

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA**

ALTRIA CLIENT SERVICES LLC and)	
U.S. SMOKELESS TOBACCO)	
COMPANY LLC,)	
)	
Plaintiffs,)	
v.)	1:20CV472
)	
R.J. REYNOLDS VAPOR COMPANY)	
and MODORAL BRANDS, INC.,)	
)	
Defendants.)	

MEMORANDUM OPINION

This suit arises from a dispute between Plaintiffs Altria Client Services LLC and U.S. Smokeless Tobacco Company LLC (collectively “Altria”) and Defendants R.J. Reynolds Vapor Company and Modoral Brands, Inc. (collectively “Reynolds”) regarding nine of Altria’s patents – each relating either to the design of e-cigarettes or packaging of tobacco products. The matter is currently before the Court for claim construction.

I.

Altria asserts claims for patent infringement against Reynolds relating to U.S. Patent No. 10,143,242 (‘242 Patent), U.S. Patent No. 10,264,824 (‘824 Patent), U.S. Patent No. 10,299,517 (‘517 Patent), U.S. Patent No. 10,485,269 (‘269 Patent), U.S. Patent No. 10,492,541 (‘541 Patent), U.S. Patent No. 10,588,357 (‘357 Patent), U.S. Patent No. 7,798,319 (‘319 Patent), U.S. Patent No. 8,458,996 (‘996 Patent), and U.S. Patent No. 8,556,070 (‘070 Patent). The

'242 Patent and '824 Patent are referred to collectively as the "Weigensberg Patents". The '517 Patent, '269 Patent, '541 Patent, and '357 Patent are referred to collectively as the "Hawes Patents". The '319 Patent, '996 Patent, and '070 Patent are referred to collectively as the "Bried Patents".

In its Amended Complaint [Doc. #46], Altria alleges that Reynolds has infringed and is infringing claims 1-6 and 8-9 of the '242 Patent; claims 1, 3-7, 9-10, 12-16, and 18 of the '824 Patent; claims 1-3, 5, 7-8, and 10 of the '517 Patent; claim 19 of the '269 Patent; claim 24 of the '541 Patent; claims 1-3, 5, 7-8, and 10-15 of the '357 Patent; claims 17-20, 22-23, and 25-26 of the '319 Patent; claims 1, 4, and 5 of the '996 Patent; and claims 1-6, 8, 10-22, and 25-28 of the '070 Patent.

The parties submitted opening claim construction briefs and responsive claim constructive briefs. (See Defs.' Opening Claim Construction Br. ("Defs.' Opening Br.") [Doc. #52]; Plaintiffs Altria Client Services LLC and U.S. Smokeless Tobacco Company LLC's Opening Claim Construction Brief ("Pls.' Opening Br.") [Doc. #53]; Plaintiffs Altria Client Services LLC and U.S. Smokeless Tobacco Company LLC's Responsive Claim Construction Brief ("Pls.' Responsive Br.") [Doc. #55]; Defs.' Responsive Claim Construction Brief ("Defs.' Responsive Br.") [Doc. #56].) First, Reynolds contends that the terms "non-hermetic seal" in the Bried Patents and "the cartridge" in the '824 Patent are indefinite. Next, the parties seek construction of the terms "bead" and "continuous bead", "tobacco product", and "connection rim" in the Bried Patents; "air-flow sensor" and "mouthpiece" in the

Weigensberg Patents; and “front face” and “rear face” in the Hawes Patents. Atria additionally seeks construction of the phrase “a plurality of electrical contacts having respective planar surfaces at the upstream end face” in the Hawes Patents, but Reynolds contends no construction is necessary. A claim construction, or Markman, hearing was held on April 28, 2021.

II.

Reynolds’ indefiniteness challenges are addressed first. “[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 901 (2014) (internal quotations and citation omitted). “The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable.” Id. at 910.

A.

Reynolds contends that the term “non-hermetic seal” in the Bried Patents – which pertain to packaging – is indefinite. (See, e.g., Defs.’ Opening Br. at 8-10; Tr. Markman Hearing 22:8- 35:21.) The term is found in claims 17 and 25 of the ‘319 Patent, claim 1 of the ‘996 Patent, and claims 1, 4, 17, 19, and 27 of the ‘070 Patent.

The parties agree that, for the Bried Patents, a person of ordinary skill in the art (sometimes referred to as “POSA”) “would have had at least a bachelor’s degree in material science, packaging science, chemical engineering, food science

or a similar discipline, and he or she would have had two years of industry experience in research, development, and/or manufacture of packaging for consumable products.” (Tr. Markman Hearing 22:14-22.) The parties also agree that this person “could have perhaps more formal education and less experience or more experience in the industry and so there can be a balance”. (Id. at 23:3-8.)

