

NOT FOR PUBLICATION

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY**

COCHLEAR LTD.,

Plaintiff and Counterclaim-
Defendant,

v.

OTICON MEDICAL AB and OTICON
MEDICAL LLC,

Defendants and
Counterclaim-Plaintiffs.

Civil Action No. 3:18-cv-6684-BRM-DEA

OPINION

MARTINOTTI, DISTRICT JUDGE

Before this Court are the applications by Plaintiff/Counterclaim-Defendant Cochlear Ltd. (“Cochlear” or “Plaintiff”) and Defendants/Counterclaim-Plaintiffs Oticon Medical AB and Oticon Medical LLC (“Oticon” or “Defendants”) for claim construction to resolve disputes over the construction of six claim terms in U.S. Patent No. 9,838,807 (“the ‘807 Patent”): “circumferential groove”; “screw thread”; “threaded tapered portion”; “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture”; “a flange configured to function as a stop . . . adapted to the rest on top of the bone”; and “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone.”

This Court has examined the disputes over the construction of these claim terms and, on June 19, 2019, held a hearing pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). For the reasons set forth in this Opinion, this Court defines the six disputed claim terms as follows: (1) “circumferential groove” means “a narrow channel extending around the

cylindrical periphery of the main body of the implant”; (2) “screw thread” means “a helical ridge on a cylindrical or conical surface”; (3) “threaded tapered portion” means “a portion of the implant that narrows on one end and comprises a screw thread”; (4) “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture” means “wherein a maximum width of the bone fixture differs from its height by no more than 30%”; (5) “a flange configured to function as a stop . . . adapted to the rest of the bone” means “a protruding rim extending outwardly that has a planar bottom surface and that is designed to rest on top of the bone”; and (6) “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone” means “a wider portion adjacent to the flange than at the distal end and equivalents [structure]” and “exerting a compression onto the skull bone in a radial direction [function].”

I. BACKGROUND

This case arises out of an action for patent infringement instituted by Cochlear against Oticon. Cochlear is an Australian corporation that develops and manufactures bone anchored hearing systems. (Complaint (ECF No. 1) ¶¶ 1-2.) Cochlear sells its product in the United States through its subsidiary Cochlear Americas, a Colorado corporation. (Mendel Decl. (ECF No. 3-4) ¶ 2.) Oticon Medical AB, a Swedish corporation, and Oticon Medical, LLC, a New Jersey corporation are both subsidiaries of the William Demant Group, a hearing healthcare company with a presence in over 130 countries. (Olsen Decl. (ECF No. 37-1) ¶¶ 1, 16.)

On December 5, 2017, the United States Patent and Trademark Office (“USPTO”) issued the ‘807 Patent to Cochlear for its “Bone Anchor Fixture for a Medical Prosthesis.” (ECF No. 1-

1.)¹ To improve stability and promote osseointegration,² the ‘807 Patent discloses novel features for a bone conduction implant, including a tapered portion (labeled as 108 in figures one and two to the ‘807 Patent), a flange for providing a stop (labeled as 103), and a circumferential groove between the flange and the threads (labeled as 117). (ECF No. 1-1 at 1:19-67; ECF No. 72; Courtney Decl. (ECF No. 73-3).) The ‘807 Patent asserts there was a need for an implant featuring a higher “initial stability.” (ECF No. 1-1 at 2:13-15.) The bone anchor fixture seeks to attain this by disclosing a fixture comprised of a main body and a second body with a tapered portion. (*Id.* at 2:1-9.)

Independent claims 1 and 8 feature five of the six disputed terms. Claim 1 reads:

1. An anchoring fixture for anchoring a prosthesis to a skull bone comprising:
a **screw thread** apparatus including a **screw thread** having a varying outer diameter;
a flange configured to function as a stop for the anchoring fixture adapted to rest on top of the bone when the anchoring fixture is implanted into the bone;
and a **circumferential groove** located, with respect to a side of the flange, on the anchoring fixture on a threaded side of the anchoring fixture,
wherein the anchoring fixture is configured for anchoring a hearing prosthesis component to the skull bone at a location behind an external ear so that sound is transmitted from the hearing prosthesis via the skull bone to the cochlea.

(ECF No. 1-1, cl. 1) (emphasis added).

¹ The prosecution history of the ‘807 Patent is unremarkable. On October 26, 2015, Cochlear filed for a patent, and on October 25, 2017, the Examiner made amendments to the claims to put them in their current form so as to distinguish them over the closest prior art. (Rentschler Decl. (ECF No. 72), Ex. C.) Nothing in the prosecution history provides significant guidance to the interpretation of the claims at issue in this litigation. (*Id.* ¶ 18.)

² Osseointegration is the process by which new bone binds with the implant surface and the implant exhibits mechanical stability allowing the load-carrying implant to conduct hearing. (ECF No. 3-4 ¶ 9.) Improved osseointegration promotes implant stability and allows the implant to be loaded to the living bone sooner. (ECF No. 3-4 ¶ 9; ECF No. 37-1 ¶¶ 9-10.)

Claim 8 reads:

8. A bone fixture configured to anchor to bone, comprising:
a **threaded tapered portion, wherein a maximum width of the bone fixture is about the same as a height of the bone fixture;**
a **flange configured to function as a stop** for the bone fixture **adapted to rest on top of the bone when the bone fixture is implanted into the bone;** and
a circumferential groove located, with respect to a side of the flange, on the bone fixture on a threaded side of the bone fixture, wherein the bone fixture is configured to anchor a hearing aid prosthesis to a skull bone at a location behind an external ear of a recipient so that sound is transmitted from the hearing prosthesis via the skull bone to the cochlea.

(*Id.*, cl. 8) (emphasis added).

The sixth disputed terms is included only in a dependent claim limitation, claim 35, which states:

35. The anchoring fixture of claim 1, wherein:
the anchoring fixture includes a **means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone.**

(*Id.*, cl. 35) (emphasis added).

II. PROCEDURAL HISTORY

On April 13, 2018, Cochlear filed a Complaint (the “Complaint”) against Defendants asserting an infringement of the ‘807 Patent. (ECF No. 1.) On the same date, Cochlear filed a Motion for a Preliminary Injunction by Order to Show Cause, pursuant to Federal Rule of Civil Procedure 65, seeking to enjoin and restrain Oticon from “making, using, offering to sell, and selling within the United States, and importing into the United States, the Ponto BHX Implant or any colorable imitations thereof.” (ECF No. 3-2.) On October 16, 2018, this Court held oral argument on Cochlear’s Motion for a Preliminary Injunction pursuant to Federal Rule of Civil Procedure 78(a). On October 26, 2018, this Court issued an Opinion and Order denying

Cochlear's Motion for a Preliminary Injunction. (ECF Nos. 54 & 55.)

On November 28, 2018, the parties filed a joint claim construction and prehearing statement, pursuant to Local Patent Rule 4.3. (ECF No. 56.) On January 18, 2019, both Cochlear and Oticon filed their opening *Markman* briefs. (ECF Nos. 71 & 73.) On March 1, 2019, both Cochlear and Oticon filed their *Markman* reply briefs. (ECF Nos. 78 & 77.) On March 15, 2019, the parties filed a joint proposed schedule for the *Markman* hearing, which this Court approved on March 18, 2019. (ECF Nos. 80 & 81.)

