UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

KEURIG GREEN MOUNTAIN, INC., **Plaintiff and Counterclaim Defendant,** **v.** **TOUCH COFFEE & BEVERAGES, LLC,** **Defendant and Counterclaim Plaintiff.**	**Civil Action No.: 16-cv-10142-DJC**

MEMORANDUM AND ORDER

CASPER, J. **July 11, 2017**

I. Introduction

Plaintiff and Counterclaim Defendant Keurig Green Mountain, Inc. ("Keurig") filed this lawsuit for patent infringement against Defendant and Counterclaim Plaintiff Touch Coffee & Beverages, LLC ("Touch"), alleging that Touch was infringing its '260 patent and seeking a declaratory judgment that it was not infringing four of Touch's patents (the '343 patent, '149 patent, '150 patent and the '151 patent). D. 1. Touch's counterclaim asserts that Keurig is infringing four of Touch's patents and seeks a declaratory judgment that Touch is not infringing Keurig's '260 patent and that Keurig's '260 patent is invalid. D. 30. The parties now seek construction of several disputed claim terms. D. 87; D. 88; D. 94; D. 95; D. 97. After extensive briefing and a Markman hearing, D. 98, the Court's claim construction follows.

II. Standard of Review

Claim construction is a question of law. See Markman v. Westview Instruments, Inc., 517 U.S. 370, 372, 388-89 (1996). When considering the construction of disputed terms, "the analytical focus of claim construction must begin, and remain centered, on the language of the claims themselves." ACTV, Inc. v. Walt Disney Co., 346 F.3d 1082, 1088 (Fed. Cir. 2003) (citing Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1201-02 (Fed. Cir. 2002)). That is, the Court must construe the terms in a manner that "stays true to the claim language and most naturally aligns with the patent's description of the invention." Phillips v. AWH Corp., 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). The Court construes "the meaning that the term would have to a person of ordinary skill in the art in question at the time of . . . the effective filing date of the patent application" because courts presume that "inventors are typically persons skilled in the field of the invention" and that the patents themselves are "addressed to . . . others of skill in the pertinent art." Id. at 1313; see ACTV, 346 F.3d at 1088. The Court thus seeks to clarify the meaning of each disputed term by examining "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." Phillips, 415 F.3d at 1314 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

A. The Words of the Claims

The Court begins its claim construction by looking at the words of the claims. "[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude." Id. at 1312 (quoting Innova/Pure Water, 381 F.3d at 1115). Claims "are generally given their ordinary and customary meaning." Id. That is, "[a] court may construe a claim term to have its plain

meaning when such a construction resolves a dispute between the parties." In re Body Sci. LLC Patent Litig., 167 F. Supp. 3d 152, 156 (D. Mass. 2016) (citing O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351, 1361 (Fed. Cir. 2008); U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997)). In some circumstances, however, "the context in which a term is used in the asserted claim can be highly instructive" as to the appropriate meaning of that term. Phillips, 415 F.3d at 1314. For instance, when a claim term is used consistently throughout the patent, the meaning of that term in two distinct claims is likely to be the same. In re Body Sci. LLC Patent Litig., 167 F. Supp. 3d at 157 (citing Phillips, 415 F.3d at 1314). Similarly, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Phillips, 415 F.3d at 1315 (citing Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004)). Finally, "claims are interpreted with an eye towards giving effect to all terms in the claim." Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed. Cir. 2006).

B. The Specification

Claims "are part of 'a fully integrated written instrument,' consisting principally of a specification that concludes with the claims." Phillips, 415 F.3d at 1315 (quoting Markman, 52 F.3d at 978). The specification is the patentee's description of the invention and defines "the scope and outer boundary" of the claims. On Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331, 1338-40 (Fed. Cir. 2006). As a result, the Court must read the claims in light of the specification of which they are a part because the construction of the claims cannot be broader in scope than the invention set forth in the patent's specification. See Lexington Luminance LLC v. Amazon.com Inc., 601 F. App'x 963, 970 (Fed. Cir. 2015); On Demand Mach., 442 F.3d at 1338-40; Phillips, 415 F.3d at 1315. Indeed, because the specification's purpose is to "teach and enable

those of skill in the art to make and use the invention and to provide a best mode for doing so" it is "appropriate for a court . . . to rely heavily upon the written description for guidance as to the meaning of the claims." Phillips, 415 F.3d at 1317, 1323. Nevertheless, courts must be careful not to "import[] limitations from the specification into the claim," id. at 1323, because a patent's "claims, not specification embodiments, define the scope of patent protection," Kara Tech. Inc. v. Stamps.com Inc., 582 F.3d 1341, 1348 (Fed. Cir. 2009). In the end, the construction that is the most correct is the one that best reflects the claim language and the patent's description of the invention. Id. at 1316 (citing Renishaw, 158 F.3d at 1250).

C. The Patent Prosecution

"[A] court should also consider the patent's prosecution history, if it is in evidence," id. at 1317, because it is the next best indicator of term meaning. In re: Body Sci. LLC Patent Litig., 167 F. Supp. 3d at 158; see PODS, Inc. v. Porta Stor, Inc., 484 F.3d 1359, 1366-67 (Fed. Cir. 2007). The prosecution history includes the complete record of the proceedings before the PTO and incorporates the prior art examined during the patent's prosecution. Phillips, 415 F.3d at 1317. This history may shed light on a term's meaning because it "can provide further evidence of how the inventor understood the claimed invention," Lexington, 601 F. App'x at 970 (citing Phillips, 415 F.3d at 1317), and "whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be," Phillips, 415 F.3d at 1317 (citing Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582-83 (Fed. Cir. 1996)). The Court's reliance upon the patent prosecution, however, is limited. That is, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim

construction purposes." Id. Accordingly, the Court must give less weight to the prosecution history than the weight given to the claims and the specifications. Id.

D. Extrinsic Evidence

The Court may further consider extrinsic evidence "if the court deems [such evidence] helpful in determining 'the true meaning of language used in the patent claims.'" Id. at 1318 (quoting Markman, 52 F.3d at 980). Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." Id. at 1317 (quoting Markman, 52 F.3d at 980). Courts look to this information when it can assist in educating the Court about "the field of the invention" and "what a person of ordinary skill in the art would understand claim terms to mean." Id. at 1319. For instance, expert testimony can provide useful background on the technology in question, shed light on how the invention works and further ensure that the Court's understanding of the patent's technical aspects is aligned with that of a person with skill in the art. Id. at 1318.

The use of extrinsic evidence, however, is not without bounds. In examining the meaning of each disputed term, the court must give more weight to intrinsic evidence (i.e., the language of the claims, the specifications and the prosecution history) than it does to extrinsic evidence. Sky Techs., LLC v. Ariba, Inc., 491 F. Supp. 2d 154, 156 (D. Mass. 2007). Indeed, "extrinsic evidence is less significant than the intrinsic record," Lexington, 601 F. App'x at 970, because it is generally considered less reliable than the patent and the prosecution history in determining the legally operative meaning of the claim language specific to the particular patent at issue, Phillips, 415 F.3d at 1317-19. For this reason, the Court cannot use extrinsic evidence to "contradict claim meaning that is unambiguous in light of the intrinsic evidence." Id. at 1324. That is, the Court cannot place "undue reliance on extrinsic evidence" because it "poses the risk that it will be used

to change the meaning of claims in derogation of the 'indisputable public records consisting of the claims.'" Id. at 1319 (quoting Southwall Techs., Inc., v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed. Cir. 1995)).

III. The Patents at Issue

This lawsuit involves patents addressing technology for single-serve beverage brewing systems. D. 87-2 ('343 patent); D. 87-3 ('149 patent); D. 87-4 ('150 patent); D. 87-5 ('151 patent); D. 87-10 ('260 patent). Keurig alleges that Touch has and continues to infringe at least claim 5 of its '260 patent by manufacturing and selling Touch brewing systems and components thereof, including the Supercharger and Touch XLarge cups. D. 1 ¶¶ 84-90. Touch counterclaims that Keurig is infringing Touch's '343 patent, '149 patent, '150 patent and '151 patent by making and selling the Keurig 2.0 Brewer and components thereof and inducing customers to purchase the Keurig 2.0 Brewer, K-Cups and K-Carafe pods. D. 30 ¶¶ 57-88.

Keurig filed its '260 patent on April 3, 2002 and the patent was issued on December 2, 2003. D. 87-10 at 2. Touch filed all of its patents relevant to this case on November 14, 2014. D. 30-1 at 2; D. 30-2 at 2; D. 30-3 at 2; D. 30-4 at 2. Touch's '343 patent was issued on September 29, 2015, D. 30-1 at 2, whereas the '149, '150 and '151 patents were issued on October 6, 2015. D. 30-2 at 2; D. 30-3 at 2; D. 30-4 at 2.

IV. Procedural History

Keurig filed this patent infringement lawsuit on February 1, 2016. D. 1. Touch filed counterclaims against Keurig. D. 6, 30. Touch then moved for preliminary injunction, requesting that this Court enjoin Keurig from distributing and selling Keurig 2.0 Brewing System brewers. D. 7. After allowing certain expedited discovery, the Court denied Touch's motion for preliminary

injunction.[1] D. 19; D. 68. After claim construction briefing, the Court held a Markman hearing and took the matter under advisement. D. 98.

V. Construction of Disputed Terms

The parties dispute the meaning of the following terms and the Court resolves these disputes as discussed below.[2]

A. Disputed Terms in Touch's Patents

1. Beverage Ingredient/Beverage Grind

Term	Touch's Construction	Keurig's Construction
Beverage Ingredient/Grind	An ingredient to brew a beverage	Ingredient for making beverage, including tea, cocoa, milk, soup, and coffee. When the beverage ingredient is ground coffee, the grind size must be that specified at 10:55-11:3 and depicted in Figure 8B and not that specified at 10:39-54 and depicted in Figure 8A [For the '343 patent, the first and second column and line citations in this proposed construction are 10:58-11:6 and 10:42-57, respectively]

[1] Although the Court expressed initial impressions on possible constructions of disputed terms during the preliminary injunction phase, those initial claim constructions are subject to revision as the case develops. Printguard, Inc. v. Anti-Marking Sys., Inc., 535 F. Supp. 2d 189, 197 (D. Mass. 2008); Acoustic Processing Tech., Inc. v. KDH Elec. Sys. Inc., 697 F. Supp. 2d 146, 155 (D. Me. 2010) (citing Sofamor Danek Grp., Inc. v. DePuy-Motech, Inc., 74 F.3d 1216, 1221 (Fed. Cir. 1996)).

[2] The parties have resolved their dispute as to another term. That is, the parties agree that the term "longitudinally extending discontinuity" should be construed as "a break in continuity of the cartridge sidewall along at least part of the sidewall length." D. 97 at 2. The Court adopts this agreed-upon construction.