The crux of Reynolds’ argument is as follows: because hermetic seals are not necessarily perfect seals and the Bried Patents “similarly describe that ‘the *non*-hermetic seal can provide a limited amount of gas exchange’ and the use of a ‘*non*-hermetic seal so that at least some of the evolved gases can escape from the container to relieve the pressure therein’”, “[a] person seeking to avoid infringement would not know how much air is permitted to enter or exit.” (Defs.’ Opening Br. at 9 (quoting ‘319 Patent 3:32-33, 3:40-42); see also id. (“There is no explanation for what a ‘limited’ or ‘some’ amount of gas exchange might mean with respect to a ‘non-hermetic seal,’ to distinguish such a seal from a ‘hermetic’ seal.”))

Altria responds that the claims and specification “provide a definite meaning for the term”, (Pls.’ Opening Br. at 13-14 (citing ‘319 Patent 1:41-48, 2:18-20, 3:32-36, 4:65-5:2, 8:21-24, 9:15-20)); see also Tr. Markman Hearing 35:25-38:6), and that the “extrinsic evidence confirms that the term ‘non-hermetic’ would have been well understood by a POSA”, (Pls.’ Opening Br. at 13-14). Altria also notes Reynolds’ apparently contradictory position in its Inter Partes Review (“IPR”) petitions where it did not argue the term is indefinite. (Id. at 14. But see Tr.

Markman Hearing 19:20-23 (acknowledging that counsel could not cite any legal authority about the significance of Reynolds' differing positions before the IPR and the Court).)

As expressed at the Markman hearing, were the term "hermetic seal" in question, there may very well be a problem of indefiniteness, especially in light of Reynolds' proposed definition of that term. (See Tr. Markman Hearing 31:6-21.) However, the term "non-hermetic seal" as used in the Bried Patents does not suffer the same fate; the "claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty", Nautilus, 572 U.S. at 910. The '319 Patent claims a "tobacco product package device, comprising", among other things,

a resilient gasket in engagement with an interior surface of the lid wall to provide a moisture barrier and a non-hermetic seal between the lid and the container when the lid is secured to the container, the resilient gasket abutting with the connection rim of the container when the lid is secured to the container, wherein the moisture barrier inhibits the migration of moisture to and from the container when the lid is secured to the container, and wherein the non-hermetic seal permits gas exchange between ambient air and interior space when the lid is secured to the container.

('319 Patent 20:39-49 (claim 17).) Claim 22 also describes the resilient gasket as "provid[ing] the non-hermetic seal such that a portion of gases arising from biological or chemical changes of the organic product stored in the container exit from the container along a path bordered by the resilient gasket." (20:66-21:3.) And, claim 25 describes "the non-hermetic seal [as] permit[ting] venting of byproduct gases from the container while the lid is releasably engaged with the

container.” (22:1-3; see also ‘996 Patent (claims 1, 4, 5); ‘707 Patent (claims 1, 2, 4, 11, 12, 16, 17, 19, 20, 27).) A person of ordinary skill in the art would, with reasonable certainty, understand that the non-hermetic seal allows an interchange of gases while being a moisture barrier.

The specification confirms this understanding. For example,

the gasket of the tobacco product package device can be arranged between a container and a lid to provide a non-hermetic seal. In such circumstances, the non-hermetic seal can provide a limited amount of gas exchange with the ambient air while maintaining control over the egress of moisture, volatile flavors, or both (from the orally consumed tobacco product) out of the container. For example, in some embodiments, the container may retain some natural organic products that can at least partially change (biologically or chemically) during the product shelf life (when the lid is not opened), thereby raising the gaseous pressure in the container. The tobacco product package device can provide the non-hermetic seal so that at least some of the evolved gases can escape from the container to relieve the pressure therein. In addition, the non-hermetic seal may permit a limited amount of air (e.g., including oxygen) to ingress into the container, thereby reducing oxidation of the material therein. . . . Moreover, the gasket can provide the aforementioned gas exchange while continuing to provide the moisture barrier for improved control over the egress of the moisture from the moist snuff tobacco product (or the ingress of moisture into the dry tobacco products).

(‘319 Patent 3:30-55; see also, e.g., id. 1:41-48, 2:19-20, 4:65-5:2, 5:57-6:16, 7:19-36, 8:12-30; see generally ‘996 Patent, ‘070 Patent.) While Reynolds argues that a person of ordinary skill in the art would not know how much gas is exchanged through the non-hermetic seal and, therefore, the term is indefinite, the Supreme Court “recogniz[es] that absolute precision is unattainable,” Nautilus, Inc., 572 U.S. at 910.

B.