On June 19, 2019, this Court held a *Markman* hearing, at the conclusion of which this Court ordered supplemental briefing on the claim terms “circumferential groove” and “a flange configured to function as a stop . . . adapted to the rest on top of the bone.” (ECF No. 95.) On July 10, 2019, the parties simultaneously submitted supplemental claim construction briefs. (ECF Nos. 98 & 99.)

III. LEGAL STANDARD

Claims define the scope of the inventor's right to exclude. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). Claim construction determines the correct claim scope and is a determination reserved exclusively for the court as a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 978-79 (Fed. Cir. 1995) (*en banc*). Indeed, the court can only interpret claims and “can neither broaden nor narrow claims to give the patentee something different than what it has set forth” in the specification. *E.I. Du Pont de Nemours v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1998). A court's determination “of patent infringement requires a two-step process: first, the court determines the meaning of the disputed claim terms, then the accused device is compared to the claims as construed to determine infringement.” *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 804 (Fed. Cir. 2007).

This interpretive analysis begins with the language of the claims, which is to be read and understood as it would be by a person of ordinary skill in the art. *Dow Chem. Co. v. Sumitomo Chem Co.*, 257 F.3d 1364, 1372 (Fed. Cir. 2001); *see also Markman v. Westview Instruments*, 52 F.3d 967, 986 (Fed. Cir. 1995) (*en banc*), *aff'd, Markman*, 517 U.S. 370 (holding that “[t]he focus [in construing disputed terms in claim language] is on the objective test of what one of ordinary skill in the art at the time of invention would have understood the terms to mean”); *Phillips*, 415 F.3d at 1312-13. In construing the claims, the court may examine both intrinsic evidence (e.g., the patent, its claims, the specification, and the prosecution history) and extrinsic evidence (e.g., expert reports and testimony). *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999).

The analysis of claim language begins with determining the “ordinary and customary meaning of a claim term[, which] is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. Further, the language should not be read solely in the context of the claim under review; instead, it should be analyzed “in the context of the entire patent” and with an understanding of how that language is used in the field from which the patent comes. *Id.* In conducting this review, a different interpretation is placed on a term located in an independent claim than on those located in dependent claims, and it is understood that each claim covers different subject matter. *Saunders Grp., Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1331 (Fed. Cir. 2007) (quoting *Phillips*, 415 F.3d at 1315 (holding that the “presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim”))).

In reviewing the language of a patent, “the court starts the decision-making process by reviewing the same resources as would [a person or ordinary skill in the art in question], *viz.*, the patent specifications and the prosecution history.” *Phillips*, 415 F.3d at 1313 (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)). When “the ordinary meaning of claim language as understood by a person of skill in the art [is] readily apparent,” understanding claim construction “involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. “In such circumstances, general purpose dictionaries may be helpful” to explain the terms used. *Id.*

Often times, however, the ordinary meaning of the claim language is not readily apparent, and in such circumstances, courts look to “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.” *Id.* Those sources may include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.* Furthermore, claims must be read in view of the claim specification, which is of seminal importance in providing framework for understanding the claim language. As the Federal Circuit in *Markman* explained:

The specification contains a written description of the invention that must enable one of ordinary skill in the art to make and use the invention. For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. As we have often stated, a patentee is free to use his [or her] own lexicographer. The caveat is that any special definition given to a word must be clearly defined in the specification. The written description part of the specification itself does not delimit the right to exclude. That is the function and the purpose of the claims.

Markman, 52 F.3d at 979-80.

This Court’s reliance on the specification is appropriate given the Patent and Trademark Office’s rules requiring “that application claims must ‘conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent bases in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.’” *Phillips*, 415 F.3d at 1316-17 (quoting 37 C.F.R. § 1.75(d)(1)). During this analysis, however, courts should not “import limitations from the specifications into the claims.” *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1370 (Fed. Cir. 2008) (quoting *CollegeNet, Inc. v. ApplyYourself, Inc.*, 418 F.3d 1225, 1231 (Fed. Cir. 2005)).

The patent’s prosecution history is also of “primary significance in understanding the claims.” *Markman*, 52 F.3d at 980. “The prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Phillips*, 415 F.3d at 1317. Further, the prosecution history is also relevant to determining whether the patentee disclaimed or disavowed the subject matter, thereby narrowing the scope of the claim terms. *Seachange Int’l, Inc. v. C-Cor Inc.*, 413 F.3d 1361, 1372-73 (Fed. Cir. 2005).³

³ “[I]n certain cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006) (quoting *Phillips*, 415 F.3d at 1316) (internal citations omitted). In such cases, the Federal Circuit interprets the claim more narrowly than it otherwise would in order to give effect to the patentee’s intent to disavow a broader claim scope. *Ventana*, 473 F.3d at 1181 (citing *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1319-20 (Fed. Cir. 2006); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1342-44 (Fed. Cir. 2001)). However, pointing solely to “general statements by the [patentee] indicating that the invention is intended to improve upon prior art” will not demonstrate that the patentee intended to “disclaim every feature of every prior art device discussed in the ‘BACKGROUND ART’ section of the patent.” *Ventana*, 473 F.3d at 1181; *see also Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d

In addition to intrinsic evidence, a court may also rely on extrinsic evidence in interpreting a claim. *Phillips*, 415 F.3d at 1317. Extrinsic evidence consists of “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Id.* (citations omitted). However, while extrinsic evidence “can shed useful light on the relevant art,” it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* Extrinsic evidence should be “considered in the context of intrinsic evidence,” as there are flaws inherent in the exclusive reliance on extrinsic evidence, including, *inter alia*, biases, inadvertent alterations of meanings, and erroneous contextual translations. *Id.* at 1318-19. Furthermore, extrinsic evidence should not be relied upon where “an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

IV. DECISION

This Court addresses the interpretation of the six disputed terms in the ‘807 Patent – “circumferential groove,” “screw thread,” “threaded tapered portion,” “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture,” “a flange configured to function as a stop adapted to the rest of the bone,” and “means for exerting a compression onto

1362, 1366 (Fed. Cir. 2012) (“Mere criticism of a particular embodiment encompassed in the plain meaning of a claim term is not sufficient to rise to the level of clear disavowal.”)

Moreover, the Federal Circuit has found it “particularly important not to limit claim scope based on statements made during prosecution “[a]bsent a clear disavowal or contrary definition.”” *Digital Vending Servs. Int’l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1273 (Fed. Cir. 2012) (citing *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1286 (Fed. Cir. 2011) (quoting *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004))). The reason for such a stringent rule is “because the prosecution history represents an ongoing negotiation between the PTO and the application,” and “it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Digital Vending*, 672 F.3d at 1273 (quoting *Phillips*, 415 F.3d at 1317).

the skull bone in a radial direction to stabilize the fixture in the skull bone” – in turn.

