side rail having an interior side and a second side rail having an interior side, . . . wherein each side rail has
>
> a key shaped slot extending longitudinally therealong, . . . and
>
> **an extension bearing a socket therein, wherein said extension extends beyond said slot and said socket opens to said interior side of its associated said side rail** ….

'624 Patent at 4:49-67 and 5:1-4 (emphasis added).

The Plaintiff contends that this element should be given its plain and ordinary meaning, incorporating the Plaintiff's construction for "socket." The Plaintiff further argues that there is no need to define "extension" or other terms in this element with words not found in the specification.

As noted above in the discussion regarding "socket," the Defendant proposes that this element be construed as follows: "a section of the side rail which forms an additional length after the slot and includes an opening on

the side facing the interior of the chair, where the opening forms a holder to accept a rigid cross member therein."

As the Court previously noted, the Defendant's use of "opening" to replace "socket" creates an ambiguity in the construction of this element. The use of the phrase "the opening forms a holder" also adds ambiguity and introduces terms not used in the claims or the specification. Further, defining "extension" as "a section of the side rail which forms an additional length after the slot and includes an opening on the side facing the interior of the chair" is unnecessary, as the specification teaches "the side rail extends beyond the slot, the extension having sockets for accepting the ends of each cross member," a teaching which is consistent with the claim language. '624 Patent at 2:1-3. It is unclear why defining "beyond" the slot as being "after" the slot is necessary, or whether "after" even has a different meaning than "beyond." With this, the Defendant merely advocates the addition of another unnecessary ambiguity.

For all of these reasons, the Court concludes that the element "an extension bearing a socket therein, wherein said extension extends beyond said slot and said socket opens to said interior side of its associated said side rail" should be given its plain and ordinary meaning, incorporating the Court's construction of "socket" stated above.

3. "a rigid cross member having length at least as great in magnitude as said width of said fabric seat panel, a first end, and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said sockets"

This element is set forth in Claim 1 of the '624 Patent as follows:

> 1. A sling chair comprising a frame . . . wherein said frame includes
>
> a first side rail having an interior side and a second side rail having an interior side, . . . wherein each side rails has
>
> a key shaped slot extending longitudinally therealong, . . . and
>
> an extension bearing a socket therein, wherein said extension extends beyond said slot and said socket opens to said interior side of its associated said side rail; and
>
> **a rigid cross member having length at least as great in magnitude as said width of said fabric seat panel, a first end, and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said sockets**.

'624 Patent at 4:49-67 and 5:1-10 (emphasis added).

Apart from construing "rigid cross member" and "socket," the Plaintiff contends that this claim element should be given its plain and ordinary

meaning, as it uses common words in their normal manner that do not require construction.

As discussed above regarding the term “rigid cross member,” the Defendant proposes construing this element as “a generally horizontal member extending past the interior side of the slot in each of the side rails and into the sockets of the rail and where the ends of member have the same shape as and are just slightly smaller in size than the socket so as to be held securely in the socket without need of further securing devices such as screws.”

For the reasons previously stated, the Court rejects the Defendant’s proposed construction of this element. The Court concludes that the element “a rigid cross member having length at least as great in magnitude as said width of said fabric seat panel, a first end, and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said sockets” should be given its plain and ordinary meaning, incorporating the Court’s construction of the terms “rigid cross member” and “socket.”

4. "at least one leg connected to said first side rail and second side rail, wherein said leg projects downwardly from said frame"

Dependent Claim 2 of the '624 Patent claims the sling chair according to independent Claim 1 with the additional element of "at least one leg connected to said first side rail and second rail, wherein said leg projects downwardly from said frame." '624 Patent at 5:11-13.

The Plaintiff argues that this claim language is unambiguous, uses common words, and therefore should be given its plain and ordinary meaning, incorporating the Plaintiff's construction of "leg," as stated above. As noted above, the Defendant proposes to construe this element as "a support for the chair which contacts the frame and the ground and projects down from the frame."

For the reasons previously stated, the Court concludes that this element should be given its plain and ordinary meaning, incorporating the Court's construction of "leg," as stated above.

