

**UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

<p>IGNITE USA, LLC,</p> <p style="padding-left: 100px;">Plaintiff,</p> <p style="padding-left: 100px;">v.</p> <p>PACIFIC MARKET INTERNATIONAL, LLC,</p> <p style="padding-left: 100px;">Defendant.</p>	<p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p>	<p>No. 09 C 03339</p> <p>Judge Edmond E. Chang</p>
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**MEMORANDUM OPINION AND ORDER**

Ignite USA, LLC makes and sells travel mugs for hot beverages. Ignite owns Patent No. 7,997,442 (the '442 patent), which relates to a travel container with at least two trigger-actuated apertures in the lid, one for drinking and the other for venting pressure. Ignite alleges that Pacific Market International, LLC (which goes by its acronym, PMI) has infringed the patent.<sup>1</sup> The parties have briefed the construction of the patent's disputed claims, and the Court held an in-court claim-construction hearing. The construction of the disputed terms is set forth below.

**I. Background**

**A. Procedural History**

This case pits two competitors in the travel mug industry against each other. R. 1, Compl. ¶¶ 2, 9.<sup>2</sup> Ignite owns the '442 patent, which was issued in August 2011 and covers a "travel container having drinking orifice and vent aperture." R. 121-1,

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<sup>1</sup>The Court has subject matter jurisdiction over this case under 28 U.S.C. §§ 1331, 1338.

<sup>2</sup>Citations to the record are noted as "R." followed by the docket number and the page or paragraph number.

Joint App'x (JA) 1 ('442 Patent). The '442 patent consists of 19 claims. *Id.* In February 2014, Ignite sued PMI for making products that allegedly infringed the '442 patent, specifically Claims 16-19. Compl. ¶ 14. In April 2014, PMI filed a petition for *inter partes* review (IPR) before the U.S. Patent and Trademark Office (PTO), challenging the validity of the '442 patent. R. 27, Def.'s Mot. to Stay. The PTO granted the petition for IPR in September 2014. R. 42, Notice of Institution of IPR. This action was stayed pending the IPR. R. 39, Opinion and Order (May 29, 2014). The PTO's Patent Trial and Appeal Board (PTAB) issued its Final Written Decision in September 2015, finding all claims for which the PTAB instituted review—Claims 1, 2, 4-10, and 14-19—to be unpatentable as obvious under 35 U.S.C. § 103.<sup>3</sup> R. 62, Notice of Suppl., Exh. 1 at 2, '442 Final Written Decision. Ignite then amended its complaint, alleging that PMI infringed two different claims of the '442 patent that had not been reviewed or invalidated: Claims 3 and 12. R. 73, Am. Compl ¶ 15.

The parties identified four disputed terms for construction in Claims 3 and 12. R. 122, Def.'s Br. at 3; R. 126, Pl.'s Resp. Br. at 1. After the parties briefed the

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<sup>3</sup>In November 2015, the PTAB also issued a Final Written Decision in an IPR of a related patent, U.S. Patent No. 7,546,933. R. 122, Def.'s Br., Exh. A, '933 Final Written Decision. The '442 patent and '933 patent are in the same family and have the same specification and figures. Def.'s Br. at 2. The PTAB invalidated all claims for which review was initiated of the '933 patent. *Id.*, Exh. A at 2, '933 Final Written Decision. Later, in February 2018, the PTAB issued Final Written Decisions in two other IPRs of patents within the same family: U.S. Patent Nos. 9,095,233 and 8,590,731. R. 149, Def.'s Mot. Suppl. ¶ 1. The PTAB construed claim terms identical to the ones at issue in this action in its Final Written Decision on the '233 and '933 patents. *Id.* ¶ 3; *id.*, Exh. A at 6-9, '233 PTAB Final Written Decision; Def.'s Br., Exh. A at 31-32, '933 Final Written Decision.

issue, the Court held a *Markman* hearing on June 1, 2017, R. 139, and accepted additional post-hearing submissions, R. 149, 151.

### **B. The '442 Patent**

The '442 patent discloses a hot beverage travel mug that addresses the need to release hot gases or vapors inside the mug before the user takes a drink from the mug. JA 19 at 1:30-39, 1:63-2:3. The specification describes a container with at least two trigger-actuated apertures in the lid: a vent aperture and a drink aperture. *Id.* at 1:42-54. When the user presses the trigger, the vent aperture opens first, releasing the hot gases and vapors, and only after that does the drink aperture open. JA 19 at 1:63-2:3. This process is called “two-stage venting” or “pre-venting,” and allows the hot vapors or gases to escape out of the vent opening instead of exiting through the drink aperture and hitting the user. JA 29 at 21:4-14, 22:50-65; Def.'s Br. at 1-2; Pl.'s Resp. Br. at 2.

In the IPR, the PTAB invalidated all of the '442 patent's claims related to pre-venting. Def.'s Notice of Suppl., Exh. 1 at 2, '442 Final Written Decision. Claims 3 and 12 do not claim the process of pre-venting, but rather claim specific embodiments of pre-venting mugs. JA 30 at 23:52-55, 24:32-35. Claims 3 and 12 are recited below, with the disputed terms emphasized in ***bold italics***.

Claim 3: The drinking container of claim 1,<sup>4</sup> further comprising a ***vent chamber between the vent seal*** and the vent aperture, the ***vent chamber***

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<sup>4</sup>Claim 1 describes: “A drinking container comprising: a container body having a cavity; a removable lid covering the cavity, the lid having a drink aperture and a separate vent aperture; and, a trigger mechanism mechanically connected to a drink aperture shutter and to a vent seal, the trigger mechanism moving the shutter and the vent seal from a closed position to an open position, wherein the trigger mechanism has an actuation stroke, wherein the vent seal is initially actuated during a second portion of the actuation

having a *cross-sectional* area greater than a *cross-sectional area* of the vent aperture.

Claim 12: The drinking container of claim 8,<sup>5</sup> further comprising a *vent chamber between* the *vent seal* and the vent aperture, and wherein the trigger extends partially through the *vent chamber*.