A. The Meaning of “circumferential groove”

The parties each propose a different claim construction for the term “circumferential groove.” Cochlear proposes that “circumferential groove” be construed to mean “a long narrow channel around part or all of a circular periphery of the implant.” (ECF No. 71 at 10.) Meanwhile, Oticon proposes that “circumferential groove” be construed to mean “a channel, distinct from the screw thread and distinct from the flange, extending around the cylindrical portion of the main body of the anchor, having an inner diameter and an outer diameter, that exerts a compressive radial force on the skull bone to improve stability of the anchoring fixture.” (ECF No. 73 at 8.)

At the outset, the parties agree on the definition of “groove.” The term does not have any particular meaning in the art that differs from its general plain and ordinary meaning. (ECF No. 72 ¶ 19.)⁴ Accordingly, the Court accepts the parties’ definition of a “groove” as a “narrow channel.”

Cochlear contends Oticon’s proposal to include the descriptors “distinct from the screw thread and distinct from the flange,” “extending around the cylindrical portion of the main body of the anchor,” and “exerts a compressive radial force on the skull bone to improve stability of the anchoring fixture” is improper as this construction “seeks to add various requirements that it perceives are present in the preferred embodiments” of the ‘807 Patent. (ECF No. 71 at 11.) Oticon argues that its proposed construction is consistent with the explicit terms of the ‘807

⁴ Dictionary definitions for “groove” are entirely consistent with the construction the parties intend to provide to it in the ‘807 Patent. Webster’s New College Dictionary defines “groove” as “[a] long, narrow furrow or channel” (ECF No. 72, Ex. E), the Webster Encyclopedic Dictionary defines “groove” as “a channel, usually an elongated narrow channel” (ECF No. 72, Ex. F), and Random House Webster’s Unabridged Dictionary defines “groove” as “a low, narrow cut or indentation in the surface” (ECF No. 72, Ex. G).

Patent, is consistent with figures 1 and 2 depicting the bone anchor fixture, and is necessary to distinguish distinct portions of the bone anchor fixture – such as the circumferential groove from the thread and the flange – which are labeled as separate component parts of the bone anchor fixture. (ECF No. 73 at 9-15.)

i. “distinct from the screw thread and from the flange”

Oticon argues the “claim language makes clear that the circumferential groove is separate from both the flange and the screw thread” as, *inter alia*, claim 1 separately requires each element. (ECF No. 73 at 10.) Cochlear contends the claim language is consistent with the circumferential groove “merging” with the flange and screw thread – rather than being distinct from such elements – and that Oticon’s construction must fail as it excludes preferred embodiments of the ‘807 Patent. (ECF No. 71 at 10-14.)

In interpreting a patent, courts interpret separate claim terms to be distinct claim components. *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (holding that a “claim construction that gives meaning to all of the terms of the claim is preferred over one that does not”); *see also Pause Tech., LLC v. TiVo, Inc.*, 419 F.3d 1326, 1334 (Fed. Cir. 2005) (“In construing claims . . . we must give each claim term the respect it is due . . .”). However, “the use of two terms in a claim requires that they connote different meanings, not that they necessarily refer to two different structures.” *Applied Med. Res. Corp. v. United States Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312-19.)

As the terms of the patent are controlling, this Court first turns to the definition provided in the ‘807 Patent. The ‘807 Patent defines the circumferential groove separately from the flange and screw thread, stating in pertinent part:

Circumferentially oriented grooves **117** [the circumferential grooves] may extend completely or partly around the periphery of

the main body. In the embodiment shown in FIGS. 1 and 2 there are three separate grooves as an example. As an alternative, the grooves may be formed as a screw thread, which may have the same pitch as main screw thread **108**, but having a inner diameter **128** that is greater than the inner diameter **124** of main screw thread **108**, so that the height of the grooves **117** would only be approximately 1/3 or less of the height **134** of main screw thread **108** ($126-124 = 134$). In one embodiment, the extension of the second wide diameter portion **102C** in the longitudinal direction of the fixture is about 15-25% of the total height of the fixture.

(ECF No. 1-1 at 5:15-27.)

While the '807 Patent defines the screw thread and flange as having a separate function from the circumferential grooves, nothing in the claims, specification, or prosecution history of the '807 Patent indicates that the circumferential grooves must be physically distinct, rather than merely functionally distinct, from the flange or the screw thread. Indeed, figure 2 of the '807 Patent displays the circumferential grooves, labeled as 117, as extending from the main screw thread, labeled as 108, and merging into the flange, labeled as 112. (ECF No. 1-1, fig. 2.) The '807 Patent only requires that the circumferential grooves be "located, with respect to a side of the flange, on the anchoring fixture on a threaded side of the anchoring fixture." (*Id.* at 5:63-64; *id.* at 6:22-37.)

Oticon's reliance on *Becton, Dickinson & Co. v. Tyco Healthcare Grp, LP*, 616 F.3d 1249 (Fed Cir. 2010) for the proposition that "the use of different terms to address different claim elements indicates that the elements are distinct from one another" is misplaced. (ECF No. 73 at 10.) In *Becton*, the Federal Circuit held that where "a claim lists elements separately, 'the clear implication of the claim language' is that those elements are 'distinct component[s] of the patented invention.'" *Id.* at 1254 (quoting *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004)). However, the *Becton* court noted that this did not constitute a *per se* rule and that different terms constituted distinct elements only so long as "nothing in the asserted claims []

suggest[ed]” otherwise. *Becton*, 616 F.3d at 1254 (citing *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co.*, 224 F.3d 1308, 1317 (Fed. Cir. 2000)).⁵ Here, Cochlear has pointed to intrinsic evidence – including explicit claim language in the ‘807 Patent and the figures contained therein – clearly indicating that the circumferential groove extends from the screw thread and the flange rather than being physically distinct components from one another.

Moreover, it is “axiomatic that ‘claims, not the specification embodiments, define the scope of protection.’” *Dow Chem.*, 257 F.3d at 1378 (quoting *Am. Permahedge, Inc. v. Barcana, Inc.*, 105 F.3d 1441, 1444 (Fed. Cir. 1997)). However, “it is also well established that a claim construction that excludes a preferred embodiment is ‘rarely, if ever, correct.’” *Dow Chem.*, 257 F.3d at 1378 (quoting *Vitronics*, 90 F.3d at 1583). “This is because ‘it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way.’” *Dow Chem.*, 257 F.3d at 1378 (quoting *Hoechst Celanese Corp. v. BP Chem. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996)).

Here, Oticon’s expert, Dr. Wilson Hayes, testified that figure 2 of the ‘807 Patent discloses the circumferential grooves merging into the screw thread. (ECF No. 78-1, Ex. A at 67:24-68:17.)⁶ As figure 2 does indeed display such a merge, Oticon’s proposal to add the limiting language “distinct from the screw thread and distinct from the flange” is unnecessarily narrow, not supported by the figures included in the ‘807 Patent or the text of the ‘807 Patent

⁵ Unlike here, the court in *Becton* concluded that the structure would be rendered “nonsensical” and essentially “inoperable” if the claim terms were not interpreted as distinct. *Becton*, 616 F.3d at 1255.

⁶ Dr. Hayes further testified that there appeared to be “an extension . . . of the sloped wall of the circumferential [groove]” and a “run-out area” at its meeting point with the screw thread. (ECF No. 78-1, Ex. A at 68:19-71:12.)

itself, and excludes a preferred embodiment whereby the circumferential groove merges with the screw thread.

