

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

EDGEWELL PERSONAL CARE BRANDS,  
LLC,

Plaintiff,

v.

ALBAAD MASSUOT YITZHAK, LTD.,  
ALBAAD USA, INC.

Defendants.

Civil Action No. 15-1188-RGA

**MEMORANDUM OPINION**

Thomas C. Grimm, Esq., Stephen J. Kraftschik, Esq., MORRIS, NICHOLS, ARSHT & TUNNELL LLP, Wilmington, Delaware; Daniel J. Burnham, Esq., Jason T. Kunze, Esq., NIXON PEABODY LLP, Chicago, Illinois; Jason C. Kravitz, Esq. (argued), NIXON PEABODY LLP, Boston, Massachusetts.

Attorneys for Plaintiff.

John G. Day, Esq., Andrew C. Mayo, Esq., ASHBY & GEDDES, Wilmington, Delaware; David A. Loewenstein, Esq. (argued), Guy Yonay, Esq., Clyde Shuman, Esq., PEARL COHEN ZEDEK LATZER BARATZ LLP, New York, New York.

Attorneys for Defendants.

May 9, 2017

**ANDREWS, U.S. DISTRICT JUDGE:**

Presently before me is the issue of claim construction of multiple terms in U.S. Patent No. 9,192,522 (the “522 Patent”) and U.S. Patent No. 6,432,075 (the “075 Patent”). I have considered the parties’ Joint Claim Construction Brief. (D.I. 83). I held oral argument on April 5, 2017. (“Tr.”).

**I. LEGAL STANDARD**

“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). “[T]here is no magic formula or catechism for conducting claim construction.’ Instead, the court is free to attach the appropriate weight to appropriate sources ‘in light of the statutes and policies that inform patent law.’”

*SoftView LLC v. Apple Inc.*, 2013 WL 4758195, at \*1 (D. Del. Sept. 4, 2013) (quoting *Phillips*, 415 F.3d at 1324) (alteration in original). When construing patent claims, a court considers the literal language of the claim, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). Of these sources, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (internal quotation marks omitted).

“[T]he words of a claim are generally given their ordinary and customary meaning. . . . [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.” *Id.* at 1312–13 (citations and internal quotation marks omitted). “[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent.” *Id.* at 1321

(internal quotation marks omitted). “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314.

When a court relies solely upon the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court’s construction is a determination of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). The court may also make factual findings based upon consideration of extrinsic evidence, which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Phillips*, 415 F.3d at 1317–19. Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

“A claim construction is persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that “a claim interpretation that would exclude the inventor’s device is rarely the correct interpretation.” *Osram GMBH v. Int’l Trade Comm’n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (citation omitted).

## II. TERMS FOR CONSTRUCTION

### 1. a “generally tapered” [shaped] insertion tip region (Claims 1 and 15 of the ’522 Patent)

- a. *Plaintiff’s proposed construction*: No construction needed. The plain and ordinary meaning applies (i.e., the insertion tip region has a generally tapered shape).
- b. *Defendants’ proposed construction*: This claim element is indefinite.
- c. *Court’s construction*: No construction needed. The plain and ordinary meaning applies.

Claim 1 is representative. It provides:

1. A tampon assembly, comprising:

a barrel region having a single layer plastic tubular wall having an inner surface and an outer surface, said barrel region having a first end and a second end, said barrel region having a plurality of discrete petals at said first end that define a generally tapered shaped insertion tip region, said discrete petals being separated from each other by a plurality of cuts that form a break of material through said tubular wall, each of said plurality of cuts having a terminal end adjacent a base region of said plurality of discrete petals, each of said plurality of cuts extending along said barrel region for a first length measured from said first end to said terminal end;

a tapered pledget having an end region that has been compressed to form a tapered insertion tip that has a greater density than an adjacent region of said pledget prior to said tampon assembly being inserted into a user, said tapered tip having a length that is less than said first lengths of said plurality of cuts, said tapered tip contacting and supporting at least said base regions of said plurality of petals adjacent to said terminal ends of said plurality of cuts while said tampon assembly is being inserted into said body for mitigating against said plurality of petals pinching said user.