The embodiment described by these claims allows for the size of the vent chamber to be larger than the size of the vent aperture so that gas or vapor pressure may be lowered or dissipated in the vent chamber, which addresses the “chimney effect,” where warm gases or vapors can effectively be sucked out of the vent aperture. Pl.’s Resp. Br. at 2-3.

## II. Legal Standard

To construe claim language in a patent, courts “first look to, and primarily rely on, the intrinsic evidence,” which “includes the claims themselves, the specification, and the prosecution history of the patent.” *Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013) (cleaned up).<sup>6</sup> When analyzing the intrinsic evidence, the Court begins with the language of the claims themselves, applying a “heavy presumption that claim terms carry their ordinary

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stroke of the trigger mechanism, the first portion of the actuation stroke being initiated prior in time to the initiation of the section portion of the actuation stroke.”

<sup>5</sup>Claim 8 describes: “A drinking container comprising: a container body having a cavity; a removable lid covering the cavity of the container body, the lid having a drink aperture and a vent aperture, a shutter that is moveable between a closed position and an open position, and a vent seal that is moveable between a closed position and an open position; and, a trigger mechanically connected to the shutter and the vent seal, the trigger having an actuation stroke, wherein the vent seal is actuated during a first portion of the actuation stroke of the trigger, and wherein the first portion of the actuation stroke is initiated prior in time to the initiation of section portion of the actuation stroke.”

<sup>6</sup>This opinion uses (cleaned up) to indicate that internal quotation marks, alterations, and citations have been omitted from quotations. *See, e.g., United States v. Reyes*, 866 F.3d 316, 321 (5th Cir. 2017).

meaning as viewed by one of ordinary skill in the art.” *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003) (cleaned up). A claim term takes on its ordinary meaning unless the patentee demonstrates an intent to deviate from that meaning, such as by “acting as his own lexicographer,” or by “disavowing the full scope of a claim term either in the specification or during prosecution.” *Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 856 (Fed. Cir. 2014) (cleaned up).

“In most situations, 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); *see also Sunovion Pharms.*, 731 F.3d at 1276 (noting that the intrinsic evidence is “usually dispositive”) (citations omitted). In those cases, “it is improper to rely on extrinsic evidence,” which includes dictionary definitions, expert testimony, inventor testimony, and other “evidence which is external to the patent and file history.” *Vitronics*, 90 F.3d at 1583-84 (citations omitted). Extrinsic evidence, however, may be considered “if needed to assist in determining the meaning or scope of technical terms in the claims.” *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1216 (Fed. Cir. 1995) (citation omitted). In other words, it may be consulted to ensure that a court’s construction of a claim “is not inconsistent with clearly expressed, plainly apposite and widely held understandings in the pertinent technical field.” *Plant Genetic Sys., N.V. v. DeKalb Genetics Corp.*, 315 F.3d 1335, 1346 (Fed. Cir. 2003) (citation and quotations omitted). Extrinsic evidence in general, however, is considered “less reliable than the patent and its prosecution history in determining how to read claim terms,”

*SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1195 (Fed. Cir. 2013) (citation and quotations omitted), and “may not be used to vary or contradict the claim language” and specification, *Vitronics*, 90 F.3d at 1584 (citation omitted).

### **III. Analysis**

#### **A. Vent Chamber**

The first dispute is over the meaning of the claim term “vent chamber.” Ignite proposes construing the term as “a space having an entrance and an exit for lowering the pressure of vapor or gas.” Pl.’s Resp. Br. at 5. PMI proposes construing it as “a space to lower the pressure of vapor or gas.” Def.’s Br. at 4. The parties’ dispute therefore centers on whether the construction should include the structural elements, “an entrance and an exit.” For the following reasons, the Court adopts PMI’s proposed construction.

Ignite argues that its proposed definition is taken directly from the specification and should be read into the claims. Pl.’s Resp. Br. at 5 (quoting JA 27 at 17:59-64) (“The vent chamber 738 has a first entrance aperture 739 at one end that provides an entrance to the vent chamber 738 from the liquid receptacle 516 of the container body 512 [and] a second exit aperture (the vent aperture 682) ...”); Pl.’s Resp. Br. at 7 (quoting JA 25 at 13:18-23) (“Gas and/or liquid flows through the third aperture 180 (the entrance) in the lower lid 168 and into the vent chamber 238 for dispelling through the vent hole 182 (the exit) in the upper lid 166.”) (cleaned up). It is true that claims are to be read in light of the specification, which provides the most important context for a person of ordinary skill in the art. *See*

*Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). And all embodiments described in the specification have an aperture through which vapor or gas enters the vent chamber and an aperture through which it exits. *See* JA 25 at 13:18-23 (describing the embodiment depicted in Figures 1-12); JA 27 at 17:59-64 (describing the embodiment depicted in Figures 13-18); *see also* R. 142, 6/1/17 Hr’g Tr. 22:17-24:12 (describing how the vent chamber in each embodiment discussed contains an entrance and exit for gas). That said, Ignite’s argument fails for several reasons.

Simply because “claims are interpreted in light of the specification does not mean that everything expressed in the specification must be read into all the claims.” *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1326 (Fed. Cir. 2002) (internal citations omitted); *see also SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (“If everything in the specification were required to be read into the claims, or if structural claims were to be limited to devices operated precisely as a specification-described embodiment is operated, there would be no need for claims.”). The patent itself notes that the “present examples and embodiments, therefore, are to be considered in all respects as illustrative and not restrictive, and the invention is not to be limited to the details given herein.” JA 30 at 23:23-26. Nowhere in the patent’s 19 claims is “vent chamber” defined as “having an entrance and an exit.” Similarly, nowhere in the specification is vent chamber definitively defined as “a space having an entrance and an exit for lowering the pressure of vapor or gas”: it does not use specific terms “with reasonable clarity, deliberateness, and precision” to demonstrate that the inventor chose to be his own

lexicographer and limit the scope of the claims, *Teleflex*, 299 F.3d at 1325, so that “having an entrance and exit” must be read into the definition of “vent chamber.” Doing so would improperly limit the claims.