Reynolds also contends that the term “the cartridge” in claims 1 and 10 of the ‘824 Patent is indefinite. (Defs.’ Opening Br. at 28-30; Tr. Markman Hearing 8:3-12:10.) For the Weigensberg Patents, the parties agree that a person of ordinary skill in the art “is someone with at least a bachelor’s degree in mechanical engineering, electrical engineering, chemistry or physics or related fields, with several years of relevant industry experience, and that such person of ordinary skill in the art would have been familiar with electrically powered vaporizing articles, their components or the underlying technologies.” (Tr. Markman Hearing 108:6-109:3.)

Reynolds’ argument is that there is no antecedent basis for the reference to the cartridge because, for example, claim 1 recites a “cartridge assembly” and a “cartridge portion” but no recitation of “a cartridge” or any cartridge to which “the cartridge” would refer. (Defs.’ Opening Br. at 28-29 (citing In re Downing, 754 F. App’x 988, 996 (Fed. Cir. 2018) & Bushnell Hawthorne, LLC v. Cisco Sys., Inc., 813 F. App’x 522, 526 (Fed. Cir. 2020)).) And, according to Reynolds, “the cartridge” in claim 10 lacks an antecedent basis for the same reasons. (Id. at 29-30.) Therefore, says Reynolds, “it is not clear what cartridge or cartridge assembly or cartridge portion they are referring to.” (Tr. Markman Hearing 10:12-15.)

Altria responds that “a POSA would have understood the meaning of ‘the cartridge’ as claimed in the ‘824 Patent with reasonable certainty” because the specification uses “‘cartridge’ interchangeably with ‘cartridge portion,’

'cartomizer,' and 'cartomizer portion'", "consistently describes the cartridge as the disposable portion of the e-cigarette comprising the atomizer and e-liquid", and "explains that the cartridge may be coupled to a mouthpiece". (Pls.' Opening Br. at 15 (citing '824 Patent 2:46-49, 3:49-50, 3:59-62, 4:32-34, 4:38-40, 4:48-49, 8:6-10 and In re Downing); see also Tr. Markman Hearing 12:13-19:24.) At the hearing, Altria also argued that the prosecution history shows that the examiner "recognized and used the term cartridge portion and cartridge synonymously" and "understood that these terms could be used synonymously" in claim 1. (Tr. Markman Hearing 13:17-24; see also Pls.' Responsive Br. at 8.) In addition, as with non-hermetic seal, Altria noted that Reynolds did not contend that the term is indefinite when it petitioned the IPR. (Id. 19:1-11. But see id. 19:20-23 (acknowledging that counsel could not cite any legal authority about the significance of Reynolds' differing positions before the IPR and the Court).)

The term "the cartridge" is not indefinite. Although the lack of an antecedent basis may make the meaning of a word unclear, it "does not render a claim indefinite as long as the claim 'apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by [§ 112 ¶ 2].'" In re Downing, 754 F. App'x at 996 (quoting Manual of Patent Examining Procedure § 2173.05(e)) (alteration in original). The specification explains that the term "the cartridge" is synonymous with cartomizer and cartomizer portion. ('824 Patent 3:49-50, 3:60-62, 4:38-40.) Here, a person of ordinary skill in the art would, with reasonable certainty, be informed of the scope of the invention.

III.

The determination of patent infringement requires two steps. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 391 (1996). First, the “meaning and scope of the patent claims asserted to be infringed” must be determined. Id. Second, the properly construed claims must then be compared to the product that is accused of infringing. Id. Because the first step, an assessment of the meaning and scope of the patent claims, is a matter of law, it is the duty of the district court to make the determination. Id.

The procedure that the district court takes when determining a claim construction is well known. The first step is an examination of the intrinsic evidence which includes: (1) the language of the claims themselves, (2) the patent’s specification, and (3) the patent’s prosecution history. Markman, 52 F.3d at 979. The intrinsic evidence is the “most significant source of the legally operative meaning of the disputed claim language.” Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Thus, a district court should “[f]irst . . . look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention.” Id. “[C]laims are of primary importance, in the effort to ascertain precisely what it is that is patented.” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotations and citation omitted). “The words of a claim are generally given their ordinary and customary meaning” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” Id. at 1312-13

(internal quotations and citations omitted). Claims “provide substantial guidance as to the meaning of particular claim terms”; “the context in which a term is used in the asserted claim can be highly instructive.” Id. at 1314. In addition, “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.” Id.

Because “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent,” the court is then to look to the specification of the patent which contains a written description of the invention. Id. at 1313. Although the claims define the invention, the specification “is always highly relevant” and is often “the single best guide to the meaning of a disputed term.” Id. at 1315. “[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess” and “may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.” Id. at 1316.

