

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIFEPOR SCIENCES LLC and
LIFESCREEN SCIENCES LLC,

Plaintiffs,

v.

COOK INCORPORATED and
COOK MEDICAL INCORPORATED,

Defendants.

Civil Action No. 13-128-GMS

LIFESCREEN SCIENCES LLC,

Plaintiff,

v.

C.R. BARD, INC. and
BARD PERIPHERAL VASCULAR, INC.,

Defendants.

Civil Action No. 13-129-GMS

LIFEPOR SCIENCES LLC and
LIFESCREEN SCIENCES LLC,

Plaintiffs,

v.

COOK INCORPORATED and
COOK MEDICAL INCORPORATED,

Defendants.

Civil Action No. 13-362-GMS

**ORDER CONSTRUING THE TERMS OF U.S. PATENT NOS.
6,126,673; 5,836,969; 6,468,290; 5,681,347; 6,383,193; 6,030,414; RE42,380**

The court having considered the submissions of the parties and having heard oral argument on the matter—IT IS HEREBY ORDERED, ADJUDGED, and DECREED that, as used in the asserted claims of U.S. Patent Nos. 6,126,673 (“the ’673 Patent”); 5,836,969 (“the ’969 Patent”); 6,468,290 (“the ’290 Patent”); 5,681,347 (“the ’347 Patent”); 6,383,193 (“the ’193 Patent”); 6,030,414 (“the ’414 Patent”); RE42,380 (“the ’380 Patent”):

The ’673 Patent

1. The term “filter-wires terminating in free ends constructed to contact the wall of said vessel” is construed to mean “filter-wires terminating in free ends, constructed so that portions of the filter-wires at or near the tip contact the wall of the blood vessel.”¹

¹ The court rejects both of the defendants’ proposed limitations: (1) that the claims require end-contact (*i.e.*, “tip” contact), and (2) that a portion of the free-end be straight. There is some confusion and disagreement as to what the parties mean when discussing “end-contact,” but the court has gathered that the defendants assert that it requires the terminal “tip” to make contact with the vessel wall, whereas the plaintiffs assert end-contact is satisfied so long as some end-portion of the wire makes contact with the wall. As such, both parties technically agree that “end-contact” is required by the claims.

The court declines to import the defendants’ proposed limitations, which are drawn from disclosed preferred embodiments. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (“While we read claims in view of the specification, of which they are a part, we do not read limitations from the embodiments in the specification into the claims.”). The specification consistently refers to various “portions” of the filter-wires: “initial portion of the filter-wire near the apex”; “mid-portion”; “outer end-portion.” *See, e.g.*, ’673 Patent, col. 6 ll. 50–64. Thus, contrary to the defendants’ assertions, the free “end” of the filter-wire is not a discrete point but a section of the wire in relation to the whole. Indeed, the specification distinguished between the *end-portion* and the tip of the filter-wire: “The straight outer end-portion prevents the outer tip of filter-wires 30 of an inserted device from bending inward toward the center of the vena cava” *Id.* col. 6 ll. 60–64. Moreover, the specification’s reference to “*substantially* end-contact” would be nonsensical under the defendants’ view. *Id.* col. 3 ll. 58–59 (emphasis added). There are no degrees of end-contact when examining whether the tip of the filter-wire makes contact: it is a binary determination. The court recognizes that the defendants are not advocating for some impossible, one-dimensional point of contact between the filter-wire and the vessel wall. But even still, the claims’ reference to “free ends constructed to contact the wall” is not a requirement that the tip make contact.

Second, while the specification discusses “portions of the filter-wires adjacent the free ends *being relatively straight*” in order to achieve end-contact, the court can find no statement showing this feature to be a necessary limitation of the claimed invention. *See id.* col. 3 ll. 57–59 (emphasis added). Rather, just before describing the benefits of a straight portion of wire, the specification notes: “Preferred embodiments of these aspects of the invention have one or more of the following features.” *Id.* col. 3 ll. 38–39. Thus, in the court’s view, the defendants’ proposed “straight” limitation is merely an optional, non-limiting feature. *See X2Y Attenuators, LLC v. ITC*, 757 F.3d 1358, 1362 (Fed. Cir. 2014) (finding that the “exacting standard” for claim scope disavowal may be met where the specification “spells out that [the feature] was an essential element among *all embodiments or connotations of the invention*” (internal quotations omitted)).