What’s more, the specification describes one embodiment where the vent chamber contains more than just one entrance and one exit. The same embodiment that Ignite cites as support for defining vent chamber as “having an entrance and an exit,” Pl.’s Resp. Br. at 5 (quoting JA 27 at 17:59-64), also has a *third* aperture through which the trigger enters the vent chamber. JA 27 at 17:62-64 (describing the vent chamber as having a “third access aperture 743 to provide access to the interior of the lid assembly 514 for the trigger 610.”). Although the third access aperture does not act as an entrance or exit specifically for *vapor* or *gas*, its existence as an “entrance” into the vent chamber in that embodiment renders it inappropriate to construe vent chamber as “having an entrance and an exit.”<sup>7</sup>

There also is no reason that “entrance and exit” should be read into the definition of “vent chamber” any more than other structural elements of the vent chamber, like its walls. But including all—or any—structural elements would serve only to burden the claim definitions and would be unnecessary for a person of ordinary skill in the art to understand what was meant by “vent chamber.” *See, e.g.*,

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<sup>7</sup>One embodiment also requires the entrance aperture for gas or vapor to also act as an exit aperture through which the trigger exits the vent chamber. JA 28 at 19:11-14 (“[A] portion of the main body portion 794 of the trigger 610 extends out of the vent chamber 738, through the entrance aperture 739 to the vent chamber 738, and into the cavity of the lid assembly 514.”). The specification thus gives the vent-entrance aperture additional functions beyond allowing gas or vapor to enter the vent chamber: it also acts as an exit for the trigger in some embodiments. That is another reason why adopting Ignite’s proposed definition would impermissibly limit the construction of the vent chamber’s entrance aperture.



*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.”) (emphasis added).

It is true that sometimes including a component element in a definition of a larger structure is appropriate. PMI argues otherwise, contending that it would be nonsensical to construe vent chamber as having an “entrance and exit” because the term “vent aperture” (the exit) is a separate element in Claims 3 and 12. But there is no general ban on defining a claim term by its component elements—so long as doing so does not impermissibly limit the claim. *See, e.g., Net Results, Inc. v. United States*, 112 Fed. Cl. 133, 147-48 (2013). PMI relies on *Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008), to argue that two claim terms cannot have the same meaning. Def.’s Br. at 5. The patentee in *Bd. of Regents* argued that the two different terms used in the claim at issue were equivalent. 533 F.3d at 1371. But here Ignite does not argue that “vent chamber” and “vent aperture”—the vent chamber’s *exit*—are equivalent. Rather, Ignite argues that the exit (here, the vent aperture) is an *element* of a vent chamber. Pl.’s Resp. Br. at 6. Including an element of a structure in the definition of the structure does not equate the entire structure with that one element, as PMI argues. For example, as the Court pointed out during the claim-construction hearing, a “courtroom” can be defined as comprising four walls, a floor, a ceiling, and a door. The door is part of

the courtroom, but by defining a courtroom as having a door does not mean the courtroom *only* consists of a door. So too here: a vent chamber may have an exit, but including exit in the definition of vent chamber does not mean a vent chamber now only consists of an exit aperture. The exit is merely a part of the whole vent chamber.

That said, interpreting “vent chamber” as “having an entrance and an exit” not only improperly limits it, but also is unnecessary. Ignite argues that including “an entrance and an exit” in the claim term “helps to characterize the chamber as a ‘vent’ chamber rather than a mere ‘chamber.’” Pl.’s Resp. Br. at 7. But the term “vent” in “vent chamber” is sufficient to notify a person of ordinary skill in the art<sup>8</sup> that the chamber has at least one aperture through which vapor or gas passes. For all these reasons, the Court construes “vent chamber” as “a space to lower the pressure of vapor or gas.”<sup>9</sup>

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<sup>8</sup>A person of ordinary skill in the art is “a person with a B.S. degree in mechanical engineering, industrial design, or a similar mechanical technology, or a holder of an associates’ degree in a mechanical technology with one or more years of experience designing beverageware.” Pl.’s Resp. Br. at 8 n.5. PMI did not propose a definition and therefore conceded the accuracy of Ignite’s proposed definition. 6/1/17 Hr’g Tr. 29:21-30:4.

<sup>9</sup>The Court recognizes that this construction opposes the construction adopted by the PTAB in its Final Written Decision in its IPR of the ’233 patent. Def.’s Mot. Suppl., Exh. A at 7, ’233 Final Written Decision (adopting Ignite’s proposed definition, “a space having an entrance and an exit for lowering the pressure of vapor or gas.”). Although “the same term or phrase should be interpreted consistently where it appears in claims of common ancestry,” *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1030-31 (Fed. Cir. 2002), the Supreme Court has recognized that the different standards of review in the PTAB and district courts might result in inconsistent constructions. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2146 (2016) (recognizing the PTAB and district courts may reach inconsistent results because the “broadest reasonable interpretation standard” used by the Patent Office during IPRs is broader than the *Phillips* standard employed by district courts, which construes claims according to the meaning that a term would have to be a person of ordinary skill in the art at the time of the invention). The PTAB’s broader standard of review would seem to cut against this Court’s definition here: the construction

## B. Vent Seal

The parties next dispute the definition of “vent seal.” This time the dispute centers on the inclusion of one word in the definition. Ignite proposes construing the term as, “a *dedicated* member that prevents the passage of gases or vapor.” Pl.’s Resp. Br. at 13 (emphasis added). PMI proposes the same construction—but without the word “dedicated.” Def.’s Br. at 4. The Court agrees with PMI’s proposed definition. The term “dedicated” should not be included in the construction of “vent seal” because “dedicated” does not appear anywhere in the ’442 patent, and its meaning is unclear and would serve only to confuse.