Furthermore, certain dependent claims in the '807 Patent also confirm that the circumferential grooves need not be structurally distinct from the flange and the screw thread but may “extend” therefrom. Dependent claims may broaden the court’s interpretation of the scope of an independent claim to ensure that the dependent claim fits within its scope. *See Alcon Res., Ltd. v. Apotex, Inc.*, 687 F.3d 1362, 1367-68 (Fed. Cir. 2012). Courts should look to the “larger context of this patent” in supporting the claim meaning. *Ortho-McNeil Pharm, Inc. v. Mylan Labs, Inc.*, 520 F.3d 1358, 1362 (Fed. Cir. 2008). As such, courts will “strive[] to reach a claim construction that does not render claim language in dependent claims meaningless.” *Id.* (citing *Rambus Inc. v. Infineon Tech. AG*, 318 F.3d 1081, 1093 (Fed. Cir. 2003)).

For instance, dependent claim 46 reads, “The bone fixture of claim 8, wherein: the threaded portion extends from the circumferential groove to a distal end of the fixture.” (ECF No. 1-1 at 10:38-41.) To define the circumferential grooves as physically distinct from the thread screws would essentially render the language of claim 46 meaningless and violate an important axiom of claim construction. After all, claim 46 explicitly describes the threaded portions – the screw threads – as extending from the circumferential groove.

Furthermore, this Court is not persuaded by Oticon’s argument that dependent claims 14 and 38 compel the conclusion that the circumferential groove should be defined as distinct from the screw thread and the flange. Dependent claim 14 reads, “The bone fixture of claim 8, wherein: the circumferential groove is located between the flange and all threads of the fixture” (ECF No. 1-1, cl. 14), whereas dependent claim 38 is identical but relates to claim 1 rather than claim 8 (*id.*, cl. 38). Independent claims 1 and 8 are broader than dependent claims 14 and 38,

and therefore, it is improper for this Court to justify limitations on independent claims based on the language of dependent claims. *See Bradford Co. v. Conteyor N. Am., Inc.*, 603 F.3d 1262, 1271 (Fed. Cir. 2010) (holding “[i]n light of a dependent claim that clearly states an indirect attachment of the . . . structure, the scope of independent claim 1 is presumed to be broader to allow for other types of indirect attachments”); *see also Comark Commc’ns v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) (holding the “doctrine of claim differentiation create[s] a presumption that each claim in a patent has a different scope”). Accordingly, this Court declines to include the term “distinct from the screw thread and from the flange” in its definition of circumferential groove.

ii. “extending around the cylindrical portion of the main body of the anchor”

Oticon argues no figure of the ‘807 Patent depicts the circumferential groove anywhere other than around the cylindrical portion of the “main body,” and as such, this Court should import such language into its definition of circumferential groove. (ECF No. 73 at 12-14.) Cochlear contends including such limiting language in the definition of circumferential groove would improperly confine its definition to one mere embodiment of the claim term, an approach the Federal Circuit has repeatedly disavowed. (ECF No. 78 at 12-17.)

The ‘807 Patent’s written description states that the circumferential groove “may extend completely or partly around the periphery of the main body.” (ECF No. 1-1 at 5:15-16.) The circumferential groove is further defined as being part of the “second portion” of the “generally cylindrical body” of the device’s main body. (*Id.* at 3:55-66; 4:46-57; 4:63-65; 5:15-16.) The ‘807 Patent further discloses a distinction between the inner and outer diameters of the circumferential groove, labeled in figure 2 at 128 and 130, respectively. (*Id.*, fig 2.; Hayes Decl. (ECF No. 73-2 ¶¶ 18, 22.) There is no evidence, intrinsic or extrinsic, suggesting that the

circumferential groove is located anywhere other than around the cylindrical portion of the main body of the anchor. Indeed, given its function in the anchor device, there appears to be no justification for concluding that the circumferential groove be located anywhere other than around the cylindrical portion of the anchor's main body.

While the case law makes clear that it is improper to interpret one preferred embodiment to constitute a limitation on a claim term,⁷ this is not the case here. While the '807 Patent uses the terms "preferably" and "in one embodiment" as qualifiers, these qualifying terms do not indicate that the circumferential groove could be located somewhere other than around the cylindrical portion of the device's main body, as Cochlear contends. For instance, the '807 Patent states "[p]referably, the second portion [of the main body] has at least one [circumferential] groove extending around the periphery of the cylindrical portion." (ECF No. 1-1 at 3:9-11.) It is evident that the term "preferably" applies to the second portion of the main body containing "at least one [circumferential] groove" and not to the location of the groove "extending around the periphery of the cylindrical portion." This conclusion follows naturally from the grammatical structure of the subject sentence. Should the word "preferably" have been intended to apply to the phrase "extending around the periphery of the cylindrical portion," it would have been placed between the words "groove" and "extending."⁸ Accordingly, it is

⁷ See *Info-Hold v. Applied Media Techs. Corp.*, 783 F.3d 1262, 1268 (Fed. Cir. 2012) (holding that the patent's inclusion of the word "preferably" indicates the description in the patent is one mere iteration of the invention); see also *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009) (holding that "a patent is not confined to its disclosed embodiments").

⁸ Similarly, Cochlear's argument that the inclusion of the phrase "in one embodiment" at the beginning of column three compels the conclusion that the location of the circumferential groove around the cylindrical portion is but one embodiment of the invention in the '807 Patent is also unpersuasive. Indeed, this sentence does not relate to the location of the circumferential groove whatsoever. (ECF No. 1-1 at 3:1-4.)

appropriate to define the circumferential groove as “extending around the cylindrical portion of the main body.”

iii. “exerts a compressive radial force on the skull bone to improve stability of the anchoring fixture”

Oticon argues that because circumferential grooves are defined throughout the ‘807 Patent as “providing [] radial compressive force” and are not described as serving any other function, it is appropriate to include this function in the definition of “circumferential groove.” (ECF No. 73 at 14-15.) Cochlear contends that while exerting a compressive radial force on the skull bone to improve the anchoring fixture’s stability is one function of the circumferential grooves, the ‘807 Patent lists several other functions this component serves, and as such, it is improper for this Court to limit the function of the circumferential grooves in its definition of such. (ECF No. 78 at 21.)

On several occasions, the ‘807 Patent describes the circumferential grooves as consisting of two separate diameters for the purpose of exerting compressive radial force on the skull bone to improve stability.⁹ However, the ‘807 Patent also makes clear that providing a stabilizing, compressing radial force is not the only function of the circumferential grooves. Specifically, the ‘807 Patent states “In addition to the noted compressive action, such [circumferential] grooves may provide an increased retention between the fixture and the surrounding bone tissue, and spread the forces directed to the abutment more evenly in the bone,” (ECF No. 1-1 at 5:2-6.)