2. The terms “of generally concave curved form” (claim 12) and “of generally curved form” (claim 20) are construed to mean “generally helical.”²
3. The term “conform generally to an imaginary cone” is construed to have its plain and ordinary meaning.³
4. The term “wherein said filter-wires are cooperatively related to form an effective emboli-capturing array” is construed to mean “wherein said filter-wires extend in a helical fashion to form spirals when viewed axially.”⁴

² The patent repeatedly describes the invention with filter-wires having a “general helical” shape. *See, e.g.*, ’673 Patent, Abstract (“A vascular filter-comprises an emboli-capturing portion having a set of helical filter-wires A major mid-portion of the length of the free ended wires are of generally helical form . . .”). Although the specification at one point describes this as only a “desirabl[e]” feature, there is no disclosure of any embodiments having only a “concave curved” or “curved” filter-wire configuration. *See id.* col. 1 ll. 56–57. Indeed, those terms—in the court’s view, generic substitutes for “helical”—never appear in the specification. The generally helical shape of the filter-wires is a key part of the invention. *See id.* col. 1 ll. 64–67 (“Because nearly all of the filtering action is accomplished by the set of helical filter-wires, the design of the strut structure need not deal with its filtering aspect.”).

The plaintiffs’ strongest argument in support of their plain and ordinary meaning proposal is the doctrine of claim differentiation. *See id.* claim 19 (“The filter of claim 12, wherein said mid-portion of said free ended filter-wires further have a helical curvature.”). But the doctrine only creates a rebuttable presumption—it cannot “broaden claims beyond their correct scope, determined in light of the specification and the prosecution history and any relevant extrinsic evidence. . . . [C]laims that are written in different words may ultimately cover substantially the same subject matter.” *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005) (alteration and omission in original) (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480 (Fed. Cir. 1998)). Moreover, construing the terms to mean “generally helical” does not create a clear redundancy. *See Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006). Claim 12 claims “at least a portion of said filter-wires are of generally concave curved.” ’673 Patent, claim 12 (emphasis added). Claim 19, however, specifies that the *mid-portion* is helical. Thus, while the distinction is subtle, claim 19 does not merely repeat a limitation inherent in claim 12 but further refines the scope of the claimed invention. *See* 35 U.S.C. § 112(d) (“[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.”).

³ *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”).

⁴ The court’s construction comes from the patent’s teachings concerning what constitutes an “effective emboli-capturing array”: “A major mid-portion of the length of the free ended wires are of generally helical form, cooperatively related to form an effective emboli capturing array.” ’673 Patent, Abstract & col. 3 ll. 36–37. The patent makes clear that the invention is “effective” precisely because of the helical configuration of the filter-wires. The plaintiffs’ proposal entirely ignores this key portion of claim term, leaving “effective emboli-capturing array”

5. The term “to engage the wall of said blood vessel in a manner anchoring said filter in position” is construed to mean “to contact the wall of said blood vessel in a manner that ensures no movement of the filter.”⁵

The '969 Patent

6. The term “engage the vessel wall” is construed to mean “contact the vessel wall.”⁶
7. The term “in a manner anchoring said filter in position” is construed to mean “in a manner ensuring no movement.”⁷

unconstrued. But “[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008).

The court draws additional context for the claim term from the specification’s description of a preferred embodiment: “Emboli capturing portion 26 is comprised of filter-wires 30 extending in a helical fashion to form spirals when viewed axially.” ’673 Patent, col. 6 ll. 14–16. The court declines to import further proposed language concerning the benefit resulting from this configuration. The claims are drawn to the structural elements of the filter—it is unnecessary to describe, as an element of the claim, *why* the filter is effective.

⁵ The claims use the term “engage” to describe both the anchoring struts’ and the filter-wires’ interactions with the vessel wall: “the filter-wires having portions that engage the vessel wall”; “wall engaging portions of said anchoring assembly constructed and arranged to engage the wall.” ’673 Patent, claim 1. As such, the court’s construction must be broad enough to describe both of these interactions, although plainly the struts and the wires do not “engage” the wall in the same manner. Additional modifying language—for example, as used here, “in a manner anchoring said filter in position”—describes the strength or degree of engagement.