5. "each said socket of each said side rail is configured as a key opposing rotation of said cross member in said socket"

Dependent Claim 3 of the '624 Patent claims the sling chair expressed in Claim 1, with the additional element that "each said socket of each said side rail is configured as a key opposing rotation of said cross member in

said socket." '624 Patent at 5:13-15. The Plaintiff contends that this element should be construed to mean that the shape of each side rail's socket is non-circular. Based on the socket 30 shown in Figure 2, the Defendant proposes the following construction: "the sockets are shaped with a larger circular area connected to a smaller rectangular area."

The Defendant's proposed construction wrongly assumes that the specification equates "serving as keys opposing rotation" with the *specific* shape of socket 30 in Fig. 2. The Court finds that the shape of socket 30 is more appropriately described "other than as circular" – or non-circular – which causes the sockets to serve "as keys" for a cross member so as to prevent the cross member from rotating, and that the dumbbell-shaped socket 30 in Fig. 2 is only one example of such a key. See '624 Patent at Col. 3:19-22 (noting that Fig. 2 shows a "socket 30 and ends 32, 34 are configured other than as circular, thereby serving as keys opposing rotation of cross member 28 within sockets 30"). Indeed, the specification acknowledges that the precise shape is not critical. '624 Patent at Col. 3:22-25.

For these reasons, the Court concludes that the element "each said socket of each said side rail is configured as a key opposing rotation of said cross member in said socket" should be construed to mean that the shape

of each side rail's socket is non-circular, and that socket is construed as set forth *supra*.

C. Claim Elements Unique to the '323 Patent

1. "key shaped configuration"

The term "key shaped configuration" appears in Claims 3, 7, and 16 of the '323 Patent as follows:

> 3. The sling chair according to claim 1, [w]herein each said socket of each said side rail has a **key shaped configuration** to oppose rotation of said cross member in said socket.

'323 Patent at 5:11-13 (emphasis added).

> 7. The sling chair according to claim 6, wherein each said socket of each said side rail has a **key shaped configuration** to oppose rotation of said cross member in said socket.

'323 Patent at 5:38-41 (emphasis added).

> 16. The sling chair according to claim 11, wherein each said socket of each said side rail has a **key shaped configuration** to oppose rotation of said cross member in said socket.

'323 Patent at 6:46-49 (emphasis added).

The Plaintiff contends that the term "key shaped configuration" as used in the '323 Patent should be construed simply as a configuration having a non-circular shape. The Defendant, on the other hand, contends that the "key shaped" modifier for the term "configuration" should be construed the same as the "key shaped" modifier for the term "slot," discussed *supra*.

Accordingly, the Defendant argues that a "key shaped configuration" should be construed as a configuration which is "shaped with a large circular area connected to a smaller rectangular area."

The specification notes that in Figure 2 of the '624 Patent, "socket 30 and ends 32, 34 are configured other than as circular, thereby serving as keys opposing rotation of cross member 28 within sockets 30." '624 Patent at 3:19-22. As shown in Figure 2, Socket 30 has a dumbbell shape. The Defendant relies upon this drawing to argue in favor of construing "key shaped configuration" to mean that the sockets are shaped with a larger circular area connected to a smaller rectangular area. The Defendant's construction, however, erroneously assumes that the specification equates "serving as keys opposing rotation" with the specific shape of socket 30 in Figure 2. To the contrary, the specification describes the shape of socket 30 as "other than as circular" – or non-circular – which causes the sockets to serve "as keys" opposing rotation for a cross member. Id. The specification makes clear that the dumbbell-shaped socket 30 shown in Figure 2 is only one example of such a key, and that the precise shape is not critical, so long as the shape can resist rotational motion of the cross member. See '624 Patent at 3:22-25. Logically, a circular socket has no surface by which to resist rotational motion of a cross member, whereas a non-circular socket

(whatever shape that may be) could be configured to resist rotation of a counter-surface. To construe "key shaped configuration" as proposed by the Defendant would improperly limit construction of the term to a preferred embodiment.[4] See SciMedLife Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1340 (Fed. Cir. 2001) (describing the reading of a limitation from the specification into the claims as "one of the cardinal sins of patent law").

For all of these reasons, the Court construes the term "key shaped configuration" as a configuration having a non-circular shape.