Finally, the prosecution history, which “consists of the complete record of the proceedings before the PTO [United States Patent and Trade Office] and includes the prior art cited during the examination of the patent”, should be considered by the court if it is in evidence. Id. at 1317. “[L]ike the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent”, but “it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” Id. Furthermore, “[a]lthough the

prosecution history can and should be used to understand the language used in the claims, it . . . cannot ‘enlarge, diminish, or vary’ the limitations in the claims.”

Markman, 52 F.3d at 980 (quoting Goodyear Dental Vulcanite Co. v. Davis, 102 U.S. 222, 227 (1880)).

When the intrinsic evidence fails to resolve the ambiguity in the disputed term, extrinsic evidence may be considered.¹ See, e.g., Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1216 (Fed. Cir. 1995 (“Extrinsic evidence may also be considered, if needed to assist in determining the meaning or scope of technical terms in the claims.”); Vitronics Corp., 90 F.3d at 1583 (explaining that it is only proper to rely on extrinsic evidence if the analysis of the intrinsic evidence fails to resolve the ambiguity in the disputed claim term). Extrinsic evidence includes evidence outside of the patent and its prosecution history, such as expert testimony, the inventor’s testimony, dictionaries, and learned treatises. Markman, 52 F.3d at 980-81 (suggesting this is not an exhaustive list and that any evidence that is helpful may be admitted as extrinsic evidence). However, if this evidence is necessary, it can only be used by the court to aid its understanding of the patent, and not to vary or contradict the terms as used in the claims. See id. at 981; Vitronics Corp., 90 F.3d at 1582 (“Allowing the public record to be altered or changed by extrinsic evidence . . . such as expert testimony, would make [the

¹ Here, the parties cite extrinsic evidence in further support of their positions. Where a claim can be construed using only intrinsic evidence, the cited extrinsic evidence is not assessed.

public's right to rely on the public record] meaningless."); Southwall Tech. Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed. Cir. 1995) ("A patentee may not proffer an interpretation for the purposes of litigation that would alter the indisputable public record consisting of the claims, the specification and the prosecution history").

A.

Anticipating that "non-hermetic seal" may not be indefinite, Reynolds proposes construing it to mean "a seal that allows at least some of the gases created by the tobacco product to escape the container to relieve pressure." (Defs.' Opening Br. at 8.) Altria argues that the term should be given its plain and ordinary meaning. (Pls.' Opening Br. at 12-14.) As noted above, the term is used in claims 17 and 25 of the '319 Patent, claim 1 of the '996 Patent, and claims 1, 4, 17, 19, and 27 of the '070 Patent. For the reasons explained in § II.A., a person of ordinary skill in the art² would understand the term "non-hermetic seal" to mean: **a seal designed to suppress the ingress and egress of moisture but allow the ingress and egress of gases.**

B.

Next, the parties seek construction of the terms "bead" and "continuous bead" that appear in claim 20 of the '319 Patent and claims 5, 13, and 22 of the '070 Patent. Altria proposes defining "bead" as "a rim or band that projects from

² See supra at 3-4 (defining a person of ordinary skill in the art for the '319, '070, and '996 Patents).

a surface” and “continuous bead” as “an uninterrupted rim or band that projects from a surface”. (Pls.’ Opening Br. at 17; see also Tr. Markman Hearing 55:19-61:9.) Reynolds favors construing “bead” as “a projecting circumferential ring” and “continuous bead” as “a continuous projecting circumferential ring”. (Defs.’ Opening Br. at 10.; see also Tr. Markman Hearing 49:2-50:7, 54:1-55:17.)

Altria argues that neither the claims nor the specification limits the term “bead” to a “circumferential ring”, and it provides a dictionary definition in further support. (Pls.’ Opening Br. at 17-19.) Reynolds relies on the specification’s references to “bead” as a “locking ring” and the so-called “circumferential rings” of all of the figures. (Defs.’ Opening Br. at 10.) In further support, it directs the Court to extrinsic evidence including industry glossaries and other device package patents. (Id. at 10-11.)

The independent claims of the ‘319 Patent recite “a generally cylindrical side wall”. (19:19-20, 20:31 (claims 1, 17).) The patent also describes “the skirt of the lid comprises a continuous bead that mates with a discontinuous bead on the connection rim of the container to provide at least one of a snap-fit engagement and a slide-lock engagement.” (20:58-61 (claim 20).) The independent claims of the ‘070 Patent recite “a side wall being outwardly convexly curved away from the interior space”. (19:19-20, 19:50-51, 20:55-56 (claims 1, 4, 19).) The patent also recites “the skirt of the lid comprises a continuous bead that mates with a corresponding bead on the connection rim of the container to provide the snap-fit engagement”, (20:3-6 (claim 5); see also claim 22), and “the skirt of the lid

comprises a bead that mates with a bead of the connection rim of the container to provide the snap-fit engagement that urges the gasket into abutting contact with the connection rim of the container.” (20:31-35 (claim 13).) Nothing in the claim language of either patent limits the bead to a circumferential ring, as Reynolds proposes.