The parties dispute the meaning of the term "beverage ingredient" and "beverage grind" as they appear in claims 1-3, 7-10, 13 and 18-19 from the '343 patent; claims 1-7, 10, 12-19, 22-26 and 28 from the '149 patent; claims 1, 2, 4-8 and 10-15 from the '150 patent; and claims 1-4, 6-11, 13-18 and 20-22 from the '151 patent.[3] D. 97-1 at 2, 6.

Those claims generally use the terms "beverage ingredient" and "beverage grind" in the same manner throughout the four patents. For instance, claim 1 in the '149 patent covers "[a] method of brewing a beverage from either one of a first beverage cartridge having a beverage ingredient therein and a second beverage cartridge having a beverage ingredient therein." '149 patent, 33:27-30. Similarly, claim 1 of the '150 patent covers, in relevant part, a method of brewing a beverage with a brewer with certain qualities such that the device can create a drink from "a first beverage cartridge having beverage grind therein" and with the ability to brew a beverage from "a second beverage cartridge having beverage grind therein." '150 patent, 33:18-40. In essence, the term is used in the claims when describing the mixture to be included in the beverage cartridge that will ultimately be pierced and used to brew a single-serve drink. While the parties agree that the term refers to multiple types of drinks, see, e.g., D. 87 at 8-9, D. 88 at 22, they dispute whether the term has a more limited definition as to ground coffee, D. 97-1 at 6. That is, Touch urges the Court to use an ordinary definition of "beverage ingredient" or "beverage grind" such that it means "[a]n ingredient to brew a beverage" as to any drinks including coffee. D. 87 at 8. Alternatively, Keurig contends that these terms only define a particular sized coffee grounds as explained in the patent specification. D. 88 at 22-24.

[3] Unless otherwise indicated, the parties' dispute as to the remaining terms in this Order are terms that are used within the patent claims listed above.

Here, the Court adopts Touch's construction that "beverage ingredient" or "beverage grind" indicates "an ingredient to brew a beverage." First, this definition accords with the claim language itself, which expresses no restrictions as to the coffee grind size that could constitute the beverage ingredient or grind. See, e.g., '149 patent, 33:25-44; '150 patent, 33:18-40. As a result, this definition comports with the ordinary meaning of the claim language when considered as a broadly written term with no immediate modifiers. See Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed. Cir. 1999).

Further, the remainder of the intrinsic evidence, including the language in the specification, fails to overcome the "heavy presumption in favor of [assigning] the ordinary meaning" to the claim language. Id. First, the specification includes language that further confirms that "beverage ingredient" and "beverage grind" should have the ordinary definition as the invention is first described as being directed "to a brewing system for making hot beverages such as coffee, tea, cocoa, milk, and soup." '149 patent, 1:18-19. Here, the patent makes no distinction as to the necessity that the brewing system is limited to a particular coffee grind size. Moreover, there are several other instances in which the specification specifically describes the "beverage ingredient" or "beverage grind" when referring to coffee grounds and does not designate the grind size formulations proposed in Keurig's construction. For instance, the invention summary explains that "the first chamber may be packed with a first beverage grind such as coffee grind," '149 patent, 5:10-11, without indicating any limitation as to the sizes of the coffee grinds to be used in conjunction with the invention covered by the patent.

To support its proffered construction, Keurig highlights that the specification in each of the relevant patents uses two diagrams, Figures 8A and 8B, to contrast the distribution of coffee grind sizes in a typical K-Cup and the distribution of coffee grind sizes to be used as the beverage grind

in accord with Touch's invention. D. 88 at 22-24. The Touch patents do distinguish the coffee grind sizes used in a K-Cup and those that they suggest should be used alongside this invention: the specification includes a graph that represents the contrast in grind size formulations between the K-Cup and the ideal formulation for the Touch invention and provides the details of a controlled experiment that found that the proposed coffee grind formulation produced coffee that was eight percent stronger than the K-Cup formulation. '149 patent, 10:39-12:45. The discussion of coffee grind sizes, however, does not necessitate defining the terms "beverage ingredient" and "beverage grind" as narrowly as Keurig urges.

First, the claim language expressed that "the invention is not to be restricted except in light of the attached claims and their equivalents." See id. at 33:23-24. As stated, none of the claims circumscribe "beverage ingredient" or "beverage grind" by a certain coffee grind size. See Pfizer, Inc. v. Ranbaxy Labs. Ltd., 457 F.3d 1284, 1290 (Fed. Cir. 2006) (explaining that restricting the claim based upon illustrative examples was improper because the specification stated that the examples were "not to be read as limiting the scope of the invention"). Second, the fact "[t]hat claims are interpreted in light of the specification does not mean that everything expressed in the specification must be read into all of the claims." Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1326 (Fed. Cir. 2002) (quoting Raytheon Co. v. Roper Corp., 723 F.2d 951, 957 (Fed. Cir. 1983)). That is, a party "cannot overcome the 'heavy presumption' that a claim term takes on its ordinary meaning simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history." Id. (quoting CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002)). Although Keurig argues that Touch was acting as its own lexicographer in defining "beverage ingredient" and "beverage grind" and those terms must thus take on a more specific meaning, that is only true when a patent-holder "clearly

express[es] an intent to redefine the term" in dispute. Hill-Rom Servs., Inc. v. Stryker Corp., 755 F.3d 1367, 1371 (Fed. Cir. 2014) (quoting Thorner v. Sony Comput. Entm't Am. LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2002)). No such intent can be gleaned from the Touch patents.

Keurig still contends, however, that its more limited construction is appropriate because the Touch patents describe Figure 8B as a graph representing "distribution of coffee grind sizes according to this invention." D. 88 at 22-24; see '343 patent, 6:42-43. "It is true that, in some circumstances, a patentee's consistent reference to a certain limitation or a preferred embodiment as 'this invention' or the 'present invention' can serve to limit the scope of the entire invention, particularly where no other intrinsic evidence suggests otherwise." Absolute Software, Inc. v. Stealth Signal, Inc., 659 F.3d 1121, 1136 (Fed. Cir. 2011). However, the "use of the phrase 'present invention' or 'this invention' is not always so limiting, such as where the references to a certain limitation as being the 'invention' are not uniform or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent." Id. at 1136-37 (collecting cases). That is, the use of these phrases does not automatically limit the meaning of claim terms in all circumstances. Netcraft Corp. v. eBay, Inc., 549 F.3d 1394, 1398 (Fed. Cir. 2008).

After considering these guideposts, the Court concludes that it need not adopt Keurig's more limited construction for coffee grind because of the patents' usage of "this invention." First, the Federal Circuit has articulated that the use of "in accordance with this invention" is highly suggestive when placed in the Summary of the Invention because it suggests that the limiting principles apply to the entire invention and not merely one or more embodiments. See TriStrata, Inc. v. Microsoft Corp., 594 F. App'x 653, 656 (Fed. Cir. 2014). Here, however, the singular discussion of the coffee grind formulation is not located in the summary of the invention. See '149 patent, 10:55-12:45. Instead, here, where the summary of the invention discusses the "beverage

grind" or "beverage ingredient," it says, without elaboration, that certain chambers of the device "may be packed with beverage grind" such as "coffee grind" or "powder cream." See id. at 5:10-13 (making no mention of coffee grind or coffee grind formulation specifications necessary for the beverage ingredient or grind).

Moreover, the construction of "beverage ingredient" or "beverage grind" stands on different ground from cases in which the phrase "present invention" or "this invention" compelled construction of a claim term with a more limited definition consistent with a particular description or embodiment. In those cases, each of the patents provided a circumscribed definition of a claim term and then repeatedly used that claim term with this limited construction, convincing the Federal Circuit that the terms at issue should be construed uniformly with that same limitation. For example, in Edwards Lifesciences LLC v. Cook Inc., 582 F.3d 1322, 1331 (Fed. Cir. 2009), the Federal Circuit construed the term "graft" to mean an intraluminal device because "the specification frequently describes an 'intraluminal graft' as 'the present invention; or 'this invention,' indicating an intent to limit the invention to intraluminal devices." Likewise, in Lydall Thermal/Acoustical, Inc. v. Fed.-Mogul Corp., 344 F. App'x 607, 613-14 (Fed. Cir. 2009), the court held that "the specification repeatedly describes the batt as having an insulating layer disposed between two binding layers" and that this "consistent description" makes clear that the "fibrous batt of fibers" must have three layers. This is also the case for Honeywell International Inc. v. ITT Industries, Inc., 452 F.3d 1312, 1313, 1318 (Fed. Cir. 2006), where the court construed "fuel injection system component" to mean fuel filter because the description referred to the fuel filter as the invention on at least four different occasions. This is distinct from the Touch patents, which only discuss the coffee grind formulations once in the entirety of the patents and refrain from applying or mentioning any coffee grind size limitations when describing or discussing the

"beverage grind" or "beverage ingredient" throughout the remainder of the abstract, specification and claims.

Keurig's proposed construction also asks the Court to construe "beverage grind" and "beverage ingredient" to exclude the description related to Figure 8A, the coffee grind sizes generally provided in a single-serve cartridge sold by Green Mountain Coffee Roasters and provided in a K-Cup. D. 88 at 22-24. The Federal Circuit has recognized that "the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor" by making clear that the invention does not include a particular feature. Openwave Sys., Inc. v. Apple Inc., 808 F.3d 509, 513 (Fed. Cir. 2015) (quoting Phillips, 415 F.3d at 1316). The standard for disavowal of claim scope, however, is "exacting" and requires the Court to conclude that "the specification is 'both so clear as to show reasonable clarity and deliberateness, and so unmistakable as to be unambiguous evidence of disclaimer.'" Id. (quoting Dealertrack, Inc. v. Huber, 674 F.3d 1315, 1322 (Fed. Cir. 2012)). To hold disavowal of claim scope through the disparagement of a particular characteristic, the Court focuses on whether "the specification goes well beyond expressing the patentee's preference" and "its repeated derogatory statements" about a particular feature demonstrate disavowal. Id. Here, the Court cannot conclude that the Touch patents have "repeated derogatory statements" that make clear that the invention disclaims the coffee grind size generally used in K-Cups, particularly where the coffee grind size is mentioned only once in each patent.

Finally, Keurig's reliance upon the interpretation of the patent by its expert, Slocum, does not compel an alternative outcome. As explained, the Court must give greater weight to the intrinsic evidence available, Lexington, 601 F. App'x at 970, and cannot use extrinsic evidence to contradict claim meaning that is otherwise unambiguous, Phillips, 415 F.3d at 1324.

For the foregoing reasons, the Court construes "beverage ingredient" and "beverage grind" as "an ingredient to brew a beverage."