('522 Patent, Claim 1). Figure 1 of the '522 Patent is as follows.

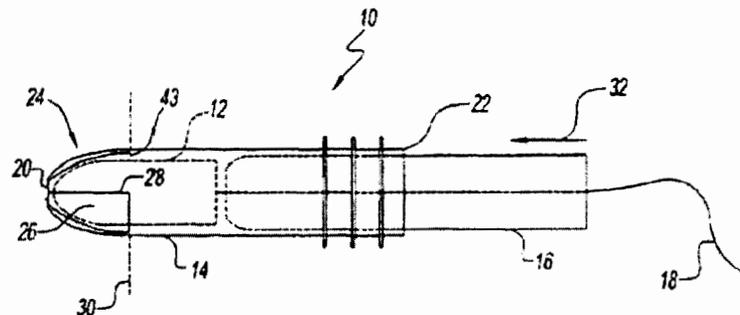


Fig. 1

('522 Patent, Fig. 1).

Under *Nautilus, Inc. v. Biosig Instruments, Inc.*, “a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”

134 S. Ct. 2120, 2124 (2014). Prior to *Nautilus*, “terms of approximation such as ‘generally’

need not be construed with mathematical precision.” *N. Am. Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 1346 (Fed. Cir. 2005). The Federal Circuit has held that the phrase “generally parallel” was not indefinite and that it “envisions some amount of deviation from exactly parallel.” *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1311 (Fed. Cir. 2003). The Federal Circuit has held the phrase “generally oblong” to mean “a shape that is longer in one direction than the other, but not necessarily true to a specific geometrical shape, i.e., not a perfect oval or rectangle.” *Alltrade Tools, LLC v. Olympia Grp., Inc.*, 123 F. App’x 394, 397 (Fed. Cir. 2005). The court in *Datamize, LLC v. Plumtree Software, Inc.*, held that the term “aesthetically pleasing” was indefinite because it was subjective and depended on “one person’s opinion of aesthetics.” 417 F.3d 1342, 1350, 1356 (Fed. Cir. 2005).

After *Nautilus*, the Federal Circuit has continued to uphold terms of degree. See *Apple, Inc. v. Samsung Elec. Co., Ltd.*, 786 F.3d 983, 1002–03 (Fed. Cir. 2015) (finding “substantially centered” not indefinite); *Tinnus Enters., LLC v. Telebrands Corp.*, 846 F.3d 1190, 1205–06 (Fed. Cir. 2017) (suggesting that “substantially filled” is not indefinite). The Federal Circuit has acknowledged that the “definiteness requirement . . . recogniz[es] that absolute precision is unattainable.” *Apple*, 786 F.3d at 1002–03; see also *Sonix Tech. Co., Ltd. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017) (“Because language is limited, we have rejected the proposition that claims involving terms of degree are inherently indefinite.”).

Defendants’ main argument is that that “[a]dding the word ‘generally’ to the mix creates ambiguity” rendering the claim indefinite under *Nautilus*. (D.I. 83 at p. 9). I disagree because the patent informs with reasonable certainty the term “generally tapered.” The plain meaning of “tapered” is a “gradual diminution of thickness, diameter, or width in an elongated object.”<sup>1</sup> The

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<sup>1</sup> *Taper*, MERRIAM-WEBSTER (April 5, 2017), <https://www.merriam-webster.com/dictionary/taper>.

plain meaning of “generally” is “‘in a general manner,’ or ‘in disregard of specific instances and with regard to an overall picture,’ or ‘on the whole.’” *Alltrade*, 123 F. App’x at 397. Combining these definitions results in the plain meaning of “generally tapered.” Examples from the specification reinforce the meaning of “generally tapered.” (*See, e.g.*, ’522 Patent, Figs. 1 and 5). The term “generally tapered” is analogous to terms of degree such as “generally parallel,” “generally oblong,” and “substantially centered.” In contrast to the term “aesthetically pleasing,” the term “generally tapered” is much less subjective. Thus, the term is sufficiently definite.

Defendants appear concerned that this construction would allow the claimed shape to be anything Plaintiff wants it to be, so long as it is “narrower towards the tip end.” (D.I. 83 at pp. 9–10). This concern is misplaced because simply narrowing towards the tip end is not enough, there must be a gradual diminution of the diameter of the elongated object.