The specification confirms this. Although Figures 1A-C appear to support Reynolds’ construction, those figures “are perspective views of a tobacco product package device, in accordance with some embodiments”, which “are to be considered illustrative rather than limiting.” (’319 Patent 4:12-17 (emphasis added); ’070 Patent 4:22-27.) “The specification need not describe every embodiment of the claimed invention, and the claims should not be confined to the disclosed embodiments – even when the specification discloses only one embodiment”. Woods v. DeAngelo Marine Exhaust, Inc., 692 F.3d 1272, 1283 (Fed. Cir. 2012) (internal citations omitted).

The prosecution history for the ’070 Patent includes prior art with “an external peripheral bead” and “an optional snap bead”, neither of which is a circumferential ring. (Exs. 27 & 28, Pls.’ Responsive Br. [Docs. # 55-3, 55-4].)

Therefore, a person of ordinary skill in the art would understand the term “bead” to mean: **a rim or band that projects from a surface** and “continuous bead” to mean: **a rim or band that projects uninterrupted from a surface around the perimeter.**

C.

The parties dispute the meaning of a related term in the Bried Patents – “connection rim”, which appears in claim 17 of the ‘319 Patent, claim 1 of the ‘996 Patent, and claims 1, 4, 13, and 19 of the ‘070 Patent. Altria argues that the term should be given its plain and ordinary meaning, (Pls.’ Opening Br. at 22; Tr. Markman Hearing 61:10-62:6), while Reynolds proposes defining the term as the “circular portion of the container that mates with the lid”, (Defs.’ Opening Br. at 6; Tr. Markman Hearing 50:5-53:21).

Altria contends that the term “is easily understandable to a POSA and the jury” and that Reynolds “seeks to import an extraneous limitation” that is neither in the claim language nor the specification. (Pls.’ Opening Br. at 22.) According to Reynolds, the “specification consistently describes” the connection rim as circular and dictionary definitions of “rim” confirm its proposed construction. (Defs.’ Opening Br. at 7-8.)

Not only is there nothing in the claims that requires the rim to be circular as Reynolds proposes, but such a construction is inconsistent with claims that recite “at least a portion of the side wall being outwardly convexly curved away from the interior space”. (‘070 Patent Cls. 1, 4, 17, 19; see also ‘996 Patent Cl. 1.) Furthermore, just as with “bead”, the specification does not support a circular limitation. See Wood, 692 F.3d at 1283. The embodiments and figures in the Bried Patents are illustrative only, and the figures provide views of the tobacco package device “in accordance with some embodiments.” (E.g., ‘319 Patent 4:16-

17.) And, as with “bead”, the prosecution history of the ‘070 Patent confirms this assessment. The prior art discloses a rim that is not circular, but “is an attach[ed] surface running around the periphery of the tub-shaped receptacle.” (Exs. 27 & 29, Pls.’ Responsive Br. [Docs. # 55-3, 55-5].)

Therefore, a person of ordinary skill in the art would understand “connection rim” to mean: **rim of container from which the interrupted or discontinuous bead projects.**

D.

The parties also seek construction of the term “tobacco product” in the Bried Patents, which is found in claim 17 of the ‘319 Patent, claim 1 of the ‘996 Patent, and claims 1, 4, and 19 of the ‘070 Patent. Altria proposes defining the term as “a product made or derived from tobacco, including whole, shredded, cut, cured, aged, fermented, pasteurized, pouched, or otherwise processed tobacco or portions of leaves, flowers, roots, terms of extracts thereof or any member of the genus *Nicotiana*”. (Pls.’ Opening Br. at 20; Tr. Markman Hearing 41:16-44:18.) Reynolds contends the term means “a product that contains tobacco”. (Defs.’ Opening Br. at 5; Tr. Markman Hearing 44:23-48:17.) Altria describes “[t]he question for the Court” as “whether a product having tobacco extract (e.g., nicotine) is a ‘tobacco product.’” (Pls.’ Opening Br. at 20.)

In support of its proposed construction, Altria relies on the patents’ specification, as well as the definition of “tobacco” in the dictionary and the definition of “tobacco product” in legislation that became law in 2009. (Id. at 20-

21.) Reynolds contends that the specification teaches that “tobacco product” contains “tobacco” which “can include additional constituents”, but that “every embodiment or example in the Bried patents contains tobacco” and dictionaries support its construction. (Defs.’ Opening Br. at 5-6; see also Tr. Markman Hearing 46:12-14 (Q: “What your argument is, ‘include’ means in addition to, and not can be simply an extract?” A: “That is correct.”).)