First, Ignite’s proposed construction is incorrect because it adds an unstated limitation—“dedicated”—to the claim. Nowhere in the ’442 patent is the term “dedicated” used, nor any synonym of “dedicated.” On this point the PTAB’s reasoning in its Final Written Decision on the ’233 patent is persuasive.<sup>10</sup> Ignite does not point to any specific content of the ’442 patent, nor to any other evidence in the record, justifying why the term “dedicated” should be read into the meaning of “vent seal.” See Def.’s Mot. Suppl., Exh. A at 7-8, ’233 Final Written Decision. Ignite

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that the PTAB adopted is narrower than the construction now adopted by this Court. But that assumes that the PTAB actually analyzed the claim and applied the broadest reasonable construction standard. During the IPR of the ’233 patent, PMI did *not* dispute Ignite’s proposed definition, so the PTAB simply adopted the agreed-upon definition. Def.’s Mot. Suppl., Exh. A at 7, ’233 Final Written Decision. If the PTAB’s Final Written Order had included any analysis, then it would have been persuasive authority. See, e.g., *Clearlamp, LLC v. LKQ Corp.*, 2016 WL 4734389, at \*5 n.7 (N.D. Ill. Mar. 18, 2016), *judgment entered*, 2016 WL 7013478 (N.D. Ill. Nov. 30, 2016) (collecting cases discussing the persuasive value of the PTAB’s analysis in IPR decisions). But in light of the parties’ agreement, the PTAB did not analyze the term.

<sup>10</sup>Even though the PTAB used the broadest reasonable interpretation standard in its construction, the same reasoning applies here, and even under the *Phillips* “person of ordinary skill in the art” standard, 415 F.3d at 1313, “dedicated” is an unnecessary and confusing limitation on the claim.

contends that the '442 patent defines the vent seal as “a ‘dedicated’ element in that it is distinct from other features and intended for the particular purpose of preventing the introduction of gases and vapors past the entrance aperture (and into the vent chamber) while serving to functionally locate the vent chamber.” Pl.’s Resp. Br. at 13; *see also* 6/1/17 Hr’g Tr. 16:17-22. But there simply is no record-based reason why the vent seal must be “dedicated” to denote its functional and locational purposes.<sup>11</sup> Including “dedicated”—a word that appears nowhere in record—in the construction of vent seal would defy the claim-construction principle that the specification itself informs the proper construction of the claims. *See Phillips*, 415 F.3d at 1316 (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (citations omitted).

Second, the term “dedicated” itself would need to be defined. *See, e.g. Smart Sys. Innovation, LLC v. Chicago Transit Auth.*, 2016 WL 109985, at \*5 (N.D. Ill. Jan. 8, 2016) (rejecting the inclusion of a term because it was not sufficiently clear and would need to be defined for the jury). PMI is correct that the term “dedicated” is “vague and ambiguous” because it is unclear to what the vent seal is dedicated. R.

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<sup>11</sup>Many structural elements in the '442 patent serve their own function while also serving as a locational reference point for other elements. *See, e.g.*, JA 27 at 17:51-53 (“The vent chamber 738 is an enclosed chamber that is located beneath the vent aperture 682 and between the vent seal 683 and the vent aperture 682.”); JA 21 at 5:21-22, 6:2-5 (“The first circumferential ring 54 is located proximal the opening 31. ... [Part] of the first circumferential ring 54 engages an upper body portion of the shoulder 68 to prevent the body insert 60 from being removed or disengaged from the inner wall component 24.”). Accepting Ignite’s argument that an element must be “dedicated” to connote its functional and locational purposes would require many other elements, such as “vent chamber,” “vent seal,” and “first circumferential opening,” to also be defined as “dedicated members.”

128, Def.'s Reply Br. at 2. Ignite cites the dictionary definition of dedicated: "given over to a particular purpose." Pl.'s Resp. Br. at 13 (citing Merriam-Webster Online Dictionary). But this does nothing to help Ignite's argument, because nothing in the patent advises the one—and only one—purpose that the vent seal performs. In fact, Ignite's whole argument in support of including "dedicated" is that the vent seal serves *two* purposes: being a locational reference point *and* preventing vapor or gas from entering the vent chamber. *Id.* Reading dedicated into the definition of vent seal would imply it is limited to one purpose rather than serving two. Even Ignite's counsel conceded at the *Markman* hearing that dedicated "may not be the best term" to convey a locational and functional purpose of the vent seal. 6/1/17 Hr'g Tr. 19:12-16. Yet Ignite proposed no better alternative.

The purpose of claim construction is to help clarify the scope of the claims, not to add further confusion. *U.S. Surgical Corp.*, 103 F.3d at 1568 (explaining that the purpose of construing claims is "to clarify and when necessary to explain what the patentee covered by the claims"). Adding "dedicated" into the definition of "vent seal" would not provide clarity. The Court therefore adopts PMI's proposed construction of vent seal: "a member that prevents the passage of gas or vapor."

### **C. Between**

The next disputed claim term is "between" the vent seal and the vent aperture. Here, the parties' proposed constructions diverge completely. Ignite proposes construing the term as "separating with a flow path." Pl.'s Resp. Br. at 8. PMI, in contrast, proposes giving the term its plain and ordinary meaning, with the

clarification “completely or partially between.”<sup>12</sup> Def.’s Br. at 5. Again, the Court agrees with PMI.

As discussed above, “[i]n the absence of an express intent to impart a novel meaning to claim terms, an inventor’s claim terms take on their ordinary meaning. We indulge a heavy presumption that a claim term carries its ordinary and customary meaning.” *Teleflex*, 299 F.3d at 1325 (Fed. Cir. 2002) (cleaned up); *see also Altiris*, 318 F.3d at 1369. “Between” is commonly understood to denote referential location, not “separating with a flow path” or any other kind of *functional*, as opposed to *locational*, separation.<sup>13</sup> There is no evidence in the patent that “between” has anything but its ordinary, *locational* meaning. Each time the specification uses the word “between”—more than 45 times—it is used according to its plain and ordinary meaning, not a functional meaning. Indeed, the ’442 patent nowhere suggests that the word “between” as used in Claims 3 and 12 should be defined based on the vent chamber’s function as opposed to where it is located. The specification does not contain a definition of “flow path,” and the patentee never

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<sup>12</sup>Ignite’s counsel noted at the *Markman* hearing that PMI requested that “between” be given a construction, so it is contradictory that PMI now advocates for the plain and ordinary meaning. 6/1/17 Hr’g Tr. 24:15-19. That may be, but it is beside the point now. Sometimes parties will propose plain and ordinary meaning, and then propose a backup definition in the event that the Court determines that some construction is needed. There is nothing wrong with that approach, and indeed the Court encourages it. As discussed below, the Court agrees with PMI that the term should be clarified to mean “completely or partially” between.