Defendants argue that this construction would cover prior art which feature “dome shaped ends” or “semispherical shapes.” (D.I. 83 at p. 16). As noted by Plaintiff, there is no principle that individual claim terms can never read on a prior art feature.

Defendants argue for the application of the principle in *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1218 (Fed. Cir. 1991), that “[w]hen the meaning of claims is in doubt, especially when, . . . there is close prior art, they are properly declared invalid.” (D.I. 83 at pp. 17, 63). This principle does not apply here because the meaning of the claims is not in doubt.

Defendants also argue that Plaintiff’s interpretation here would be inconsistent with Plaintiff’s interpretation of “diametrically gradually reduced” in the ’075 Patent. (D.I. 83 at p. 10). Plaintiff’s interpretation of “generally tapered” is consistent with “diametrically gradually reduced.” The discussion in Part II.10 below illustrates why. Furthermore, Defendants’

argument also fails because the '075 Patent is not related to the '522 Patent; the '075 uses different language; and the '075 has different inventors. (*See* '075 Patent).

Defendants argue that some of Plaintiff's arguments are doctrine of equivalents arguments because Plaintiff's arguments mention the coverage of the claim term. (D.I. 83 at p. 14). I see Plaintiff's arguments as simply claim construction arguments.

Thus, the term "generally tapered" is not indefinite.

**2. said tapered insertion tip region is "generally elliptical" in shape (Claims 8, 21, 23, 28, and 35 of the '522 Patent)**

- a. *Plaintiff's proposed construction*: The shape of the tapered insertion tip region generally follows the shape of a truncated ellipse.
- b. *Defendants' proposed construction*: This claim element is indefinite.
- c. *Court's construction*: The shape of the tapered insertion tip region generally follows the shape of a truncated ellipse.

Defendants' argue that "generally elliptical" is indefinite. The analysis above for "generally tapered" is applicable here. The term "generally elliptical" is even closer to the term "generally oblong" in *Alltrade* than the term "generally tapered."

Defendants are concerned that Plaintiff may argue that a parabolically or cone-shaped tip is "generally elliptical" or that "generally elliptical" excludes circles. Defendants' concerns are largely misplaced. One skilled in the art would not understand "generally elliptical" to cover something "cone-shaped." Although one skilled in the art could understand something parabolically-shaped to be "generally elliptical," it is still reasonably certain to determine whether something is "generally elliptical." Furthermore, one skilled in the art would understand that because a circle is a special case of an ellipse, "generally elliptical" does not exclude circles.

Defendants argue that an ellipse describes a two-dimensional object and, because the patent relates to a three-dimensional object, the term is indefinite. (D.I. 83 at p. 19). One skilled

in the art would understand with reasonable certainty an ellipse as used in the context of the claims refers to the three-dimensional equivalent of an ellipse. Thus, the term is not indefinite.

Plaintiff seeks to clarify that this term refers to a “truncated” ellipse. This clarification is helpful because a skilled artisan looking at the context of the claims and figures in the specification would understand the insertion tip not to have the shape of a full ellipse.

Defendants took issue with the word “truncated” at oral argument, arguing that it would be unclear where the truncation begins. (Tr. 21:19–20; 22:2–10). This concern was not adequately preserved in the briefing and there are no compelling circumstances for why Defendants did not raise this in their answering brief or sur-reply brief (D.I. 83 at pp. 19–20), and thus this issue is waived. *See, e.g.*, D. Del. R. 7.1.3(c)(2) (“The party filing the opening brief shall not reserve material for the reply brief which should have been included in a full and fair opening brief”); *Melchior v. Hilite Int’l, Inc.*, 665 F. App’x 894, 899 n.4 (Fed. Cir. 2016) (finding waiver of an argument raised for the first time at oral argument on appeal); *Anspach ex rel. Anspach v. City of Philadelphia, Dep’t of Pub. Health*, 503 F.3d 256, 258 n.1 (3d Cir. 2007) (“Absent compelling circumstances not present here, failure to raise an argument in one’s opening brief waives it.”). Even assuming it was not waived, one skilled in the art would understand with reasonable certainty where the truncation begins in light of the figures provided the specification. (*See, e.g.*, ’522 Patent, Figs. 1 and 5).

