United States District Court,
E.D. Missouri, Eastern Division.

ORTHOARM, INC., et al,
Plaintiffs.
v.
FORESTADENT USA, INC., et al,
Defendants.

No. 4:06-CV-730 CAS

May 24, 2007.

Background: Assignee brought action against competitor alleging infringement of patent directed toward bracket for use in dental braces. Court set forth to construed disputed claims.

Holdings: The District Court, Shaw, J., held that:
(1) phrase, "locking shutter," meant portion of bracket that was capable of shutting, closing, making secure, or preventing displacement of archwire;
(2) phrase, "locking shutter," could not be limited to functional embodiments or structures disclosed in specification;
(3) phrase, "locking recess," meant indentation or small hollow that permitted engagement by locking body; and
(4) phrase, "locking body for engaging said locking recess," meant portion of locking shutter or clip that was capable of coming together with or fitting into locking recess.

Claims construed.

5,630,715. Construed.

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MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION REGARDING U.S. PATENT NO. 5,630,715

SHAW, District Judge.

This matter is before the Court on the Motion for Claim Construction filed by plaintiff OrthoArm, Inc. ("Plaintiff" or "OrthoArm"). The defendants are Forestadent USA, Inc., and Dyna Flex Ltd. (collectively referred to as "Defendants" or "Forestadent"). The Court conducted a claim construction hearing on March 6, 2007, and thereafter, the parties submitted proposed orders regarding claim construction. For the reasons set forth below, the Court adopts the constructions proposed by OrthoArm.

I. Background

OrthoArm is the owner by assignment of U.S. Patent No. 5,630,715 ("the '715 patent") titled, "ORTHODONTIC BRACKET WITH AN ENGAGEMENT MECHANISM FOR RETAINING AN ARCHWIRE." OrthoArm alleges that Defendants' sale of certain brackets for use in dental braces, the Forestadent Quick-Bracket(R) dental bracket, infringes either Claim 1 or 12 of the '715 Patent, or both. The original application leading to the issuance of the '715 patent was filed on January 21, 1993. The patent issued on May 20, 1997. Pl.'s Ex. 1.

Dr. John C. Voudouris, a practicing orthodontist, is the sole inventor named on the '715 patent. Dr. Voudouris has been involved in the design and development of dental apparatuses for over seventeen years and also teaches in the Orthodontic Graduate Program at New York University. *See* Pl.'s Ex. 2, ("Voudouris Decl."), at para. 3. Additionally, Dr. Voudouris has published a number of scientific articles in leading orthodontic journals, is a well-known lecturer, and is named as an inventor or co-inventor on at least eleven United States patents relating to orthodontic apparatuses. Id. at para.para. 3-4.

An orthodontic bracket is a device that is secured to a patient's tooth to hold a wire that conforms to the dental arch (known as an archwire), in the patient's mouth. The brackets and wire combine to exert forces on the teeth to align the teeth for the purposes of patient comfort and aesthetics. *Id*. at para. 5. For many years, metal or elastic ligatures were the most common materials used for securing the archwire in a conventional bracket. This method required stretching an elastic ligature or twisting a metal ligature around the tie wings of the bracket and over the archwire. *Id*. at para. 7. Problems with the use of elastic ligatures include significant friction between the archwire and the bracket, frequent need for replacement due to breakage or archwire change, and the attraction of contaminating substances that increase the chances for the transmission of disease and decrease overall oral hygiene. *Id*.

The '715 patent discloses an improved self-ligating bracket. Id. at para. 6. A self-ligating bracket differs from a conventional bracket in that it incorporates a mechanism for securing the archwire as part of the bracket. Id. The '715 patent generally relates to

an edgewise orthodontic bracket having an engagement mechanism for retaining the archwire, and more particularly to a twin bracket having a locking shutter slidably mounted thereon between open and closed positions, whereby the locking shutter allows the placement and removal of an archwire from the bracket in the open position and prevents displacement of the archwire in the closed position without the need for an elastic or metal ligature.

'715 patent, Col. 1, ll. 14-22. According to Dr. Voudouris, the invention claimed and disclosed in the '715 patent is designed to improve upon the appearance, structure, function, and reliability of conventional brackets, and to allow for reduced chair time for the patient by eliminating the need for manually ligating the brackets through the use of a mechanical procedure. *See* Voudouris Decl. at para. 8.