2. Vertically Offset

Term	**Touch's Construction**	**Keurig's Construction**
Vertically Offset	Spaced above or below	Positioned along and spaced apart on a vertical line that passes through the longitudinal axes of the needles

The parties dispute the meaning of the term "vertically offset" as it appears in claims 1-3, 7-10, 13 and 18-19 from the '343 patent; claims 1-7, 13-19, 24-26 and 28 from the '149 patent; claims 1, 2 and 4-8 from the '150 patent; and claims 1-4, 6-11, 13-18 and 20-22 from the '151 patent. D. 97-1 at 2, 7.

Touch urges the Court to adopt a construction of the term "vertically offset" based on the ordinary meaning of the term's constituent parts. D. 87 at 10. Because "vertical" generally means "above or below" and "offset" generally means "spaced" or "spaced apart," Touch proposes a construction of the "vertically offset" as "spaced above or below." Id. Touch also suggests that the word "vertically" is intended only to distinguish from other ways in which the patent might require that the outlet needles be offset, such as "horizontally offset." D. 94 at 21-22. In Keurig's view, "vertically offset" must mean "positioned along and spaced apart on a vertical line that passes through the longitudinal axes of the needles." D. 88 at 24. That is, Keurig suggests that the term includes the additional requirement that the outlet needles be positioned directly above and below one another. Id. Keurig's construction of the term "vertically offset," therefore, includes a limitation on the outlet needles' vertical and horizontal spacing. See id. This construction reads a limitation into the claim that is not supported by its language. Accordingly, the Court agrees with Touch that its construction of "vertically offset" reflects the term's ordinary

meaning. See Johnson Worldwide, 175 F.3d at 989. Moreover, the Court finds that Touch's construction of "vertically offset" is more consistent with the intrinsic evidence and that nothing in the prosecution history or Slocum's expert opinion requires an alternative construction.

As further support for its construction of "vertically offset," Touch directs the Court to the patent specifications and, in particular, Figure 6 and Figure 7 as "exemplary embodiments" of the claimed invention. D. 87 at 10-11; see, e.g., '343 patent, figs. 6 & 7. Reproduced below, both Figure 6 and Figure 7 illustrate outlet needles that are "spaced above and below" one another, but which are not positioned on the same vertical line. D. 87 at 10-11; see, e.g., '343 patent, figs. 6 & 7. Accordingly, Touch argues that Keurig's proposed construction of "vertically offset" cannot be correct because it would exclude not only Figures 6 and 7, but all disclosed embodiments of the claimed invention. D. 87 at 12.

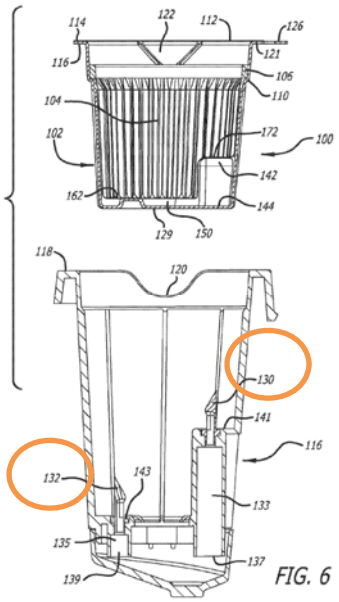


FIG. 6

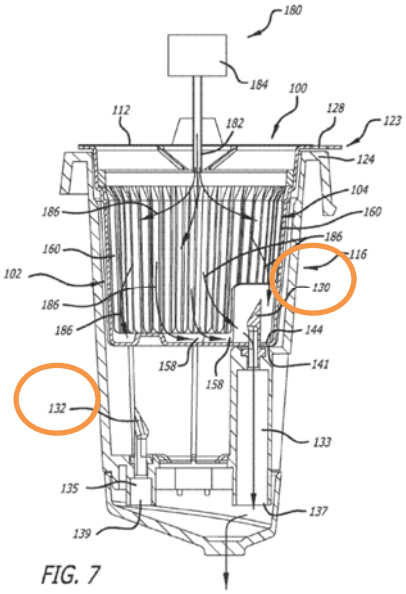


FIG. 7

Keurig first argues that this construction is improper because the term "vertically offset" was added late in the patent prosecution such that the specifications and file history cannot be relied upon to inform the term's meaning. D. 88 at 24-25; see D. 63-1. As Touch observes,

however, that amendment was made "in the context . . . of the disclosure in the specification" and the amended language should be interpreted in view of the embodiments described in the specifications. D. 94 at 19-20. That is, while the amendment may have narrowed the scope of the claim, it does not necessarily follow that the amendment renders the original specifications meaningless, especially when there is a reasonable construction of the amended language that is still consistent with the specifications. See e.g., August Tech. Corp. v. Camtek, Ltd., 655 F.3d 1278, 1285-87 (Fed. Cir. 2011) (examining original patent specifications in the context of construing amended patent claims).

Keurig next contends that the fact that its construction of "vertically offset" would result in certain claims not covering any of the disclosed embodiments is to be expected when the term is added as part of a narrowing amendment. D. 88 at 25; D. 95 at 17-18. For support, Keurig relies on Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371 (Fed. Cir. 2004), and North America Container, Inc. v. Plastipak Packaging, Inc., 415 F.3d 1335 (Fed. Cir. 2005), but neither case compels the Court to change its construction of "vertically offset." In Chef America, the patentee argued for a construction of the disputed term that was contrary to its ordinary meaning on the basis that the ordinary meaning excluded all the preferred embodiments in the specification. Chef America, 358 F.3d at 1372-74. The court rejected this argument, refusing to "redraft the claim[]" and instead construing "the claim as written, not as the patentees wish they had written it." Id. at 1374. Here, the construction of "vertically offset" that Touch urges is not contrary to its ordinary meaning; rather, this construction provides a definition that accords with both the ordinary meaning and the patent specifications.

In North America Container, the court construed a patent's term to exclude certain embodiments because the patentee had effectively disclaimed those embodiments during patent

prosecution. N. Am. Container, 415 F.3d at 1346 (citing Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc., 214 F.3d 1302, 1308 (Fed. Cir. 2000)). Here, there is no evidence that Touch disclaimed the embodiments contained in the specifications in the course of the patent prosecution. D. 94 at 21. Moreover, "it is . . . well established that a claim construction that excludes a preferred embodiment is 'rarely, if ever, correct.'" Dow Chem. Co. v. Sumitomo Chem. Co., 257 F.3d 1364, 1378 (Fed. Cir. 2001) (quoting Vitronics, 90 F.3d at 1583); see Elekta Instrument, 214 F.3d at 1308 (suggesting it is only in "a rare case," where there is prosecution history evidence and unambiguous language, that a court will construe a claim to exclude preferred embodiments). The Court does not conclude that this is such "a rare case;" instead, the Court construes the term "vertically offset" to be consistent with the patent specifications.

Keurig also argues that not all of Touch's claims contain the "vertically offset" limitation and so its proposed construction is more appropriate because it would not exclude all of the embodiments disclosed in the patent specification. D. 88 at 25; D. 95 at 18. Keurig insists that where "a patent describes multiple embodiments, every claim does not need to cover every embodiment." Pacing Techs., LLC v. Garmin Int'l, Inc., 778 F.3d 1021, 1026 (Fed. Cir. 2015) (citing August Tech., 655 F.3d at 1285-87). If the Court were to adopt Keurig's construction of "vertically offset," however, then the affected claims would cover none of the disclosed embodiments. Keurig's proposed construction of "vertically offset" instead relies principally on Slocum's opinion. See D. 88 at 25; D. 95 at 17; D. 36 ¶ 54. But, as the Court has already observed, extrinsic evidence cannot be used to contradict an otherwise unambiguous claim term. Phillips, 415 F.3d at 1324. Slocum's opinion that the "vertically offset" needles address the spatial relationship between the inlet and outlet needle, D. 36 ¶¶ 74-75, does not change that the claims specify only that the outlet needles be vertically offset. See, e.g., '343 Patent, 36:38-51.

For all the forgoing reasons, the Court construes "vertically offset" as "spaced above or below."

3. Needle

Term	**Touch's Construction**	**Keurig's Construction**
Needle	An instrument with a sharp end that pierces and that injects (in case of an inlet needle) or drains (in the case of an outlet needle)	Hollow tube with a sharp end

The parties also dispute the construction of the term "needle" in all of the relevant claims. D. 87 at 12-14; D. 88 at 12-16.

As an initial matter, the parties appear to agree that a "needle" is a device that has a sharp end used for puncturing. D. 87 at 12-14; D. 88 at 12-16. Keurig focuses its dispute on whether that "needle" must be hollow. See D. 88 at 15. Based upon the language in the claims and the specification, the Court first concludes that the term "needle" must be construed such that it is "an instrument with a sharp end that pierces." For instance, claim 1 in the '343 patent states that it covers a "beverage brewer and cartridge combination" wherein "the inlet needle will pierce the first beverage cartridge" and "the first outlet needle will pierce the first beverage cartridge," and wherein "the inlet needle will pierce the second beverage cartridge" and "the second outlet needle will pierce the second beverage cartridge." '343 patent, 36:23-48; see id. at 38:38-39, 50-51 (stating that "the first outlet needle will have pierced the first beverage cartridge" and that "the inlet needle will have pierced the second beverage cartridge"). In context, it is clear that the various "needles" are for puncturing their respective beverage cartridges. The remainder of the intrinsic evidence provides no reason to deviate from this "ordinary and customary meaning." Phillips, 415 F.3d at 1312 (quoting Tex. Digital, 308 F.3d at 1202). Instead, the specification language provides further support for this construction. Therein, for example, the invention

summary describes how "[t]he brewing chamber may have a deep well with one or more needles therewithin to pierce through the bottom of the cartridge system when inserted into the well." '343 patent, 4:26-29; see id. at 4:57-60; D. 87-2 at 2. For these reasons, a "needle" is at least "an instrument with a sharp end that pierces."

The crux of the parties' dispute is whether a "needle" is necessarily a hollow tube. D. 87 at 13-14; D. 88 at 13-15. Here, the intrinsic evidence makes clear that the patent employs the word "needle" to mean a hollow tube. Although the claim language is devoid of any language that specifically describes the "needle" as a hollow tube, "[a]nother construction would improperly divorce the claim 'from the context of the written description.'" Worlds, Inc. v. Activision Blizzard, Inc., No. 12-cv-10576-DJC, 2015 WL 3932369, at *13 (D. Mass. June 26, 2015) (quoting Nystrom v. Trex Co. Inc., 424 F.3d 1136, 1144-45 (Fed. Cir. 2005)). That is, the patent specification language repeatedly indicates that the "needle" is a hollow tube because it consistently states that liquid or air flows through the needle. For instance, the specification states that the needles in the invention would be construed such that "liquid may pass through the first needle and exit through a first outline" and such that "liquid may pass through the second needle and exit through a second outlet." '343 patent, 8:37-60. It also explains that once the first needle pierces a certain target area, "beverage may pass through the first needle and exist through the first outlet" and that "[t]he brewer system may be provided to inject hot water through the injection needle" leading to the "beverage . . . exit[ing] through the second needle." Id. at 10:8-41, 13:19-27; see id. at 20:20-21 (explaining that "[h]ot water [is] injected through the top needle"); id. at 22:11-14 (stating that "the combination of the beverage flavor may exit through the second needle"); id. at 35:1-2 (noting that "coffee passes through the second needle").