**3. said tapered tip [region] contacting [contacts] and supporting [supports] “at least said [the] base regions of said plurality of petals adjacent to said [the] terminal ends of said plurality of cuts while said tampon assembly is being inserted into said body for mitigating against said plurality of petals pinching said [a] user” (Claims 1, 15, 22, 27, and 34 of the ’522 Patent)**

- a. *Plaintiff’s proposed construction*: No construction needed. The plain and ordinary meaning applies (i.e., the tapered tip contacts and supports at least the base regions of the petals while the tampon assembly is being inserted).

- b. *Defendants' proposed construction*: This claim element is indefinite and makes the claims not useful and invalid under 35 U.S.C. § 112.
- c. *Court's construction*: No construction needed. The plain and ordinary meaning applies.

Defendants argue that the language, “while said tampon assembly is being inserted into said body,” renders the claims invalid under *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005).

In *IPXL*, the Federal Circuit held that when a claim “recites both a system and the method for using that system, it does not apprise a person of ordinary skill in the art of its scope, and[ ] is [therefore indefinite] under section 112, paragraph 2.” *Id.* at 1384. Subsequent decisions by the Federal Circuit upheld this rule where, as in *IPXL*, the claim language expressly required both an apparatus and that a user actually use the apparatus. See *H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1336 (Fed. Cir. 2014) (applying this principle to claim language stating “‘wherein said user completes . . .’ and ‘wherein said user selects.’” (alterations in original)); *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1318 (Fed. Cir. 2005) (applying this principle to claim language stating “‘wherein . . . callers digitally enter data’ and ‘wherein . . . callers provide . . . data’” (alterations in original)). Numerous district courts have described this rule of law, however, as a narrow one, with the general understanding that “the rule does not apply to claims containing language simply describing a system as well as the capabilities of the claimed system; rather, the rule applies to claims describing a system that also require the user of the recited system to take specific action.” *Bayer Pharma AG v. Watson Labs, Inc.*, 2014 WL 4954617, at \*6 (D. Del. Sept. 30, 2014) (citing various district court opinions in accord with this position).

Here, one skilled in the art would understand that the phrase “being inserted into said body” simply describes the capabilities of the tapered tip based on a plain reading of the claims.

The tapered tip must contact and support at least the base regions of the petals adjacent to the terminal ends of the plurality of cuts. More specifically, the tapered tip must be capable of providing this contact and support while the tampon assembly is being inserted into the body for mitigating against the petals pinching against the user. The phrase “being inserted into said body” explains a characteristic of how the tapered tip provides contact and support. That phrase does not require user action. This language is distinguishable from that in *IPXL*, where the language expressly indicated the need for user action. Defendants also rely on *Courtesy Prod., L.L.C. v. Hamilton Beach Brands, Inc.*, 2015 WL 7295436 (D. Del. Nov. 18, 2015), but the language at issue there also suggested the need for user action, and is therefore similarly distinguishable. The language here is more analogous to that in *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1371–72, 1375 (Fed. Cir. 2008), where the court held definite the terms “the [processor] performing a boolean algebraic evaluation of the condition code” and “the [processor], when specified by the conditional execution specifier, determining the enable-write using the boolean algebraic evaluation.” Given that *IPXL* is a narrow rule, a person of ordinary skill in the art would not view this term as indefinite.

**4. “plurality of discrete petals,” or “plurality of petals” (Claims 1, 15, 16, 22, 27, and 34 of the ’522 Patent)**

- a. *Plaintiff’s proposed construction*: No construction needed. The plain and ordinary meaning applies (i.e., two or more discrete petals).
- b. *Defendants’ proposed construction*: A maximum of three petals.
- c. *Court’s construction*: A maximum of three petals.

A skilled artisan would read the specification to limit the terms “plurality of discrete petals” or “plurality or petals” to a maximum of three petals. Beginning with the specification, the following provisions make it clear that the specification disclaims designs of greater than

three petals. The Detailed Description of the Invention provides the strongest indication of this.