The claims themselves show that “engage” merely means contact. After claiming filter-wires with “portions that engage the vessel wall,” claim 1 claims an anchoring assembly wherein “the region of said anchoring being spaced from the region of contact of said set of filter wires.” *Id.* (emphasis added). In other words, both the filter-wires and the struts engage the wall of the vessel at their respective “regions of contact.” *Id.* (“[T]he spacing of the regions of contact of said filter-wires and said struts with the vascular wall being selected to stabilize said filter in said vessel in a generally centered relationship.”). “Engage” simply means “contact.”

Although claim 12 for the first time describes the filter-wires “contacting” the wall of the vessel (rather than “engaging”), the court can discern no justification for the shift in language. And the defendants make no argument that the interaction described in claim 1 is somehow different from that of claim 12. Thus, the court will not apply the typical presumption that different terms carry different meanings. See *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“*In the absence of any evidence to the contrary*, we must presume that the use of these different terms in the claims connotes different meanings.” (emphasis added)).

The court’s construction of the second portion—“in a manner anchoring said filter in position”—comes directly from the Summary of the Invention: “The invention also provides a high degree of consistency and repeatability in placement of the filter and *secure anchoring of the filter to the vein wall to ensure no movement*, particularly during the acute phase, until tissue growth over the anchors occurs to make the filter more secure.” ’673 Patent, col. 1 ll. 32–37. Thus, anchoring the filter in position such that it does not move is a key feature of the invention: the stability allows tissue to entrench the anchors and further secure the filter in place.

⁶ See *supra* note 5.

⁷ See *supra* note 5.

8. The term “anchoring formations each of which is supported and disposed for engagement with the wall of said blood vessel, each of said anchoring formations comprising at least a pair of pointed projections, the projections of said pair being oriented in opposite directions along the blood vessel” is construed to mean “anchoring formations, each formation including a pair of pointed projections for contacting the vessel wall that are oriented on a single strut to point in opposite direction along the blood vessel.”⁸

The '290 Patent

9. The term “an opposed attachment end attachable to a wall of said vessel” is construed to mean “portion of the filter wire most remote from the common apex for attaching to a wall of said vessel.”⁹

⁸ The court declines to construe the word “pointed.” “[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.” *O2 Micro*, 521 F.3d at 1362. The parties do not present a “fundamental dispute regarding the scope” of the term. *Id.* A jury is perfectly capable of determining whether the defendants’ accused products are pointed or not. But any attempt to further argue the proper meaning of “pointed” to the jury down the road will not be permitted.

The court construes the phrase “for engagement with” to mean “to contact,” consistent with its previous analysis. *See supra* note 5.

The parties’ primary dispute is over whether the opposite-pointing pair of projections must be on a single strut or whether there can be projections on adjacent struts. The court agrees with the defendants’ view that a single strut is required. Both the claim language and the specification support this construction. Claim 4 is instructive. It claims an anchoring assembly with “at least one set *of struts*.” ’969 Patent, claim 4 (emphasis added). As the disputed term describes, the anchoring formation has “at least a pair of pointed projections” that penetrate into wall tissue. *Id.* Significantly, “said pair of projections [are] effective to resist dislodgement of *said strut* in either direction along said vessel.” *Id.* (emphasis added). Therefore, although the assembly may have multiple struts, each pair of projections is situated on a single strut to resist dislodgement.

The specification resolves the issue. “It is preferable for the projections to point in both directions . . . Individual projections on adjacent struts may be oriented to point in opposite directions, *or pairs of projections extending in opposite directions may be employed*.” *Id.* col. 9 ll. 31–38 (emphasis added). Thus, paired projections—as claimed—are on a single strut, whereas *individual* projections may be on adjacent struts.

⁹ The parties’ dispute closely resembles that already discussed, *supra* note 1. Again, the court finds that there is no requirement that the tip of the wire contact—or in this case *attach*—to the vessel wall. The “free-end” is the most remote portion of the filter wire—and therefore necessarily includes the tip—that allows for attachment of the filter to vessel wall. Figures 3A and 3B show that the free-ends (28) cover some length of wire away from the tip. ’290 Patent, figs. 3A & 3B. But there is simply no disclosure in the intrinsic record as to whether a set point within this free-end portion—the tip or otherwise—is the necessary point of attachment. The court will not inject limitations where there is no evidentiary grounding to do so.