Generally, there are two basic parts to the improved self-ligating bracket claimed and disclosed in the '715 patent: the bracket member or body and the locking shutter or clip. Pl.'s Ex. 1 at Col. 4, ll. 55-61. In the embodiment depicted in Figure 1 of the patent, the clip or shutter portion of the bracket (item 24) slides into an opening in the base of the bracket member (item 22) to engage the locking recess (item 48), close the archwire slot (item 40), and retain the archwire in the slot. *See* Pl.'s Ex. 6 ("Jerrold Decl.") at para. 8. The labial faces of the occlusal and gingival tie wings (items 34 and 36) are identified in this embodiment as item 46. *See* '715 patent at Col. 5, ll. 28-30. The locking shutter or clip portion of this embodiment includes guide bar (item 60), extension arm (item 62), locking body (item 64), mesial locking tab (item 68) and distal locking tab (item 70). Id. at Col. 5, l. 58-Col. 6, l. 12.

Forestadent USA, Inc. is a wholly owned subsidiary of Bernhard Foerster GmbH, a privately held German corporation. Dyna Flex is a distributor of the Forestadent Quick-Bracket(R) dental bracket in the United States.

II. The Law of Claim Construction

[1] [2] The United States Court of Appeals for the Federal Circuit has held that a court must first determine the meaning of relevant claim language to establish the scope of the patent's claims as a predicate for determining the core issues in actions of infringement and validity. *See* Markman v. Westview Inst. Inc., 52 F.3d 967, 979 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Claim construction is a matter of law reserved exclusively for the court. *See* Markman, 517 U.S. at 387, 116 S.Ct. 1384. As the Federal Circuit recently articulated in its landmark decision in *Phillips v. AWH Corp.,* to determine the correct claim construction, a court must follow, first and foremost, the words of the patent claim itself. It is a bedrock principle of patent law that the claims define the invention that the patentee owns, and the court may neither add words to nor subtract words from the claims in the process of construing them. Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005) (en banc); TechSearch, L.L.C. v. Intel Corp., 286 F.3d 1360, 1373 (Fed.Cir.2002) (citing Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 1533 (Fed.Cir.1987)).

"[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms." Phillips, 415 F.3d at 1314. "In some cases, the ordinary meaning of claim language as readily 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.* "The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Id.* at 1313.

[3] [4] Claim terms "are generally given their ordinary and customary meaning," Phillips, 415 F.3d at 1312, unless the patentee demonstrates a clear intent to deviate from the plain and ordinary meaning, or to otherwise disavow claim scope. Id. at 1316. There is a heavy presumption that a claim carries its ordinary and customary meaning. *See* SunRace Roots Enterprise Co. v. SRAM Corp., 336 F.3d 1298, 1302 (Fed.Cir.2003). To overcome this presumption, the patentee must have "demonstrated an intent to deviate from the ordinary and accustomed meaning of a claim term by redefining the term or by characterizing the invention in the intrinsic record by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *See* Teleflex, Inc. v. Ficosa N. Am., Corp., 299 F.3d 1313, 1327 (Fed.Cir.2002).

[5] [6] [7] The claims must "be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979. 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." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). However, courts must guard against importing limitations from the specification into a claim. Phillips, 415 F.3d at 1323.

[8] It is not proper to limit what is claimed to preferred embodiments or specific examples in the specification if the patentee did not demonstrate a clear intent to deviate from the claim terms' ordinary meaning in that way, or to otherwise disavow the claim scope. Teleflex Inc. v. Ficosa N. Am., Corp., 299 F.3d 1313, 1326-28 (Fed.Cir.2002). Thus, the Court must interpret the claims in light of the specification, Markman, 52 F.3d at 979, but avoid impermissibly importing limitations from the specification into the claims. Comark Communications v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998).