In addition to explaining that liquid and air flow through the needle, the specification also explains how the technology prevents the needle from being clogged. For example, the patents explain that the technology developed such that the "powder cream substantially dissolve instantly . . . so that the combination of the beverage and the dissolved powder cream does not clog the needle." Id. at 5:10-16. Later, the specification describes how the device "may pump air through the third tube, thus in essence blowing air through the top needle and the coffee grind in the cartridge to purge the top needle from clogging." Id. at 28:20-27; see id. at 36:14-17. The only "needle" that fits these consistent and repeated descriptions are ones through which fluid flows. Thus, the claim language need not expressly define "needle" as a hollow tube—as Touch contends—because "its meaning to the ordinary artisan after reading the entire patent" indicates that the "needle" must be hollow. See Phillips, 415 F.3d at 1321.

Touch posits that Keurig's construction is improper because the Touch patents include other disclosed embodiments of the term "needle" beyond just a hollow tube. D. 87 at 13. Although Touch asserts that this construction is ill-fitting because the Beaulieu patent is incorporated by reference and includes other formations of a "needle," D. 87 at 13, the reference to the Beaulieu patent does not compel a broader definition of needle as to Touch's patents. While the Beaulieu patent states that there are several types of piercing mechanisms including "a non-hollow needle," the Touch patents only incorporate the Beaulieu patent as to its filtration and cartridges. Indeed, the patent states that the Beaulieu patent application is incorporated by reference because even though it "discloses a more elongated filter" that should "brew a bigger and/or stronger cup of coffee," the Beaulieu patent application still only creates coffee with "TDS levels of about 0.95% which may be considered weak" such that "there is still a need to brew stronger tasting coffee using a single-serve cartridge." '151 patent, 2:40-59. It is not incorporated

with respect to its various needle embodiments. Thus, construing "needle" as a hollow tube does not disregard or discount this incorporation by reference. See Trs. of Columbia Univ. in City of N.Y. v. Symantec Corp., 811 F.3d 1359, 1368 (Fed. Cir. 2016) (explaining that "fleeting references" to other patent applications could not "overcome the overwhelming evidence in the specification and the prosecution history, especially given the specification did not 'even refer with any detailed particularity' to the passages" now used to support an alternative construction (quoting SkinMedica, Inc. v. Histogen Inc., 727 F.3d 1187, 1207 (Fed. Cir. 2013))).

Touch also points to certain extrinsic evidence to support that a "needle" is not a hollow tube. For one, Touch provides examples of various Keurig 2.0 user guides, in which Keurig warns consumers to take caution as to "three sharp needles that puncture packs" even though the Keurig 2.0 machines employ non-hollow puncturing instruments with two outer grooves along which the liquid flows. D. 7-13 at 5; D. 87 at 14. Because the repeated descriptions in the specification make clear that a "needle" is a hollow tube, the Court cannot rely upon the extrinsic evidence such as the Keurig 2.0 user manuals to conclude that a "needle" can also be a non-hollow device.

For the foregoing reasons, the Court construes "needle" in the Touch patents to mean "a hollow tube with a sharp end that pierces."

4. Outlet Needle

Term	**Touch's Construction**	**Keurig's Construction**
Outlet Needle	An instrument with a sharp end that pierces and that drains	Hollow tube with a sharp end that pierces the bottom of a beverage cartridge, is an element of the cartridge holder, and provides a flow path for beverage to exit

The parties dispute the term "outlet needle." D. 87 at 14-17; D. 88 at 16-19. First, the parties disagree as to whether the "outlet needle" is a hollow tube with a sharp end or simply an

instrument with a sharp end. Here, the Court has already concluded that the patent language indicates that a "needle" is a hollow tube with a sharp end that pierces.

The parties further disagree as to whether an "outlet needle" pierces and drains—as Touch contends—or pierces the bottom of a beverage cartridge and provides a flow path for a beverage to exit—as Keurig maintains. D. 87 at 14-17; D. 88 at 16-19. The Court first concludes that an "outlet needle" provides a flow path for a beverage to exit the device in light of the specification language. Indeed, the Touch patents' specifications repeatedly explain that the outlet needles allow liquid to pass through and exit the device. For instance, the '343 patent explains Figure 3B by stating that "[t]he holder may have a first funnel coupled to the first needle such that liquid may pass through the first needle and exit through a first outlet" and that "[t]he holder may have a second funnel coupled to the second needle such that liquid may pass through the second needle and exit through a second outlet." '343 patent, 8:55-60. This same patent further provides that "[t]he beverage may . . . exit through the second needle to pass through the second channel and exit through the second outlet." Id. at 13:24-27. Similarly, the patent states that "the combination of beverage flavor may exit through the second needle" when describing Figure 27. Id. at 22:15-17.

Although the Court construes the term "outlet needle" as an instrument that provides a flow path for a beverage to exit, the Court does not adopt Keurig's further construction that the "outlet needle" is also a device that necessarily pierces the bottom of a beverage cartridge. There are references within the patent that describe the outlet needle as piercing the bottom of the beverage cartridge, providing some intrinsic support for Keurig's proposed construction. For example, the patent describes Figure 5B and explains that "the second needle pierces through the basin of the cup" at position 132. '343 patent, 9:38-45. Similarly, as to Figure 11 reproduced below, the patent

states "[t]he beverage may drop down into the base of the cup, and exit through the second needle to pass through the second channel and exit through the second outlet." Id. 13:24-27. As the diagram indicates, the patent shows an outlet needle puncturing the base of the cartridge to remove the beverage drink.

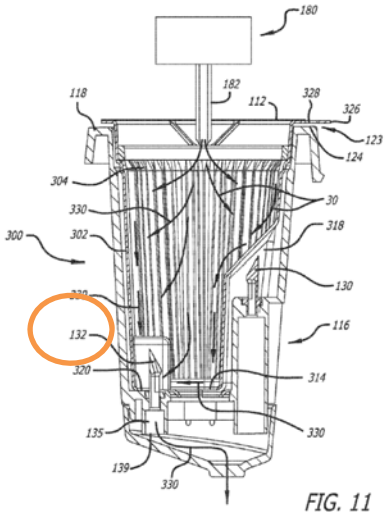


FIG. 11

Other components of the specification further indicate that the outlet needles pierce the bottom of the cartridges to drain the beverage drink. See, e.g., id. at 16:42-54 (describing Figure 15C, in which both outlet needles are piercing the bottom of the cartridges); 27:42-56 (same as to Figure 35). In addition to the specification language, the claim abstract also indicates that "outlet needles" should be construed as instruments that pierce the bottom of the cartridges. Id. at Abstract (explaining that the holder has one or more needles that "pierce through the bottom of the cartridge system" and that "the outlet needle pierces through the bottom of the cup").

While a portion of the patent specification indicates that the patent contemplates an outlet needle that pierces the bottom of the cartridge, the Court cannot construe "outlet needle" in this limited fashion. Courts engaging in claim construction "normally do not interpret claim terms in a way that excludes disclosed examples in the specification." Verizon Services Corp. v. Vonage

Holdings Corp., 503 F.3d 1295, 1305 (Fed. Cir. 2007) (citing MBO Labs., Inc. v. Becton, Dickinson & Co., 474 F.3d 1323, 1333 (Fed. Cir. 2007)). Construing "outlet needle" to pierce the bottom of the cartridge would do just this by ignoring the disclosed Figure 27 (reproduced below).

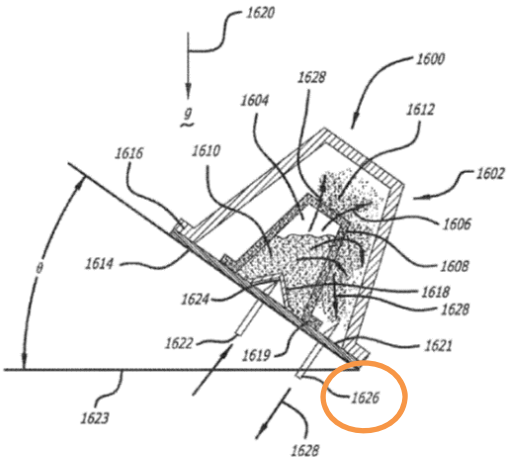


FIG. 27

For this figure, the specification explains that "[t]he brewer system may provide a first needle adapted to pierce the lid [of the cartridge] such that the tip of the first needle expands the inner flow . . . [and] provide a second needle that pierces the lid at the space to drain the beverage within the cup." '151 patent, 22:3-13. That is, the patent teaches that the outlet needle, at location 1626, can pierce the lid of the cartridge instead of the bottom of the cartridge to provide a flow path for the beverage to exit the device.[4] Accordingly, the Court does not adopt Keurig's proposed construction that the "outlet needle" necessarily pierces the cartridge's bottom.[5]

[4] As previously explained, a patentee's consistent reference to a certain limitation as "this invention" or "the present invention" can be construed to limit the scope of the invention as a whole when no other intrinsic evidence suggests otherwise. See Absolute Software, Inc., 659 F.3d at 1136. In this case, although the patent uses the phrase "this invention," it also specifically includes an embodiment that describes a second needle used to drain the beverage by piercing the lid of the cartridge.

[5] Touch also asserts that adopting Keurig's construction would improperly exclude disclosed embodiments, Figures 38 and 39. D. 87 at 15-17. Namely, Touch relies upon Figures 38 and 39 to support its contention that "outlet needles" are not limited to piercing the bottom of a beverage

Finally, Keurig urges that the Court construe "outlet needle" to be an element of the cartridge holder for purposes of all of the claims at issue in this claim construction. D. 88 at 16. The intrinsic evidence supports this construction. For example, the specification explains various methods that "may be utilized to replace the cup holder provided with Keurig brewers with the cup holder" in Figures 19A-19C, models showing "various perspective views of the cup holder having the first and second outlet needles." '343 patent, 17:36-37, 58-60. Those methods explain that the Keurig brewer's cup holder can be replaced with "an interchangeable cup holder with a first needle and a second needle." Id. at 17:58-18:59. In addition, the claim abstract also provides that the invention is a beverage cartridge system in which "[t]he holder may have a deep well with one or more needles therewithin." Id. at Abstract.

cartridge. These embodiments, however, do not compel such a conclusion because the diagrams show only an inlet needle piercing the top of a cartridge and do not depict an outlet needle doing the same. '343 patent, 29:4-33. Instead, Figure 38 shows an outlet needle piercing the bottom of the cartridge. See '343 patent, Figure 38. Thus, these figures do not weigh against Keurig's proposed construction. Similarly, Touch asserts that the Court cannot limit "outlet needle" in this manner because the Touch patents incorporate the Beaulieu reference, which discloses an outlet needle that pierces the side of the cartridge instead of the bottom. D. 87 at 17. As explained above, however, this incorporation by reference does not compel a different construction of the term "outlet needle" here because the Touch patents only incorporate this other patent as to its filtration and cartridges. See supra; see, e.g., '151 patent, 2:40-59. For these reasons, the Court concludes that these arguments do not provide additional support for its determination that an "outlet needle" does not necessarily pierce the bottom of a cartridge.