It provides:

Through consumer testing it has been unexpectedly found that a tampon applicator having an insertion tip with three petals is most preferred over those tampon applicators with an insertion tip having greater than three petals. In lieu of this unexpected discovery, a tampon applicator with no more than three petals is provided, which overcomes all prior art drawbacks, including those noted above.

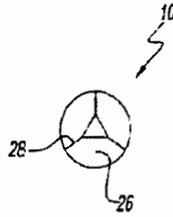
(’522 Patent, 2:38–44; *see also id.* at 1:43–48, 5:18–26). This provision indicates that three petals or less constitutes a key distinguishing feature over the prior art, forming an “unexpected discovery . . . which overcomes all prior art drawbacks.” It is telling that embodiments containing greater than three petals are not expressly disclosed in the ’522 Patent. (*See generally* ’522 Patent). By emphasizing that the design of three petals or less as a key feature over the prior art, the specification clearly disavows embodiments containing petals greater than three. *See Openwave Systems, Inc. v. Apple Inc.*, 808 F.3d 509, 513 (Fed. Cir. 2015) (“Disavowal requires that ‘the specification make[] clear that the invention does not include a particular feature.’”).

The Summary of the Invention also provides a clear description of the extent of the invention. It provides:

The present disclosure provides a tampon assembly having an applicator with a maximum of three petals on the insertion tip. . . . These and other advantages and benefits of the present disclosure are provided by a tampon applicator assembly having an applicator barrel with an insertion tip having a maximum of three petals.

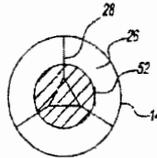
(*Id.* at 1:65–67, 2:12–15). I accord this great weight. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (“When a patent thus describes the features of the ‘present invention’ as a whole, this description limits the scope of the

invention.”). The specification reinforces this disclaimer with the following. Figure 2 of the '522 Patent is as follows.



*Fig. 2*

('522 Patent, Fig. 2). Figure 6 of the '522 is as follows.



*Fig. 6*

('522 Patent, Fig. 6). The Abstract provides: “The present invention provides a tampon applicator assembly having an applicator barrel with an insertion tip with a maximum of three petals.” ('522 Patent, Abstract)). The Background of the Invention provides: “More particularly, the present invention is related to a tampon assembly having an applicator barrel with no more than three petals.” ('522 Patent, 1:17–19). All of this provides more than enough evidence to conclude that the specification disclaimed petal designs of greater than three.

Plaintiff argues that the following provision suggests that the “plurality” is not limited to at most three.

In one embodiment, the present disclosure provides a tampon applicator assembly having an applicator barrel with a tapered insertion tip and a shaped pledget housed in the applicator barrel. The tapered insertion tip has a maximum of three petals, which are supported by the shaped pledget housed in the barrel.

(D.I. 83 at p. 30; '522 Patent, 2:48–53). Plaintiff argues that this provision suggests that a tampon applicator assembly of “no more than three petals” is merely one embodiment of the claims. One skilled in the art reading all the provisions of the specification would not understand this provision to support such an inference. This language also supports the inference that petals greater than three are disclaimed. Read in context with the other provisions of the specification, it is clear that embodiments of greater than three petals are disclaimed. *See also Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1345 (Fed. Cir. 1998) (“This isolated passage therefore does not alter our construction, which is based on the entire written description.”)

Plaintiff argues that the 8,197,434 patent ('434 Patent) discloses embodiments of greater than three petals and is effectively part of the '522 specification because the specification incorporates by reference the '434 Patent. (D.I. 83 at pp. 30–31).<sup>2</sup> Defendant argues that Application No. 11/713,974, which led to the '522 Patent, was filed as a continuation-in-part of Application No. 10/834,386. Application No. 10/834,386 later issued as the '434 Patent. (*Id.* at pp. 31–32). Defendant argues that changes such as the deletion of Figures 8 and 9 in the '434 Patent in the '522 Patent show that Applications limited the invention of the '522 to at most three petals. (*Id.* at pp. 32–33). Assuming the entire disclosure of the '434 is incorporated into the '522, I accord no weight to the disclosure of the '434 patent because it is in conflict with specification of the '522, which clearly disclaims designs of greater than three petals.