In SRI, Int'l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1121 (Fed.Cir.1985), the Federal Circuit, in reversing a grant of summary judgment based on an overly narrow claim construction, succinctly explained why the claim construction analysis must focus on the claims and not the specification. The Court noted that although the District Court "correctly described the specification," "the difficulty is this: claims are infringed, not specifications." Id. at 1121. The Court further stated:

When claim construction is required, claims are construable, as above indicated, in light of the specification, yet that claims are interpreted in light of the specification does not mean that everything expressed in the specification must be read into all the claims. If everything in the specification were required to be read into the claims, or if structural claims were to be limited to devices operated precisely as a specification-described embodiment is operated, there would be no need for claims. Nor could an applicant, regardless of the prior art, claim more broadly than that embodiment. Nor would a basis remain for the statutory necessity that an applicant conclude his specification with claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. It is the *claims* that measure the invention.

Id. (emphasis in original) (internal citations and quotations omitted).

[9] In addition to consulting the specification, the Court "should also consider the patent's prosecution history, if it is in evidence." Markman, 52 F.3d at 980. "The prosecution history, which we have designated as part of the 'intrinsic evidence,' consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent." Phillips, 415 F.3d at 1317. "Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent.... Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent." *Id*.

[10] Courts may also rely on extrinsic evidence in construing claims. Extrinsic evidence is "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." Markman, 52 F.3d at 980. "Within the class of extrinsic evidence, the court has observed that dictionaries and treatises can be useful in claim construction." Phillips, 415 F.3d at 1318. "Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaningof particular terminology to those of skill in the art of the invention." *Id*.

[11] [12] Similarly, expert testimony "can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Id*. *Phillips* confirms that expert testimony can be helpful to the Court in the claim construction process for a variety of purposes and explains that it is only when expert testimony is "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, the written record," or when the expert testimony is "conclusory" and "unsupported" that such testimony is "not useful" to the Court. *Id*. at 1318 (emphasis added). Testimony of the inventor may also be helpful to the Court in the claim construction process in that an inventor is "a competent witness to explain the invention and what was intended to be conveyed by the specification and covered by the claims." Voice Technologies Group, Inc. v. VMC Sys., Inc., 164 F.3d 605, 615 (Fed.Cir.1999).

The Court notes that OrthoArm has submitted Declarations from its expert, Dr. Laurance Jerrold, Dean of the School of Orthodontics at Jacksonville University (Pl.'s Ex. 6), and from the inventor of the patent, Dr. Voudouris (Pl.'s Ex. 2). Defendants have submitted no declarations or extrinsic evidence to refute these Declarations, but have argued that the Court should not consider these Declarations. The Declarations were referenced at the hearing by OrthoArm in support of its proposed claim constructions, and the Court has considered the Declarations for the permissible purposes identified by the Federal Circuit in the *Phillips* and *Voice Technologies* cases.

III. Disputed Claim Language and the Court's Constructions

[13] Only claims 1 and 12 are at issue in this litigation. The parties have stipulated as to the construction of most of the terms and phrases from claims 1 and 12, including terms and phrases that were previously in dispute. *See* Pl.'s Ex. 3 at 2-3; Stipulation Regarding Agreed Upon Construction of Terms and Phrases Formerly in Dispute ("Joint Claim Construction and Prehearing Statement"), filed March 14, 2007 [Doc. 50]. Thus, the only terms and phrases still in dispute are from claim 1 of the '715 patent. The entire claim, with emphasis placed on the disputed terms, is as follows:

A twin edgewise orthodontic bracket for attaching an archwire to a tooth comprising:

a bracket member including a base for attachment to the tooth, said base having an occlusal-gingivally extending opening, at least two sets of spaced apart occlusal and gingival tie wings extending from said base, each set of tie wings having a labial face which has a centrally disposed mesiodistally extending archwire slot segment, the segments of the tie wing sets combining to define an archwire slot of the bracket member for receiving the archwire, and said tie wings having a **locking recess** in the labial faces; and

a slidable **locking shutter** movable between open and closed positions having a guide bar slidably received in said occlusal-gingival opening, **a locking body for engaging said locking recess** without covering the labial or lingual faces of the sets of occlusal and gingival tie wings when in closed position, and an extension arm connecting said guide bar to said locking body and movable between said sets of tie wings, wherein said **locking shutter** is slidably mounted on said bracket between open and closed positions, said locking body having means adapted to align with the sets of tie wings to close the archwire slot by engaging said locking recess,

whereby the **locking shutter** allows placement and removal of the archwire when in the open position and

prevents the displacement of the archwire from the bracket member when in the closed position.