Moreover, the embodiments in Figures 38 and 39 support this construction.

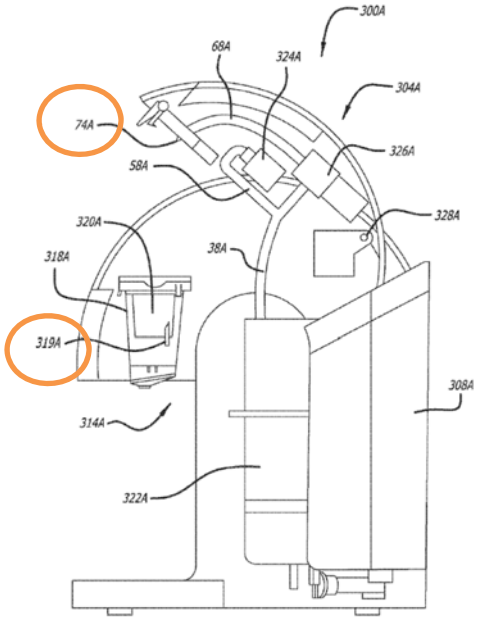


FIG. 38

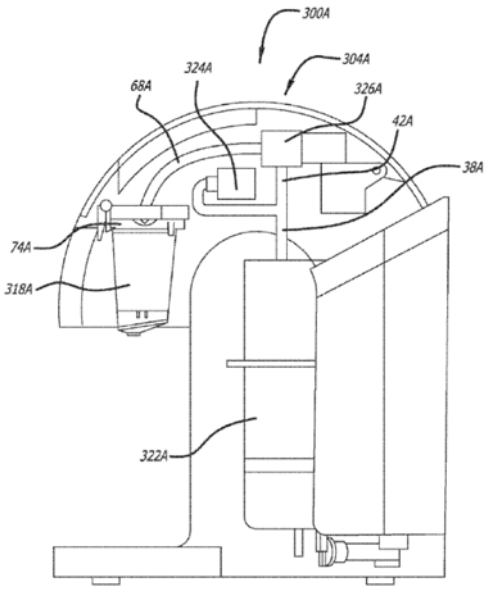


FIG. 39

The patent includes these embodiments to show "a side view of the beverage brewer system" and "the beverage brewer system . . . with its cover in a closed position." Id. at 7:57-61. When describing the diagrams, the patent teaches that the diagram shows that an inlet needle may be attached to the cover of the device, but does not depict an outlet needle in that same position. See id. at 29:4-33. Instead, the patent explains that "[w]ith the switch open, the second pump may substantially pump air through the fourth and fifth tubes . . . and inject air through the cartridge to substantially purge the [inlet] needle," positioned at 74A "and water within the cartridge out through a second needle" positioned at 319A. '343 patent, 29:28-33. This further supports a construction in which the outlet needle is an element of the cartridge holder, and not a reading where the outlet needle may be otherwise attached to another part of the device such as the cover.

That is, these embodiments provide intrinsic evidence that the inlet needle need not be an element of the cartridge holder, but do not weigh in favor of concluding the same as to the outlet needle.

Touch asserts that construing "outlet needle" as an element of the cartridge holder is improper for two main reasons. First, Touch advances that the outlet needle cannot be an element of the cartridge holder because Figure 27 would then require that the inlet needle was also an element of the cartridge holder which cannot be the case. Hr'g Tr. at 14-15. The Court disagrees. First, Figure 27 depicts "a cross-sectional view of a cartridge system" and does not explain where the inlet and outlet needle are housed in this diagram. See '343 patent, 21:52-22:17. That is, the patent does not use Figure 27 to explain where the inlet and outlet needles belong in the claimed invention, i.e. on the lid, in the cartridge holder, or elsewhere. In addition, concluding that the outlet needle is an element of the cartridge holder does not necessitate that the inlet needle must necessarily be an element of the cartridge holder as well because there are other embodiments and other descriptions within each of the patents that show that the inlet needle can be attached to the lid of the brewer. See, e.g., '343 patent, 29:4-18.

Second, Touch contends that construing an outlet needle to be an element of the cartridge holder would violate the doctrine of claim differentiation. Hr'g Tr. at 14. Claim differentiation is the "presumption that each claim in a patent has a different scope." Curtiss-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 1380 (Fed. Cir. 2006) (citing Versa Corp. v. Ag-Bag Int'l Ltd., 392 F.3d 1325, 1330 (Fed. Cir. 2004)). When a patent has independent claims and subsequent claims that are dependent upon or incorporate those independent claims, there is a "presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim." Id. (citing Nazomi Comm'ns, Inc. v. Arm Holdings, PLC., 403 F.3d 1364, 1370 (Fed. Cir. 2005)). That is, "[u]nder the doctrine of claim differentiation, 'the presence of a dependent claim

that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.'" Reckitt Benckiser Inc. v. Watson Labs., Inc., 430 F. App'x 871, 877 (Fed. Cir. 2011) (quoting Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004)).

Here, the claims at issue in this construction are a combination of independent and dependent claims. For instance, the parties dispute the meaning of "outlet needle" in claims 1 and 2, where claim 1 is an independent claim and claim 2 is dependent upon claim one. See '343 patent, 36:20-57. Here, claim 1 covers a beverage brewer and cartridge combination in which the brewer has a cartridge holder, movable cover, a pump, an inlet needle, and two outlet needles. Id. at 36:23-33. Claim 2 covers the brewer and cartridge combination laid out in claim 1 and adds that "the inlet needle is mounted to the cover" and "the first outlet needle is located within the cartridge holder." Id. at 36:54-57. Because claim 2 has a more specific limitation that the outlet needle is located with the cartridge holder whereas independent claim 1 does not, there is a presumption that this limitation should not be read into claim 1. The doctrine of claim differentiation, however, is "a guide, not a rigid rule." Curtis-Wright Flow Control Corp., 438 F.3d at 1381 (quoting Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1538 (Fed. Cir. 1991)). Indeed, "[c]laim language must always be read in view of the written description, and any presumption created by the doctrine of claim differentiation 'will be overcome by a contrary construction dictated by the written description or prosecution history." Retractable Techs., Inc. v. Becton, Dickinson & Co., 653 F.3d 1296, 1305 (Fed. Cir. 2011) (internal citations omitted). Thus, while some of the claims leave open the possibility that "outlet needle" may be an element of another part of the brewer system outside of the cartridge holder, the remainder of the patent teaches otherwise. See Retractable Techs., Inc., 653 F.3d at 1305. As explained, the abstract and

the specification provide strong indications that the outlet needle is contemplated to be an element of the cartridge holder. See supra. Claim 13 of the '343 patent, an independent claim that does not rely upon or incorporate any of the other claims in the patent, further supports this reading. That claim teaches that the brewer has a cartridge holder that has a first outlet needle positioned within it. '343 patent, 38:18-21. For this reason, the Court's construction of outlet needle in this way does not offend the doctrine of claim differentiation. See Retractable Techs., Inc., 653 F.3d at 1305.

For the aforementioned reasons, the Court construes "outlet needle" to mean a hollow tube with a sharp end that is an element of the cartridge holder and provides a flow path for beverage to exit.

5. Fixed Piercing Location/Predetermined Piercing Location

Term	**Touch's Construction**	**Keurig's Construction**
Fixed/Predetermined Piercing Location	Fixed piercing location: Fixed place or area within the brewer where piercing occurs Predetermined piercing location: Predetermined place or area within the brewer where piercing occurs	No construction necessary

The parties dispute the meaning of the term "fixed piercing location" as it appears in every asserted claim of the '343 patent and claims 1, 2, 4-8 and 13-15 of the '150 patent. D. 97-1 at 5. The parties likewise dispute the meaning of the term "predetermined piercing location" as it appears in every asserted claim of the '151 patent and claims 1-7 of the '149 patent. Id.

Those claims generally use the terms "fixed piercing location" and "predetermined piercing location" in the same manner throughout the four patents. For instance, claim 1 of the '149 patent explains that the patent covers "[a] method of brewing a beverage . . . with a brewer having an

inlet needle, a first outlet needle, and a second outlet needle" wherein the device pierces the first beverage with the first outlet needle "at a first predetermined piercing location within the brewer" but does not pierce "the first beverage cartridge at a second predetermined piercing location within the brewer, that is vertically offset from the first predetermined piercing location." '149 patent, 33:25-44. Similarly, claim 1 of the '343 patents covers "[a] beverage brewer and cartridge combination" that can accommodate a first beverage cartridge and a taller second beverage cartridge wherein "the first outlet needle will pierce the first beverage cartridge at a first fixed piercing location within the brewer" if the first beverage cartridge is positioned within the cartridge holder and "the second outlet needle will pierce the second beverage cartridge at a second fixed piercing location within the brewer that is vertically offset from the first fixed piercing location" when the second beverage cartridge is in the cartridge holder. '343 patent, 36:23-53. Furthermore, Touch does not dispute Keurig's claim that a person of ordinary skill in the art would treat the terms "fixed piercing location" and "predetermined piercing location" as synonyms in the context of the Touch patents. D. 88 at 19. Indeed, Touch itself uses "fixed" and "predetermined" interchangeably. See D. 94 at 14. Accordingly, the Court holds that the terms are synonymous.

The crux of the dispute between Keurig and Touch centers on the construction of "location." While both parties also agree that the "fixed piercing location" or "predetermined piercing location" is where the outlet needle pierces the beverage cartridge, D. 87 at 18-20; D. 88 at 19, they diverge on their understanding of the scope of the location within which that piercing occurs. Touch construes "location" as a broad term such that there is a "fixed place or area within the brewer where piercing occurs," D. 87 at 18, whereas Keurig contends, in the first instance, that

no construction is necessary.[6] D. 88 at 19-20. Here, the Court agrees with Keurig that the terms "fixed piercing location" and "predetermined piercing location" do not require further construction. First, this definition comports with the ordinary meaning of the claim language. Nowhere in the claims is "fixed piercing location" or "predetermined piercing location" used in a way that is different from its ordinary and customary meaning or in a context such that a different meaning would be required. See, e.g., '343 patent, 36:38-39 (stating "the first outlet needle will have pierced the first beverage cartridge at a first fixed piercing location within the brewer").

