

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHURCH & DWIGHT CO., INC.

Petitioner

v.

RANDALL BATINKOFF

Patent Owner

Case No. IPR2020-00168
U.S. Patent No. 7,841,494

PATENT OWNER'S NOTICE OF APPEAL

Pursuant to 35 U.S.C. §§ 141-42 and 37 C.F.R. § 90.2, Patent Owner Randall Batinkoff ("Patent Owner") hereby appeals to the United States Court of Appeals for the Federal Circuit from the Judgement/Final Written Decision (Paper 42; "Decision") of the Patent Trial and Appeal Board ("Board") entered May 12, 2021, and from all underlying or related findings, orders, decisions, rulings, and opinions, related to thereto and adverse to Patent Owner. A copy of the Decision is attached hereto as Exhibit A.

For the limited purpose of providing the Director of the United States Patent and Trademark Office ("USPTO") with the information required under 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner anticipates that the issues on appeal will include, but are not limited to:

1. whether the Board legally erred in holding that the subject of matter of claims 1-11 of U.S. Patent No. 7,841,494 ("the '494 patent") has been shown to be unpatentable by a preponderance of the evidence;
2. whether substantial evidence fails to support the Board's factual findings underlying its holding that the subject matter of claims 1-11 of the '494 patent has been shown to be unpatentable;
3. whether the Board improperly dismissed Patent Owner's Motion to Exclude;
4. the Board's consideration and analysis of the expert testimony, prior

art, and other evidence in the record; and

5. the Board's factual findings, conclusions of law, or other determinations adverse to Patent Owner supporting or relating to the above issues.

Pursuant to 37 C.F.R. § 90.3(b), this Notice of Appeal is timely, having been duly filed within 63 days after the Decision entered May 12, 2021.

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), this Notice of Appeal is being filed with the Board, with the Director of the USPTO, and, along with the required docketing fees, with the Clerk's Office for the United States Court of Appeals for the Federal Circuit.

Dated: July 13, 2021

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that a true and correct copy of the foregoing PATENT OWNER'S NOTICE OF APPEAL was caused to be served on July 13, 2021, by email, as agreed upon means of service, upon the Petitioner at the following email addresses:

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Attorneys for Petitioner Church & Dwight Co., Inc.

I hereby further certify that, on July 13, 2021, in addition to being filed electronically through the Board's E2E system, the original version of the foregoing Notice of Appeal was filed by USPS Priority Mail Express with the Director of the United States Patent and Trademark Office at the following address:

Director of the United States Patent and Trademark Office
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I hereby further certify that, on July 13, 2021, a true and correct copy of the foregoing was filed in the U.S. Court of Appeals for the Federal Circuit using the Court's CM/ECF filing system and pay.gov was used to pay the filing fee.

/Edward D. Pergament/
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Exhibit A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHURCH & DWIGHT CO., INC.,
Petitioner,

v.

RANDALL BATINKOFF,
Patent Owner.

IPR2020-00168
Patent 7,841,494 B2

Before LYNNE H. BROWNE, MITCHELL G. WEATHERLY, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

MARSCHALL, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Challenged Claims 1–11 Unpatentable
35 U.S.C. § 318(a)
Dismissing Patent Owner’s Motion to Exclude
Dismissing Petitioner’s Motion to Exclude
37 C.F.R. § 42.64

INTRODUCTION

Church & Dwight Co., Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting institution of an *inter partes* review of claims 1–11 of U.S. Patent No. 7,841,494 B2 (Ex. 1001, “the ’494 patent”). Randall Batinkoff (“Patent Owner”) filed a Corrected Preliminary Response. Paper 8 (“Prelim. Resp.”). Petitioner filed a Preliminary Reply (Paper 9), to which Patent Owner filed a Preliminary Sur-reply (Paper 10). Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of claims 1–11 of the ’494 patent on all presented challenges. Paper 11 (“Inst. Dec.”).

After institution, Patent Owner filed a Response (Paper 19, “PO Resp.”), Petitioner filed a Reply (Paper 25, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 27, “PO Sur-reply”). In addition, Patent Owner filed a Motion to Exclude (Paper 30), Petitioner filed an Opposition to that Motion (Paper 35), and Patent Owner filed a Reply (Paper 38). Petitioner also filed a Motion to Exclude (Paper 31), Patent Owner filed an Opposition to that Motion (Paper 33), and Petitioner filed a Reply (Paper 37). An oral hearing in this proceeding was held on February 17, 2021, and a transcript of the hearing is included in the record (Paper 41, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 (2019). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–11 of the ’494 patent are unpatentable.

BACKGROUND

A. Real Parties in Interest and Related Matters

Petitioner states that its real party in interest is itself. Pet. 64. Patent Owner states that its real parties in interest are itself and “Top Secret,” “a California corporation in the business of hair care.” Paper 4, 2.

The parties identify two proceedings that may affect, or could be affected by, a decision in this proceeding: (1) *Randall Batinkoff and Top Secret v. Church & Dwight Co., Inc. and Mark H. Kress*, 3:18-cv-16388 (D.N.J.) (filed Nov. 21, 2018) (the “district court litigation”); and (2) *Randall Batinkoff and Top Secret v. Dennis J. Smolinski*, 2:18-cv-12905 (E.D. Mich.) (filed Sept. 17, 2018). Pet. 64; Paper 4, 2.

B. The '494 Patent

The '494 patent issued on November 30, 2010, from an application filed March 16, 2007. Ex. 1001, codes (22), (45). The '494 patent discloses “a manually activated pump dispenser . . . suitable for dispensing powder or fiber onto a scalp or other parts of the body” and “easily manipulated by a single hand of the user.” *Id.* at 1:7–11. According to the '494 patent, prior art dispensers suffered from complicated designs that rendered them expensive to manufacture, and “the requirement of the use of both hands in order to operate the dispenser.” *Id.* at 1:42–45.

Figure 2 of the '494 patent is reproduced below.

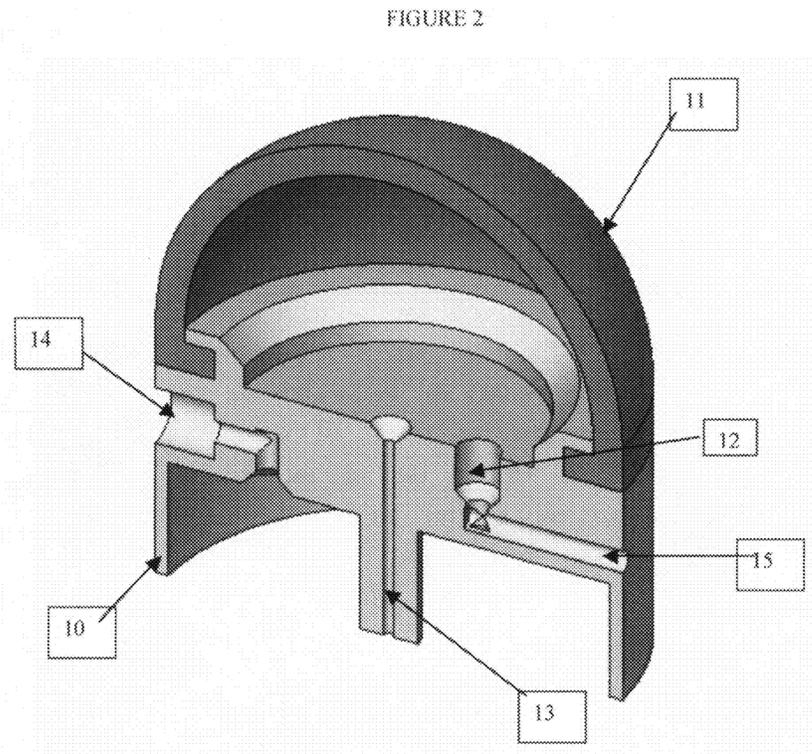


Figure 2 is “a cross sectional, side elevation view of an air atomizing spray gun.” Ex. 1001, 2:65–66. The pump cap includes elastomeric bulb 11 that forms a compressible interior air chamber and sits on top of a dispenser (not numbered). *Id.* at 3:14–16, 3:33–36. The pump cap has an opening on its bottom end defined by peripheral wall 10, with the opening adapted to couple to a receptacle (not shown) containing fibers or powder. *Id.* at 3:18–21, 3:28–30. The dispenser includes one-directional intake valve cavity 12 and valve vent 15 in communication with the chamber under bulb 11. *Id.* at 3:16–17, 3:43–47. The dispenser’s air passageway 13 is in communication with the chamber under bulb 11 on one end, and adjacent the media in the receptacle below on the other end. *Id.* at 3:18–21, 4:1–9. Product outlet 14 “draws the media from the receptacle and disperses same through an outside opening.” *Id.* at 4:9–11.

In operation, a user activates the pump dispenser by grasping the dispenser with one hand and manually pressing down on bulb 11 to direct air from the bulb 11's interior chamber through passageway 13 to the receptacle containing media. Ex. 1001, 4:49–57. The air agitates and disperses the media throughout the receptacle chamber such that fibers are forced out through product outlet 14. *Id.* at 4:57–61.

C. Challenged Claims

Petitioner challenges claims 1–11. Pet. 10. Of those claims, claims 1 and 7 are independent. Ex. 1001, 5:12–8:6. Claim 1 is reproduced below, with underlining added to limitations most relevant to our Decision.

1. A pump cap for dispensing a cosmetic media from a receptacle, the receptacle having a base and an outer upright peripheral wall extending from the base to define a receptacle chamber for the cosmetic media, the upright peripheral wall terminating in an open end, said pump cap comprising:

- a closure including a top wall which terminates in a downward depending peripheral wall, said top wall having top and bottom sides, said closure receiving the open end of the receptacle adjacent said bottom side of said top wall of the closure and within the depending peripheral wall;
- a deformable dome secured to said top wall of the closure to provide an air-tight dome chamber between said deformable dome and said top wall of said closure;
- an air pump tube for providing airflow from said dome chamber to the open top end of the receptacle when said deformable dome is compressed, said air pump tube having a top end located in the dome chamber and a bottom end located in the receptacle chamber, said top end being flared out;
- an air intake tube comprising a first air intake chamber running in a direction substantially parallel to the top wall of the closure and communicating with said peripheral wall of said closure, and a second air intake chamber

communicating with said first air intake chamber and with said dome chamber, said second air inlet chamber being disposed perpendicularly to said first air inlet chamber, and being in communication with said first inlet chamber and said dome chamber, said air intake tube providing airflow from outside the dispenser to said dome chamber when deformable dome is released from a compressed to a non-compressed state; and

an outlet chamber for dispensing cosmetic media from the receptacle, said outlet chamber communicating between a media outlet opening on the peripheral wall of said closure, and a receptacle chamber media opening located on the bottom side of the top wall of said closure, said receptacle chamber media opening being flush against the bottom side of the top wall of the closure;

such that the dispenser can be held in one hand and cosmetic media may be dispensed by successively compressing and releasing said deforming dome.