Turning to the prosecution history, Defendants note that throughout the first five of the prosecution's eight-year history, in four separate amendments, the patentee advocated a three-petal design. (D.I. 83 at pp. 36–37). At the time of filing of the '974 Application, all claims included the limitation “a maximum of three petals.” (D.I. 84, Exh. M). The Summary of the

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<sup>2</sup> “This application is a continuation-in-part application of pending U.S. patent application Ser. No. 10/834,086 . . . , the contents each being incorporated by reference herein in their entirety.” ('522 Patent, 1:6–11).

Invention also included that language. (*Id.*). Plaintiff notes that the phrase “a maximum of three petals” was ultimately removed from the claims during prosecution. (D.I. 83 at p. 44). Plaintiff argues that additional independent claims were added during prosecution after the patentee removed the limitation of a “maximum of three petals” and that there was a shift in focus to different aspects of the invention. (*Id.* at p. 45; Tr. 39:23–40:3). The change in the prosecution history from a maximum of three to a plurality does little to help Plaintiff without a clearer explanation for why the changes were made. (*See, e.g.*, D.I. 84, Exh. I at pp. 8–11). Without a clearer explanation, it is hard to conclude that the change in claim terminology was meant to renounce the five years of claiming that the invention included a maximum of three petals.

Considering all of the intrinsic evidence, I construe plurality to mean a maximum of three. I attribute significant weight to how firmly and unequivocally the specification emphasizes the superiority of petal designs of three petals or fewer. *See Phillips*, 415 F.3d at 1315 (“[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’”).

**5. “ejection force of greater than about 5 ounces less than about 8 ounces” (Claim 15 of the ’522 Patent)**

This term is resolved. (Tr. 5:5–11).

**6. “an outer radial dimension that decreases between the distal tip [a front end] of said pledget and a plane through said pledget where said taper begins” (Claims 22, 29, and 34 of the ’522 Patent)**

- a. *Plaintiff’s proposed construction*: The tapered tip has a dimension measured from its outer surface to the applicator’s central axis that gradually decreases from a plane through the pledget at which the tapering of the tip begins to the tip’s distal end.
- b. *Defendants’ proposed construction*: Needs no construction.
- c. *Court’s construction*: The tapered tip has a dimension measured from its outer surface to the applicator’s central axis that gradually decreases from a plane through the pledget at which the tapering of the tip begins to the tip’s distal end.

Defendant argues that this term is “backwards” because the radial dimension does not decrease from tip to tail. (D.I. 83 at pp. 54–55). Plaintiff argues that the word “between” does not imply any sense of direction, and that the decreasing begins where the plane through the pledget at which the tapering of the tip begins. The decreasing ends at the tip’s distal end. (*Id.* at p. 55). A person of skill in the art, viewing the specification, would agree with Plaintiff’s argument. (*See, e.g.*, ’522 Patent, Fig. 4).

Defendants also takes issue with the word “gradually” in Plaintiff’s proposed construction, arguing that it “has no concrete definition.” The analysis in Part II.1 is applicable here. A person of skill in the art would understand with reasonable certainty the word “gradually” in Plaintiff’s proposed construction.

**7. “said tapered tip [region] contacting [contacts] and supporting [supports] at least said base regions of said [the] plurality of petals” and “an outer surface of said tapered pledget contacts and supports said petals at said first end prior to ejection of said pledget through said plurality of discrete petals” (Claims 1, 15, 22, 27, and 34 of the ’522 Patent)**

- a. *Plaintiff’s proposed construction*: No construction needed. The plain and ordinary meaning applies (i.e., the tapered tip contacts and supports at least the base regions of the petals while the tampon assembly is being inserted).
- b. *Defendants’ proposed construction*: This claim element is indefinite.
- c. *Court’s construction*: No construction needed. The plain and ordinary meaning applies.

Defendants’ arguments here are the same as those that they raised in Part II.3. (D.I. 83 at p. 58). For the reasons given in Part II.3, this claim term is not indefinite.