2. "each said first and second side rail further having an extension section defining a socket therein"

Independent Claims 1 and 6 of the '323 Patent each claim a sling chair comprising a frame which has first and second side rails, with "each said first and second side rail further having an extension section defining a socket therein." '323 Patent at 4:65-67; 5:29-30. The Plaintiff argues that this element requires no construction other than for the term "socket" as set forth above. The Defendant proposes, for the reasons set forth above, that this element should be construed as "a section of the side rail which forms an

[4] Indeed, the embodiment expressed in Figure 2, which is generally shaped as a dumbbell with *two* large circular areas connected to a smaller rectangular area, refutes the Defendant's own proposed construction that the configuration is shaped with only *one* large circular area connected to a smaller rectangular area.

additional length after the slot and includes an opening on the side facing the interior of the chair, where the opening forms a holder to accept a rigid cross member therein."

For the reasons previously stated, the Court concludes that this element should be given its plain and ordinary meaning, incorporating the Court's construction of "socket," as stated above.

3. "a rigid cross member having a first end and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said sockets"

This claim element appears in independent Claims 1, 6, and 11 of the '323 Patent. '323 Patent at 5:4-7; 5:35-38; 6:28-31. The Plaintiff contends that the Court should adopt its constructions of "rigid cross member" and "socket" for the reasons stated above, giving the rest of the element its plain and ordinary meaning. The Defendant proposes that this element should be construed as "a generally horizontal member extending past the interior side of the slot in each of the side rails and into the sockets of the rail and where the ends of member have the same shape as and are just slightly smaller in size than the socket so as to be held securely in the socket without need of further securing devices such as screws."

For the reasons previously stated, the Court concludes that the element that the element "a rigid cross member having a first end and a second end, wherein each one of said first end and said second end of said cross member is dimensioned and configured to be received in close cooperation by one of said sockets" should be given its plain and ordinary meaning, incorporating the Court's construction of the terms "rigid cross member" and "socket."

4. "at least one leg connected to said first rail and said second rail"

Dependent Claims 2, 9, and 14 of the '323 Patent each describe the sling chair claimed in a preceding independent claim along with the following limitation: "at least one leg connected to said first rail and said second rail, wherein said leg projects downwardly from said frame." '323 Patent at 5:8-10; 5:44-46; 6:39-42.

The Plaintiff contends that the term "leg" is the only term in this element that requires construction. As noted above, the Defendant contends that the term "leg" has to be construed in context of the entire phrase, which should be construed as "a support for the chair *which contacts* both the first and second rails and the ground."

For the reasons previously stated, the Court concludes that the element "at least one leg connected to said first rail and said second rail,

wherein said leg projects downwardly from said frame" should be given its plain and ordinary meaning, incorporating the Court's construction of "leg," as stated above.

5. "a key shaped configuration to oppose rotation of said cross member in said socket"

As discussed above with respect to the term "key shaped configuration," this element appears in dependent Claims 3, 7, and 16 of the '323 Patent. As discussed above, the Plaintiff contends that this element should be construed to mean that the shape of each side rail's socket is non-circular. The Defendant proposes the same construction as it does for the "configured as a key" element in Claim 3 of the '623 Patent. For the reasons previously stated, the Court construes the element ""a key shaped configuration to oppose rotation of said cross member in said socket" to mean that the shape of each side rail's socket is non-circular.

6. "said first side rail further having an extension section defining a socket therein"/"said second side rail further having an extension section defining a socket therein"

These elements appear in independent Claim 11 of the '323 Patent and relate to the side rail extensions. '323 Patent at 6:11-27. The Plaintiff contends that these elements should be given their plain and ordinary meaning, incorporating "socket" as discussed above. As discussed above,

the Defendant proposes that these elements should be construed as "a section of the side rail which forms an additional length after the slot and includes an opening on the side facing the interior of the chair, where the opening forms a holder to accept a rigid cross member therein." For the reasons previously stated, the Court concludes that the elements "said first side rail further having an extension section defining a socket therein" and "said second side rail further having an extension section defining a socket therein" should be given their plain and ordinary meaning, incorporating the Court's construction of the term "socket," as discussed above.

O R D E R

IT IS, THEREFORE, ORDERED that the claim construction contained herein shall govern the remaining proceedings of this action.

IT IS FURTHER ORDERED that the parties shall conduct a supplemental attorneys' conference within fourteen (14) days of the entry of this Order and submit to the Court proposed deadlines for inclusion in the Utility Patent Pretrial Order and Case Management Plan within seven (7) days thereafter.

IT IS SO ORDERED.

Signed: February 9, 2018

Martin Reidinger
United States District Judge