Id. at 5:12–52 (emphases added).

We provide a brief overview of the prosecution history to provide context to the parties' arguments. During prosecution, the Examiner rejected the pending claims as obvious. Ex. 1002, 76–80, 117–119. The applicant amended several claims to require the air pump tube (passageway 13 in Figure 2) to have a “flared out” top end within the dome chamber under bulb 11. *Id.* at 60. The applicants alleged that the “flared out” top end of the tube in the dome chamber prevents clogging of the air pump tube and “ensures free and proper flow of air into the receptacle.” *Id.* at 67. The Examiner found the claims allowable due to the addition of the “flared out” limitation. *Id.* at 35–36. The Examiner maintained obviousness rejections based on Kross, Kress, and Perritt for claims that did not contain the “flared out” limitation. *Id.* at 33–34. The applicant amended the remaining claims to add the “flared out” limitation so that all claims

included that feature, and the Examiner issued a Notice of Allowance following that amendment. *Id.* at 13, 23–24.

D. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–11 would have been unpatentable on the following grounds (Pet. 10):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 6 ¹	103(a)	Carsberg, ² Kross, ³ Kress ⁴
5, 7–11	103(a)	Carsberg, Kross, Kress, Lundblad ⁵
1–11	103(a)	Lundblad, Kross, Kress
1–11	103(a)	Kross, Kress, Perritt, ⁶ Lundblad
1–11	103(a)	Kross, Kress, Perritt, knowledge of POSITA ⁷

Petitioner also relies on the Declaration of Michael B. Jones. *See* Ex. 1003. Patent Owner relies on the Declaration of David A. Hullender, Ph.D. *See* Ex. 2017.

¹ Although Petitioner refers to “Ground 1” as challenging claims 1–11 based on Carsberg, Kross, Kress, and Lundblad, Petitioner does not rely on all four references for each of claims 1–11. Pet. 26–38. For claims 1–4 and 6, Petitioner relies on Carsberg, Kross, and Kress, and does not explicitly refer to Lundblad. *Id.* at 26–33. We treat the challenge to claims 1–4 and 6 based on Carsberg, Kross, and Kress separate from the challenge to claims 5 and 7–11 based on those same references and Lundblad.

² UK 748,530, published May 2, 1956 (“Carsberg”) (Ex. 1008).

³ US 2,223,256, issued November 26, 1940 (“Kross”) (Ex. 1005).

⁴ US 7,140,522 B2, issued November 28, 2006 (“Kress”) (Ex. 1007).

⁵ US 1,520,502, issued December 23, 1924 (“Lundblad”) (Ex. 1009).

⁶ US 2,098,160, issued November 2, 1935 (“Perritt”) (Ex. 1006).

⁷ Petitioner contends that the knowledge of one of ordinary skill in the art (“POSITA”) includes “the well-known manufacturing feature of rounded edges or ‘fillets.’” Pet. 50.

ANALYSIS

A. Legal Standards

To prevail in its challenges, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e) (2012); 37 C.F.R. § 42.1(d) (2018). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burdens of proof in an *inter partes* review).

Petitioner relies on obviousness in its challenges to the claims of the ’494 patent. A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, so-called secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). “The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art” at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

Petitioner contends that a person having ordinary skill in the art “would have at least a Bachelor’s degree in Mechanical Engineering and at least four years of experience in pump design, with some general familiarity with manufacturing techniques such as injection molding, or equivalent education and training.” Pet. 11. Patent Owner does not dispute Petitioner’s proposal “with one exception”—that Petitioner’s inclusion of “some general familiarity with manufacturing techniques such as injection molding,” or equivalent education and training. PO Resp. 25–26. Patent Owner argues that the ’494 patent does not mention injection molding and other manufacturing methods that can be used to manufacture the claimed device. *Id.*

We agree with Patent Owner that the ’494 patent does not mention injection molding or any specific manufacturing method. Although a person having “at least a Bachelor’s degree in Mechanical Engineering and at least four years of experience in pump design” would presumably be aware of

injection molding techniques, the proposed level of ordinary skill in the art need not include any specific reference to injection molding to adequately define the level of skill in the art pertaining to the '494 patent. Accordingly, we adopt the undisputed portion of Petitioner's asserted level of ordinary skill, which we find consistent with the problems identified and solutions provided in the '494 patent and the prior art. We find that a person having ordinary skill in the art pertaining to the '494 patent "would have at least a Bachelor's degree in Mechanical Engineering and at least four years of experience in pump design."⁸

C. Claim Construction

In *inter partes* reviews, we interpret claims in the same manner used in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2019); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) (setting forth claim construction approach in district court cases). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence is generally "less reliable" than the intrinsic record. *See id.* at 1318–19. Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

⁸ Our findings and conclusions in this Decision would not change if we adopted Petitioner's proposal in full.

Petitioner proposes “that the claim terms of the ’494 Patent be given their ordinary and customary meaning.” Pet. 10–11. Patent Owner proposes constructions for two claim limitations, which we address in turn below.

1. *Cosmetic Media*

Patent Owner argues that “cosmetic media,” which appears in independent claims 1 and 7, means “solid (powder or fiber, especially hair fiber).” PO Resp. 26 (emphasis removed); Ex. 1001, 5:43, 6:36. Patent Owner argues that the ’494 patent specification repeatedly refers to dispensing powder or fiber without disclosing dispensing liquid, and the “prosecution history confirms the ‘cosmetic media’ must be solid.” PO Resp. 27; *see also id.* at 30 (“The intrinsic evidence requires ‘cosmetic media’ to be construed as solid fiber or pow[d]er.”). Aside from maintaining that the “ordinary and customary meaning” applies, Petitioner does not specifically address Patent Owner’s claim construction arguments as to “cosmetic media” and relies on prior art that discloses solid media in the challenges we address below. *See* Pet. 10–11, 26, 30, 35, 37.

We need not determine whether the ordinary meaning or Patent Owner’s proposed construction applies because, as discussed below, we ultimately determine that all challenged claims have been shown to be unpatentable even when we adopt Patent Owner’s proposed construction. We do need to clarify the construction that we adopt, however, because Patent Owner’s proposals shifted during the briefing. Patent Owner’s proposed construction could be read as merely requiring a solid, with the powder and fiber the specification discloses serving as two examples of solid cosmetic media without limiting “cosmetic media” to either of those examples. *See* PO Resp. 26 (“‘[C]osmetic media’ is solid (powder or fiber,

especially hair fiber).” (emphasis removed)), 27 (arguing that the “prosecution history confirms the ‘cosmetic media’ must be solid”). The claim structure supports this approach, as claim 8, which depends from claim 7, recites “wherein said media is a powder or fiber,” strongly suggesting that “cosmetic media” in claim 7 does not require “powder or fiber.” Ex. 1001, 7:4–5. Patent Owner’s proposals in its Response could also be read more narrowly to require not only solid media, but specifically solid “powder or fiber.” PO Resp. 26, 30. Because Petitioner’s challenges do not turn on this issue, for purposes of this Decision, we construe “cosmetic media” more narrowly to mean solid cosmetic media in the form of powder or fiber.

To be clear, our adoption of Patent Owner’s proposed construction from its Response results in claim scope in which *either* powder *or* fiber meets the “cosmetic media” limitation, consistent with Patent Owner’s wording in its Response. *See* PO Resp. 26, 30. In its Sur-reply, Patent Owner argues for the first time “that the claimed pump dispenser for cosmetic media *must* be capable of dispensing hair fibers” and “must also be able to dispense powders.” PO Sur-reply 9. In effect, Patent Owner changes its proposed construction from powder *or* fiber to powder *and* fiber, as nothing in the proposed language of Patent Owner’s construction or its Response suggests that the claimed dispenser must be capable of dispensing both powder and fiber. *Compare* PO Resp. 26, 30, *with* PO Sur-reply 9–10. Because Patent Owner’s new twist on its proposed construction did not appear until its Sur-reply, and Petitioner had no opportunity to brief the issue, we do not consider Patent Owner’s new proposal. *See* Paper 12, 8 (“Patent Owner is cautioned that any arguments not raised in the response

may be deemed waived.”); *see also* 37 C.F.R. § 42.23(b) (defining proper scope of sur-reply).

2. *Flared Out*

Patent Owner argues that we should construe “said top end being flared out” in claims 1 and 7 to mean “[t]he top end of air injecting passageway widening from the bottom end toward the deformable bulb.” PO Resp. 31. Although Petitioner contends that the “ordinary meaning” should apply, Petitioner also argues, in the context of one of its challenges, that Patent Owner seeks an improperly broad construction of “flared out” in the district court litigation that would encompass “any widening, such as rounded edges or ‘fillets,’ at the top end of the air pump tube.” Pet. 50. Patent Owner disagrees with Petitioner’s interpretation of its litigation position, and argues that a construction that covers merely rounding edges a small amount does not suffice. PO Resp. 31–33. Patent Owner contends that its prored construction shows that it does not construe “flared out” as broadly as Petitioner suggests. *Id.* at 33.

The parties appear to agree that “flared out” should not be construed so broadly that it covers any merely rounded edges no matter how small the radius, and we agree—such an approach would effectively eliminate the “flared out” limitation. *See* Pet. 10–11, 50 (applying broad construction to a challenge based on Patent Owner’s alleged arguments in district court litigation); PO Resp. 31; PO Sur-reply 11. We need not determine whether the ordinary meaning or Patent Owner’s proposed construction applies to “flared out” because, as discussed below, we ultimately determine that all challenged claims have been shown to be unpatentable even when we adopt Patent Owner’s proposed construction. Accordingly, we construe “flared

out” in claims 1 and 7 to mean “[t]he top end of air injecting passageway widening from the bottom end toward the deformable bulb.” PO Resp. 31.