**8. “first taper ratio” and “second taper ratio” (Claim 4 of the ’522 Patent)**

The parties agree to and I adopt the following construction. The first taper ratio is the maximum radial dimension of the applicator divided by the length of the tapered tip. The second

taper ratio of the pledget is the maximum radial dimension of the tapered tip divided by the length of the tapered tip. (D.I. 83 at p. 6).

**9. “[provides] a first long length that enables gradual insertion [of said barrel region]” (Claim 9 of the ’522 Patent)**

This term is resolved. (D.I. 83 at p. 60).

**10. “each valve being converged to have a curved face portion to be ‘diametrically gradually reduced’ and define a leading end” (Claims 1, 5, and 6 of the ’075 Patent)**

- a. *Plaintiff’s proposed construction:* Each valve’s curved face portion has a dimension measured relative to the applicator’s central axis that is gradually reduced toward the leading end.
- b. *Defendants’ proposed construction:* This claim element is indefinite.
- c. *Court’s construction:* Each valve’s curved face portion has a dimension measured relative to the applicator’s central axis that is gradually reduced toward the leading end.

Claim 1 of the ’075 Patent is representative. It provides:

1. An applicator for a tampon, comprising:

an outer cylinder including forward and rearward ends, a first portion for fitting the tampon therein formed on a side of the forward end, and a second portion formed on a side of the rearward end and having a smaller diameter than that of said first portion,

a push-out member movably inserted into said second portion of said outer cylinder, and

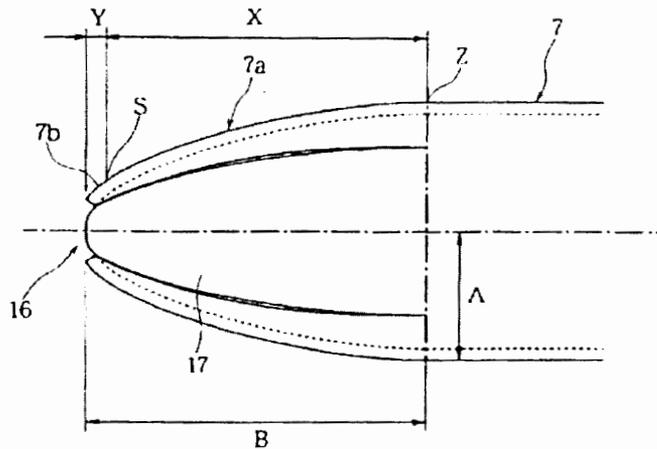
a plurality of valves provided with the forward end of said outer cylinder, each valve being converged to have a curved face portion to be diametrically gradually reduced and define a leading end,

wherein a ratio of a radius of an outer face at an inflection point of a boundary between a maximum diameter portion of said first diameter portion and said curved face portion to an axial length of the outer face from the inflection point to the leading end of said curved face portion is at most 0.8; and

wherein a ratio of a length of said valves to a width of root ends of said valves is 1.0 to 2.0.

(’075 Patent, Claim 1). Figure 3 of the ’075 Patent is as follows.

Fig. 3



('075 Patent, Fig. 3).

I already addressed some of Defendants' arguments in Part II.1. I only focus on arguments unique to Part II.10 here. Defendants argue that Plaintiff's construction is internally inconsistent because the specification says that the claimed shape cannot be a hemisphere and Plaintiff's construction would encompass a hemisphere. (D.I. 83 at pp. 63–64). This argument fails because when the claims are viewed as a whole, applicators having valves with hemispherical tips would never read on these claims because the claims, for example, also call for the valves to have a certain taper ratio (i.e., "at most 0.8").<sup>3</sup> (See, e.g., '075 Patent, Claim 1). The term "diametrically gradually reduced" is not rendered superfluous by other claim limitations.

Defendants argue that Plaintiff's construction would be inconsistent with the term "inflection point" as used in claim 1. Defendants argue that an inflection point is defined as the location where a line changes from concave to convex. Because a shape that "gradually reduce[s]" has no such change, there must not be an inflection point. Defendants argue that, even assuming an inflection point is defined as the point where (a) the shape changes curvature

<sup>3</sup> The concept of taper ratios is explained in the specification. (See, e.g., '075 Patent, 1:33–63).

and transitions into the curved face portion or (b) the curvature of the curved face portion changes, there would be no discernible location for the inflection point because the curve is constantly changing gradually. (D.I. 83 at p. 64).