The specification supports Altria’s proposed construction. It provides the following:

Although the particular embodiment depicted in FIGS. 1A-C illustrate the tobacco product in the packaging device **100** as being a moist snuff tobacco product, it should be understood from the description herein that any one of a number of tobacco products can be retained in the package device **100**. For example, the tobacco product arranged in the package device **100** may comprise chewing tobacco, dry snuff tobacco, moist snuff tobacco (loose, pouch, or other articulations), or another smokeless tobacco product. The tobacco product can include tobacco that is whole, shredded, cut, cured, aged, fermented, pasteurized, pouched, or otherwise processed. In some embodiments, the tobacco contained in the package device **100** may include portions of leaves, flowers, roots, stems, or extracts thereof of any member of the genus *Nicotiana*. Further, the tobacco may include an extract of tobacco that provides additional tobacco constituents (e.g., flavors, aromas, alkaloids, or the like). In some embodiments described here, the tobacco product may include one or more components such as flavor extracts, flavor masking agents bitterness receptor sit blockers, receptor sit enhancers, sweeteners, and additives such as chlorophyll, minerals, botanicals, or breath-freshening agents.

(’319 Patent 6:54-7:8; see also ’996 Patent 6:60-7:14, ’070 Patent 6:63-7:17.)

The specification teaches that “include” does not limit “tobacco product.”

Therefore, a person of ordinary skill in the art would understand the term “tobacco product” to mean: **a product made or derived from tobacco, including whole, shredded, cut, cured, aged, fermented, pasteurized, pouched, or otherwise processed tobacco or portions of leaves, flowers, roots, stems, or extracts thereof of any member of the genus *Nicotiana*.**

E.

The parties also seek construction of the term “air-flow sensor” in claim 1 of the ‘242 Patent. Altria proposes defining the term as “a device that senses either the absolute value or a change in the physical quantity indicating the presence of airflow”. (Pls.’ Opening Br. at 23; Tr. Markman Hearing 64:17-69:18.) Reynolds defines the term as a “sensor that detects air flowing past it”. (Defs.’ Opening Br. at 25; Tr. Markman Hearing 69:19-72:5.)

Altria believes the specification shows that “an airflow sensor can measure airflow indirectly by measuring, for example, a pressure drop”, which Altria contends is confirmed by the dictionary definition. (Pls.’ Opening Br. at 23-24.) On the other hand, Reynolds argues that Altria’s proposed construction is not supported by the claim language itself which “recites only an ‘air-flow sensor,’ meaning just that – a sensor that detects air flow” and that the specification distinguishes between a flow sensor and a pressure differential sensor. (Defs.’ Opening Br. at 26-27.) At the Markman hearing, Altria’s counsel responded to Reynolds’ statement in its opening brief that an air flow sensor is a sensor that detects air flow by saying, “We don’t dispute that, Your Honor. We don’t have a

problem with that definition. We think it's fine." (Tr. Markman Hearing 66:8-14; see also Pls.' Responsive Br. at 19-20.) When Reynolds' counsel was asked if he would have a "problem with a sensor that detects airflow", he responded, "A sensor that detects airflow, Your Honor, that's fine". (Tr. Markman Hearing 71:16-19. But see id. at 71:19-22 (Counsel: "[B]ut I think it is separate and distinct from a pressure sensor". Court: "We may look at that a little differently.").)

As Reynolds notes, the term "air-flow sensor" is only found in the claim language. But, the specification teaches that among the "[n]on-limiting and non-exhaustive embodiments" is the following: "The controller **102** may be activated due to air flow **108** (from the inhaled air) passing a flow sensor **104**. The sensor **104** may be activated by the pressure drop across the sensor" ('242 Patent 1:67-2:1, 4:17-20.) Although "[t]here may be a pressure differential sensor which may be enclosed in a plastic holder and may be part of or separate from the flow sensor **104**", (id. 4:23-25), importing such a limitation to the construction of "air-flow sensor" is not permitted under these circumstances.

Therefore, a person of ordinary skill in the art³ would understand the term "air-flow sensor" to mean: **a device that detects the flow of air.**

F.

Next, the parties seek construction of the term "mouthpiece" in claim 1 of the '242 Patent and claims 1 and 10 of the '824 Patent. Altria relies on what it

³ See supra at 7 (defining a person of ordinary skill in the art for the '242 and '824 Patents).

believes to be the term's plain and ordinary meaning, (Pls.' Opening Br. at 25; Tr. Markman Hearing 77:13-80:24), while Reynolds proposes construing the term as the "portion where a user places their mouth", (Defs.' Opening Br. at 22; Tr. Markman Hearing 72:12-77:12).