Further, the remainder of the intrinsic evidence, including the language in the specification, does not overcome the presumption of assigning the ordinary meaning to this term. First, the specification includes language that further confirms that "fixed piercing location" or "predetermined piercing location" should have a narrow definition. Throughout the specification, the needles are described as "joined" or "coupled" to other parts of the brewer such that the needles are stationary and puncture in a "fixed piercing location" or "predetermined piercing location." See, e.g., '343 patent, 8:37-60, 10:8-17, 29:11-18, 34:50-35:2. Second, the fact "[t]hat claims are interpreted in light of the specification does not mean that everything expressed in the specification must be read into all of the claims." Teleflex, 299 F.3d at 1326 (quoting Raytheon723 F.2d at 957).

Touch argues that there are instances in the specification where the terms "space" or "target area" are used, see '343 patent, 13:16-18, 21:64-67, 22:9-11, such that "place or area" is consistent with the specification, D. 87 at 18-19. However, for terms to take on a more specific meaning, a patent-holder must clearly "express an intent to redefine the term." Hill-Rom Servs., 755 F.3d at

[6] Because the Court agrees with Keurig's primary contention that no construction is necessary, the Court does not reach Keurig's secondary construction of that term.

1371 (quoting Thorner, 669 F.3d at 1365). No such intent can be gleaned from the Touch patents. The three instances in the specification where "space" or "target area" are used do not compel the Court to construe "location" as "place or area" where the weight of the specification does not support such a construction. Touch's reliance upon extrinsic evidence—namely, an external interpretation of the patent—does not compel an alternative outcome.

Touch further suggests that the terms should be construed to indicate that the fixed or predetermined piercing location is "within the brewer." D. 87 at 18. Even if further refining the term would make the description more detailed, the terms "fixed piercing location" and "predetermined piercing location" need not be defined in this way because further "defin[ing] the claim and its inclusion would make the definition cumbersome." Integrated Prod. Servs., Inc. v. Prod. Control Servs., Inc., No. 11-cv-1034, 2013 WL 4647316, at *40 (S.D. Tex. Apr. 17, 2013). The fact that the piercing location is within the brewer is "evident from the claim language itself and need [not] be belabored further." Id. For instance, claim 1 in the '343 patent states "the first outlet needle will pierce the first beverage cartridge at a first fixed piercing location within the brewer." '343 patent, 36:38-39.

For the foregoing reasons, the Court determines that the terms "fixed piercing location" and "predetermined piercing location" do not require further construction.

B. Disputed Terms in Keurig's Patent

1. Means-Plus-Function Analysis

The parties agree that the two terms in dispute in the Keurig patent are "means-plus-function" terms pursuant to 35 U.S.C. § 112(f). D. 97-2 at 2. Section 112(f) "allows a patentee to express a claim limitation by reciting a function to be performed rather than reciting structure or materials for performing that function." Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346,

1350 (Fed. Cir. 2003). In essence, § 112(f) provides that a structure may be claimed as a "means . . . for performing a specified function" and that an act may be claimed as a "step for performing a specified function." Masco Corp. v. United States, 303 F.3d 1316, 1326 (Fed. Cir. 2002) (quoting 35 U.S.C. § 112(f)). When § 112(f) applies, it limits the scope of the functional term "to only the structure, materials, or acts described in the specification as corresponding to the claimed functions and equivalents thereof." Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (citing Northrop Grumman, 325 F.3d at 1350).

To construe a means-plus-function limitation, the Court must undergo a multi-step examination. First, the Court must make "a determination of the function of the means-plus-function limitation." Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc., 248 F.3d 1303, 1311 (Fed. Cir. 2001). Then, the Court must determine the corresponding structure in the written description—i.e. the specification and its equivalents thereof—for performing that function. Northrop Grumman, 325 F.3d at 1350 (citing Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258 (Fed. Cir. 1999)); Medtronic, 248 F.3d at 1311. An embodiment disclosed in the specification is only a "corresponding structure" if the specification or the prosecution history clearly associate that structure to the function in the claim. Id. When considering the construction of a means-plus-function limitation, the Court is not permitted to incorporate structures from the written description "beyond that necessary to perform the claimed function." Micro Chem., 194 F.3d at 1258.

2. Locating Means . . .

Term	**Touch's Construction**	**Keurig's Construction**
Locating means comprising at least one projection in one of the side walls of said cartridge and housing, said projection being configured and dimensioned to coact in mechanical interengagement with a complimentary depression in the other of said side walls to resist rotation of said cartridge within said housing	Function: Coacting in mechanical interengagement with a complimentary depression in the other of the side walls to resist rotation of said cartridge within said housing Structure: One or more inwardly protruding locking ribs (elements 300 and 301) on the housing sidewall that extends for virtually the length of the housing sidewall and that engages and interlocks with one or more complimentary depressions in the cartridge sidewall to rotatably fix the cartridge in a predetermined and repeatable orientation of the cartridge within the holder, or one or more outward projecting ribs (element 52b) or triangular-shaped bosses (element 52d) on the cartridge sidewall that extends along a portion of the cartridge sidewall and that engages and interlocks with one or more complimentary depressions in the housing sidewall to rotatably fix the cartridge in a predetermined and repeatable orientation of the cartridge within the holder	Function: Locating a cartridge within a housing and resisting rotation Structure: A projection in the side wall of a cartridge or housing, and a corresponding depression in the side wall of the other, examples of which are shown in Figures 3-9 and 11, and structural equivalents thereof

The parties dispute two terms within claim 5 of Keurig's '260 patent, the first of which states:

> [l]ocating means comprising of at least one projection in one of the side walls of said cartridge and housing, said projection being configured and dimensioned to coact in mechanical interengagement with a complimentary depression in the other of said side walls to resist rotation of said cartridge within said housing.

‘260 patent, 6:13-18 (hereinafter referred to as the term “locating means”). Both parties agree that this term is a “means-plus-function” limitation, D. 87 at 21-22; D. 88 at 26; D. 97-2 at 2, such that the Court must construe both the limitations’ functions and structures pursuant to 35 U.S.C. § 112(f).

In this instance, the parties initially disagreed on both the function and the corresponding structural limitations. Compare D. 87 at 21, with D. 88 at 28, and D. 95 at 19. Keurig, however, offered a secondary, alternative construction in which “locating means” served the two functions of “locating a cartridge within a cartridge housing” and “coacting in mechanical interengagement with a complementary depression in the other of said side walls to resist rotation of said cartridge within said housing.” D. 88 at 27 n.23. At the hearing, Touch explained that it took “no issue” with this second construction of the function of “locating means.” Hr’g Tr. at 66. To obtain a proper construction, the Court must incorporate both terms in its claim construction if it determines that both are “purely functional.” Baran v. Med. Device Techs., Inc., 616 F.3d 1309, 1317 (Fed. Cir. 2010) (citing Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1356 (Fed. Cir. 1999); Al–Site Corp. v. VSI Int’l, Inc., 174 F.3d 1308, 1318 (Fed. Cir. 1999)).

Here, the Court concludes that the intrinsic evidence supports the construction of the function to which the parties agree: “locating means” both works to locate the cartridge within the housing and coacts in mechanical interengagement to resist rotation of said cartridge within said housing. First, the claim language itself expressly covers dual functions. That is, the claim states that it encompasses a holder that first serves as a “locating means” for a cartridge in addition to providing the second function of “resist[ing] rotation” of the cartridge when it is in the housing of the apparatus. ‘260 patent, 6:13-18. Other language within the patent supports interpreting the claim language to include two distinct functions. For instance, the patent specification explains

that the holder has a locating function. It teaches that "the plural surface irregularities coact with the locating elements . . . to achieve a predetermined and repeatable orientation of the cartridge within the housing" as well as includes "recesses in the housing side walls [that] coact with the bosses in the cartridge side wall to orientate the cartridge within the housing in one of two possible positions." Id. at 2:11-14; 4:65-67. Separately, the patent specification explains that the holder also functions to resist rotation. For example, the abstract describes how the invention works such that "[r]otation of the cartridge within the housing is resisted by locating surfaces arranged to interengage with at least one surface irregularity in the cartridge sidewall." Id. at Abstract. As a result of both the claim language and further support in the specification, the Court concludes that "locating means" has two functions: (1) locating and (2) resisting rotation.

The Federal Circuit's reasoning in Baran v. Med. Device Techs., Inc. further compels this result. There, the appellant asserted that the district court committed error in construing that the relevant patent claim had two functions, a release function and a retention function, based upon the limitation "release means for retaining the guide in the charged position." Baran, 616 F.3d at 1316. The Federal Circuit concluded that the claim's "contemplated function is to retain for the express purpose of producing a . . . release on demand" such that the claim language tied the two functions—release and retention—to the same means-plus-function element and that this element, in turn, should be construed according to both functions. Id. at 1317. The same is true here. Here, the claim incorporates two functions together in a single means-plus-function element: the claim teaches that the structural elements of the holder function as both a locating means and a means by which the cartridge will not rotate into a different orientation. For these reasons, the Court adopts Keurig's alternative construction of the function of "locating means" to which Touch takes no issue. That is, the Court construes "locating means" to have a function of "locating a cartridge

within a cartridge housing and coacting in mechanical interengagement with a complementary depression in the other of said side walls to resist rotation of said cartridge within said housing."

Having determined the term's functions, the Court must now construe the corresponding structure that is claimed for performing said functions. Medtronic, Inc., 248 F.3d at 1311. Keurig contends that "a projection in the side wall of a cartridge or housing, and a corresponding depression in the side wall of the other, examples of which are shown in Figures 3-9 and 11 and structural equivalents thereof" is the structure that performs the dual functions of locating a cartridge and having that cartridge resist rotation. See D. 88 at 28.

The Court agrees that the term's structure must include at least one projection in the side wall of a cartridge or housing with a corresponding depression in the side wall of the other. First, the claim language supports this proposed structural definition and has no express contradictions. That is, both the claim language and the proposed construction have (1) a projection in the side wall of a cartridge or housing and (2) a complementary depression in the side wall of the other. See '260 patent, 6:13-18. Because "[a] means-plus-function claim encompasses all structure in the specification corresponding to that element and equivalent structures," Micro Chem., 194 F.3d at 1258, the Court must also examine the embodiments included in the '260 patent. Here, the figures included in the patent specification further reinforce that "locating means" is structured to include "a projection in the side wall of a cartridge or housing, and a corresponding depression in the side wall of the other." Reproduced in part below, the patent embodiments show multiple variations of the interlocking projection and depression structure. In Figure 6, for instance, the projections and depressions are shown as "internal grooves" in the sidewall of the housing with projecting ribs in the side wall of the cartridge, while Figure 9 depicts another embodiment of the

cartridge holder with “surface irregularities in the form of protruding somewhat triangular-shaped bosses.”