10. The term “said attachment ends of said first plurality of filter wires are anchored at a location spaced from the location of anchoring of said attachment ends of said second plurality of filter wires” is construed to mean “said attachment ends (portions of the filter wire most remote from the common apex for attaching to a wall of said vessel) of the first plurality of filter wires (three or more) are anchored around the vessel wall on a plane spaced apart from a plane on which the attachment ends of the second plurality of filter wires are anchored around the vessel.”¹⁰

The '347 Patent

11. In the context of claim 1, steps (A) and (B) must be performed prior to performing step (C).¹¹

¹⁰ While the claim term is not inherently difficult to understand, the court agrees that construction is necessary to clarify a dispute of claim scope. *O2 Micro*, 521 F.3d at 1361. The patent is directed to a “two-planar vena cava filter”—indeed, “two-planar” appears in the title. The Abstract and specification also repeatedly describe the two-planar design and its benefits: “[T]he first set of wires are anchored at a location spaced apart from the location of anchoring of the attachment ends of the second set, effecting a two-planar filter design. This establishes a single filtering element having two planes of contact with the vein wall which also provides for centering of the filtering element.” ’290 Patent, Abstract; *see also id.* col. 2 ll. 53–57 (“The present invention provides a two-planar filter with improved centering capabilities due to its two planar points of contact with the inner venal wall. Contact at two planes is provided by the contact of two sets of filter wires wherein each set differs in length from the other.”).

Claim 1 is the only independent claim and makes no mention of the two-planar design. But the disclosures cited above make clear that the reference to the first and second pluralities of filter wires being attached at distinct locations is synonymous with the two-planar structure. And basic geometry teaches that a plane requires at least three noncollinear points. In other words, to form a *plane* of contact, as described in the specification, at least three filter wires are required within each plurality.

The prosecution history is in accord. To overcome a prior art rejection, the patentee stated: “The present device actually forms two ‘circles’ at which the filter is anchored. This is a result of having first and second plurality of filter wires terminating first and second different locations.” (D.I. 64 at A1131.) The court does not read this as imposing a requirement that the filter wires form perfect planar circles. But the patentee’s statement does confirm that the plurality of filter wires form a two-dimensional plane (*e.g.*, a circle), rather than a one-dimensional line.

In the court’s view, the patent drafters would not have used the term plane—repeatedly—if they did not intend for it to have its geometrical definition. Thus, to summarize: As used in the ’290 Patent, a “plurality of filter wires” means *three or more* wires. The first and second pluralities each anchor along distinct *planes*. The term “attachment ends,” as construed previously, *supra* note 9, mean *portions of the filter wire most remote from the common apex for attaching to a wall of said vessel*.

¹¹ “Steps in a method claim need not necessarily be performed in the order they are written. On the other hand, if grammar, logic, the specification, or the prosecution history require the steps to be performed sequentially,

12. The term “control means attached to said tubular member for displacing the filter from said segment” is construed as a means-plus-function claim. The claimed function is: “to displace the filter from the segment.” The corresponding structure is: “outer tubular member, handle, inner member, and the slider.”¹²

then the claims are so limited.” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1309 (Fed. Cir. 2014) (internal citation omitted) (citing *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003)).

Logic and grammar dictate that steps (A) and (B), in either order, must occur before step (C). The patent claims:

A method for delivery of self-expanding vena cava filter having a radially extending penetrating portion, said method comprising the steps of:

- A) positioning an impervious, relatively short segment in a distal section of a radially flexible, axially stiff elongated tube,
- B) positioning the vena cava filter in the distal section of the tube with the segment interposed between the penetrating portions of the filter and the tube;
- C) urging the distal section of the tube to a delivery site with a distal end of the tube positioned proximate the delivery site such that during said step of urging the distal section the distal end of the tube remains relatively radially flexible therealong with the segment overlying the penetrating portions

³⁴⁷ Patent, claim 1. Step (C) makes clear that the filter and the segment are already positioned within the distal section of the tube before the “urging” step. Specifically, step (C) explains that “the distal end of the tube *remains* relatively radially flexible.” *Id.* (emphasis added). Only when read in light of step (A) does step (C)’s use of “remain”—which connotes temporality, something already in existence—make sense. Step (A) describes the segment being positioned within a “radially flexible, axially stiff elongated tube,” and step (C) further elaborates that the tube remains flexible while urging it to the delivery site. Thus, step (A) is to be read and performed before step (C). Moreover, step (C) references the combined assembly of the “segment overlying the penetrating portions” of the filter. Again, this assembly only makes sense in light of steps (A) and (B), which describe how the assembly is made.