According to Altria, the claims recite a mouthpiece, not a mouth portion as Reynolds proposes, and the specification, specifically Figures 8 and 9, and extrinsic evidence confirm this. (Pls.' Opening Br. at 25-26.) On the other hand, Reynolds reads the specification to show that "the mouthpiece is where the user inhales vapor and where a user can receive flavor using their mouth, lips, tongue, or teeth", a definition confirmed by dictionaries. (Defs.' Opening Br. at 22-25.)

The '242 Patent claims "a mouthpiece connected to the cartridge, the mouthpiece being attached to an outer surface of the cartridge, and an end region of the cartridge extending into the mouthpiece such that the mouthpiece surrounds at least a portion of the end region of the cartridge." (9:20-10:3; see also '824 Patent 9:16-22, 10:16-21.) The specification teaches that "inhaled and exhaled gas flows **108** through the cartomizer **113** and through mouthpiece **501**", "[i]n one embodiment, the flavor booster **602** is a mouthpiece extension is added to the exterior of the cartomizer and becomes a point of contact with the lips of the smoker", in "an exemplary mouthpiece embodiment . . . [t]he cartomizer **113** may be coupled with a removable mouthpiece **802**" and "[t]he mouthpiece **802** may attach to the cartomizer **113** and provide flavor enhancement", in "an exemplary mouthpiece embodiment . . . [a] chamber **904** is formed in the mouthpiece **802**

. . . and is filled with a flavoring agent” and “[t]he mouthpiece **802** may be made of plastic with a recess **906** formed therein such that its inner diameter fits over the cartomizer **113** and enables fast mounting and dismounting from the cartomizer **113**”, and in “an alternative exemplary mouthpiece embodiment for flavor enhancement . . . [n]ear the contact point between the bore **908** and the cartomizer **113** may a valve **1006** that will enable a flow of fluid from the mouthpiece to the user”. (’242 Patent 7:10-12, 7:33-36, 8:4-7, 8:9-13, 8:24-27, 8:34-38; see generally ’824 Patent 7-8.) Neither the claim language nor the specification limits the term “mouthpiece” to Reynolds’ interpretation.

Therefore, a person of ordinary skill in the art would understand the term “mouthpiece” to mean: **the portion – assigned or allotted part – of the object which includes the area where the user normally places his or her lips.**

G.

Altria seeks construction of the term “a plurality of electrical contacts having respective planar surfaces at the upstream end face” in claims 1 and 10 of the ’517 Patent and claim 1 of the ’357 Patent. Altria proposes construing the term to mean “two or more electrical contacts that are substantially flat and flush with the upstream end face”, (Pls.’ Opening Br. at 27; Tr. Markman Hearing 81:4-87:4), while Reynolds contends that the term needs no construction, (Defs.’ Opening Br. at 18; Tr. Markman Hearing 87:5-90:24).

The parties agree that a person of ordinary skill in the art for the Hawes Patents is the same as a POSA for the Weigensberg Patents, that is “someone

with at least a bachelor's degree in mechanical engineering, electrical engineering, chemistry or physics or related fields, with several years of relevant industry experience, and that such person of ordinary skill in the art would have been familiar with electrically powered vaporizing articles, their components or the underlying technologies." (Tr. Markman Hearing 108:6-109:3.)

Altria maintains that "the plain and ordinary meaning of 'planar surface' is a substantially flat surface" and the claim requires the planar surface "at the upstream end face". (Pls.' Opening Br. 27-28.) "In other words, the planar surfaces of the contacts are substantially flush with, and therefore not removed from, the upstream end face", as reflected in Figure 19 of the '517 Patent. (Id. at 28.) Reynolds responds that "there should be no dispute that 'planar' means 'flat'". (Defs.' Responsive Br. at 20.) It also argues that Altria's proposed construction is inconsistent with the claim language and the specification. For example, the claims require "planar surfaces", not "substantially planar surfaces", and contacts "at the upstream end face", not "flush with it." (Defs.' Opening Br. at 18.) At the Markman hearing, Altria's counsel was asked the meaning of "respective planar surfaces" and what the word "respective" modified. Counsel responded that "the electrical contacts are in a planar relationship . . . [w]ith one another, and with the upstream face." "[I]t is a single plane that would have the electrical contacts and the upstream end face". (Tr. Markman Hearing 81:23-83:4.) Reynolds interprets "respective planar surfaces" to mean "that each of the electrical contacts has a surface, and each respective planar surface of those

contacts is at the upstream face.” (Id. at 87:21-25.) Ultimately, Altria’s counsel conceded that Altria “would be fine if ‘substantially’ was not included” because the word’s inclusion as a modifier is Altria’s attempt “to avoid any argument to the jury that, for example, at an atomic level, at a microscopic level, if the feel, the touch that this is not substantially flat, or if you were to agree with us, ‘substantially flush.’” (Id. at 91:1-17.)