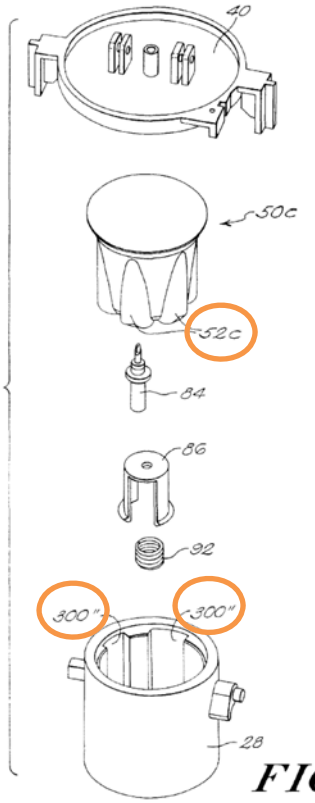


FIG. 6

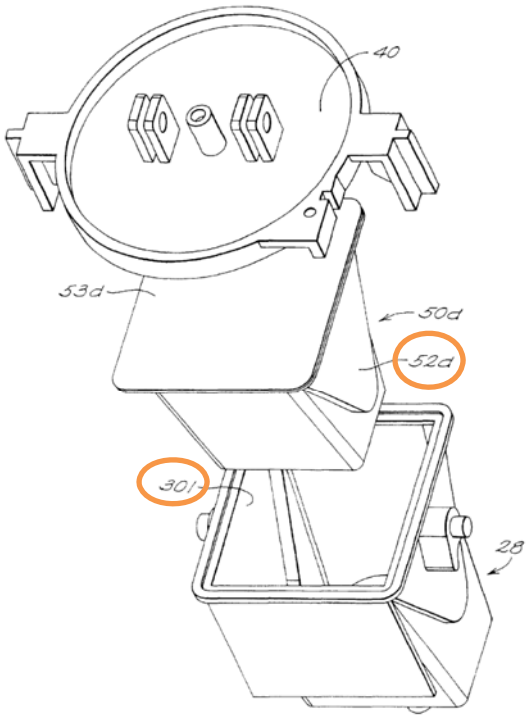
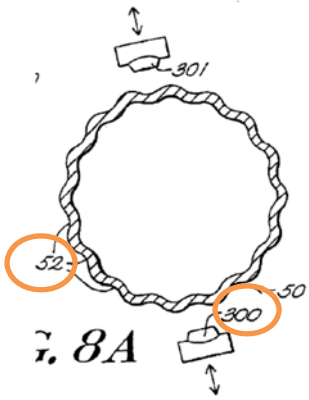


FIG. 9

Distinct from Figure 6 and Figure 9, Figure 8A shows a waved array of grooves that interlock with protruding notches. See ‘260 patent, 3:9-23.



7. 8A

That is, the embodiments show numerous formations of the “locating means” structure, each of which depict the claim’s covered function—to orient cartridges and to resist their rotation within

a housing. In turn, Keurig's construction—which necessitates a projection in the side wall of a cartridge or housing with a complementary depression in the side wall of the other—captures each of these distinct embodiments and their equivalents and thus covers the patent specification landscape in its proposed definition.

In addition to the claim language and the embodiments, the abstract and the specification language further support this construction. See Signtech USA, Ltd., 174 F.3d at 1356 (determining that it was appropriate that a court look at sources in the patent specification other than the preferred embodiment, such as "the background and summary of the invention sections of the specification," when construing the structure component of a means-plus-function limitation). The specification, for instance, explains that the covered projections and depressions encompass "any deviation from a smooth surface tha[t] can mechanically interengage with adjacent components or surfaces of the housing" and that the patent includes non-limiting examples of such surface irregularities. '260 patent, 3:9-23. The abstract also teaches that the structure "with at least one surface irregularity in the cartridge sidewall" serves the function of resisting rotation of the cartridge. Id. at Abstract. This is all to say that the entirety of the patent—the claim language, the specification language, the abstract and the included embodiments—all demonstrate that the first portion of Keurig's proposed construction is correct. Moreover, the patent language indicates that the structure that performs this function has no defined number of projections and depressions, but instead can include one, two or multiple surface irregularities. See, e.g., id. (noting that the rotation of the cartridge is resisted by "at least one surface irregularity"); id. at 1:61-65 (explaining that the present invention has "at least one and preferably a plurality of strategically placed surface irregularities"). For these reasons, the Court concludes that the structure that fulfills the "locating

means" function has "one or more projections in the side wall of a cartridge or housing, and corresponding depressions in the side wall of the other."

Although Keurig further contends that the "locating means" structure must also include "examples of which are shown in Figures 3-9 and 11 and structural equivalents thereof," the Court declines to adopt this portion of Keurig's proposed construction. First, the Court need not expressly include "structural equivalents thereof" in its construction because it is settled law that a means-plus-function claim necessarily covers both the structure as explained by the patent as well as any structural equivalents. See 35 U.S.C. § 112(f); Bateman v. Por-Ta Target, Inc., 155 F. App'x 511, 515-16 (Fed. Cir. 2005). Similarly, it is unnecessary to include a list of examples of figures in the structural construction of "locating means." As required, the Court has already incorporated an analysis of the relevant, disclosed figures in the patent to determine the appropriate structural construction. See, e.g., Micro Chem., 194 F.3d at 1258-59 (explaining that "[w]hen multiple embodiments in the specification correspond to the claimed function, proper application . . . generally reads the claim element to embrace each of those embodiments"); Voice Domain Techs., LLC v. Apple Inc., No. 13-cv-40138-TSH, 2015 WL 4638577, at *9 (D. Mass. Aug. 4, 2015) (instructing that the court must identify the corresponding structure by examining the written description and structures disclosed in the specification) (citing Williamson, 792 F.3d at 1346-47; Noah Sys., Inc. v. Intuit Inc., 675 F.3d 1302, 1318 (Fed. Cir. 2012)). As such, it is not necessary to include a list of these figures when those depictions have already informed the Court's construction. For these reasons, the Court will not include "examples of which are shown in Figures 3-9 and 11 and structural equivalents thereof" in its construction.

In opposition to Keurig, Touch asserts that the "locating means" structure must include:

> [o]ne or more inwardly protruding locking ribs (elements 300 and 301) on the housing sidewall that extends for virtually the length of the housing sidewall and

> that engages and interlocks with one or more complimentary depressions in the cartridge sidewall to rotatably fix the cartridge in a predetermined and repeatable orientation of the cartridge within the holder, or one or more outward projecting ribs (element 52b) or triangular-shaped bosses (element 52d) on the cartridge sidewall that extends along a portion of the cartridge sidewall and that engages and interlocks with one or more complimentary depressions in the housing sidewall to rotatably fix the cartridge in a predetermined and repeatable orientation of the cartridge within the holder.

D. 87 at 21. The Court does not construe the term "locating means" to have the structural limitations that Touch suggests. First, the patent specification describes the claimed structure in terms that are broader than those proposed by Touch. For example, Touch proposed construction includes only a limited number of specified surface irregularities in its construction. That is, Touch posits that the "locating means" structure includes either one or more protruding locking ribs, some other type of outward projecting ribs or triangular-shaped bosses with complementary depressions. The Court does not adopt such a construction when the patent teaches that any deviation from a smooth surface can be used to engage mechanically to resist rotation, '260 patent, Abstract, 3:9-23, and where the patent includes an embodiment where this structure is depicted as an array of waved grooves, id. at Figure 8A. Similarly, Touch's proposed construction also limits the structure further by positing that when the structure includes protruding locking ribs, those ribs must extend "for virtually the length of the housing sidewall." D. 87 at 21. Such a limitation is not warranted; the patent specification does not have such restrictive language. In fact, as highlighted above, the patent teaches that a surface irregularity "is intended to broadly encompass any deviation from a smooth surface" and makes no mention as to the required length of irregularity. See '260 patent, 3:14-23.

In addition, Touch's proposed construction of the structure requires that the projections and depressions that encompass surface irregularities that "rotatably fix the cartridge in a predetermined and repeatable orientation of the cartridge within the holder." When considering

the structure for a means-plus-function construction, the Court must limit its structural construction to the properties of the device which are necessary to performing the function. See Northrop Grumman, 325 F.3d at 1350; Medtronic, 248 F.3d at 1311. Here, it would be improper for the Court to include the "rotatably fix" language in the construction of the structure because doing so goes beyond the scope of the two functions of "locating means" in claim 5 of the '260 patent. The Court cannot adopt Touch's structural construction where, as here, that proposed definition includes language that does not support the delineated functions of locating the cartridge and coacting in mechanical interengagement for purposes of resisting rotation. For these reasons, the Court rejects Touch's suggested construction and instead construes "locating means" to have a structure as follows: "one or more projections in the side wall of a cartridge or housing, and corresponding depressions in the side wall of the other."

3. Means . . . for Piercing

Term	**Touch's Construction**	**Keurig's Construction**
Means associated with said housing and said lid for piercing said cartridge to accommodate a flow of said heated liquid through said cartridge to brew said beverage by infusion with said beverage medium	Function: piercing the cartridge to accommodate a flow of heated liquid through the cartridge to brew the beverage by infusion with the beverage medium Structure: the structures associated with the housing and the lid that are used to move the lid straight up and down between a raised ready position and a lowered beverage brewing position for piercing of the cartridge, wherein the structures include a linkage yoke (element 38) driven by an electric motor (element 37) through a pinion driven rack (element 39) to move the lid, vertical tracks (element 42) to guide the lid, and an inlet probe (element 126) to pierce the cartridge when the lid is in the lowered beverage brewing position	Function: piercing a cartridge to accommodate a flow of heated liquid through the cartridge to brew a beverage by infusion with a beverage medium Structure: a tubular probe, examples of which are shown in Figures 2A, 2C, 2D, and 11 and structural equivalents thereof, which is associated with said housing and said lid

The parties dispute the construction of a second term provided in claim 5 of the '260 patent. That is, the parties disagree on the "means-plus-function" limitation of the following term:

> [M]eans associated with said housing and said lid for piercing said cartridge to accommodate a flow of said heated liquid through said cartridge to brew said beverage by infusion with said beverage medium.

'260 patent, 6:20-24 (hereinafter referred to as the term "means . . . for piercing"); see D. 97-2 at 2, 4. Again, pursuant to 35 U.S.C. § 112(f), the Court must first define the limitation's function and then consider the structural limitations for performing that function.

First, the parties do not dispute the function of the term "means . . . for piercing." See D. 88 at 31. Indeed, there are no material differences between their two proposed constructions; the parties only differ as to the articles used, i.e. "a" versus "the." See id. Because Keurig asserts that there is no meaningful distinction between these two formulations, id., the Court adopts Touch's proposed definition of the function of "means . . . for piercing." Thus, the Court construes the function to be "piercing the cartridge to accommodate a flow of heated liquid through the cartridge to brew the beverage by infusion with the beverage medium."