The Examiner’s statement in the Reason for Allowance bolsters the court’s view: “The art of record does not teach, or render obvious, a filter delivery device which includes, in combination, a tubular member carrying within it lumen a relatively short, metal segment for constraining the filter in an unexpanded condition *prior to insertion*.” (D.I. 64 at A2100 (emphasis added).) Thus, the Examiner understood that the positioning steps—(A) and (B)—were performed prior to the urging (or “insertion”) step. While this statement does not amount to prosecution disclaimer, it serves as “evidence of how one of skill in the art understood the term at the time the application was filed.” See *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005); see also *id.* (“Although unilateral statements by an examiner do not give rise to a clear disavowal of claim scope by an applicant, it does not necessarily follow that such statements are not pertinent to construing claim terms.”).

¹² “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 . . . and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.” 35 U.S.C. § 112(f). The parties agree that this claim term is a means-plus-function term; they also agree as to the claimed function. The court therefore only need determine the appropriate corresponding structure.

The specification discloses two structural embodiments of the control means. The court rejects the defendants’ proposed structure because it excludes one of these embodiments without adequate evidentiary support. See *Altiris*, 318 F.3d 1363, 1377 (Fed. Cir. 2003) (“[U]nder § 112 every structure disclosed in the specification and its equivalents should be considered.”); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (“[A]n interpretation [excluding a preferred embodiment] is rarely, if ever, correct and would require highly

The '193 Patent

13. The term “a displacement member attached to said tubular member for displacing the filter from said segment” is construed to have its plain and ordinary meaning.¹³

persuasive evidentiary support . . .”). In one embodiment, the slider is attached to the outer tubular member, which is withdrawn proximally to expose the filter. ’347 Patent, col. 6 ll. 7–14. Alternatively, the slider “could be connected to the inner member,” which moves distally to displace the filter. *Id.* col. 6 ll. 15–20. “In either case, the movement of the slider causes the deployment of the filter from the distal end of the system.” *Id.* col. 6 ll. 20–22 (citations to figure omitted).

The defendants contend that the claim term is in fact drawn only to the first of the two disclosed embodiments, by virtue of the claim’s inclusion of the limitation, “attached to said tubular member.” But the defendants’ argument improperly equates “control means”—the very term being construed—with the slider. Thus, the defendants’ reasoning is internally inconsistent, as they acknowledge in their proposal that the control means is more than just the slider. The specification makes this explicit: “the control apparatus can be in a general sense considered to include the outer tubular member, the handle, the inner member and the slider.” (citations to figure omitted). In both embodiments, elements of the control means are attached to the tubular member—indeed, the tubular member is part of the control means.

The prosecution history is not inconsistent. The Examiner originally rejected the relevant claim, noting that it was “incomplete because there is set forth no structural communication or relationship between the ‘control apparatus’ and the ‘tubular member.’” (D.I. 64 at A2068.) The patentee amended the claim “to attach the control means to the tubular member.” (*Id.* at A2092.) Nothing about the rejection or the traversal shows that the patentee intended to exclude one of the disclosed embodiments.

¹³ The parties dispute whether the claim term should be construed as a means-plus-function claim. The Court of Appeals for the Federal Circuit recently clarified the doctrine of means-plus-function claiming:

The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word “means,” the presumption can be overcome and § 112[(f)] will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function. The converse presumption remains unaffected: use of the word “means” creates a presumption that § 112[(f)] applies.

Williamson v. Citrix Online, LLC, No. 2013-1130, 2015 WL 3687459, at *7 (Fed. Cir. June 16, 2015) (internal citations and quotation marks omitted). The court finds that the defendants have not rebutted the presumption, *i.e.*, the claim recites sufficiently definite structure.