<sup>13</sup>Ignite cites to the lay dictionary definition of the term in support of its argument. Pl.’s Resp. Br. at 8 (citing Merriam-Webster Online Dictionary, <https://www.merriam-webster.com/dictionary/between> (last visited May 29, 2018) (“in the time, space, or interval that separates.”)). But even Merriam Webster’s example of the term supports an understanding of it as a referential, locational separation, rather than a functional separation. Merriam Webster Online Dictionary (“the alley *between* the butcher shop and the pharmacy”). The definition does not conflict with, and may even support, the plain and ordinary meaning of “between” as used in Claims 3 and 12.

acted as his or her own lexicographer to define “between” as “separating with a flow path.” Ignite’s proposed construction itself also is not clear on its face, and would confuse rather than clarify the meaning of “between” as used in Claims 3 and 12.<sup>14</sup> *See U.S. Surgical Corp.*, 103 F.3d at 1568. Without an indication otherwise, an “ordinary, simple English word[]” like “between” should be constructed to have its ordinary meaning. *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004). Ignite did not cite any cases, and this Court could find none, advocating for adopting a functional definition, as opposed to the ordinary definition, of an ordinary word like “between.”

What’s more, both parties proposed, and this Court adopted, a construction of “vent chamber” that contains a functional definition, that is, “a space to lower the pressure of vapor or gas.” *See* Def.’s Br. at 4; Pl.’s Resp. Br. at 5. So the jury already will be informed of the vent chamber’s function. Ignite does not adequately explain why it is necessary to construct “between”—a term with a commonly understood meaning—in terms of the vent chamber’s function as well. Ignite cites various portions of the specification describing the flow of gas through the vent chamber in support of a functional definition being found in the specification. Pl.’s Resp. Br. at 10-11 (citing JA 25 at 13:19-23; *id.* at 14:27-31; JA 27 at 17:51-57). Yet in only one of Ignite’s examples does the specification even use the word “between,” and there,

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<sup>14</sup>“Flow path” may even require its own definition, which is even more problematic. *See Smart Sys. Innovation*, 2016 WL 109985, at \*5. On its face, it implies that the gas moves in a specified “path” from the entrance to the exit. But given that the ’442 patent calls for vapor or gas to move through the vent chamber, even Ignite’s counsel had to concede that there is no laminar flow that a mechanical engineer or a person skilled in the art could map out. *See* 6/1/17 Hr’g Tr. 28:14-24. So determining what “flow path” means would be difficult in and of itself.

does so in terms of *location*. JA 27 at 17:51-53 (“The vent chamber 738 ... is *located* ... between the vent seal 683 and the vent aperture 682.”) (emphasis added). True, the specification goes on to explain the vent chamber’s function, that is, to lower the pressure and volume of gas as it moves through the vent chamber, *id.* at 17:53-57, but never defines “between” in terms of this function. As noted above, not “everything expressed in the specification must be read into all the claims.” *Teleflex*, 299 F.3d at 1326 (citing *Raytheon*, 724 F.2d at 957). So nothing in the patent exists to overcome the “heavy presumption” that the term should take on its ordinary meaning. *Teleflex*, 299 F.3d at 1325.

Ignite argues that a person of ordinary skill in the art would understand the term as used in Claim 3, “between the vent seal and vent aperture,” as being defined by function. In response to defense counsel’s questions about the location of the vent chamber, Ignite’s expert witness, Daniel Wodka, testified during a deposition that he must “refer to the purpose of the vent chamber,” and in that view “it is fully between the vent seal and the vent aperture.” Pl.’s Resp. Br., Exh. A at 60:23-61:2, Wodka Deposition. But Wodka and Pinelli, the inventor, also both testified that the vent chamber is *not* located completely between the vent seal and vent aperture. *Id.* at 61:12-15 (“If we take a simple linear look at these things, then part of the vent chamber is not linearly between the vent seal and the vent aperture.”); *see also* Def.’s Br., Exh. C at 67:2-70:4, Pinelli Deposition.<sup>15</sup>

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<sup>15</sup>Inventor Pinelli admitted during his deposition that he had not re-read the entire patent, making his testimony of limited use. Pl.’s Resp. Br., Exh. D at 151:2-9, Pinelli Deposition.



Even if the Court credited only the parts of Wodka’s testimony that touted the necessity of defining the vent chamber’s referential location between the vent seal and vent aperture in terms of its function, Ignite’s argument fails because the intrinsic evidence still does not teach a functional definition. Expert testimony, as extrinsic evidence, does not deserve as much weight as intrinsic evidence, and here it is not enough to overcome the plain and ordinary meaning of “between.” *Vitronics*, 90 F.3d at 1583.

On top of that, Ignite’s construction is also inconsistent with the ’442 patent specification, which clearly teaches that the vent chamber is not necessarily located completely between the vent seal and vent aperture. Each of the figures that depict those three elements shows that the vent chamber is not, in fact, situated entirely between the vent seal and vent aperture. *See, e.g.*, R. 140, Pl.’s Demonstratives at 7 (Figure 7 highlighting the vent chamber 238 in yellow, the vent seal [plunger gasket]<sup>16</sup> 250 in blue, and the vent aperture 182 in green); *id.* at 46 (Figure 16 highlighting the vent chamber 738 in yellow, the vent seal 683 in blue, and the vent aperture 682 in green).

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<sup>16</sup>This embodiment of the ’442 patent does not have a feature specifically called the “vent seal.” The specification teaches that the plunger gasket 250 acts as a “vent seal,” either preventing or allowing gas and vapor to enter the vent chamber 238 through the third aperture 180. JA 25 at 14:22-31.