See '715 patent, Col. 16, l. 46-Col. 17, l. 8.

A. "Locking Shutter"

The first term from claim 1 that is in dispute is "locking shutter." The term appears in the second element of claim 1 which reads, "a slidable **locking shutter** movable between open and closed positions...." *See* '715 patent, Col. 16, ll. 59-60 (emphasis added). It also appears in the third element of claim 1, which reads, "whereby the locking shutter allows placement and removal of the archwire when in the open position and prevents the displacement of the archwire from the bracket member when in the closed position." Id. at Col. 17, ll. 5-8 (emphasis added).

Plaintiff proposes that the term "locking shutter" be construed as the "portion of [the] bracket that is capable of shutting, closing, making secure, or preventing displacement." Pl.'s Ex. 3 at 4. Defendants' proposed construction reads as follows:

Locking: fastening, fixing, engaging;

Shutter: A sliding cover that moves between open and closed positions that has a bar that is set into the occlusal-gingival opening and which is capable of locking into place; portion of the bracket that is capable of locking, as defined above.

Id. at 7.

Claim Construction of "Locking Shutter"

The term "locking shutter" is described in the Summary of the Invention at Col. 2, ll. 27-31 as the portion of the bracket which "in the closed position ... prevents the archwire from being displaced." A similar description of the "locking shutter" is provided at Col. 4, ll. 55-61, where the "locking shutter" is said to be "movable" between an "open position for receiving an archwire and closed position for locking an archwire to the bracket." The "locking shutter" is depicted in various embodiments throughout the '715 patent. In the embodiment shown in Figs. 2 and 3, it is depicted as item 24 (in open and closed positions, respectively). In other embodiments, the locking shutter is depicted as a "closure member" or "shutter" (item 132) (Col.12, ll.26-28) in Figs. 28-29, and "closure member" or "shutter" (item 162) (Col.14, ll.46-50) in Figs. 35-39. In all such depictions, the "locking shutter" is shown as a portion of the bracket that is either open to permit placement of the archwire in the slot, or closed to prevent the archwire from becoming displaced.

One aspect of the claimed invention that is important for providing proper treatment is the locking shutter's ability to secure the archwire within the archwire slot, preventing it from becoming displaced, but still permitting it to move to correct the alignment of the teeth, as described in the specification. *See* Col. 5, ll. 49-52 ("When the locking shutter 24 is in the closed position the shutter prevents the archwire from being displaced from the archwire slot 40 while allowing limited labiolingual movement depending on archwire size."); *see also* Col. 7, ll. 4-15 (providing that use of a "relatively small archwire ... allows for some labial movement of the archwire ... while maintaining the archwire in the archwire slot"). OrthoArm's proposed construction captures this aspect of the invention.

By contrast, Defendants' proposal is inconsistent with the claims and the specification. Defendants' terms

"fastening" and "fixing" imply that the locking shutter prevents all movement of the archwire and the shutter. However, the claims and the specification reveal that the locking shutter need only "close" the archwire slot and prevent displacement of the archwire from the bracket when in closed position, not fix the shutter or the archwire in one place. *See* Col. 17, ll. 2-8.

Moreover, as noted above, the invention's functionality requires some movement by the archwire when restrained by the locking shutter, and there is no requirement that the shutter itself be locked into place and immovable. In fact, the specification describes the locking shutter as having a "dual flexibility," which "allows easy movement of the locking shutter between open and closed position and which reacts on the archwire to maintain the archwire in the archwire slot." Col. 6, ll. 52-56; *see also* Col. 10, ll. 52-67 (discussing movement of the locking shutter within the recess). Thus, Defendants' contention that the concepts of "fastening" and "fixing" "are at the very core of Dr. Voudouris' claimed invention," (Defendants' Opening Brief on Claim Construction, "Defendants' Memo," filed February 12, 2007, at 16) is not supported by the intrinsic evidence.