The introductory phrase “displacement member” does not, by itself, connote structure. “Member,” like other nonce words, derives meaning from the context in which it is used. *See id.* at 8. And “displacement” merely repeats the function of “displacing.” The interaction of the displacement member with the other components of the delivery system, however, does serve to impart sufficiently definite structure to the term. *See id.* (“[T]he claim does not describe how the ‘distributed learning control module’ interacts with other components in the distributed learning control server in a way that might inform the structural character of the limitation-in-question or otherwise impart structure to the ‘distributed learning control module’ as recited in the claim.”). The displacement member is *attached* to the tubular member, which the claims described as “elongated, radially flexible and axially stiff.” ’193 Patent, claim 1. The tubular member houses the filter and the segment—“short compared to the axial length of the filter”—in its distal section. *Id.* The displacement member interacts with these elements so as to displace the filter from the segment and deploy it in the body. The plaintiffs provided the expert declaration of Steven Opolski, confirming that one skilled in the art would understand the term “displacement member” as having sufficiently definite structure, in light of the specification. (D.I. 59, Ex. 1, ¶ 42.) This extrinsic evidence is consistent with the intrinsic record and supports the court’s conclusion that the defendants have not rebutted the presumption against means-plus-function construction.

The '347 & '193 Patent

14. The term “a segment carried in said distal end section for constraining the filter” is construed to have its plain and ordinary meaning.¹⁴

The '414 Patent

15. The term “stent” is limiting and construed to mean “a medical device that is inserted into an anatomical vessel or passageway to strengthen the walls of the vessel.”¹⁵

The defendants argue that the structure of the claim term is nearly identical to the “control means” claim term, *supra* note 12, which all parties agree is a means-plus-function term. But of course, the terms are different in one key respect: the recitation of the word “means,” the “statutory signal” for the patentee’s intent to invoke means-plus-function claiming. See *Williamson*, 2015 WL 3687459, at *15 (Newman, J., dissenting); see also *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1374 (Fed. Cir. 2012) (“When the claim drafter has not signaled his intent to invoke § 112[(f)] by using the term ‘means,’ we are unwilling to apply that provision without a [proper] showing . . .”). The defendants cannot satisfy their burden to overcome the presumption merely by pointing to a different term where the presumption applies in the opposite direction.

¹⁴ Again the parties dispute whether the claim term should be construed as a means-plus-function claim. The court again finds sufficient structure in the claim, such that “the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson*, 2015 WL 3687459, at *7. In full context, the term, appearing in both the '347 and '193 Patents reads:

[A] segment carried in said distal end section for constraining the filter in a compact condition substantially coaxially with said tubular member, said segment being relatively short compared to the axial length of the filter and having an inner surface that resists penetration by the filter thereby to protect said tubular member from damage during transport of the filter . . .

See '347 Patent, claim 6; '193 Patent, claim 1.

Even if the word “segment” has no definite structure on its own, the surrounding claim language lends even greater structural context than the “displacement member” term, *supra* note 13. The entire system serves for delivering the filter to the vena cava. The segment is housed within the distal end section of the tubular member. The segment’s length is short compared to that of the filter. And the segment’s surface material resists penetration from the filter. Thus, the claims directly describe aspects of the segment’s structure and further imply structure through the interaction of the segment with other components. See *Williamson*, 2015 WL 3687459, at *8. Mr. Opolski opined that “[o]ne of skill in the art would understand this language as describing definite structure.” (D.I. 59, Ex. 1, ¶ 37.) The court finds this opinion—though extrinsic evidence—to be consistent, credible, and persuasive.

¹⁵ “In general, a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim. . . . Additionally, dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)).

The court has little doubt that the term “stent” is limiting. It is the very invention, “necessary to give life, meaning, and vitality to the claim.” *Id.* (internal quotation marks omitted). It also serves as the antecedent basis for references in the claim. '414 Patent, claim 1 (“A stent for the treatment of arterial disease”; “the stent comprising”; “wherein when the stent is positioned in the main artery”; “when the stent is positioned in the main artery”).

Although the plaintiffs ostensibly propound a plain and ordinary meaning construction, their arguments make clear that their construction of “stent” is a “stent-graft combination.” (D.I. 71 at 122 (“THE COURT: [I]t

16. The term “main body portion” is construed to mean “main body portion of the stent.”¹⁶

17. The term “lateral opening provided in the surrounding side wall” is construed to mean “structurally distinct hole or aperture located in the said wall of the main body portion of the stent.”¹⁷

sounds like, for plaintiffs’ benefit, like you are in fact arguing for a construction construing stent to mean stent/graft combination. . . . MR. FLANNERY: I think that’s the fair reading of the term in the context of the specification.”).