⁹ Specifically, the ‘807 Patent states: “The [circumferential] groove may have a bottom diameter exceeding the first inner diameter of the screw thread. Preferably, the groove forms a second screw thread having an inner diameter exceeding the inner diameter of the first, inner screw thread.” (ECF No. 1-1 at 3:11-15); “[The] configuration [of the circumferential grooves] provides a radial compression to the surrounding bones. Preferably the second portion **102C** is provided with circumferential grooves **117** having an inner diameter **128** and an outer diameter **130** . . . When fixture **100** is inserted into the drilled hole, the second portion **102C** compresses the bone to some extent to impart partial stability.” (*Id.* at 4:50-59).

Additionally, Oticon's expert, Dr. Hayes, testified that independent claims 1 and 8 do not limit the function of the circumferential grooves to exerting compressive, radial force, and that such a function is limited only to certain embodiments. (ECF No. 78-1, Ex. A at 81:21-82:25.)

Additionally, the Federal Circuit has held that the "court's task is not to limit claim language to exclude particular devices because they do not serve a perceived purpose," but rather to "interpret claims according to their plain language unless the patentee has chosen to be his [or her] own lexicographer" or coverage has been clearly disclaimed. *E-Pass Techs., Inc. v. 3COM Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003). Here, Cochlear has not acted as its own lexicographer and nothing in the plain meaning of the term "circumferential groove" nor in the '807 Patent's prosecution history suggests that its function be limited to exerting compressive, radial force for increased stability. Accordingly, it is not proper to add "that exerts a compressive radial force on the skull bone to improve stability of the anchoring fixture" to the definition of circumferential groove.

For the reasons stated above, the Court defines "circumferential groove" as "a narrow channel extending around the cylindrical periphery of the main body of the implant."

B. The Meaning of "screw thread"

The parties propose different, albeit substantially similar, claim constructions for the term "screw thread." Cochlear proposes that "screw thread" be construed to mean "a projecting helical ridge on a cylindrical or conical surface." (ECF No. 71 at 15.) Meanwhile, Oticon proposes that "screw thread" be construed to mean "a helical ridge having an outer diameter, its troughs forming an inner diameter." (ECF No. 73 at 15.)

Claim 1 of the '807 Patent indicates that the anchoring device is comprised of "a screw thread apparatus including a screw thread having a varying outer diameter." (ECF No. 1-1, cl. 1.)

While neither the '807 Patent itself nor its prosecution history provide an explicit definition for the term "screw thread," nothing in the '807 Patent or its prosecution history suggest that screw thread should be defined as anything other than its ordinary meaning as understood by a person skilled in the art. (ECF No. 72 ¶ 25.) Therefore, this Court looks to extrinsic evidence in defining screw thread.

Secondary source materials are largely consistent in defining "screw thread." As provided in the Declaration of Cochlear's expert, Dr. Mark Rentschler, PhD, *Threaded Fasteners, Materials and Designs*, an engineering handbook, defines screw thread as "a ridge of uniform section in the form of a helix on the external or internal surface of a cylinder." (ECF No. 72-1, Ex. I.) Dictionary definitions are largely consistent with the definition provided in *Threaded Fasteners*. For instance, Webster's New International Dictionary Unabridged (2d ed.) defines screw thread as "the projecting helical rib of a screw, the successive turns of which are sometimes called teeth." (ECF No. 73-1 ¶ 30) (citing Webster's New International Dictionary Unabridged (2d ed)). Webster's New World Dictionary Third College Edition defines screw thread as "the helical ridge of or for a screw," whereby "screw" is defined as "a mechanical device for fastening things together, consisting essentially of a cylindrical or conical piece of metal threaded evenly around its outside surface with an advancing spiral ridge and commonly having a slotted head," and whereby thread is defined as "the helical ridge of a screw." (*Id.*) (citing Webster's New World Dictionary (3d ed)).

Cochlear contends Oticon's proposed construction is unnecessary and confusing as it "goes beyond the plain meaning" of the term in seeking to add the "outer" and "inner diameters" qualifiers. (ECF No. 71 at 16.) Oticon argues its proposed construction is necessitated by Cochlear's "shifting and unclear" theories as to whether the "rising thread near the top of the

implant” is part of the screw thread, the circumferential groove, or both. (ECF No. 73 at 17.)

Cochlear is correct in asserting that Oticon’s proposed construction would render the definition of screw thread confusing and somewhat redundant. Claim 1 already describes the screw thread as “having a varying outer diameter.” (ECF No. 1-1, cl. 1.) Therefore, when substituting Oticon’s definition for “screw thread” in claim 1, claim 1 would read “an anchoring fixture for anchoring a prosthesis to a skull bone comprising: a helical ridge having an outer diameter, its troughs forming an inner diameter, having a varying outer diameter.” Independent claim 1 provides the necessary description of the screw thread as having a “varying outer diameter” to capture its function in the anchoring device – fastening – such that including such language in the definition of screw thread itself is superfluous.

Oticon argues dependent claim 16 supports its construction of screw thread, as it explicitly identifies the screw thread as having an “inner diameter,” stating “The anchoring fixture of claim 1, wherein: the screw thread includes an inner diameter that remains about constant over about at least two turns of the screw thread.” (ECF No. 73 at 16-17.) However, to import this limitation from a dependent claim to the definition of screw thread in independent claim 1 would be an improper. A dependent claim may broaden the interpretation of an independent claim so that the dependent claim fits within its scope, however, “the doctrine of claim differentiation disfavors reading a limitation from a dependent claim into an independent one.” *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1290 (Fed Cir. 2015) (citing *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012)); *see also AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1242 (Fed. Cir. 2003) (holding that “dependent claims are presumed to be of narrower scope than the independent claims from which they depend”). Dependent claim 16 already includes the limitation that “the screw thread

includes an inner diameter that remains about constant over about at least two turns of the screw thread.” (ECF No. 1-1, cl. 16.) Therefore, this Court declines to include the “varying diameter” limiting language into its definition of screw thread.¹⁰

For the reasons stated above, the Court defines “screw thread” as “a helical ridge on a cylindrical or conical surface.”

C. The Meaning of “threaded tapered portion”

Cochlear proposes that “threaded tapered portion” be construed to mean “a threaded part of the implant that decreases in width” (ECF No. 71 at 17) whereas Oticon proposes that “threaded tapered portion” be construed to mean “a helical ridge having an outer diameter, its troughs forming an inner diameter which narrows on one end” (ECF No. 73 at 18). However, in a footnote in its opening brief, Oticon proposes alternatively that “threaded tapered portion” be defined as “a portion of the implant that narrows on one end and comprises a screw thread.” (*Id.* at n.11.) Cochlear agrees to Oticon’s alternative definition. (ECF No. 78 at 24-25.) Therefore, the Court defines “threaded tapered portion” as “a portion of the implant that narrows on one end and comprises a screw thread.”

D. The Meaning of “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture”

Cochlear proposes that “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture” be construed to mean “where the height and width are different by no more than 30%.” (ECF No. 71 at 18-19.) Meanwhile, Oticon proposes that “wherein a

¹⁰ Similarly, this Court is not persuaded that Oticon’s argument that figure 2 of the ‘807 Patent suggests that the “of varying diameter” limiting language should be included in the definition of screw thread. Figure 2 is a preferred embodiment of the implant device, and the Federal Circuit has made clear that the “patentee is entitled to the full scope of his [or her] claims, and we will not limit him [or her] to his [or her] preferred embodiment or import a limitation from the specification into the claims.” *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009).

maximum width of the bone fixture is about the same as a height of the bone fixture” be construed to mean “wherein a maximum width of the bone fixture is approximately equal to a height of the bone fixture.” (ECF No. 73 at 18-21.)