Our adoption of Patent Owner’s construction does not mean that we adopt further arguments by Patent Owner that go beyond its construction. For example, Patent Owner contends that “the flaring is intended to have functionality” and alludes to functions such as contributing to the air pump tube’s ability to force pressurized air into the container and prevent clogging. PO Resp. 32. To the extent Patent Owner seeks a functional construction of “flared out” that amounts to “flared out” or “widened” enough to pressurize air or prevent clogging, we decline to adopt such a construction for several reasons. First, Patent Owner does not include such a requirement in its proposed construction. Second, the claims at issue here are apparatus claims to a “pump cap” that define structure, including a “flared out” top end of a tube, without any suggestion that such structure requires any specific functionality. Ex. 1001, 5:12, 5:16, 6:10. Third, the ’494 patent specification never mentions the “flared out” aspect of the tube at all, does not identify the flared out end by number in the figures, and does not imply any functionality of the flared out end of the tube. *See* Ex. 1001, Figs. 1–2. Fourth, the specification’s reference to an increase in air pressure only mentions air passageway/tube 13, not a flared out end of that structure, and nothing in the specification mentions anti-clogging functionality. *See id.* at 4:6–8. Fifth, the reference to the anti-clogging functionality of the flared out end in the prosecution history, standing alone, does not justify importing that limitation into the claim, and Patent Owner has not advanced sufficient argument and evidence to support such a claim. Sixth, adopting any functional requirements would not bring clarity to the claim scope, and

would invite further confusion over whether a widened area was sufficiently wide to meet the functional requirements.

We are mindful that the construction we adopt for purposes of this Decision refers to “widening from the bottom end toward the deformable bulb” without identifying how much “widening” is required to meet the claim limitation, and Patent Owner does not fill that gap with any applicable standard. *See* PO Resp. 31. As noted above, we agree with the parties that a merely rounded edge, no matter how small the radius, does not suffice, but we do not impose any formal requirements on the amount of widening necessary to meet the claim limitation. The widening need only be readily distinguishable from the tube diameter from which the flared out end projects, and may be formed by a straight or curved surface.

D. Obviousness of Claims 1–4 and 6 Based on Carsberg, Kross, and Kress

Petitioner challenges claims 1–4, and 6 under 35 U.S.C. § 103 based on Carsberg, Kross, and Kress. Pet. 26–33.⁹ For these challenges, Petitioner cites to the asserted references and the Jones Declaration. *Id.*

1. Overview of Carsberg

Carsberg relates to “powder blowers” that force air into a powder container such that air and powder escape from the container. Ex. 1008, 1:9–12. The air is “compressed by means of a resilient deformable bulb attached to a head-piece which is secured to the powder container.” *Id.* at 1:12–15.

⁹ As noted above (*see supra*, note 1), although Petitioner describes “Ground 1” as a challenge to claims 1–11 based on Carsberg, Kross, Kress, and Lundblad, Petitioner does not rely on Lundblad for claims 1–4 and 6. *See* Pet. 26–33.

Carsberg's Figure 2 is reproduced below.

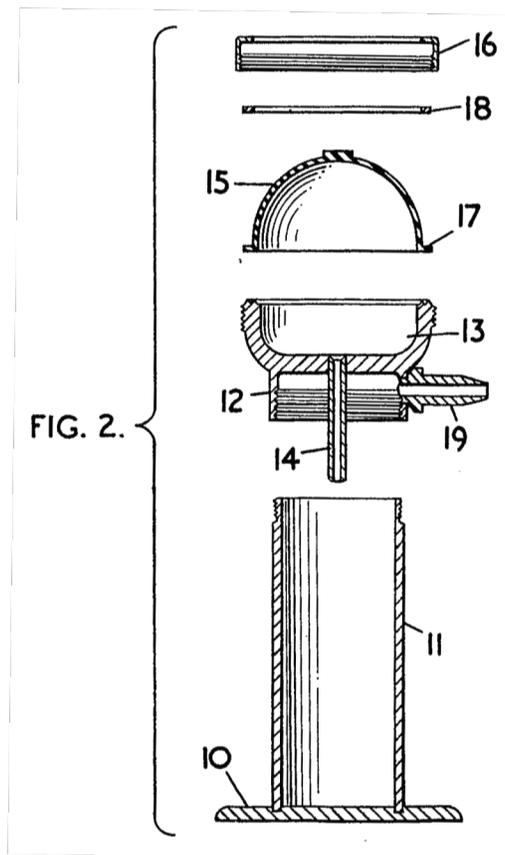


Figure 2 depicts “a sectional side elevation of the separated components of the blower.” Ex. 1008, 1:71–72. Rubber bulb 15 sits on top of cup 13, with ring 16 connecting bulb 15 and cup 13. *Id.* at 1:81–84, Figs. 1, 2. Short tube 14 extends downward from cup 13 into container 11. *Id.* at 1:77–80, Fig. 2. Outlet nozzle 19 extends from collar 12, which is integral with cup 13, with nozzle 19 communicating with the inside of container 11. *Id.* at 2:7–8, Fig. 2.

When in use, Carsberg states that the device “can be picked [up] and operated with one hand, either the thumb or a finger being used to depress the bulb.” Ex. 1008, 2:18–21. The user can apply a desired quantity of powder by controlling the amount of pressure applied to the bulb. *Id.* at 2:22–28.

2. *Overview of Kross and Kress*

Kross discloses an attachment to a milk bottle to separate the cream from the milk. Ex. 1005, 1:1–5. In Kross’s device, air enters the device via air inlet duct 16 in body 1 of the device, passing through valve 13, and into a cylindrical area under bulb 6. *Id.* at 1:15–16, 1:50–54, Fig. 4. A user operates the device by pressing and releasing bulb 6 to draw air through duct 16, and expelling air through air duct 17 that extends downward through body 1 of the device. *Id.* at 1:54–2:3, 2:11–17, Figs. 1, 4.

Kress discloses an applicator for hair building cosmetic fibers, powders, and particles. Ex. 1007, code (57). Kress’s device includes a nexus 32 attached to lid 24 of container 22. *Id.* at 4:17–26, Fig. 5. Directing tube 38 extends between the underside of nexus 32 at orifice 44 on one end, and nozzle 42 that can be directed towards an area of treatment on the other end. *Id.* at 4:34–42, Figs. 2, 5, 7A.

3. *Discussion*

We first address whether the combination of Carsberg, Kross, and Kress discloses all of the limitations of claims 1–4 and 6. We focus on limitations Patent Owner contends are absent from the proposed combination. We then address the motivation to combine the references.

Petitioner asserts that the combination of Carsberg, Kross, and Kress discloses all limitations of claim 1–4 and 6. Pet. 26–33. Petitioner relies on Carsberg as disclosing the vast majority of the limitations of claim 1, and relies on Kross for the “air intake tube” and related limitations and Kress for the claimed receptacle chamber media opening flush against the bottom side of the top wall of the closure. *Id.* at 26–31. Petitioner provides analysis of each limitation in the challenged claims, with citations to the references that

correspond to each of the claim limitations. *Id.* at 26–33. Petitioner also cites to the relevant testimony by Mr. Jones. *Id.* (citing various portions of Ex. 1003). Patent Owner argues that the proposed combination fails to disclose several limitations of claim 1. PO Resp. 45–48. We address each argument in turn.

a. Disputed Limitations

1) Cosmetic Media

Petitioner contends that Carsberg discloses the “cosmetic media” limitation of claim 1, which is found in the preamble and body of claim 1. *See* Pet. 26, 30. Petitioner argues that Carsberg discloses “a ‘powder blower’ having a container holding the powder and a ‘head-piece [that] is detachably secured to the powder container, for example by means of screwthreads, thereby providing a convenient means for refilling the powder container.’” *Id.* at 26 (citing Ex. 1003 ¶ 102; Ex. 1008, 1:29–35). Patent Owner argues that “Carsberg does not disclose, let alone enable, the dispensing of fibers, including hair fibers.” PO Resp. 45 (citing PO Resp. 13–18; Ex. 2017 ¶ 149). Patent Owner also contends that “[a]lthough Carsberg discloses dispensing powders, Carsberg does not enable dispensing powders.” *Id.* (citing PO Resp. 13–18; Ex. 2017 ¶¶ 111, 149). Patent Owner’s non-enablement argument centers on Carsberg’s use of dispensing tube 19 as both an intake and dispensing tube. *Id.* at 17 (citing Ex. 2017 ¶ 111). According to Patent Owner, “[s]uch a design is unlikely to work” and “is largely inoperable.” *Id.* Petitioner responds that Carsberg is presumed to be operable and Patent Owner’s speculation to the contrary does not rebut this presumption. Pet. Reply 5–6 (citing MPEP §§ 716.07,

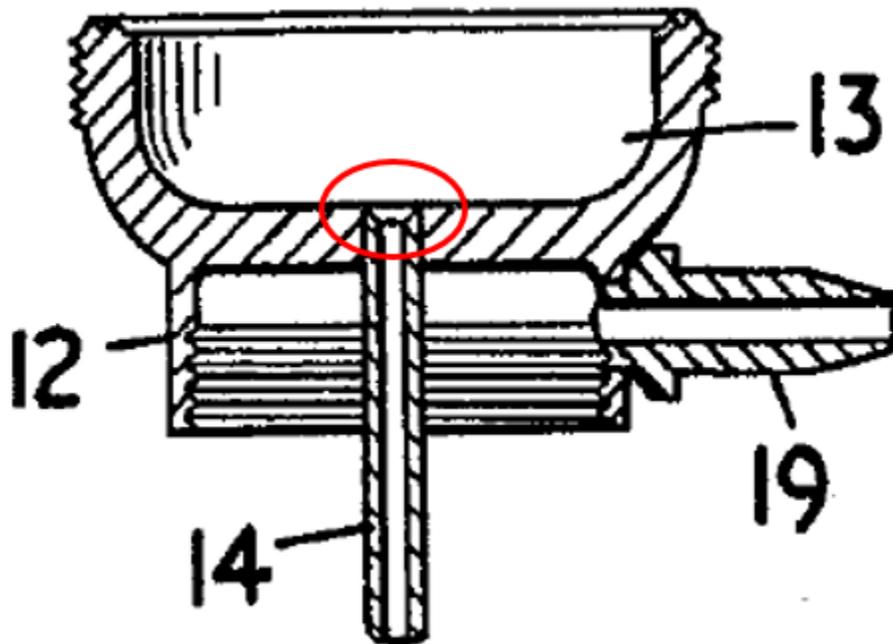
2121; Ex. 1003 ¶¶ 79–84; Ex. 1017,¹⁰ 122:24–123:5). In its Sur-reply, Patent Owner maintains that if Carsberg “works at all, it is, at most, for very fine powders,” not “for hair fibers.” PO Sur-reply 13 (citing PO Resp. 14–15, 45–46, 50–51). Patent Owner also recasts its non-enablement argument as not based on enablement, but instead providing reasons why one would not rely on Carsberg and would see little value in its teachings. *Id.* at 14.