Keeping this function in mind, the Court must now turn to construing the structural limitation of the term "means . . . for piercing." That is, the Court must determine which structures in the '260 patent correspond to the claimed function. Touch urges for certain elements to be incorporated into the structural limitation for "means . . . for piercing" such as the linkage yoke, the electric motor, the pinion driven rack and the vertical tracks, D. 87 at 27, but adopting such a limitation would be improperly restrictive. Under §112(f), the Court must consider a corresponding structure "only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." Northrop Grumman, 325 F.3d at 1352 (quoting B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed. Cir. 1997)). It is improper, however, for a court to "import into the claim features that are unnecessary to perform the claimed function." Id. (citing Acromed Corp. v. Sofamor Danek Grp., Inc., 253 F.3d 1371, 1382 (Fed. Cir. 2001)). Instead, "[f]eatures that do not perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations." Id. (collecting cases).

Here, Touch urges the Court to include claim limitations based upon disclosed structural features that do not perform the piercing function. Touch suggests that the construction should include the structures that assist with the lowering of the lid, such as the linkage yoke, the electric

motor, the pinion driven rack and the vertical tracks to guide the lid. See D. 87 at 28-29. These features, however, are not critical to the piercing function and importing more features than necessary to perform the function at issue would lead to an improper construction. See Northrup Grumman, 325 F.3d at 1352-54 (reversing construction which incorporated specification features that were not needed to accomplish the monitoring function in question); Icon-IP Pty Ltd. v. Specialized Bicycle Components, Inc., No. 12-cv-03844-JST, 2014 WL 1493665, at *5 (N.D. Cal. Apr. 16, 2014) (holding that the "end sections" were "unnecessary for performing the claimed functions" such that "they cannot be the corresponding structure"); Mass Engineered Design, Inc. v. Ergotron, Inc., No. 2:06-cv-00272, 2008 WL 3483906, at *1 (E.D. Tex. Aug. 7, 2008) (declining to alter its construction because the specification did not indicate that the structural elements proposed as limitations were necessary to the mounting function at issue). Neither the housing nor the lid pierce anything and so the additional elements included in Touch's proposed construction—the linkage yoke, the electric motor, the pinion driven rack and the vertical tracks—are also not structural elements necessary to perform the piercing function. The patent makes clear that those elements are needed for a movable lid, not for piercing. Indeed, the patent explains that "[t]he cartridge holder also includes a vertically moveable lid that is manipulated by a linkage yoke . . . driven by an electric motor through a pinion driven rack. The lid is guided along vertical tracks, between a raised ready position and a lowered beverage brewing position coacting with the housing." '260 patent, 2:65-3:3.

As an alternative to Touch's proposed definition, Keurig contends that the appropriate construction for "means . . . for piercing" corresponds to "a tubular probe, examples of which are shown in Figures 2A, 2C, 2D and 11, and structural equivalents thereof, which is associated with said housing and lid." D. 88 at 31. First, the Court agrees with Keurig that the structure that

accomplishes the necessary "piercing" consists of tubular probes associated with the housing and the lid. For one, the patent abstract indicates that the "[i]nlet and outlet probes pierce the cartridge and serve, respectively, to admit the heated liquid and to remove the served beverage." '260 patent, Abstract. This is reinforced by the summary of the invention, which explains that "[t]ubular probes associated with the lid and housing are arranged to pierce the thus confined cartridge to thereby accommodate a through flow of heated liquid for infusion with the beverage medium contained in the cartridge." Id. at 2:7-10. Figure 3 also supports this conclusion as it teaches that the housing has a bottom "through which protrudes an upwardly extending hollow exit probe." Id. at 3:24-26. Figures 2A, 2C, 2D and 11 further support the reading that tubular probes serve the piercing function. In describing Figures 2A through 2D, reproduced below, the patent teaches that an inlet probe carried by the lid, at position 126, and an outlet probe pierce the cartridge lid and base to accommodate a flow of heated liquid. Id. at 4:20-43.

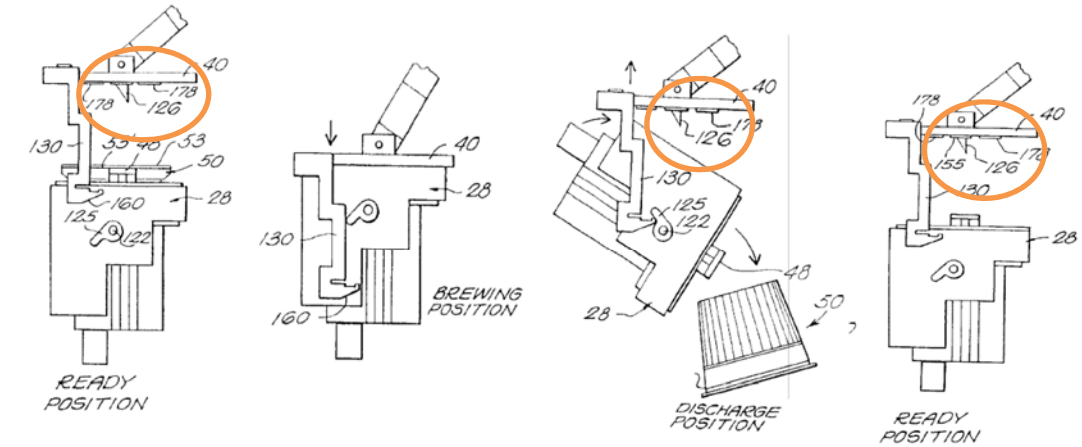


FIG. 2A FIG. 2B FIG. 2C FIG. 2D

Figure 11 provides further intrinsic evidence for this construction. That embodiment teaches that "[w]hen the cartridge is received in the housing . . . the cartridge is pushed downwardly . . . resulting in the cartridge bottom and lid being pierced, respectively, by inlet and outlet probes" at positions 126 and 84. Id. at 4:60-64.

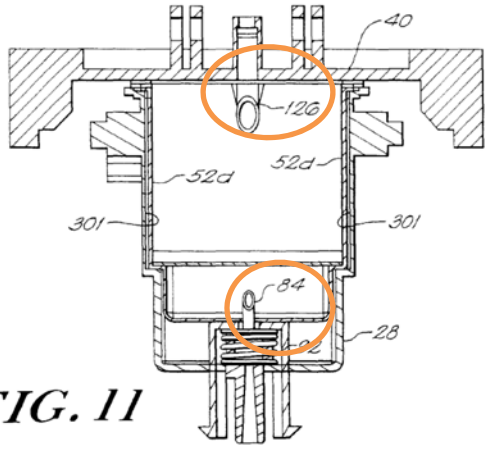


FIG. 11

As the specification language indicates and the embodiments delineate, tubular probes associated with the housing and the lid perform the function of piercing.

The patent further confirms that of the two or more tubular probes that perform the piercing function, the inlet probes are associated with the lid and the outlet probes are associated with the housing. With respect to the inlet probes, the specification teaches that the inlet probes are carried by the lid and are located over the cartridge lid. See id. at 4:24-25. Each disclosed figure that depicts the inlet probe confirms that this construction: Figures 2A, 2C, 2D and 11 depict the inlet probe at position 126 and each diagram has that inlet probe attached to the lid at position 40. In tandem, the patent makes clear that the outlet probe is associated only with the housing when it teaches that "the housing has a circular bottom through which protrudes an upwardly extending hollowing exit probe." Id. at 3:24-26. Likewise, all of the figures that depict the outlet probe demonstrate that it is linked to the housing. That is, Figures 3, 4, 6 and 11 all show the outlet probe at position 84, which is located within the housing at position 28. For these reasons, the Court construes the "means . . . for piercing" as comprising of "tubular probes, where the inlet probe is associated with the lid and the outlet probe is associated with the housing."

Keurig further asserts that the structure's construction should not only incorporate the tubular probes associated with the housing and the lid, but should also include "examples of which are shown in Figures 2A, 2C, 2D and 11 and structural equivalents thereof." The Court does not adopt this portion of Keurig's construction. For one, there is no need to state expressly that equivalents to the structural construction of "means . . . for piercing" are covered by the claim. It is already well-established that a means-plus-function claim covers both the structure as explained by the patent as well as any of its equivalent structures. See, e.g., Bateman, 155 F. App'x at 515-16; see 35 U.S.C. § 112(f). In addition, the Court does not include "examples of which are shown in Figures 2A, 2C, 2D and 11" in its construction either, since such a definition adds no more clarity to the construction adopted by the Court. It is not necessary to list example embodiments when those illustrations have already shed light on the proper structural construction. See Voice Domain Techs., LLC, 2015 WL 4638577, at *9 (citing Williamson, 792 F.3d at 1346-47; Noah Sys., Inc., 675 F.3d at 1318); MediaCom Corp. v. Rates Tech., Inc., 4 F. Supp. 2d 17, 26 (D. Mass. 1998) (explaining that, for means-plus-function constructions, "[r]eference to the specification . . . [is] necessary to identify the particular structure, material or acts claimed"). Thus, the Court will not include "examples of which are shown in Figures 2A, 2C, 2D and 11 and structural equivalents thereof" in its construction.

For the foregoing reasons, the Court construes "means . . . for piercing" as having a function of "piercing the cartridge to accommodate a flow of heated liquid through the cartridge to brew the beverage by infusion with the beverage medium" via "tubular probes, where the inlet probe is associated with the lid and the outlet probe is associated with the housing."

VI. Conclusion

For the reasons already provided, the disputed claim terms in Touch's patents are construed as follows:

1. The term "beverage ingredient" or "beverage grind" means "an ingredient to brew a beverage."
2. The term "vertically offset" means "spaced above or below."
3. The term "needle" means "a hollow tube with a sharp end that pierces."
4. The term "outlet needle" means "a hollow tube with a sharp end that is an element of the cartridge holder and provides a flow path for beverage to exit."
5. The terms "fixed piercing location" and "predetermined piercing location" do not require further construction.

Also as to certain claims in the Touch patents, the Court also adopts the agreed-upon construction of "longitudinally extending discontinuity" to mean "a break in continuity of the cartridge sidewall along at least part of the sidewall length."

The Court construes the disputed claim terms in Keurig's patent as follows:

1. The term "locating means" has a dual function of "locating a cartridge within a cartridge housing and coacting in mechanical interengagement with a complementary depression in the other of said side walls to resist rotation of said cartridge within said housing" with a corresponding structure of "one or more projections in the side wall of a cartridge or housing, and corresponding depressions in the side wall of the other."

2. The term "means . . . for piercing" has a function of "piercing the cartridge to accommodate a flow of heated liquid through the cartridge to brew the beverage by infusion with the beverage medium" with a corresponding structure comprised of

"tubular probes, where the inlet probe is associated with the lid and the outlet probe is associated with the housing."

So Ordered.

/s/ Denise J. Casper
United States District Judge