[14] Defendants' emphasis on the concept of "locking" as "the very heart of the invention for which Dr. Voudouris sought a patent," (Defendants' Memo, at 12, 14), is misplaced. It is not supported by the intrinsic evidence and nothing in the file history supports Defendants' position. Moreover, it is incorrect to emphasize one part of a patent as the "heart" of the patent; all claimed aspects must be taken into account. *See* Fuji Photo Film Co., Ltd. v. Int'l Trade Comm'n, 474 F.3d 1281, 1297 (Fed.Cir.2007) ("[T]here is no legally recognizable or protected 'essential element,' 'gist,' or 'heart' of the invention in a combination patent."). The Supreme Court long ago rejected the contention Defendants now advance-that courts should focus on the purported "gist" or "heart" of the invention and ignore other aspects of a claim. *See* Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 344-45, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961).

[15] Defendants attempt to support their proposal by improperly limiting the disputed term to functional embodiments disclosed in the specification. Defendants' Memo at 15. While claim 1 includes a means-plus-function limitation, the phrase "locking shutter" is not part of that limitation. It is therefore incorrect to limit the construction of that phrase to the structures disclosed in the specification. *See* Interactive Gift Express, Inc. v. Compuserve Inc., 231 F.3d 859, 865 (Fed.Cir.2000); Northern Telecom Ltd. v. Samsung Electronics Co., 215 F.3d 1281 (Fed.Cir.2000); Rhine v. Casio, 183 F.3d 1342, 1346 (Fed.Cir.1999).

Finally, the Court notes that the extrinsic evidence supports OrthoArm's position. The dictionary definitions of the terms "lock" and "shutter" support construction of the term "locking shutter" as the portion of the bracket that is capable of shutting, closing, making secure, or preventing displacement. To "lock" is "to shut or make secure by or as if by locking." *See* Pl.'s Ex. 4 at 739, The American Heritage Dictionary: Second College Edition; *see also* Pl.'s Ex. 5 at 786, The Random House College Dictionary: Revised Edition. A "shutter" is a thing that "shuts," or "closes."*See* Pl.'s Ex. 5. at 1220, Random House College Dictionary.

Plaintiff's expert witness, Dr. Jerrold, and the inventor, Dr. Voudouris, have submitted Declarations which confirm that Plaintiff's proposed construction is consistent with the understanding of the term in the relevant art. They agree that, based on their review of the patent, the specification, and the file history, the term "locking shutter" is understood in the art of design and use of orthodontic brackets as a device that shuts, closes, makes secure, or prevents displacement of the archwire from the slot. *See* Voudouris Decl. at para. 11; Jerrold Decl. at para.para. 10-12. Dr. Jerrold also notes that the locking shutter is designed to allow some movement of the archwire in the slot and not to fasten or fix the archwire in one position. Jerrold Decl. at para. 10. Defendants have submitted no evidence to refute the testimony in these Declarations, and it is

appropriate to consider these Declarations to confirm the constructions proposed by OrthoArm.

Accordingly, the Court construes the term "locking shutter" as the "portion of bracket that is capable of shutting, closing, making secure, or preventing displacement of the archwire."

B. "Locking Recess"

[16] "Locking recess" is the next disputed term in claim 1. This term appears in the first element of claim 1 as follows: "said tie wings having a **locking recess** in their labial faces." *See* '715 patent, Col. 16, ll. 57-58 (emphasis added). Plaintiff proposes that the term be construed as follows: "an indentation or small hollow that permits engagement by the locking body." Pl.'s Ex. 3 at 5. Defendants' proposed construction of this term is:

A definite and pronounced structure, consisting of an indentation or depression whose purpose is to complete locking the structure in place in a corresponding structure when in the closed position. The indentation that comprises the locking recess must be a structure separate and independent from the archwire slot.

Id. at 6.

Claim Construction of "Locking Recess"

The term "locking recess" is discussed in the prosecution history and the prior art cited by the Patent Examiner during prosecution of the patent. The Examiner identified U.S. Patent No. 4,492,573 to Hanson (Pl.'s Ex. 7) as including locking recesses in the labial faces of the tie wings and rejected certain proposed prosecution claims based on Hanson. *See* Pl.'s Ex. 8 at 3, Office Action dated Feb. 2, 1994. The features of the Hanson reference identified by the Patent Examiner are two small indentations in the labial face of the bracket (items 60 and 64) in Figs. 1 and 2 of Hanson. Id. Figures 1 and 2 of the Hanson patent show how the free end (item 58) of the retainer member (item 48) comes together with and fits into (engages) one of the locking recesses (item 60) when in closed position. *See* Ex. 7, Col. 3, l. 64-Col. 4, l. 57.