The phrase “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture” – and particularly the phrase “about the same” – does not have a plain meaning to a person of ordinary skill in the art. (ECF No. 72 ¶ 31.) As such, this Court must turn to descriptions in the ‘807 Patent to define the phrase. The disputed term appears in claim 8 of the ‘807 Patent, which states “A bone fixture configured to anchor to bone, comprising: a threaded tapered portion, wherein a maximum width of the bone fixture is about the same as a height of the bone fixture.” (ECF No. 1-1, cl. 8.) The specifications in the ‘807 Patent provide some clarification as to the meaning of “about the same,” reading, in pertinent part:

The main body **102** has a length sufficient to securely anchor fixture **100** into, without penetrating entirely through, the skull bone. The length of main body **102** may therefore depend on the thickness of the skull bone at the implantation site. In one embodiment, main body **102** has a length (L) **122** of no greater than approximately 5 mm. Main body **102** further comprises a distal tapered apical portion **102A** and a straight, generally cylindrical body comprising two portions, a first portion **102B** and a second portion **102C**. First portion **102B** comprises external threads that form the main screw thread **108** adjacent to the distal tapered apical portion. The second portion **102C** is adjacent to the flange. As illustrated in FIG. 2, main screw thread **108** has an inner diameter **124** and an outer diameter **126**. In one embodiment, the outer diameter **126** is approximately 3.5-5.0mm.

(*Id.* at 3:55-4:2.)

Cochlear contends that, because independent claim 8 states the “maximum width of the bone fixture is about the same as [the] height of the bone fixture” and the specification teaches that the outer diameter 126 of the bone fixture can be 3.5mm while the height of the bone fixture is 5mm, thus creating a difference of 30%, then “about the same” should be defined as not more

than a 30% differential. (ECF No. 71 at 18-19.) Oticon argues that Cochlear's construction improperly attempts to limit a claim term with a preferred embodiment and confuses the length of the fixture with the length of the fixture's main body. (ECF No. 73 at 18-21.)

Where a term lacks a plain and ordinary meaning, it is appropriate to look to the descriptions in a patent's specifications. In light of the language in independent claim 8 of the '807 Patent, coupled with the specification indicating that the height of the bone fixture is 5 mm whereas the width can be as little as 3.5 mm, a person of ordinary skill in the art would define "about the same" to mean "up to 30%." Contrary to Oticon's contentions, relying on the minimum and maximum measurements provided in the specifications is not akin to limiting a claim term to one preferred embodiment, but rather, uses the '807 Patent's specifications to properly construe a claim term that lacks a plain and ordinary meaning. Indeed, adopting Oticon's construction and refusing to interpret the term "about the same" to extend to a difference of 30% would be improper as it would necessarily exclude an embodiment explicitly listed in the '807 Patent. (ECF No. 1-1 at 3:55-4:2.)

Moreover, Oticon's reliance on *Abbott Labs. v. Baxter Pharm. Prods., Inc.*, 471 F.3d 1363, 1368 (Fed. Cir. 2006) for the proposition that a court "need not construe" a disputed phrase "with numerical exactitude" is misplaced. In *Abbott*, the court determined that it need not attach a specific quantitative capability to the subject patent's claim of sevoflurane water preventing Lewis acid degradation as such measurement was "irrelevant to the question" of whether the alleged infringing patent had disclosed a new claim over the plaintiff's patent. *Id.* By contrast, the decision in *Abbott* did not deal with a measurement that was explicitly listed in an embodiment of the claim in the patent. Unlike here, the *Abbott* court's failure to provide a specific measurement in defining the claim term would not have created the risk of excluding an

embodiment listed in the patent itself.¹¹

Additionally, Oticon's proposed construction is so lacking in specificity that it fails to give any guidance whatsoever as to the meaning of the term "about the same." Rather, Oticon's proposal merely replaces the term "about the same" with the term "approximately equal to." This failure to provide any clearer guidance leaves one skilled in the art – or a potential jury – to turn to the terms of the '807 Patent and its specifications to define the term "approximately equal to" on its own. Finally, Oticon's argument that Cochlear's construction confuses the length of the fixture with the fixture's main body is also unsupported by the '807 Patent's specifications. Cochlear's construction is consistent with the element labels provided in figure 2: the width of the bone fixture being labeled as 126 and the height being labeled as 102A, 102B, and 102C, collectively, L122. (ECF No. 1-1 at 5.)¹²

For the reasons stated above, the Court defines "wherein a maximum width of the bone fixture is about the same as a height of the bone fixture" as "wherein a maximum width of the bone fixture differs from its height by no more than 30%."

¹¹ Oticon's reliance on *Acumed*, 483 F.3d at 806, is also misplaced. In *Acumed*, the Federal Circuit held that the "resolution of some line-drawing – especially easy ones like this – is properly left to the trier of fact." *Id.* (citing *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (holding that "after the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact"). Here, unlike in *Acumed* and *PPG*, the task at hand does not involve "easy" line-drawing following a court's definition of a claim, but rather, the construction of an ambiguous claim itself for which the court is tasked with providing clear guidance.

¹² Additionally, at the claim construction hearing, Oticon cited a case not raised in its brief, *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007). The decision in *AllVoice* also fails to provide persuasive support to Oticon's position, as it holds merely that the District Court shall enforce a presumption that each claim in a patent has a different scope. *Id.*

E. The Meaning of “a flange configured to function as a stop . . . adapted to rest on top of the bone”

Cochlear proposes that “a flange configured to function as a stop . . . adapted to rest on top of the bone” be construed to mean “a protruding rim extending outwardly beyond the screw thread and designed to rest on top of the bone.” (ECF No. 71 at 19.) Meanwhile, Oticon proposes that “a flange configured to function as a stop . . . adapted to rest on top of the bone” be construed to mean “a rim that spreads out and that has a planar bottom surface to rest against the outer bone surface.” (ECF No. 73 at 21.) This court addresses each clause in the disputed term in term.

i. “a flange configured to function as a stop”

Oticon argues the term “a flange configured to function as a stop” should be defined as having a “planar bottom surface” as it is the only sole embodiment of the flange in the ‘807 Patent. (ECF No. 77 at 10-11.) Oticon further argues that Cochlear’s position in the prosecution history of a related European patent that a “flaring flat shoulder” in a prior art was “not configured to [function as a stop]” provides persuasive evidence that the flange should be defined as having a planar bottom surface. (ECF No. 73 at 22.) Cochlear contends Oticon improperly seeks to import a constraint from a preferred embodiment to the definition of a claim term. (ECF No. 78 at 29-34.)