The claim language does not support Altria’s proposed construction that “planar” means “substantially flat” and that “at” means “substantially flush” or “flush”. For example, the ‘517 Patent claims

a plurality of external surfaces including a front face, a rear face opposite the front face, a first side face between the front face and the rear face, a second side face opposite the first side face, a downstream end face, and an upstream end face opposite the downstream end face, a portion of at least the front face or the rear face being transparent, the downstream end face defining an outlet[.]

(18:42-49; see also 19:34-42.) In that context, it also claims “a plurality of electrical contacts having respective planar surfaces at the upstream end face and electrically connected to the heater in the vaporizer compartment, the vapor channel being between the outlet and the plurality of electrical contacts.” (18:63-67; see also 20:12-16.) Furthermore,

the plurality of electrical contacts include a first electrical contact and a second electrical contact, the first electrical contact being closer to the first side face than the second side face, the second electrical contact being closer to the second side face than the first side face, the first electrical contact and the second electrical contact having respective planar surfaces.

(19:24-30.)

In addition, the specification's written and figurative descriptions of the invention fail to support Altria's proposed construction. For example, the '517 Patent teaches that "[a] side surface of the pod assembly **402** includes at least one electrical contact **416** and/or data connection **417** . . ." and "[t]he at least one electrical contact **416** may be provided at an end of the pod assembly **402** corresponding to the device compartment." (11:57-58, 11:62-64.)

A person of ordinary skill in the art would understand the term "a plurality of electrical contacts having respective planar surfaces at the upstream end face" to mean: **more than one electrical contact, the surface of each being flat and each being located at the surface of the upstream end face of the pod end face; of the two end faces, the upstream end face is the one furthest from the area a smoker would normally place his or her lips when smoking.**

H.

The parties also seek construction of the terms "front face" and "rear face" in the Hawes Patents, specifically claims 1, 3, 7, and 10 of the '517 Patent, claim 19 of the '269 Patent, claim 24 of the '541 Patent, and claims 1, 3, 7, and 10 of the '357 Patent. Altria proposes construing the term "face" to have what Altria understands is its plain and ordinary meaning, (Pls.' Opening Br. at 29; Tr. Markman Hearing at 105:9-107:25), while Reynolds defines the term as "front/rear surface bounded by one or more edges", (Defs.' Opening Br. at 15; Tr. Markman Hearing at 87:5-105:7).

According to Altria, the terms “are comprised of simple, common words that are readily understood by a POSA and the average juror” while Reynolds’ proposal “improperly imposes a specialized definition from Euclidian geometry that the front and rear faces must be ‘bounded by one or more edges[.]’”. (Pls.’ Opening Br. at 29-30.) Altria relies on Figures 15 and 17 of the ‘517 Patent to illustrate the embodiment’s “curved, edgeless surface” and that there is “no edge on surface between upstream and downstream end faces”. (Id. at 31.) On the other hand, Reynolds relies on the claim language to argue that “[i]f the claimed ‘faces’ did not have edges, they would not be distinct surfaces as the claims require”, “[w]ithout edges, a POSA would not know where one face ends and the adjacent face begins”, and that each face must “be distinct” and “have edges between which the width can be measured.” (Defs.’ Opening Br. at 15-16.) Reynolds also explains that the specification does not refer to “faces” but a “front cap” and “rear cap” with “a pod trim” and that the caps have “defined edges” in Figures 15 through 18. (Id. at 17.)

The claim language in the Hawes Patents supports Reynolds’ proposed construction. For example, the ‘517 Patent claims a pod assembly with

a plurality of external surfaces including a front face, a rear face opposite the front face, a first side face between the front face and the rear face, a second side face opposite the first side face, a downstream end face, and an upstream end face opposite the downstream end face, a portion of at least the front face or the rear face being transparent, the downstream end face defining an outlet[.]

(18:42-49 (claim 1).) Per the claim, the first and second side faces constitute the limits between the front and rear faces. The downstream end face constitutes the definable limits downstream, just as the upstream end face constitutes the definable limits upstream. To accomplish all of this, there must be an edge between the front face and side faces, and the rear face and side faces. Nothing in the specification suggests otherwise.

Therefore, a person of ordinary skill in the art would understand the terms “front face” and “rear face” to mean: **front/rear surface bounded by one or more edges.**

IV.

For the foregoing reasons, the meaning and scope of the claims in the Bried Patents, Weigensberg Patents, and Hawes Patents asserted to be infringed and presented by the parties for construction are determined as set forth in the foregoing Memorandum Opinion.

This the 12th day of May, 2021.

/s/ N. Carlton Tilley, Jr.
Senior United States District Judge