We agree with Petitioner that Carsberg discloses the “cosmetic media” limitation because it discloses a “powder blower” that dispenses powder. *See* Pet. 26, Ex. 1003 ¶ 102; Ex. 1008, 1:29–35. As noted in the claim construction section above, “cosmetic media” covers powder as well as fibers but does not require that dispenser be capable of dispensing both—i.e., our construction does not require a dispenser capable of dispensing fibers if it is capable of dispensing powder. Patent Owner’s argument that Carsberg only discloses dispensing fine powder and not hair fibers, therefore, does not provide a basis to argue that Carsberg fails to disclose the “cosmetic media” limitation, as disclosure of the powder alone suffices. *See* PO Resp. 45. As to enablement of dispensing powder, we agree with Petitioner that Carsberg is presumed to be operable and that Patent Owner has not rebutted that presumption. Pet. Reply 5–6; Ex. 1003 ¶¶ 79–84. In any event, Patent Owner did not squarely address and explain adequately why Carsberg would not be operable and abandoned any non-enablement argument in its Sur-reply. PO Resp. 17, 45; PO Sur-reply 14.

¹⁰ Petitioner cites to Exhibit 2017, but we view that citation as a typographical error, as the relevant cited testimony can be found in Exhibit 1017, and Exhibit 2017 lacks the cited page and line numbers. *See* Ex. 1017, 122:24–123:5.

2) *Flared Out*

Petitioner argues that Carsberg’s tube 14 includes a flared out top end. Pet. 19–20 (citing Ex. 1003 ¶¶ 85–86; Ex. 1008, Fig. 2), 28 (citing Pet. 17–20; Ex. 1003 ¶ 108; Ex. 1008, 1:77–80, Fig. 2). Petitioner’s enlarged and annotated version of Carsberg’s Figure 2 is reproduced below (Pet. 19):



The annotated Figure 2 depicts short tube 14 with an upper end terminating in cup 13, with a red circle added around the top end of tube 14 to indicate the upper portion of tube 14 that Petitioner relies on for the “flared out” limitation. *See* Pet. 19; Ex. 1008, 1:77–80, Fig. 2.

Patent Owner argues that Petitioner “inappropriately relies on a magnified figure from Carsberg” and that the allegedly flared out portion Petitioner identifies “is not flaring, but crosshatching to distinguish elements.” PO Resp. 46 (citing PO Resp. 13–18; Ex. 2017 ¶ 151). According to Patent Owner, “[t]he lines forming the right-hand side of the alleged flare and the left-hand side belong to different elements—the head-

piece [12]/[13] (right side) and the air pump tube [14] (left side)—and, thus, do not form a flare.” *Id.* at 15 (citing Ex. 2017 ¶ 100).

Petitioner counters by arguing that “Figure 2 shows that the ‘flared out’ top is a different structure than element 12/13 because the diagonal object line of the left side of the ‘flared out’ top end runs from top left to bottom right whereas the crosshatching lines of part 12/13 run from bottom left to top right as indicated below.” Pet. Reply 7. Petitioner also contends that the termination of the lines defining the interior of tube 14 at a horizontal object line below the top of tube 14 further supports its position that the drawing depicts a flared out top end. *Id.* at 7–8 (citing Ex. 1017, 130:23–131:21; Ex. 2018, 142:12–144:13).

In its Sur-reply, Patent Owner argues that the horizontal line at the bottom of the alleged flared out portion merely “provides a sense of a third dimension.” PO Sur-reply 15. According to Patent Owner, “it indicates that the air tube has depth, into/out off the page, as well as height and width. It has nothing to do with a flare.” *Id.*

We agree with Petitioner that Carsberg discloses a “flared out” top end of tube 14. *See* Pet. 19–20, 28; Ex. 1003 ¶¶ 85–86, 108; Ex. 1008, Fig. 2. Figure 2 alone adequately supports Petitioner’s position, as it depicts the angular sides of the flare outward toward the top of Carsberg’s bulb 15, consistent with Patent Owner’s construction requiring “widening” from the bottom toward the deformable bulb. Ex. 1008, Fig. 2.¹¹ The flared out sides

¹¹ Although we do not construe “flared out” to require any “anti-clogging” function, we find credible Mr. Jones’s testimony that “[a] POSITA at the time of filing the ’494 patent would have reviewed Figure 2 of Carsberg and immediately recognized that the top end of tube 14 functions to prevent

define a bottom and top of a frusto-conical area at the top end of tube 14, with the bottom and top depicted with horizontal lines in Carsberg's Figure 2. *See id.*

Patent Owner's contrary interpretation of Carsberg's Figure 2 lacks support. As an initial matter, Patent Owner's complaint that Petitioner "inappropriately" relies on a magnified version of Figure 2 does not establish that any aspect of the magnified version of Figure 2 fails to accurately depict Carsberg's disclosure, and we see nothing improper with Petitioner's use of an enlarged view of the relevant areas of a figure to aid our analysis. *See* PO Resp. 46. As to Patent Owner's argument that the diagonal sides of the flared out portion depict portions of other adjacent structures, we disagree. The sides of the flared out portion run roughly perpendicular to the cross-hatched lines defining element 12/13 or tube 14 and do not mimic the spacing of the cross-hatched lines depicting the other elements. *See* Ex. 1008, Fig. 2; Pet. Reply 7. This strongly suggests that the diagonal lines defining the flared out end do not correspond to cross-hatching within the cross section of either element 12/13 or tube 14. *See id.* As to the argument that the single line defining the bottom of the flared out portion merely shows a third dimension, we also disagree. Figure 2 depicts three dimensional shading in a different context on the far left of the hollow portion of item 13, but uses five lines of varying length to do so, undermining any suggestion that a single, short horizontal line at the bottom of the flared out portion merely indicates a three dimensional shape. *See* Ex. 1008, Fig. 2; Pet. Reply 8; PO Sur-reply 15 ("[T]he five lines toward the left

accumulation of the media and clogging, and redirect media back down into the container." Ex. 1003 ¶ 86.

of the inside of the dome, provides a sense of a third dimension”).
Petitioner’s position that the horizontal line denotes the bottom of the flared out portion and the top of the inner portion of tube 14, given that the vertical lines defining the inside of tube 14 terminate at the horizontal line, is far more consistent with Figure 2 than Patent Owner’s position. *See* Ex. 1008, Fig. 2; Pet. Reply 7–8.¹²

b. Undisputed Limitations

Petitioner asserts that the combination of Carsberg, Kross, and Kress discloses all of the remaining limitations of claim 1–4 and 6 and provides a limitation-by-limitation analysis supported by citations to the references and supporting testimony from Mr. Jones. *See* Pet. 26–33. For example, Petitioner argues that, to the extent the preamble limits the claim, Carsberg’s powder blower having container 11 for holding the powder discloses the contents of the preamble. Pet. 26 (citing Ex. 1003 ¶ 102; Ex. 1008, 1:29–35). Petitioner also argues that Carsberg discloses the claimed “closure” and “deformable dome” in the form of collar 12 having cup 13 on a top side of collar 12, to which a bulb 15 (i.e., the claimed “deformable dome”) is secured. Pet. 26–27 (citing Ex. 1003 ¶¶ 103–105; Ex. 1008, 1:81–82, 2:38–39, Figs. 1, 2). Petitioner also contends that Carsberg discloses the claimed “air pump tube” meeting the requirements of claim 1.

¹² Patent Owner addresses several other limitations in claims 1–3 in its Response, but does not allege that Petitioner’s proposed combination, once made, fails to disclose those limitations. *See* PO Resp. 46–49 (addressing “air intake tube” of claim 1 and “one-way” air intake valve of claims 2 and 3). Instead, Patent Owner’s arguments amount to alleged reasons why one of skill in the art would not seek to make the proposed combination or related modifications. *See id.* We address motivation to combine issues below.

Pet. 27–28 (citing Ex. 1003 ¶¶ 106–107; Ex. 1008, 1:77–80, 2:22–28). As to various aspects of the “air intake tube,” Petitioner argues that Kross’s air inlet duct 16 discloses the claimed “air intake tube.” Pet. 28–29 (citing Ex. 1002, 33; Ex. 1003 ¶¶ 112–113; Ex. 1005, 1 at 2:50–54, Fig. 4). As to the claimed “outlet chamber” and “receptacle chamber,” Petitioner argues that Carsberg’s outlet nozzle 19 discloses the claimed outlet chamber for dispensing cosmetic media, and that Kress’s orifice 44 on nexus 32 disclose the claimed “receptacle chamber media opening being flush against the bottom side of the top wall of the closure.” Pet. 30 (citing Ex. 1003 ¶¶ 119, 121–123; Ex. 1007, 4:24–26, 5:10–12, Fig. 5; Ex. 1008, 2:7–11, Fig. 2). As to the final limitation of claim 1 requiring the ability to “be held in one hand,” Petitioner argues that Carsberg discloses a device that can be held in one hand while compressing and releasing its bulb 15. Pet. 31 (citing Ex. 1003 ¶¶ 124–125; Ex. 1008, 2:18–21 (“[I]t can be picked and operated with one hand.”)). Petitioner sets forth further allegations as to the limitations of claims 2–4 and 6. *See id.* at 31–33.