It is undisputed that a patentee is “entitled to the full scope” of his or her claims and that it is improper for a court to limit the claims to one preferred embodiment or import a limitation from the specification into the claims. *Kara Techs.*, 582 F.3d at 1348 (citing *Phillips*, 451 F.3d at 1323). However, the Federal Circuit has expanded this principle in holding that “even if ‘all of the embodiments discussed in the patent’ included a specific limitation, it would not be ‘proper to import from the patent’s written description limitations that are not found in the claims

themselves.” *Cadence Pharms. Inc. v. Exela PharmSci Inc.*, 780 F.3d 1364, 1369 (Fed. Cir. 2015) (quoting *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1375 (Fed. Cir. 2012)). Relying on these cases, Cochlear contends it is immaterial that the planar bottom surface of the flange is the only embodiment in the ‘807 Patent, and that such is an invalid reason for importing the planar bottom description to the definition of “a flange configured to function as a stop.” (ECF No. 78 at 29-31.)

Citing *Arista Networks, Inc. v. Cisco Sys., Inc.*, 908 F.3d 792, 796-97 (Fed. Cir. 2018), Oticon argues that the ‘807 Patent has defined “a flange configured to function as a stop” by “implication.” The Federal Circuit has held that “even when guidance is not provided in explicit definitional format, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.” *Id.* at 797 (quoting *In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1150 (Fed. Cir. 2012)). The ‘807 Patent teaches only one interpretation of the flange, in which it has a planar bottom surface to act as a stop from protruding past its proper location,¹³ and to construe the flange as having any other sort of stop would be to contradict the terms of the specification. (ECF No. 73-1 ¶¶ 45, 48.)

This conclusion is supported by the fact that Cochlear’s own expert, Dr. Rentschler, testified that there is no disclosure of a nonplanar lower surface of the flange anywhere in the ‘807 Patent. (ECF No. 77-2, Ex. A at 81:24-82:12.) “When a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he [or she] has defined that term ‘by implication.’” *Homeland Housewares, LLC v. Whirlpool*

¹³ Indeed, the ‘807 Patent exclusively discloses embodiments of the flange whereby it has a planar bottom surface functioning as a stop such the specification has defined the flange’s stop by implication. The ‘807 Patent reads, in pertinent part, “As more clearly illustrated in FIG. 2, flange **103** has a planar bottom surface **111** for resting against the outer bone surface, indicated by **112**, when the fixture **100** has been screwed into the skull bone. Again, flange **103** prevents the fixture **100** from completely penetrating through the skull bone.” (ECF No. 1-1 at 4:16-21.)

Corp., 865 F.3d 1372, 1377 (Fed. Cir. 2017). Here, Cochlear has done just that. As such, the Court defines “a flange configured to function as a stop” as “a protruding rim extending outwardly that has a planar bottom surface.”

ii. “adapted to rest on top of the bone”

Oticon argues the term “adapted to rest on top of the bone” should be defined as “to rest against the outer bone surface” as the skull bone has several layers and a person of ordinary skill in the art would understand “on top of the bone” to mean “the outer surface of the bone.” (ECF No. 73 at 22.) Cochlear contends “adapted to rest on top of the bone” should be defined as “designed to rest on top of the bone” as nothing in the claims, specifications, or prosecution history of the ‘807 Patent requires that such a restrictive constraint be imported into the definition of “adapted to rest on top of the bone.” (ECF No. 78 at 34-36.)

Relying on the testimony of its expert, Dr. Hayes, Oticon contends “adapted to rest on top of the bone” should be defined as “to rest against the outer bone surface.” (ECF No. 73 at 22.) Specifically, Dr. Hayes noted that, to a person of ordinary skill in the art, “on top of the skull bone” and “resting against the outer bone surface” would mean “contacting, but not intruding beneath the outermost (or, in anatomic terms, the most superficial surface) of the outer, cortical table.” (ECF No. 73-1 ¶ 47.) Dr. Hayes further opined that “a bone anchor that contacted at multiple layers (as, for example, after countersinking) would not be interpreted as either ‘resting on top of the skull bone’ or as ‘resting against the outer bone surface.’” (*Id.*) Rather, in such a scenario, the anchor would be “resting on an interior bone surface.” (*Id.*)

However, Dr. Hayes’s construction fails to account for a situation in which a flange is countersunk into the bone, which occurs when a small amount of the bone is removed via damage from the flange. (ECF No. 78-2 ¶ 42.) In this scenario, the “top” of the bone has been

removed and there is now a new “top” on which the flange rests. (*Id.*) In his deposition, Dr. Hayes testified that he would not consider the flange to be resting on top of the bone even in the event of “microscopic damage” to the bone caused by the flange. (ECF No. 78-1, Ex. A at 93:3-12.) Thus, a flange with any sort of stop would necessarily not rest on top of the bone, because almost any amount of torque applied to the bone fixture would cause the flange to damage the bone at least microscopically. (ECF No. 78-2 ¶ 73.) As such, applying the limiting language, “to rest against the outer bone surface,” as Oticon proposes, would lead to an absurd result and is not warranted by the ‘807 Patent, its claims or specifications, or any extrinsic evidence thereto.

In its supplemental brief, Oticon argues that “top of the bone” must mean the bone’s “outer surface” in order to give meaning to the word “top.” (ECF No. 98 at 7.) Oticon contends that Cochlear’s approach improperly “eliminates ‘top’ from the claims.” However, at the claim construction hearing, Oticon argued “there is absolutely a dispute about what top of bone means in this term,” as the parties “disagree that top of bone means any of the bone tissue that is not on the surface of the bone.” (ECF No. 95 at 49:18-22.) Oticon’s position is further complicated by Dr. Hayes’s position that resting “on top of the skull bone” and “against the outer bone surface . . . mean the same thing.” (ECF No. 73-1 ¶ 46.) Accordingly, this Court finds that resting “on top of the bone” is the more appropriate claim construction.

For the reasons stated above, the Court defines “a flange configured to function as a stop . . . adapted to rest on top of the bone” as “a protruding rim extending outwardly that has a planar bottom surface and that is designed to rest on top of the bone.”

F. The Meaning of “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone”

The parties agree that the claim term “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone” is a means-plus-function term

governed by 35 U.S.C. § 112, ¶ 6.¹⁴ (ECF No. 71 at 21; ECF No. 77 at 13.) The parties agree on the function of the claim term to be “exerting a compression onto the skull bone in a radial direction,” as it is explicitly stated in the means-plus-function term. (*Id.*) Cochlear contends the corresponding structure to the function in the claim term should be defined as “a wider portion adjacent to the flange than at the distal end and equivalents.” (ECF No. 71 at 21-23.) Meanwhile, Oticon argues the corresponding structure to the function in the claim term should be defined as “second portion **102C** adjacent to flange **103** having an inner diameter **128** which exceeds the inner diameter **124** of the main threads **108** of the first portion **102B** and equivalents thereof.” (ECF No. 73 at 23-27.)