A person of skill in the art looking at the specification would not understand “inflection point” to mean where the line changes from concave to convex. Figure 3 of the ’075 patent illustrates why. It shows an applicator in which the valves are diametrically gradually reduced and have a first inflection point “Z” and a second inflection point “S.” Those points are not points where the shape changes from concave to convex. These points are also discernible even though the curve is constantly changing gradually. As shown in figure 3, inflection points are points where there is a noticeable change in curvature. Thus, a person of skill in the art would be able to harmonize the limitation of having inflection points with the limitation that the shape must be diametrically gradually reduced. Figure 3 shows that this scenario is possible.

**11. “inflection point” and “located substantially at the inflection point” (Claims 1, 2, 5, and 6 of the ’075 Patent)**

- a. *Plaintiff’s proposed construction:* A boundary point on the applicator at which the first portion changes curvature and transitions into the curved face portion.
- b. *Defendants’ proposed construction:* This claim element is indefinite.
- c. *Court’s construction:* A boundary point on the applicator at which the first portion changes curvature and transitions into the curved face portion.

Defendants’ arguments are addressed in Part II.10.

**12. “second inflection point” (Claim 5 of the ’075 Patent)**

- a. *Plaintiff’s proposed construction:* A point on the curved face portion adjacent to the leading end at which the curvature of the curved face portion changes.
- b. *Defendants’ proposed construction:* This claim element is indefinite.
- c. *Court’s construction:* A point on the curved face portion adjacent to the leading end at which the curvature of the curved face portion noticeably changes.

Defendants' arguments are addressed in Part II.10.

**13. "a first portion for fitting [accommodating] the tampon therein" (Claims 1, 5, and 6 of the '075 Patent)**

The parties agree to and I adopt the following construction: "No construction needed.

The plain and ordinary meaning applies." (D.I. 83 at p. 6).

**14. "a second portion ... 'having a smaller [reduced] diameter than that of [relative to] said first portion'" (Claims 1, 5, and 6 of the '075 Patent)**

The parties agree to and I adopt the following construction: "No construction needed.

The plain and ordinary meaning applies." (*Id.*).

**15. "an inflection point of a boundary between a maximum diameter portion of said first diameter portion and said curved face portion" (Claims 1 and 6 of the '075 Patent)**

- a. *Plaintiff's proposed construction:* A boundary point on the applicator at which the first portion changes curvature and transitions into the curved face portion.
- b. *Defendants' proposed construction:* This claim element is indefinite.
- c. *Court's construction:* A boundary point on the applicator at which the first portion changes curvature and transitions into the curved face portion.

Defendants' arguments are addressed in Part II.10.

**16. "said curved face portion has two curvature radii" (Claim 3 of the '075 Patent)**

- a. *Plaintiff's proposed construction:* No construction needed. The plain and ordinary meaning applies.
- b. *Defendants' proposed construction:* "said curved face portion has exactly two curvature radii"
- c. *Court's construction:* "said curved face portion has exactly two curvature radii"

Plaintiff argues that having two radii of curvature is merely the "preferred" embodiment and thus, one skilled in the art would read the claim as not limited to only two curvature radii.

(D.I. 83 at pp. 81–82). Defendants argue that having more than two radii of curvature would be

inconsistent with the specification. This is because if there were more than two radii, there would be either be no or infinitely many inflection points. (*Id.* at p. 83).

Claim 3 provides:

3. An applicator for a tampon as set forth in claim 1,

wherein said curved face portion has two curvature radii, and one curvature radius at the leading ends of said curved face portions is smaller than the other curvature radius at the root ends of said valves.

('075 Patent, Claim 3).

A person of skill in the art would understand claim 3 to claim exactly two curvature radii under a plain reading of claim 3 in light of the specification. This is not a case where the claim is broad and is narrowed to reflect the “preferred” embodiment. This is simply a case where the claim is narrow to begin with, and happens to be commensurate with the scope of the “preferred” embodiment.

### III. CONCLUSION

Within five days the parties shall submit a proposed order consistent with this Memorandum Opinion.

  
United States District Judge