Patent Owner, with the exception of the limitations addressed in the previous section and certain arguments that go to motivation to combine, does not address Petitioner’s arguments and evidence on these points or argue that the combination fails to disclose these limitations. *See* PO Resp. 45–49. Based on our review of the record, we are persuaded by Petitioner’s arguments and evidence that combination of Carsberg, Kross, and Kress discloses all of these limitations of claims 1–4 and 6. *See* Pet. 26–33.¹³

¹³ We need not set forth formal findings as to the undisputed assertions by Petitioner that the references disclose these limitations of claims 1–4 and 6.

Based on the foregoing analysis of the disputed and undisputed limitations, we find that Petitioner establishes by a preponderance of the evidence that the combination of Carsberg, Kross, and Kress discloses all of the limitations of claims 1–4 and 6.

c. Motivation to Combine References

1) The Parties' Positions

Petitioner argues that Carsberg, Kross, and Kress are analogous art because they all teach manually activated pump caps that employ pressurized air to move a fluid. Pet. 25 (citing Ex. 1003 ¶ 101). Petitioner proposes several modifications to Carsberg in the context of claim 1. First, Petitioner proposes modifying Carsberg's outlet nozzle 19 with Kross's air intake duct 16 in a manner that results in the disclosure of "air intake tube" limitations in claim 1. *Id.* at 28–30. Petitioner argues that a POSITA would recognize that Carsberg's outlet nozzle 19 "also functions as an air inlet" and that a POSITA would have been motivated to modify outlet nozzle 19 to improve its ability to dispense, while also providing a separate air intake as in Kross "to enable the pump cap to quickly reset the pump cap for multiple uses in quick succession." *Id.* at 29–30 (citing Ex. 1003 ¶¶ 114–115). Second, as to the combination of Carsberg and Kress, Petitioner argues that a "POSITA would have recognized that agitated media could more easily

See In re NuVasive, Inc., 841 F.3d 966, 974 (Fed. Cir. 2016) ("Although the Board did not make findings as to whether any of the other claim limitations (such as fusion apertures or anti-migration teeth) are disclosed in the prior art, it did not have to: NuVasive did not present arguments about those limitations to the Board. . . . The Board, having found the only disputed limitations together in one reference, was not required to address undisputed matters."); Paper 12, 8 (emphasizing that "any arguments for patentability not raised in the response may be deemed waived").

have been directed out of the container through an orifice at the bottom side of the top wall of the closure, and as a result would have been motivated to combine the teachings of Carsberg and Kress.” *Id.* at 30–31 (citing Ex. 1003 ¶ 123). As to claim 2, which claims a “one-way” valve in the air pump tube, Petitioner contends that a POSITA would have been motivated to add the one-way valve of Kross to the combination because “a POSITA at the time of the alleged invention would have sought to prevent the media in the receptacle from entering the dome chamber to prevent clogging within the dome chamber, and would have known found it obvious, as a matter of routine design, to include a one-way valve such as the valve described by Kross in the air pump tube.” *Id.* at 31–32 (citing Ex. 1003 ¶¶ 126–129). As to claim 3, which claims a “one-way valve” in the first air intake chamber, Petitioner contends that Kross discloses valve 13 in its air inlet duct 16 to hinder air flow outside of the receptacle. *Id.* at 32 (citing Ex. 1003 ¶¶ 130–131).

Patent Owner raises several arguments that relate to motivation to combine. First, Patent Owner argues that Petitioner and Mr. Jones used impermissible hindsight in their analysis. PO Resp. 34–40. Second, Patent Owner argues that Petitioner “failed to provide a non-hindsight motivation for modifying the deficient art to include a flared air pump tube.” *Id.* at 40. Patent Owner contends that Mr. Jones conceded at his deposition that adding a flared end lacked predictability and a reasonable expectation of success. *Id.* at 41–42. Patent Owner also contends that the reasons provided by Mr. Jones to support the combination, including prevention of clogging, minimizing air turbulence, and improving repeatable manufacture, all lack support. *Id.* at 42 (citing Ex. 1003 ¶¶ 86, 98–100). As to anti-clogging,

Patent Owner argues that Mr. Jones’s deposition testimony shows skepticism that clogging would be a problem and that Carsberg would not serve an anti-clogging function. *Id.* at 42–43. As to reducing turbulence, Patent Owner argues that a POSITA “would neither expect that flaring the air pump tube would reduce turbulence nor desire such an effect.” *Id.* at 43 (citing Ex. 2017 ¶¶ 47–48, 108). As to improved manufacturability, Patent Owner argues that it improperly assumes the claimed device would be made by injection molding, and would not apply to straight edges and corners as in Carsberg. *Id.* at 43–44 (citing Ex. 2017 ¶ 107).

Patent Owner further addresses the addition of Kress’s air intake tube to Carsberg, and contends that Petitioner fails to support the proposed modification because the modification does not acknowledge that Carsberg’s outlet is below the top wall, and the resulting structure would fail to more easily direct media out of the container when compared to Carsberg’s existing outlet tube. *Id.* at 48 (citing Ex. 1003 ¶ 123; Ex. 2017 ¶ 156). As to claim 3, Patent Owner argues that “two modifications to Carsberg are necessary: adding the air-intake chamber [limitations] of claim [1] and then adding the valve of claim 3.” *Id.* at 49 (citing Ex. 2017 ¶ 158). Patent Owner asserts that Mr. Jones “contends that the first of these changes could render a device inoperable, begging the question of why a POSA would do it.” *Id.*

In its Reply, Petitioner addresses the three potential motivations for adding the flared end to the tube. As to anti-clogging, Petitioner argues that Mr. Jones did not contradict his declaration by merely stating that “to determine whether a pump dispenser with a ‘flared out’ top end of the air pump tube would prevent clogging, one would first need to know whether

the materials to be dispensed actually clog.” Pet. Reply 8–9 (citing Ex. 1003 ¶¶ 86, 109, 175, 225; Ex. 2018, 96:7–18; 99:11–21). Petitioner also contends that Mr. Jones testified that Carsberg must prevent clogging if the similar flared out end in the ’494 patent prevents clogging. *Id.* at 9 (citing Ex. 2018, 184:13–18). As to repeatable manufacture, Petitioner argues that Carsberg’s flared out end provides the benefit of more repeatable manufacture because it avoids “square” sharp edges, regardless of whether the edges are also rounded. *Id.* at 9–10 (citing PO Resp. 16; Ex. 1003 ¶¶ 98–100; Ex. 1012; Ex. 2018, 92:25–93:7). As to minimizing turbulence, Petitioner argues that Mr. Jones properly focuses on reducing turbulence in the dome chamber as air travels in and out of the chamber near the entrance of tube 14, not turbulence downstream within the tube. *Id.* at 10 (citing PO Resp. 17; Ex. 1003 ¶¶ 109, 175, 225, 272; Ex. 1017, 160:17–23), 10 n.3 (citing Ex. 1018, 5–6). Petitioner adds that the benefit of increased turbulence and velocity downstream in the air pump tube, cited by Dr. Hullender, was well known and “yet another reason why a POSITA would have been motivated to combine the ‘flared out’ top end of Carsberg.” *Id.* at 11 (citing Ex. 1017, 161:15–162:3).

Petitioner also argues, when addressing Patent Owner’s arguments beyond the “flared out” limitation, that the arguments improperly fail to acknowledge Petitioner’s specific rationales, which are consistent with the Examiner’s combinations during prosecution, and improperly focus on the references individually. Pet. Reply 11. As to the addition of Kress’s air intake tube, Petitioner argues that Patent Owner fails to address Dr. Jones’s testimony that the modification involves a simple rearrangement of known elements with predictable results, and the limited number of choices

available to place the outlet and media opening. *Id.* at 13–14 (citing Ex. 1001, Fig. 1; Ex. 1003 ¶¶ 120–121; Ex. 1017, 39:25–40:7). As to claims 2 and 3 and the one-way valves, Petitioner argues that Mr. Jones repeatedly explained the need for valves in the air pump tube and first intake chamber, and that he agreed with the Examiner that placement of the valve was a matter of design choice. *Id.* at 14 (citing Ex. 1002, 34; Ex. 1003 ¶¶ 114, 126–127, 130; Ex. 1017, 38:13–17).

In its Sur-reply, Patent Owner argues that as to anti-clogging, Petitioner relies on testimony that reveals it is hindsight because it refers to the ability of the flared out end in the '94 patent to prevent clogging. PO Sur-reply 15–16 (citing Pet. Reply 9; PO Resp. 28–30; Ex. 1017, 168:10–14). As to ease of manufacture, Patent Owner alleges that Carsberg discloses a square flare with undesirable sharp edges. *Id.* at 16 (citing PO Resp. 24–25; Ex. 2017 ¶ 107). As to minimizing turbulence, Patent Owner alleges that a flared entrance to a tube increases turbulence and that “it makes no sense to discuss turbulence within the dome chamber.” *Id.* at 16–17. Patent Owner also alleges that for other claim limitations, Petitioner improperly relies on design choice arguments, including its argument that Kross’s tube length could be altered to dispense solid cosmetic media rather than liquid. *Id.* at 18–19.

2) Discussion

As an initial matter, we note that Patent Owner does not raise any non-analogous art arguments in the context of this challenge, and all of the references teach manually activated pump caps that employ pressurized air to move a fluid. Pet. 25; Ex. 1003 ¶ 101. In addition, as noted above, we find that the combination of prior art discloses all of the limitations of claims

1–4 and 6, including Carsberg’s disclosure of the flared out tube end, the only limitation the Examiner found missing from the prior art during prosecution. Petitioner does not contend that a limitation missing from the combination would nonetheless be obvious due to design choice or some other rationale, and does not limit its motivation to combine arguments solely to a mere “design choice” as Patent Owner suggests. *See* Pet. 28–32; Pet. Reply 8–16.