The court disagrees. As used in the ’414 Patent, “stent” and “graft” are distinct elements. The claims themselves make this apparent. Specifically, dependent claim 4 claims: “The stent of claim 1 wherein the stent is adapted to fit within a graft” ’414 Patent, claim 4. Thus, claim 4 poses a clear claim differentiation problem: adding the presence of a graft in claim 4 would have been unnecessary if stent were already understood to mean a stent-graft combination. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (“[T]he 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.”). The specification is also in accord: “The present invention comprises a novel method and improved *stent and graft* for use in the surgical treatment of arterial disease” ’414 Patent, col. 1 ll. 50–52. The plaintiffs can only point to a single location where the patentee perhaps inartfully referred to a stent alone, rather than a stented graft. Compare *id.* col. 3 ll. 9–10 (“FIG. 8 is a view of the present invention interposed in the coronary artery and including a *second stent*.” (emphasis added)), with *id.* col. 5 ll. 11–12 (“Adverting to FIG. 8, a *second stented graft* (or solely a graft, 18A), is interposed” (emphasis added)). But this lone inconsistency—if indeed it is one—is not enough to overcome the claim differentiation presumption and the numerous distinctions between stent and graft in the intrinsic record. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (“[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”).

Having resolved the question of whether the term “stent” encompasses stent-grafts, the court finds the plain meaning of stent in the specification: “[I]t is well known in the art to interpose within the diseased portion of an artery a stent . . . for *strengthening* the walls of a stenotic or occluded artery.” ’414 Patent, col. 1 ll. 14–19 (emphasis added); see also *id.* col. 2 ll. 38–41 (“[O]ne object of the present invention is to provide a *stent and a unique method for repairing and strengthening a diseased artery* at or around a point of arterial intersection.” (emphasis added)). Dictionary definitions supplied by the parties support this definition as the plain and ordinary meaning of stent.

¹⁶ The parties’ dispute stems from their disagreement, discussed *supra* note 15, as to whether a stent encompasses a stent-graft combination. As explained above, “stent” refers to stent alone. Thus, the “main body portion” is the “main body portion of the stent,” excluding the graft. See ’414 Patent, claim 1 (“a main body portion adapted to be positioned in a main artery”; “wherein when the stent is positioned in the main artery”).

¹⁷ Again, the initial dispute stems from the construction of “stent.” Because stent excludes graft, the lateral openings must be in the stent itself.

Because stents are porous, mesh structures, however, it is necessary to further define the lateral openings. After all, the claimed “lateral openings” do not refer to the inherent holes present in the stent’s mesh structure. See ’414 Patent, fig. 1A. Thus, the court agrees that “structurally distinct hole or aperture” adequately distinguishes between the stent’s native openings in the mesh and the lateral openings relevant to the claims, which correspond to branching artery openings.

The court declines to insert a limitation requiring the “lateral opening” to be *predetermined* or *predefined*. The court agrees that the placements of the lateral openings are measured ahead of insertion so as to line up properly with the branching arteries, but the court does not view this as a necessary limitation for claim construction. The defendants’ argument reveals that they seek the addition of this limitation to further differentiate the stent’s structural holes from the lateral openings. But the “structurally distinct” limitation achieves this objective. Adding

18. The term “sized to be larger than an opening of a lateral artery” is construed to mean “sized so that the lateral support ring completely surrounds the outer edge of an opening of a lateral artery.”¹⁸

19. The term “adapted to seat against a side wall of the main artery” is construed to mean “adapted to be firmly affixed to and form a tight seal with a side wall of the main artery.”¹⁹

The '380 Patent

20. The term “fenestrations” is construed to mean “two or more structurally distinct openings in the side wall that allow blood flow between a principal blood vessel and auxiliary blood vessel.”²⁰

a “predefined” requirement would only serve to confuse the jury by introducing a quasi-process limitation, that serves no independent purpose.

¹⁸ The plaintiffs could not accept the defendants’ proposed construction because of their dispute over the meaning of “stent.” In their brief, however, they conceded that “the claimed support ring ‘completely surrounds’ the outer edge of a lateral artery opening.” (D.I. 58 at 28.) The prosecution history supports this view as well. (D.I. 64 at A1329 (overcoming a prior art rejection by arguing that, in the prior art, the lateral opening and support ring “are not sized to surround the opening leading into the lateral opening”).)

The court declines to include the superfluous limitation that the support ring “extends beyond” the outer edge.