OrthoArm's proposed construction is also supported by the common dictionary definition of the word "recess," which is "an indentation or small hollow" or a "receding part or space." *See* Pl.'s Ex. 4 at 1033, American Heritage Dictionary; Pl.'s Ex. 5 at 1102, Random House College Dictionary. Persons of ordinary skill in the art understand the term "locking recess" to mean a recess-i.e., an indentation or small hollow-that permits engagement by the locking body. *See* Voudouris Decl. at para.para. 13-14; Jerrold Decl. at para.para. 17-20.

Defendants ask the Court to construe the term "locking recess" as "a definite and pronounced structure, consisting of an indentation or depression whose purpose is to complete locking the structure in place in a corresponding structure when in the closed position. The indentation that comprises the locking recess must be a structure separate and independent from the archwire slot." *See* Pl.'s Ex. 3 at 7. The Court cannot accept this proposal.

As defined in the dictionary cited by Defendants, a "recess" is "any small depression or indentation." *See* id. at 7 (emphasis added). Yet, Defendants propose that the term be defined (contrary to its own dictionary definition) to require a "definite and pronounced" depression or indentation, rather than "any" depression or indentation. Defendants also attempt to add the limitation that the locking recess is a "structure separate and

independent from the archwire slot." This creates a redundancy in the claim language because it is clear from the claim itself that locking recess and slot are different features. The additional limitations inserted by Defendants unnecessarily complicate the plain and ordinary meaning of the term "locking recess."

[17] As support for this construction, at page 19 of their Memorandum, Defendants refer to one specific example of a "locking recess" disclosed in the specification, wherein a "combination of opposing notches 44 on each set of occlusal and gingival tie wings defines a locking recess 48, as best illustrated in Fig. 7. Each notch 44 on each of the four tie wings includes an upstanding wall 50 and a shoulder 52." Col. 5, ll. 31-34. This exemplar structure, however, is specifically claimed in dependent claim 2, which provides: "The edgewise orthodontic bracket defined in claim 1, wherein said locking recess consists of opposing notches in the occlusal and gingival tie wings, each said notch having an upstanding portion and a shoulder portion." Col. 17, ll. 9-12. Construing claim 1 as limited to the structure described in connection with this embodiment would violate the claim differentiation doctrine. FN1

FN1. Under the claim differentiation doctrine, each claim in a patent is presumptively different in scope. *See* SunRace, 336 F.3d at 1302-03. "This presumption is especially strong where there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, and that limitation is the only meaningful difference between the two claims." Ecolab, Inc. v. Paraclipse, Inc., 285 F.3d 1362, 1375 (Fed.Cir.2002) (internal quotation omitted).

Defendants' proposal does not comport with the plain and ordinary meaning of the disputed term, nor does it comply with the principles of claim construction. Defendants' attempt to limit the scope of the claim language to the structures disclosed in the specification is at odds with the case law cited by both Plaintiff and Defendants. In particular, the Court notes that Dayco Products, Inc. v. Total Containment, Inc., 258 F.3d 1317 (Fed.Cir.2001), cited at pages 5-6 of Defendants' Memo, involved a case where an accused infringer offered claim constructions that were unduly limiting and inconsistent with the plain meaning of the terms and phases of the patent and the prosecution history. The District Court adopted those constructions and granted the accused infringer's motion for summary judgment of noninfringement. Id. at 1324-25. The Federal Circuit reversed that judgment because the District Court's claim constructions "erroneously read an additional limitation into the claim language," and construed the disputed terms "contrary to the plain meaning of the limitation." Id. at 1325. In defense of the District Court's proposed construction, the accused infringer invited the Federal Circuit to "embark on a speculative and convoluted reading of the claim language, the specification, and the prosecution history." Id. at 1324. The Federal Circuit declined to do so. Id. at 1325. This Court must follow the Federal Circuit's lead and decline Defendants' invitation to adopt a construction of the disputed terms and phrases that is unduly limiting and at odds with the plain and ordinary meaning of the claim language, the specification, the prosecution history, and the extrinsic evidence of record.