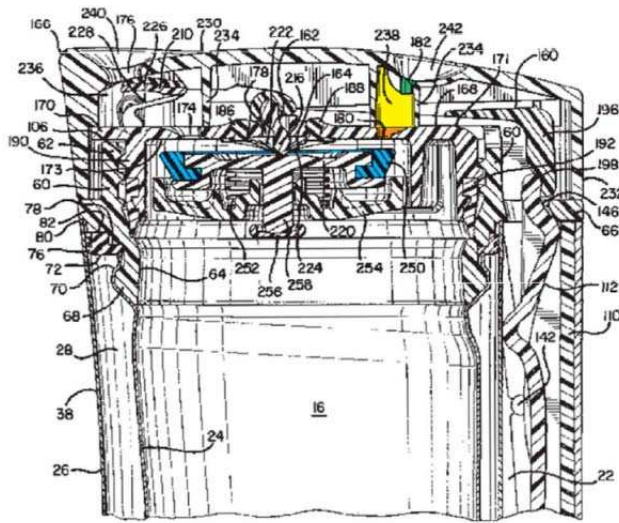


Figure 7

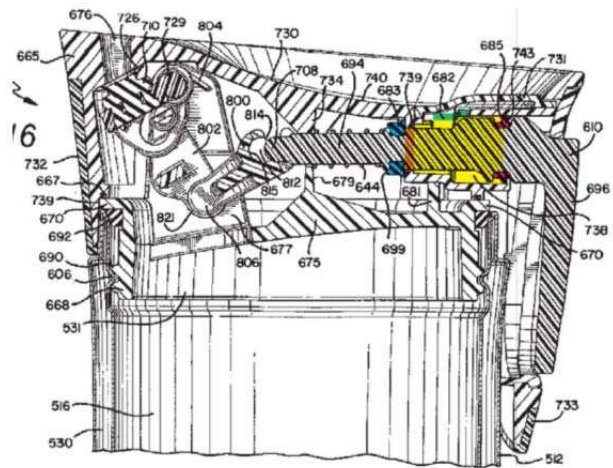


Figure 16

In further support of PMI’s proposed construction, the PTAB considered the meaning of “between” in two Final Written Decisions—in the IPRs of the ’933 patent and the ’233 patent.<sup>17</sup> In both, the PTAB rejected an interpretation of “between” as meaning the vent chamber is completely between the vent seal and vent aperture. Def.’s Br., Exh. A at 31, ’933 Final Written Decision; Def.’s Mot. Suppl., Exh. A at 9, ’233 Final Written Decision. It is true that the parties did not explicitly brief the issue during the IPR of the ’933 patent, so the PTAB based its decision on “Ignite’s *implied* interpretation of ‘between.’” Def.’s Br., Exh. A at 32, ’933 Final Written Decision (emphasis added). During the IPR of the ’233 patent, however, Ignite expressly argued that in the context of the claims “between” “means that the vent chamber separates the vent seal and the vent aperture.” Def.’s Mot. Suppl., Exh. A at 8, ’233 Final Written Decision (cleaned up). But Ignite did not

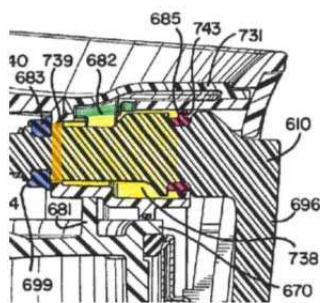
<sup>17</sup>As noted above, the ’933 and ’233 patents have the same specifications and figures as the ’442 patent. “[T]he same term or phrase should be interpreted consistently where it appears in claims of common ancestry,” so long as it is used consistently. *Epcos Gas Sys.*, 279 F.3d at 1030-31.

advance—and therefore the PTAB did not consider—a functional definition specifically construing “between” as meaning “separating with a flow path.” The PTAB agreed that the vent chamber “separates” the vent seal and vent chamber, but in a *positional* sense, and again held that “such separation [does not] dictate[] that the entirety of the vent chamber must reside between, or separate, the vent seal and the vent aperture.” *Id.* at 9. It relied on its reasoning from the ’933 Final Written Decision,<sup>18</sup> *id.*, which found Ignite’s interpretation of “between” as meaning the vent chamber is located completely between the vent seal and the vent aperture “unpersuasive because it is inconsistent with the way in which the Specification illustrates the claimed invention.”<sup>19</sup> Def.’s Br., Exh. A at 32, ’933 Final Written Decision. So too with the location of the vent chamber in the ’442 patent: the PTAB’s reasoning is thus persuasive, even given its broadest reasonable interpretation standard. *See Clearlamp*, 2016 WL 4734389, at \*5 n.7.

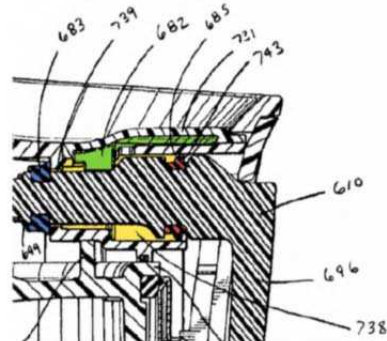
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<sup>18</sup>Because the PTAB adopted much of its reasoning from the ’933 IPR, Def.’s Mot. Suppl., Exh. A at 9, ’233 Final Written Decision, Ignite’s argument that the PTAB’s decision in the ’933 IPR is “dicta and erroneous” holds little weight, Pl.’s Resp. Br. at 10 n.6.

<sup>19</sup>Ignite argues that the PTAB’s construction of between from its IPR of the ’933 patent was wrong because it “failed to understand the vent aperture 682—it wrongly included the area below the deflector plate 731.” Pl.’s Resp. Br. at 10 n.6. The figure that the PTAB used (right) does incorrectly label the vent aperture 682 (in green) as including more than it really does. But even the correct Figure 16 (left) shows that the vent chamber is not completely between the vent seal and the vent aperture.



Ignite’s Figure 16



PTAB’s Figure 16

For the sake of completeness, the Court rejects PMI's argument that adopting Ignite's construction of "between" should be rejected because it is inconsistent with how the term is used in Claim 8. Def.'s Br. at 7; JA 30 at 24:7-10 (Claim 8 recites "a shutter that is moveable *between* a closed position and an open position, and a vent seal that is moveable *between* a closed position and an open position.") (emphasis added). Although claim terms usually should be construed consistently within the same patent, "[v]aried use of a disputed term in the written description demonstrates the breadth of the term rather than providing a limited definition." *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 991 (Fed. Cir. 1999). Context is important to claim construction, particularly when a word appears many times in the patent: the term "between" appears more than 45 times in the '442 patent, and it is unlikely that one construction would make sense for each instance. *See Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 808 (Fed. Cir. 2007) (imputing a restrictive definition of a term anytime it is used, regardless of context, results in incorrect interpretations); *Epcon Gas Sys*, 279 F.3d at 1030-31 ("A word or phrase *used consistently* throughout a claim should be *interpreted consistently*." The court held that because "substantially" was used in different contexts in the specification, it should be constructed differently depending on the context.) (cleaned up).