¹⁹ Once again, the plaintiffs do not contest the defendants’ proposal but object because of the construction of “stent.” (D.I. 58 at 28 (“Plaintiffs do not dispute that the claimed support ring . . . is adapted to be ‘firmly affixed and tightly seal against’ the vessel wall, as ostensibly proposed by Cook.”).) Disclosures in the specification and prosecution history support the unopposed construction. *See, e.g.*, ’414 Patent, col. 2 ll. 31–35 (“When properly positioned, the stent and graft combination is *firmly affixed* against the walls of the artery to be treated and, as well, forms a *tight seal* at the point of intersection of the two arteries through the use of the *lateral openings and support collar*.” (emphasis added)). The court has adjusted some awkward phrasing in the defendants’ proposal but maintains the basic idea.

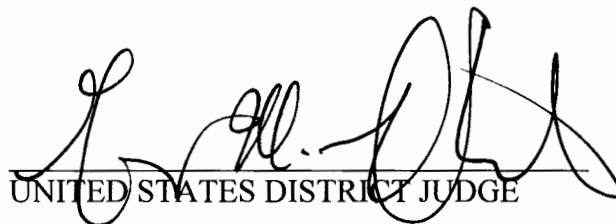
²⁰ Claim 1 is instructive:

A method for performing a bypass operation, comprising the steps of:
providing a bypass graft comprising a sidewall including a plurality of fenestrations, the fenestrations each having a mid-longitudinal axis passing there-through and a curved perimeter about the mid longitudinal axis

’380 Patent, claim 1. The term “fenestrations” closely resembles the “lateral openings” of the ’414 Patent, discussed *supra* note 17. Although the ’380 Patent employs bypass *grafts* and not merely stents, the figures illustrate that the fenestration openings can be present in the mesh portion of the stent-graft. ’380 Patent, fig. 1. Thus, the concern that motivated the construction for “lateral openings”—*i.e.*, the need to distinguish between the mesh holes of the stent and the lateral openings to the arteries—is present here as well. The “structurally distinct” limitation addresses this concern. *See supra* note 17.

21. The term “configured to match” is construed to have its plain and ordinary meaning.²¹

Dated: July 1, 2015


UNITED STATES DISTRICT JUDGE

The remainder of the court’s construction comes straight from the Abstract: “The graft is attached to the principal blood vessel so that the fenestrations remain aligned with the respective junctions, thereby allowing blood flow between the principal vessel and the auxiliary vessels” ’380 Patent, Abstract. The court rejects the defendants’ additional proposed limitations. As discussed above, the court finds it unnecessary to require fenestration to be predefined—the limitation adds nothing new and greatly raises the possibility for confusion. See *supra* note 17. Moreover, the court is not persuaded that fenestrations—as a term in isolation—require a closed perimeter. The only basis for the defendants’ position comes from the claims themselves. But claim 1 illustrates that the perimeter limitation is *separate* from the claim’s fenestration requirement: “a plurality of fenestrations, the fenestrations each having a mid-longitudinal axis passing there-through and a curved perimeter about the mid longitudinal axis.” ’380 Patent, claim 1. In other words, while the claims may require the fenestrations to have a perimeter, claim 1 makes clear that the definition of fenestrations—whatever it may be—does not already include a perimeter requirement. Otherwise, the claim would be redundant. Without additional support, the court will not construe “fenestrations” to require a closed perimeter. The parties have not asked the court to construe “perimeter”—as it appears in claim 1—as a separate term.

²¹ The court does not find adequate support for the defendants’ proposed construction: “configured to be identical in size, shape, and location.” The relevant portion of the specification is as follows:

Prior to an aortic bypass operation utilizing graft 10, the patient is subjected to a CAT scan to determine the *exact angular locations and relative longitudinal positions of the vascular junctions* of aorta A0 with tributary arteries RA1, RA2, SMA, and CA. An appropriate aortic graft with fenestrations *matching* those of the patient is then selected from hospital inventory or ordered.

’380 Patent, col. 3 ll. 4–10 (emphasis added). Thus, the specification teaches that while the vascular junctions are measured *exactly*, the specification does not explain what is meant by requiring the fenestrations be “configured to match.” *Id.* claim 16. “It is the claims that define the metes and bounds of the patentee’s invention. The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1313). The patentee did not redefine or disavow the scope of “configured to match,” nor is it a term that requires construction to aid the jury’s understanding. As such, the court will leave it unconstrued.