“A claim limitation written in means-plus-function form, reciting a function to be performed rather than definite structure . . . must be construed to ‘cover the corresponding structure, material, or acts described in the specification and equivalents thereof.’” *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1266-67 (Fed. Cir. 1999) (citing *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). “If a patentee chooses to disclose a single embodiment, then any means-plus-function claim limitation will be limited to the single disclosed structure and equivalents thereof.” *Mettler-Toledo, Inc. v. B-Tk Scales, LLC*, 671 F.3d 1291, 1296 (Fed. Cir. 2012). “Structural equivalence under § 112, ¶ 6 is, as noted by the Supreme Court, ‘an application of the doctrine of equivalents . . . in a restrictive role.’” *Odetics*, 185 F.3d at 1267 (quoting *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28 (1997)). “As such, their tests for equivalence are closely related” and involve “similar

¹⁴ Title 35, Section 112(f) of the U.S. Code, pre-AIA 35 U.S.C. § 112, ¶ 6, states, “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.”

analyses of insubstantiality of differences.” *Odetics*, 185 F.3d at 1267 (citations omitted).

The means-plus-function term at issue is included in dependent claim 35, which relates to independent claim 1.¹⁵ Cochlear argues that a person skilled in the art would understand that “a wider portion adjacent to the flange than at the distal end” is the structure in the bone anchoring element that is disclosed in the specification for exerting a compression onto the skull bone in a radial direction. (ECF No. 71 at 21-22.) Oticon argues figure 2 and its accompanying description describe the structure to be used to perform the function of applying radial compression to the skull bone. (ECF No. 73 at 25.)

Cochlear’s proposed structural definition of the claim term is derived from a specification of the ‘807 Patent, which reads:

[A] drill may be used to drill a hole in the skull bone before installing the anchoring fixture. The drill creates a hole in the skull bone having a diameter which is larger than the inner diameter of the screw thread of the first cylindrical portion, but less than the outer diameter of the second cylindrical portion. When the fixture is inserted into the drilled hole, the wider second portion of the fixture, i.e. the portion next to the flange, provides a certain compression to the bone, specifically the cortical bone, in the radial direction of the hole.

(ECF No. 1-1 at 3:21-29.)

Meanwhile, Oticon proposed structural definition of the claim term is derived from the specification’s description of figure 2, which provides “this configuration provides a radial compression to the surrounding bone.” (ECF No. 1-1 at 4:46-62.)

Here, Oticon’s proposed construction impermissibly imports elements that go beyond a definition sufficient to perform the claimed function. Pursuant to 35 U.S.C. § 112, ¶ 6, “a court

¹⁵ Dependent claim 35 states, in its entirety, “The anchoring fixture of claim 1, wherein: the anchoring fixture includes a means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone.” (ECF No. 1-1, cl. 35.)

may not import into the claim structural limitations from the written description that are unnecessary to perform the claimed function.” *Acromed Corp. v. Sofamor Danke Grp., Inc.*, 253 F.3d 1371, 1382 (Fed. Cir. 2001) (citing *MicroChem, Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999)). Furthermore, although “specifications may well indicate that certain embodiments are preferred, 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 Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994). Oticon’s proposed structural definition improperly uses one preferred embodiment of the implant device to limit the definition of “means for exerting a compression onto the skull” to that displayed in figure 2. *Id.* This is evident from the repeated language in the specification indicating that figure 2 is “preferabl[e]” and “one embodiment,” rather than exclusive. (ECF No. 1-1 at 4:20-22, 4:38-39, 4:50-52, 4:63-67.)

Indeed, nothing in the ‘807 Patent, its claims and specifications, or its prosecution history suggests that the structural definition of the elements of the device – as it relates to its function of “exerting a compression onto the skull bone in a radial direction” – was intended to be confined to the illustration in figure 2. On the contrary, the specifications suggest a broader interpretation. The ‘807 Patent discloses that a drill may be used to drill a hole in the skull before installing the anchoring fixture, and that the hole has a diameter sufficient to accommodate the screw thread of the anchoring fixture yet smaller than the width of the portion adjacent to the flange. (ECF No. 1-1 at 4:20-25.) Thus, when the fixture is inserted into the hole, the wider section provides compression to the cortical bone in the radial direction, thus stabilizing the fixture on the skull bone via compression. (*Id.* at 4:26-29.) Although Oticon’s proposed structural definition fits this description, it improperly narrows the description by adding the specific elements featured in

figure 2.

Oticon argues Cochlear’s proposed construction is “untethered to the structure disclosed in the patent” and runs afoul of the Federal Circuit’s holding in *Mettler-Toledo*, 671 F.3d at 1296, because there is “only one disclosed structural embodiment that performs the function of exerting a compression onto the skull bone in a radial direction.” (ECF No. 73 at 26; ECF No. 77 at 14.) Oticon’s arguments are unpersuasive. Cochlear’s construction closely mirrors the specification’s language – as included in column 4, lines 20 through 29 – which provides a broad and expansive definition of the structure functioning to exert a compression onto the skull in a radial direction. Furthermore, Oticon’s reliance on *Mettler-Toledo* is misplaced. In *Mettler-Toledo*, “every instance where the specification refer[red] to [the subject function], it [was] referring to the preferred embodiment, which only include[d] the [subject structure].” *Mettler-Toledo*, 671 F.3d at 1296. The *Mettler-Toledo* holding further noted that “although generic [structures] were known in the art, the patentee chose to use means-plus-function language which limit[ed] it to the disclosed embodiment and equivalents.” *Id.* Such is clearly not the case here. Nothing in the ‘807 Patent or its specifications indicates that the definition of the structure “exerting a compression onto the skull bone in a radial direction” was intended to be confined to the illustration in figure 2. On the contrary, the specification language itself teaches a far broader construction of the structure whose function is to compress onto the skull bone in a radial direction for stability. (ECF No. 1-1 at 4:20-29.)

Finally, Oticon’s argument that Cochlear’s construction is inconsistent with claim 1, because claim 35 depends on claim 1 and a “circumferential groove is already required by this claim,” is baseless. (ECF No. 73 at 26-27.) The fact that claim 1 recites a circumferential groove does not compel the conclusion that a means-plus-function limitation in a claim depending on it

must also include a circumferential groove in its definition. There is no case law supporting such a proposition.

For the reasons stated above, this Court defines “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone” as “a wider portion adjacent to the flange than at the distal end and equivalents [structure]” and “exerting a compression onto the skull bone in a radial direction [function].”

V. CONCLUSION

For the reasons set forth above, this Court defines the six disputed claim terms as follows: (1) “circumferential groove” means “a narrow channel extending around the cylindrical periphery of the main body of the implant”; (2) “screw thread” means “a helical ridge on a cylindrical or conical surface”; (3) “threaded tapered portion” means “a portion of the implant that narrows on one end and comprises a screw thread”; (4) “wherein a maximum width of the bone fixture is about the same as a height of the bone fixture” means “wherein a maximum width of the bone fixture differs from its height by no more than 30%”; (5) “a flange configured to function as a stop adapted to the rest of the bone” means “a protruding rim extending outwardly that has a planar bottom surface and that is designed to rest on top of the bone”; and (6) “means for exerting a compression onto the skull bone in a radial direction to stabilize the fixture in the skull bone” means “a wider portion adjacent to the flange than at the distal end and equivalents [structure]” and “exerting a compression onto the skull bone in a radial direction [function].”

Date: August 21, 2019

/s/ Brian R. Martinotti
HON. BRIAN R. MARTINOTTI
UNITED STATES DISTRICT JUDGE