That said, nothing in the patent evidence's the patentee's intent to overcome the strong presumption that the ordinary meaning should be used, *Teleflex*, 299 F.3d at 1325, and the patent clearly teaches that the vent chamber is not always

positioned completely between the vent seal and vent aperture, *see* Figures 7 and 16. So the Court adopts the ordinary meaning of “between,” with the clarification that the vent seal can be “completely or partially between” the vent seal and the vent aperture.

#### **D. Cross-Sectional Area**

The last term in dispute is “cross-sectional area.” PMI argues that the term “cross-sectional area” renders Claim 3 indefinite because the ’442 patent does not teach or disclose where on the vent chamber and vent aperture their cross-sectional areas should be measured. Def.’s Br. at 8. Ignite contends that a person of ordinary skill in the art would understand how to measure the cross-sectional areas and that different cross-sectional areas can be used, so long as “a” cross-sectional area of the vent chamber is larger than “a” cross-sectional area of the vent aperture. Pl.’s Resp. Br. at 15-16. Ignite therefore proposes that the term be given its plain and ordinary meaning, *id.* at 15, whereas PMI argues that if not found to render Claim 3 indefinite, it should be construed as “a two dimensional space inside a perimeter,” Def.’s Br. at 17.

In order to be sufficiently definite, a patent must set forth “one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or joint inventor regards as the invention.” 35 U.S.C. § 112(b). The purpose of this requirement is to ensure that the public is on notice as to what is covered by the patent, which in turn enables competitors to avoid infringement. *Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (“[T]he

patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent.”). Because a claim’s definiteness affects a court’s ability to construe a claim, it sometimes makes sense to address an indefiniteness challenge, which is a legal question, during claim construction. *E.g.*, *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1333 (Fed. Cir. 2013) (“In order to be indefinite, reasonable efforts at claim construction must result in a definition that does not provide sufficient particularity or clarity to inform a skilled artisan of the bounds of the claim.” (citation omitted)); *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008) (“Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction.” (citation omitted)). Consistent with the statutory presumption of patent validity, the patent’s challenger must show indefiniteness by clear and convincing evidence. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1366 (Fed. Cir. 2011) (citations omitted). Specifically, the challenger must show that the patent’s claims fail, when “viewed in light of the specification and prosecution history, [to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014).

There is some disagreement about whether a district court should even address indefiniteness during claim construction or put it off to summary judgment.

*Compare Praxair*, 543 F.3d at 1319 (“Indefiniteness is a matter of claim construction.”), *with Lisle Corp. v. A.J. Mfg. Co.*, 289 F. Supp. 2d 1048, 1050 (N.D. Ill. 2003), *aff’d*, 398 F.3d 1306 (Fed. Cir. 2005) (collecting cases and noting that “[i]n the vast majority of cases, claim indefiniteness is decided in connection with a summary judgment motion.”). The Court chooses to address PMI’s indefiniteness argument in order to provide further guidance—but because the argument fails, PMI is free to engage in expert discovery to provide additional support and raise the issue again at the summary judgment stage.

Based on the current record, “cross-sectional area” does not render Claim 3 indefinite. PMI’s argument focuses on the fact that the patent does not disclose *where* on the vent chamber or vent aperture to measure the cross-sectional area, and because measuring at different locations would result in different areas, a person of ordinary skill in the art would not understand the scope of the invention.<sup>20</sup> Def.’s Br. at 15. But the claim and specification only calls for “a” cross-sectional area of the vent chamber to be larger than “a” cross-sectional area of the vent aperture. JA 27 at 17:57-59; JA 30 at 23:54-55. The patent therefore teaches that the measurements may be taken anywhere on both elements, and to lower the pressure of the vapor or gas, the cross-sectional area of the vent chamber does not need to be

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<sup>20</sup>The Court disregards any reference to the infringed products during claim construction. Def.’s Br. at 15-16. Reliance on the accused device as a tool for claim construction is improper. *SRI Int’l*, 775 F.2d at 1118; *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1340-41 (Fed. Cir. 2005) (“The test for indefiniteness does not depend on a potential infringer’s ability to ascertain the nature of its own accused product to determine infringement, but instead on whether the claim delineates to a skilled artisan the bounds of the invention.”). To be sure, sometimes it is helpful to have a real-life example of why the claim construction matters, but ultimately the interpretation cannot hinge on the accused product itself.

greater at every specific point than the cross-sectional area of the vent aperture at every specific point.<sup>21</sup> Pl.'s Resp. Br. at 19.

Once it is plain that the measurements may be taken anywhere on both elements, a person of ordinary skill in the art also would know how to measure a cross-sectional area of both elements. Ignite's expert witness, Daniel Wodka, described in detail how he would use a 3D CAD model of the figure and run a measurement to determine a cross-sectional area of the vent chamber and the vent aperture. Pl.'s Resp. Br., Exh. A at 65:7-22, 71:2-72:12, Wodka Deposition. He also noted the comparison between the cross-sectional areas of the two elements could be done by sight, without measuring devices. *Id.* at 61:21-63:4, 71:23-72:12. PMI does not dispute that a person of ordinary skill in the art would know how to measure the cross-sectional areas. Def.'s Reply Br. at 11. The Court agrees with Ignite that the post-*Nautilus* Federal Circuit cases cited by PMI do not mandate a holding that Claim 3 is indefinite. In both *Dow Chemical* and *Teva*, the court held the claims to be indefinite because the patents at issue did not teach what method of measurement should be used, and different methods would result in different values. *Dow Chem. Co. v. Nova Chemicals Corp. (Canada)*, 803 F.3d 620, 633-35 (Fed. Cir. 2015) (holding claim indefinite where multiple possible methods of calculating a slope were possible, producing different results, and the patent did not