Accordingly, for all the foregoing reasons, the Court construes the term "locking recess" as "an indentation or small hollow that permits engagement by the locking body."

C. "Locking Body for Engaging Said Locking Recess"

[18] The final phrase in dispute among the parties, which appears in the second element of claim 1, is "locking body for engaging said locking recess." '715 patent, Col. 16, ll. 61-62. Plaintiff proposes that the phrase be construed as follows: "the portion of the locking shutter or clip that is capable of coming together

with or fitting into the locking recess." Pl.'s Ex. 3 at 6. Defendants propose the following construction:

The locking body is a structure, as shown in the '715 patent figures, that engages with, that is, locks or fastens in a fixed position into the definite and pronounced indentation (the locking recess) that serves to hold the locking body in place when in the closed position, but without covering the lip or tongue structures of the tie wings, but only when in the closed position.

Id. at 8.

Claim Construction of "Locking Body for Engaging Said Locking Recess."

The "locking body" referred to in the disputed phrase is depicted in one embodiment as item 64 in Figures 2 (open position) and 3 (closed position). The specification at Col. 6, ll. 6-17 and 23-35, explains how the locking body (item 64) of one embodiment of the invention engages (comes together with and fits into) the locking recess. Descriptions of how the locking body of other embodiments engages the locking recess appear at Col. 8, ll. 15-19 and Col. 10, ll. 52-57. The specification refers to Figures 3 and 8 as illustrations of how the locking shutter of this embodiment engages the locking recess (item 48). Other depictions of how the locking body engages the locking recess of other embodiments appear at Figures 13 and 14, 18 and 22, and 23 and 24.

The term "engage" is commonly defined as "to interlock" or, in other words, to "fit together." Pl.'s Ex. 5 at 438, 695, Random House College Dictionary. The claim, specification and plain and ordinary meaning of the phrase all support construction of the phrase "locking body for engaging said locking recess," as "the portion of the locking shutter or clip that is capable of coming together with or fitting into the locking recess." This construction is confirmed by the opinions of two persons skilled in the art. *See* Voudouris Decl. at para. 15; Jerrold Decl. at para.para. 21-23.

Defendants' proposal, "the locking body is a structure, as shown in the ' 715 patent figures, that engages with, that is, locks or fastens in a fixed position into the definite and pronounced indentation (the locking recess) that serves to hold the locking body in place when in the closed position, but without covering the lip or tongue structures of the tie wings, but only when in the closed position," if read into the claim language, would result in redundancy and complication, and the Federal Circuit has specifically stated that claim construction "is not an exercise in redundancy." U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997).

For example, the claim specifies that the "locking body for engaging said locking recess" engages the locking recess "without covering the labial or lingual faces of the sets of occlusal and gingival tie wings." Defendants' proposal incorporates this pre-existing limitation by requiring that the locking recess "hold the locking body in place when in the closed position, ***but without covering the lip or tongue structures of the tie wings,*** but only when in the closed position ***without covering the labial or lingual faces*** of the sets of occlusal and gingival tie wings." (Emphasis added.) It also repeats, unnecessarily, the requirement in the claim that the locking body engage the locking recess "when in closed position" such that claim 1 would read, if construed as Defendants propose, as follows: "***but only when in the closed position*** without covering the labial or lingual faces of the sets of occlusal and gingival tie wings ***when in closed position.***" (Emphasis added). Defendants' proposal also suggests that the locking body must remain in a fixed position once it engages the locking recess. As noted above, this is incorrect and inconsistent with the way the specification describes how the bracket operates. Therefore, Defendants' proposal is rejected.

Accordingly, for all the foregoing reasons, the Court construes the phrase "locking body for engaging said locking recess," in accordance with its plain meaning as "the portion of the locking shutter or clip that is capable of coming together with or fitting into the locking recess."

IV. Conclusion

For all the foregoing reasons, the Court concludes that the constructions of the disputed terms and phrases proposed by Plaintiff OrthoArm are correct and adopts those constructions.

Accordingly,

IT IS HEREBY ORDERED that plaintiff OrthoArm's Motion for Claim Construction is **GRANTED** as set forth in this Memorandum and Order. [Doc. 39]

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