Turning to the parties’ arguments, we first address Petitioner’s rationales for adding the teachings of Kross and Kress to Carsberg. We are persuaded by Petitioner’s argument and evidence that a POSITA would have been motivated to modify Carsberg by incorporating Kross’s separate air intake tube that includes a first intake chamber as required by claim 1, in order “to enable the pump cap to quickly reset the pump cap for multiple uses in quick succession.” Pet. 29–30; Ex. 1003 ¶¶ 114–115. Patent Owner argues that it would make no sense to increase the complexity of Carsberg when Mr. Jones generally praised Carsberg outlet nozzle 19 that also functions as an air intake, but that argument does not address directly Petitioner’s proposed rationale for the combination and the possibility that such advantages outweigh any alleged complexity. *See* PO Resp. 46–47. Similarly, Patent Owner argues that Petitioner’s proposed modification of Carsberg requires the addition of a one-way air intake valve to enable operation of the device, which again does not directly address Petitioner’s proposed reasons for the combination. *Id.* at 47. Patent Owner also improperly assumes that Petitioner’s proposed modification of Carsberg cannot require any further modifications such as the addition of a valve, no matter how routine, without providing any support for that position. *See id.*

We find Petitioner’s stated advantage for the addition of a separate air intake tube to be persuasive.¹⁴

We are also persuaded by Petitioner’s argument and evidence that a POSITA would have been motivated to modify Carsberg by adding Kress’s teaching of an orifice to the underside of the top wall closure, which would allow agitated media to more easily be directed out of the container. Pet. 30–31; Ex. 1003 ¶¶ 120–121, 123; *see also* Ex. 1003 ¶ 122 (quoting Ex. 1002, 35 (during prosecution, Examiner found that adding Kress’s exit passage flus on the bottom of its closure body would have been obvious in part because of its ability to dispense fine particles)). Petitioner persuasively argues, with credible support from Mr. Jones, that “implementing an opening on the bottom side of the closure flush against the bottom side of the top wall of the closure would have only involved a simple rearrangement well-known elements in the prior art to achieve predictable results.” Pet. Reply 13–14; Ex. 1003 ¶¶ 120–121. Patent Owner argues that Carsberg’s outlet is below the top wall, but fails to persuasively rebut Petitioner’s position that moving the location of an outlet would merely involve a simple

¹⁴ In its overview of the prior art, Patent Owner makes more general arguments that liquid dispensers such as Kross with long discharge tubes would not work with cosmetic media. *See* PO Resp. 6–8. Patent Owner does not repeat those arguments in the context of this challenge, except to argue that Kross relates to dispensing liquid and a POSITA “would not have been able to take Kress’s disclosure of dispensing ha[ir] fibers and simply used Carsberg or Kross for that purpose.” *Id.* at 45–46. Patent Owner premises this argument on adding Kress’s hair fibers to Carsberg or Kross, which Petitioner does not allege; Petitioner relies on Carsberg’s powder as the “cosmetic media” and alleges that certain teachings of Kross and Kress are used to modify Carsberg. *See* Pet. 26–32. In addition, Petitioner does not propose modifying Kross’s liquid dispenser to handle solid cosmetic media, as Patent Owner suggests. *See* PO Sur-reply 18–19.

rearrangement of parts. PO Resp. 48 (citing Ex. 1003 ¶ 123; Ex. 2017 ¶ 156). Patent Owner also argues that some of Petitioner's arguments lack adequate support from Mr. Jones, but on the whole, based on all of the arguments and evidence of record, we are persuaded that it would have been obvious to modify Carsberg by adding Kress's teaching of an orifice to the underside of the top wall closure. *See id.*; Pet. 30–31; Ex. 1002, 35; Ex. 1003 ¶¶ 120–123; Pet. Reply 13–14.

As to claims 2 and 3, we find that Petitioner establishes sufficiently that a POSITA would have been motivated to add the claimed one-way valve of Kross to Carsberg's air pump tube (claim 2) and air intake chamber (claim 3) to prevent the media in the receptacle from entering the dome chamber to prevent clogging within the dome chamber and to prevent air from leaving the dome chamber. Pet. 31–32; Ex. 1003 ¶¶ 126–131. Although Patent Owner argues that two modifications are necessary to Carsberg to meet the limitations of claim 3 and implementing only one of them may render Carsberg inoperable, Patent Owner does not address directly Petitioner's stated basis for the proposed combination. PO Resp. 48–49. Moreover, the evidence Patent Owner cites for its inoperability argument does not state that making both alterations necessary to meet claim 3 would result in an inoperable device. *See id.* at 47 (citing Ex. 1003 ¶ 130), 49 (citing PO Resp. 46–47); Ex. 1003 ¶ 130.

The parties also dispute whether it would have been obvious to add Carsberg's flared out tube to the other art of record, and devote substantial briefing to the issue, but we do not view this issue as determinative of the obviousness issues here. *See* PO Resp. 40–44; Pet. Reply 8–11; PO Sur-reply 15–18. Petitioner relies on Carsberg as disclosing the vast majority of

the limitations in these challenged claims, including the “cosmetic media” and “flared out” limitations, and only relies on Kross or Kress for certain limitations, based on specific motivations to modify Carsberg. *See* Pet. 26–33. After the proposed modifications of Carsberg are made, the resulting device includes all of the limitations of the challenged claims. *See id.* Patent Owner seems to assume that Petitioner must not only support the modification of Carsberg based on the teachings of Kross and Kress, but also must support the modification of Kross and Kress by adding the “flared out” tube of Carsberg. *See* PO Resp. 40 (arguing that Petitioner “failed to provide a non-hindsight motivation for modifying the deficient art to include a flared air pump tube”); PO Sur-reply 15 (arguing that Petitioner “failed to show a POSA would have had any non-hindsight motivation to include such a tube in a cosmetic-media pump dispenser”). Patent Owner provides no support for such a position.¹⁵

We find that Petitioner has proven by a preponderance of the evidence that one of ordinary skill in the art would have been motivated to combine

¹⁵ Although we need not reach the issue, at least as to the anti-clogging rationale Petitioner presents credible testimony of Mr. Jones that a “POSITA at the time of filing the ’494 patent would have reviewed Figure 2 of Carsberg and immediately recognized that the top end of tube 14 functions to prevent accumulation of the media and clogging, and redirect media back down into the container.” Ex. 1003 ¶ 86. Patent Owner argues that this rationale must have been the product of hindsight and gleaned from a comment in the prosecution history, but Mr. Jones makes no reference to the prosecution history, and the concept of adding a flared out end to a tube to produce a widened diameter and thereby help “prevent accumulation of the media and clogging” appears so straightforward that it would be immediately recognizable to a POSITA without resort to the prosecution history. *See id.*; PO Resp. 43.

Carsberg, Kross, and Kress in the manner Petitioner proposes for the reasons provided by Petitioner.

d. Objective Indicia of Nonobviousness

1) The Parties' Positions

Patent Owner argues that objective indicia illustrate the nonobviousness of the challenged claims, including long-felt need, failure of others, copying, praise by others, unexpected results, and commercial success. PO Resp. 56–59. Patent Owner argues that its “legacy and commercial hair-fiber pump applicators are commercial embodiments of at least claims 1–6 of the ’494 patent.” *Id.* at 57 (citing Ex. 2017 ¶¶ 181–215). Patent Owner also argues that “[a] nexus between the patent and objective indicia exists because the ’494 patent made possible Top Secret’s convenient, one-handed pump dispensers for hair fibers.” *Id.* Patent Owner further contends that its “pump dispensers are ‘essentially the claimed invention,’ i.e., the claimed pump dispensers, resulting in a presumption of nexus [Petitioner] has not rebutted.” PO Sur-reply 24 (citing *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373-74 (Fed. Cir. 2019)).

As to long-felt need, Patent Owner points to the long-running concern of baldness and the need for a one-handed hair fiber dispenser, and claims that its legacy product “was the first one-handed pump applicator for hair fibers.” PO Resp. 57 (citing Ex. 2017 ¶¶ 216–219). As to failure of others, Patent Owner argues that Kress taught an inconvenient two-handed device. *Id.* (citing Ex. 2017 ¶ 219). As to copying, Patent Owner alleges that Kress was forced to copy Patent Owner’s product, and eventually sold his company to Petitioner, and another rival “sold a copycat product” and was sued for infringement. *Id.* at 57–58 (citing Ex. 2004 ¶¶ 7–11; Ex. 2017

¶ 219). As to praise by others, Patent Owner argues that a rival company executive said that he “liked” Patent Owner’s product and allegedly “rave reviews” were left by customers on Amazon. *Id.* at 58 (citing Ex. 2003; Ex. 2004 ¶ 6; Ex. 2030 ¶ 6). Patent Owner’s allegations of unexpected results center on a POSITA’s doubt “that a compact one-handed applicator would be sufficiently powerful and capable of effectively suspending and forcing hair fibers from an attached container” and Mr. Jones’s alleged doubt that a flared air pump tube would serve any benefit. *Id.* (citing Ex. 2017 ¶¶ 220–221). As to commercial success, Patent Owner alleges that it competes against larger companies such as Petitioner yet grossed over \$200,000 in 2016, over \$150,000 in 2017, and over \$90,000 in 2018 from Amazon, and over \$95,000 from March 2019 to March 2020 from Bed Bath & Beyond/Harmon Beauty. *Id.* at 59 (citing Ex. 2030 ¶ 11; Ex. 2029).

Petitioner argues, as to the nexus issue, that Patent Owner’s commercial embodiments “do not provide any nexus (in addition to not providing any evidence of secondary considerations of nonobviousness) because they are not coextensive with the ’494 Patent claims.” Pet. Reply 27. Petitioner contends that Patent Owner improperly “conflates sales and consumer reviews of the claimed dispenser with the unpatented hair fibers that the dispenser is supposed to dispense.” *Id.*

As to long-felt need, Petitioner argues that Patent Owner fails to provide any surveys, market research, or other evidence to support its claims, and its own commercial product can be used without the need for a pump dispenser. Pet. Reply 23 (citing Ex. 2025, 1). As to failure of others, Petitioner argues that Patent Owner provides no evidence that Kress or anyone else failed to design a pump dispenser, much less a dispenser falling

within the scope of the challenged claims. *Id.* at 24. As to the statement that a rival executive “liked” Patent Owner’s product and its “copycat” product was the basis for an infringement action, Petitioner contends that the cited evidence from a rival executive is inadmissible and the suit against that company was dismissed due to Patent Owner’s failure to prosecute. *Id.* As to the allegedly positive Amazon reviews, Petitioner argues that Patent Owner selectively compiled the reviews, some of which pertain to the hair fibers rather than the dispenser, and many of the dispenser reviews are negative. *Id.* at 24–25. As to unexpected results, Petitioner contends that Patent Owner’s argument lacks support and that “the prior art dispensers of Carsberg (one-handed pump for powders) and Kress (hair fibers) each effectively suspend and force solids from an attached container.” *Id.* at 25. Petitioner also argues that Mr. Jones explained the benefits of a flared out tube end rather than expressed skepticism about its benefits. *Id.* As to commercial success, Petitioner argues that Patent Owner sells its pump dispensers with unpatented hair fibers, and that even then the sales are insignificant. *Id.* at 26 (citing Ex. 2035 ¶¶ 6–7). Petitioner also argues that Patent Owner’s sales data fails to “provide detail about the products sold nor any information which ties the sales to the Top Secret pump dispenser, as opposed to non-patented products (e.g., hair fibers).” *Id.* at 26 (citing Ex. 2035; Ex. 2029; MPEP §716.03(a)).