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<sup>21</sup>Although it is true this reading means that the vent chamber and vent aperture can be measured at multiple cross-sectional areas, it almost certainly does not mean there are "an infinite number of" possible measurements. Def.'s Reply Br. at 9. A person skilled in the art would not take the cross-sectional areas of these elements at random angles—creating an infinite number of possible cross-sectional areas—but rather would take an area parallel or perpendicular to the vertical axis of the element. *See* Pl.'s Resp. Br., Exh. A at 84:17-87:3, Wodka Deposition.



disclose which method to use); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015) (claim was indefinite where molecular weight could refer to three different measures, all of which were calculated in different ways, typically yielding different results, and the patent and prosecution history did not provide guidance as to which measure to use). Here, the method of measurement is not in dispute; the only open question is *where* on the vent chamber and vent aperture to take the measurement. As the Federal Circuit held in *Nautilus*, simply because a term may encompass multiple dimensions does not render it indefinite. *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1382-84 (Fed. Cir. 2015) (the term “spaced relationship” was not indefinite even though the specification did not specifically define the term with actual parameters, since the patent provided sufficient information to notify skilled artisans of the bounds of the term).

So, on the current record, a person of ordinary skill in the art would understand how to measure a cross-sectional area of the vent chamber and vent aperture on any point on those elements, how to compare them, and how to determine whether the measured cross-sectional area of the vent chamber is greater than the measured cross-sectional area of the vent aperture, and determine if the limitation has been met. PMI has not provided enough evidence that the multiple cross-sectional areas would fail to inform a skilled artisan about the scope of the invention. As noted earlier, PMI may still introduce expert evidence as the case progresses beyond claim construction, and may re-argue the issue at summary judgment.

PMI's argument for indefiniteness based on Claim 3's reference to the cross-sectional *area* rather than the *volume*, and of the *vent aperture* rather than the *third aperture*, also fails. Despite PMI's contention that the patent teaches that the cross-sectional area of the third aperture (entrance), rather than the vent aperture (exit), and that the volume, not the area, of the elements matters, Def.'s Br. at 11; Def.'s Reply Br. at 8, 10, the specification does in fact reference the cross-sectional area of the vent aperture and state that it must be smaller than a cross-sectional area of the vent chamber. JA 27 at 17:57-59; JA 25 at 13:28-36 (referring to vent aperture as the "vent hole" 182); *see also* 6/1/17 Hr'g Tr. 34:10-35:4 (describing the purpose of the relative areas of the vent chamber and vent aperture). PMI presented no expert testimony supporting its argument that a person of ordinary skill in the art would not know from reading the '442 patent how or why the size of the cross-sectional area of the vent aperture matters to the claimed invention. Neither of Ignite's witnesses testified that the cross-sectional area of the vent aperture is irrelevant, so the possibility remains that a person of ordinary skill in the art may understand exactly what is being claimed, based on the claims and specification. Then again, it is possible that, after expert discovery, the claim still could fail for indefiniteness—or for lack of utility or lack of enablement—based on the possible multiple cross-sectional areas and the limited information the specification provides about the purpose of the vent aperture's size. But these questions are better left for summary judgment, after both parties have conducted expert discovery. *See Phillips*, 415 F.3d at 1327 (The Federal Circuit has "not

endorsed a regime in which validity analysis is a regular component of claim construction.”); *see also Lisle Corp.*, 289 F. Supp. 2d at 1050. As of now, PMI has not shown by clear and convincing evidence that “cross-sectional area” as used in Claim 3 would prevent a person skilled in the art from understanding the scope of the invention. *See Nautilus*, 134 S. Ct. at 2129, 2130 n.10. So, for now, Claim 3 survives.

The Court next turns to the parties’ proposed constructions of “cross-sectional area.” Ignite has the better argument. PMI’s proposed definition, the “two dimensional space inside a perimeter” essentially is the plain and ordinary meaning of “cross-sectional area.”<sup>22</sup> *See Merriam-Webster Online Dictionary*, <https://www.merriam-webster.com/dictionary/area> (last visited May 29, 2018) (defining area as “the surface included within a set of lines; *specifically*: the number of unit squares equal in measure to the surface.”). Even a lay person understands that “perimeter” and “area” mean two different things. PMI argues its clarification is necessary because the specification uses cross-sectional “area” and cross-sectional “perimeter” interchangeably. Def.’s Br. at 17 (*comparing* JA 19 at 2:26-27 (“The vent chamber has a cross-sectional *perimeter* greater than a cross-sectional *perimeter* of the vent aperture.”), *with* JA 27 at 17:57-59 (“The vent chamber 738 has a cross-sectional *area* greater than a cross-sectional *area* of the vent aperture 682.”)). Here, the interchangeable use of perimeter and area does not equate the two terms.

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<sup>22</sup>During the *Markman* hearing, PMI’s counsel conceded that “cross-sectional area deserves its plain and ordinary meaning.” 6/1/17 Hr’g Tr. 43:9-10. But is still worth briefly addressing the argument PMI made in its briefs for a more specific construction of the term.

“Cross-sectional perimeter” is used only once in the specification, in the summary of the invention, not in the detailed description of the invention.<sup>23</sup> Cf. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (equating two terms that are “consistently” used interchangeably in the specification). Even Ignite’s proposed plain and ordinary meaning of “cross-sectional area” does not include any references to a “cross-sectional perimeter”: the two are mathematically distinct. Adopting a construction beyond the plain and ordinary meaning is therefore unnecessary.

#### IV. Conclusion

In sum, the Court construes the disputed terms as follows:

Disputed Term	Construction
vent chamber	a space to lower the pressure of vapor or gas
vent seal	a member that prevents the passage of gas or vapor
between [the vent seal and the vent aperture]	ordinary meaning; completely or partially between
cross-sectional area	plain and ordinary meaning

ENTERED:

s/Edmond E. Chang  
Honorable Edmond E. Chang  
United States District Judge

DATE: May 29, 2018

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<sup>23</sup>It is possible that “cross-sectional perimeter” as used in the summary is merely a typographical error. A court can correct a typographical error in a patent “if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003). But Ignite does not argue that “cross-sectional perimeter” was a typographical error, so the Court will not analyze whether such a correction is warranted.