2) Discussion

We first address the nexus between the claimed invention and Patent Owner’s objective indicia of nonobviousness and then the strength of Patent Owner’s objective indicia evidence.

Patent Owner bears the burden of establishing a nexus. *See Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). “[A] patentee is entitled to a rebuttable presumption of nexus between the asserted evidence of secondary considerations and a patent claim if the patentee shows that the asserted evidence is tied to a specific product and that the product ‘is the invention disclosed and claimed.’” *Id.* (quoting *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988)).

Patent Owner fails to meet its burden of establishing a nexus. In its Response, Patent Owner argues, and Petitioner does not dispute, that at least claims 1–6 cover Patent Owner’s pump dispensers. PO Resp. 57. Merely establishing that the claims cover its products, however, does not entitle Patent Owner to a presumption of nexus. *See Fox Factory*, 944 F.3d at 1373 (noting that Federal Circuit has “reaffirmed the importance of the ‘coextensiveness’ requirement”); *see also id.* at 1377 (“We reject [Patent Owner’s] attempt to reduce the coextensiveness requirement to an inquiry into whether the patent claims broadly cover the product that is the subject of the evidence of secondary considerations.”). Petitioner points this out in its Reply by arguing that Patent Owner’s products are not coextensive with the claims, and argues that Patent Owner’s sales and customer reviews include evidence directed to Patent Owner’s kits that included unpatented hair fibers. Pet. Reply 27. While Patent Owner did include a sentence in its Sur-reply going to the coextensiveness issue (the “pump dispensers are ‘essentially the claimed invention’”), Patent Owner did not elaborate on why the claims were coextensive with the products or address Petitioner’s point that at least some of Patent Owner’s evidence relates to kits that include

unpatented components, which undermines Patent Owner's nexus argument. PO Sur-reply 24.¹⁶

Based on our review of the record, Patent Owner has not established that its kits, within which its pump dispensers are sold, are coextensive with the claimed inventions, and Patent Owner has not provided sufficient analysis for us to determine the extent to which the remaining evidence pertains to the kits or the pump dispensers alone. PO Sur-reply 24; *see also* Ex. 2025, 1 (showing potentially unpatented version of Patent Owner's products that includes a "Sifter Top"). Due to the presence of unpatented components within the kits, and the lack of adequate argument and evidence on this issue from Patent Owner, we find that Patent Owner has not established a presumption of nexus or a nexus absent any presumption.

For the sake of completeness, we briefly address Patent Owner's allegations relating to objective indicia based on the assumption that Patent Owner established a nexus. Overall, we find Patent Owner's objective evidence relatively weak.

Long-Felt Need. Patent Owner contends that the prevalence of one-handed dispensers for other unrelated items demonstrates a long-felt need for a one-handed hair fiber dispenser. PO Resp. 57 (citing Ex. 2017 ¶ 218). Patent Owner only submits the unsupported opinion of Dr. Hullender to support its contention, without any third party data or evidence suggesting such a need. *See id.*; Ex. 2017 ¶ 218. We find the evidence of long-felt but unresolved need weak.

¹⁶ Because Patent Owner first addresses the coextensiveness issue in its Sur-reply, Petitioner has not had the opportunity to address or rebut Patent Owner's assertion.

Failure of Others and Copying. Patent Owner presents no evidence that any person or company attempted but failed to design or fabricate a device meeting the limitations of any of the challenged claims, or copied Patent Owner's commercial products. *See* PO Resp. 57–58 (failing to cite any support for allegation of copying by Kress or a rival executive). Patent Owner has not presented any credible evidence of failure of others or copying.

Praise by Others. Patent Owner raises two instances of alleged praise by others. First, Patent Owner relies on a witness who claims that a rival executive told the witness “that he found a hair applicator he ‘liked.’” Ex. 2004 ¶ 6; PO Resp. 58. This statement does not identify which “hair applicator” was at issue, and does not establish that the product in question was Patent Owner's product, much less a version of the product coextensive with the challenged claims. *See id.* Second, Patent Owner argues that positive Amazon reviews amount to praise by others. PO Resp. 58 (citing Ex. 2003; Ex. 2030 ¶ 6). Patent Owner's single sentence of argument on this point is not adequately supported and developed to be given any weight, as it does not describe the nature of any of the reviews, whether the reviews were sorted to provide only positive reviews, and most importantly, whether any of the reviews pertain to the pump dispenser alone rather than unpatented products within Patent Owner's kit, such as the hair fibers themselves. *See id.* We find, therefore, that Patent Owner has not presented any credible evidence of praise by others.

Unexpected Results. Patent Owner relies solely on Dr. Hullender's testimony to support its allegation that the power of its one-handed applicator was unexpected. PO Resp. 58 (citing Ex. 2017 ¶ 220). That

testimony does not cite to any objective evidence or data suggesting that the claimed one-handed applicator produces more or less power than a two-handed applicator, and does not address whether Carsberg's one-handed applicator for cosmetic media already produced the allegedly unexpected results prior to the claimed invention. *See* Ex. 2017 ¶ 220. Under these circumstances, we view the evidence of unexpected results as relatively weak.

Commercial Success. Patent Owner presents very modest sales as evidence of commercial success. PO Resp. 59. Over a period of four years, gross sales were over \$535,000, with gross profits a fraction of that number. *Id.*; Ex. 2029, 13–14. In addition, these sales appear to be for kits, not the patented pump dispenser alone, and therefore include sales related to unpatented hair fibers. *See* Pet. Reply 24. On balance, we view the evidence of commercial success as relatively weak.

Based on the foregoing, we find that Patent Owner fails to establish a nexus and therefore fails to establish that the objective indicia support a finding of nonobviousness. Even if Patent Owner were to establish a nexus, the objective evidence presented by Patent Owner is relatively weak.

4. *Conclusion as to Claims 1–4 and 6*

“Once all relevant facts are found, the ultimate legal determination [of obviousness] involves the weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan.” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1361 (Fed. Cir. 2017). Above, based on the full record before us, we provide our factual findings regarding (1) the level of ordinary skill in the art, (2) the

scope and content of the prior art, (3) any differences between the claimed subject matter and the prior art; and (4) objective indicia of nonobviousness.

In particular, we find that (1) Petitioner’s proposed level of ordinary skill in the art is consistent with the art of record; (2) the combination of Carsberg, Kross, and Kress discloses all the limitations of claims 1–4 and 6; (3) one of ordinary skill in the art would have been motivated to combine Carsberg, Kross, and Kress in the manner Petitioner proposes; and (4) Patent Owner fails to establish a nexus, and even assuming a nexus, Patent Owner’s objective evidence is relatively weak. Weighing these underlying factual determinations, a preponderance of the evidence persuades us that claims 1–4 and 6 of the ’494 patent are unpatentable as obvious over the combination of Carsberg, Kross, and Kress.

E. Obviousness of Claims 5 and 7–11 Based on Carsberg, Kross, Kress, and Lundblad

Petitioner challenges claims 5 and 7–11 under 35 U.S.C. § 103 based on Carsberg, Kross, Kress, and Lundblad. Pet. 32–38. For these challenges, Petitioner cites to the asserted references and the Jones Declaration. *Id.* This challenge builds on the previous challenge based on Carsberg, Kross, and Kress, and relies on Lundblad for certain limitations related to a “flange” recited in claim 5 and a “media outlet chamber” recited in claim 7. *See id.* at 26–38.

1. Overview of Lundblad

Lundblad discloses “a discharge closure for liquid containers.” Ex. 1009, 1:9–10. Petitioner’s annotated version of Lundblad’s Figure 2 is reproduced below (Ex. 1003 ¶ 157).

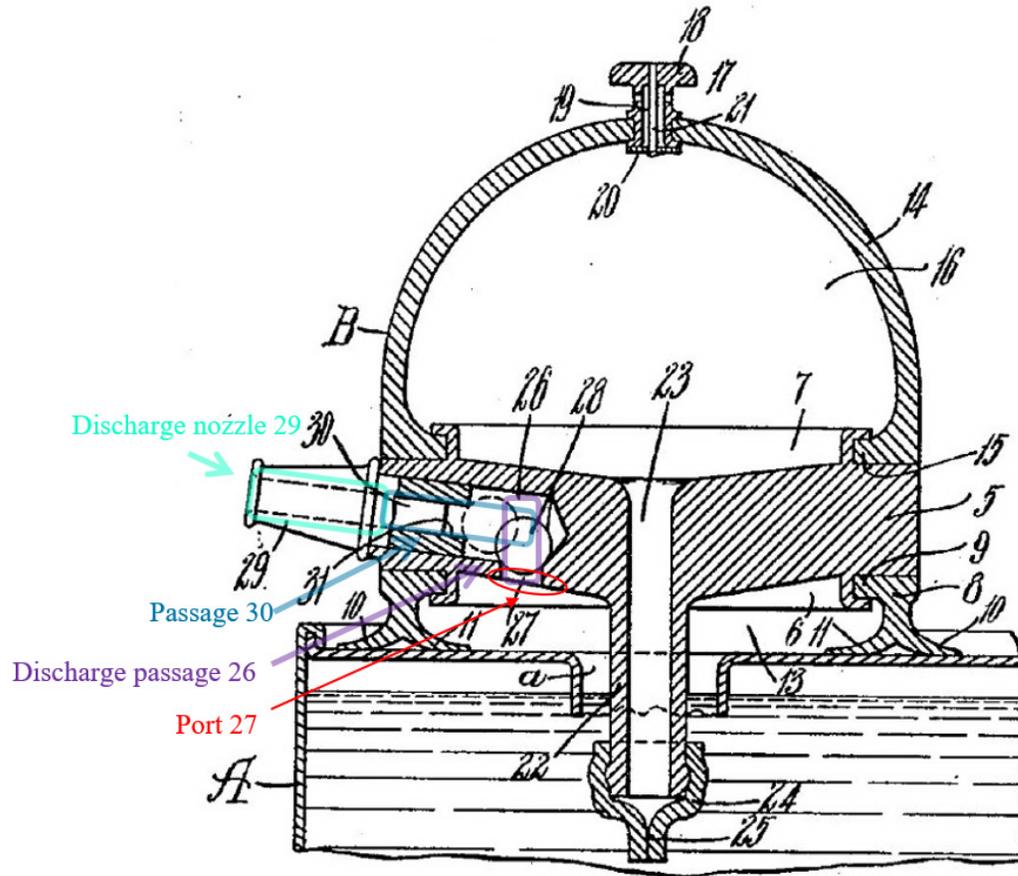


FIG. 2.

The annotated Figure 2 depicts bulb 14 attached to body member 5 via flange 7. Ex. 1009, 1:91–95, Fig. 2. Lundblad’s tube-like extension 22 extends downward from body member 5 a short distance into the interior of container A. *Id.* at 2:6–11. Air passage 23 extends through body member 5 and extension 22, providing communication between container A and air chamber 16 above body member 5 and below bulb 14. *Id.* at 1:96–98, 2:11–15. The annotated Figure 2 labels the exit path of fluid from chamber 13. Lundblad discloses liquid discharge passage 26 within body member 5, with discharge passage 26 “communicating through a port 27 with the chamber 13 beneath” body member 5. *Id.* at 2:35–38. Fluid exiting

chamber 13 passes through port 27, then discharge passage 26, following by passage 30 and discharge nozzle 29. *Id.* at 2:43–55.

2. *Discussion*

We address each of the challenged claims in turn.

a. *Claim 5*

Claim 5 depends from claim 1 and further requires “a flange extending from and parallel to the top side of the closure; wherein said deformable dome possesses a lip which fits under the flange, thereby sealing the deformable dome to the closure.” Ex. 1001, 5:65–6:3. Petitioner argues that Lundblad discloses “flange 7 extending from and parallel to the top side of the closure 5 that fits with bulb 14 which has an inwardly projecting annular flange 15 formed integral therewith.” Pet. 32–33 (citing Ex. 1003 ¶¶ 134–138; Ex. 1009, 1:91–95). Patent Owner does not address or contest Petitioner’s assertions as to claim 5, except to incorporate its arguments as to claim 1. PO Resp. 49. Based on our review of the record, Petitioner establishes sufficiently that the combination of Carsberg, Kross, Kress, and Lundblad discloses all of the limitations of claim 5, and that a POSITA would have been motivated to add Lundblad’s teachings to the combination. *See* Pet. 32–33; Ex. 1003 ¶¶ 134–138; Ex. 1009, 1:91–95.

b. *Claim 7*

Independent claim 7 contains limitations that largely mirror the limitations of claims 1–3, 5, and 6, and Petitioner incorporates its analysis of those claims into its allegations as to claim 7. *See* Ex. 1001, 5:12–61, 6:6–8:3; Pet. 33–37; PO Resp. 49. Claim 7 also requires that the air pump tube’s bottom end extend “only a small distance past the bottom side of the top wall of the closure, such that air expelled from said air pump tube into

said receptacle chamber is directly incident on the cosmetic media in the receptacle chamber.” Ex. 1001, 6:33–37. Petitioner argues that Lundblad discloses “short tube 14” that extends into container 11 and meets this limitation. Pet. 35 (quoting Ex. 1008, 1:77–80) (citing Ex. 1003 ¶ 150, Pet. 32). Patent Owner does not address or contest Petitioner’s assertion that the combination of Carsberg, Kross, Kress, and Lundblad discloses these limitations, except to incorporate its arguments as to claim 1. PO Resp. 49–50. Based on our review of the record, Petitioner establishes sufficiently that the combination of Carsberg, Kross, Kress, and Lundblad discloses all of these limitations of claim 7, and that a POSITA would have been motivated to add Lundblad’s short tube 14 to the combination. *See* Pet. 35; Ex. 1003 ¶ 150, Pet. 32; Ex. 1008, 1:77–80.

Claim 7 also includes limitations requiring a “media outlet chamber comprising a first cylindrical chamber being substantially perpendicular to said bottom side of said top wall of said closure,” “a second cylindrical chamber substantially perpendicular to said first cylindrical chamber, and communicating with said first cylindrical chamber,” and “a third cylindrical chamber parallel to and communication with said second cylindrical chamber.” Ex. 1001, 6:51–64. Petitioner argues that Lundblad’s liquid discharge passage 26 corresponds to the claimed first cylindrical chamber, passage 30 corresponds to the second cylindrical chamber and communicates with discharge passage 26, and discharge nozzle 29 corresponds to the third cylindrical chamber. Pet. 36 (citing Ex. 1003 ¶¶ 157–158; Ex. 1009, 2:35–47, Fig. 2). Patent Owner argues that “no portion of Lundblad’s liquid discharge chamber 26 is ‘substantially perpendicular’ to anything that might be considered to a top wall of a

closure,” and therefore Lundblad lacks the “first cylindrical chamber.” PO Resp. 50 (citing Ex. 2017 ¶ 162). Patent Owner also argues that Petitioner “fails to explain how and why a POS[IT]A would modify Carsberg to include Lundblad’s liquid discharge chamber.” *Id.* Petitioner replies that Mr. Jones explained that a

POSITA would have known prior to the filing of the ’494 Patent to use “passages of a given diameter . . . to control the dispersion pattern of media as it is expelled” and would have been motivated to combine the passages in the outlet of Lundblad to accomplish this known benefit.

Pet. Reply 15 (citing Ex. 1003 ¶¶ 156–159). Patent Owner does not address Petitioner’s reply argument in its Sur-reply. *See* PO Sur-reply 13–19.

We find that Petitioner establishes sufficiently that Lundblad discloses the claimed “media outlet chamber” and related limitations, including a first cylindrical chamber substantially perpendicular to the bottom side of a top wall of the closure. Pet. 36; Ex. 1003 ¶¶ 156–159. As shown above in Lundblad’s annotated Figure 2, at least one aspect of discharge passage 26 runs up from port 27 formed on the bottom side of body member 5. Ex. 1008, Fig. 2. Another aspect of discharge opening 26 runs parallel to passage 30. *Id.* Petitioner relies on the first aspect of discharge opening 26 (shown in purple in the annotated drawing above), as the first cylindrical chamber. *See* Ex. 1003 ¶ 157. Patent Owner does not directly address the evidence Petitioner relies on to disclose this limitation, does not argue that the entire discharge opening 26 must meet the claim requirements rather than the portion Petitioner relies upon, and mischaracterizes the limitation at issue by arguing that “no portion of Lundblad’s liquid discharge chamber 26 is ‘substantially perpendicular’ to anything that might be considered to be a top wall of a closure.” *See* PO Resp. 50 (citing Ex. 2017 ¶ 162). The

limitation requires discharge chamber 26 be substantially perpendicular to the “bottom side” of the top wall of a closure, not the “top wall of a closure” more generally. Ex. 1001, 6:53–56. We are persuaded that at least the portion of discharge opening 26 that Petitioner relies upon is “substantially perpendicular” to the bottom side of Lundblad’s body member 5. Ex. 1008, Fig. 2; Ex. 1003 ¶¶ 156–159.

As to the motivation to combine issue, we find that Petitioner establishes sufficiently that a POSITA would have been motivated to combine Carsberg’s outlet passage with Lundblad’s teachings as to outlet passages. Pet. Reply 15; Ex. 1003 ¶¶ 156–159. Petitioner argues persuasively, with credible support from Mr. Jones that Patent Owner does not directly address or dispute, that a “POSITA would have known prior to the filing of the ’94 Patent to use ‘passages of a given diameter . . . to control the dispersion pattern of media as it is expelled’ and would have been motivated to combine the passages in the outlet of Lundblad to accomplish this known benefit.” Pet. Reply 15 (citing Ex. 1003 ¶¶ 156–159).

c. Claims 8 and 9

Claim 8 depends from claim 7, and further recites “said media is a powder or fiber.” Ex. 1001, 7:4–5. Claim 9 depends from claim 8 and further recites “said fiber is a hair increasing material.” *Id.* at 7:6–7. As to claim 8, Petitioner argues that Carsberg discloses powder and Kress discloses fibers, and either reference disclose the requirements of claim 8 because the claim requires powder *or* fiber. Pet. 37 (citing Ex. 1003 ¶ 162; Ex. 1008, 1:29–35, 2:34–36). As to claim 9, Petitioner contends that Kress discloses “hair increasing fiber material.” *Id.* (citing Ex. 1003 ¶ 164;

Ex. 1007, code (54)). Patent Owner argues that “Carsberg, at most, is enabled for fine powder (not fibers), and the Kress patent teaches dispensing hair fibers with a very different, inconvenient two-handed device.” PO Resp. 50 (citing Ex. 2017 ¶ 163).

We find that Petitioner establishes sufficiently that Carsberg teaches the limitations of claims 8 and 9. As Petitioner correctly notes, claim 8 requires cosmetic media that is a powder *or* fiber, and Carsberg discloses cosmetic media in the form of a powder. Pet. 37; Ex. 1003 ¶ 162; Ex. 1008, 1:29–35, 2:34–36. Claim 9 alters the scope of the “fiber” of claim 8 by requiring a fiber that is a “hair increasing material,” but claim 9 does not expressly limit the cosmetic media to that material, and therefore claim 9 appears to cover cosmetic media that is powder *or* hair increasing material. Ex. 1001, 7:6–7. Accordingly, Carsberg’s powder still meets the limitations of claim 9. Even if claim 9 were to require hair increasing material, Kress discloses that material, and Patent Owner’s argument as to two-handed use does not address that point or explain why hair increasing fiber would not work in Carsberg’s one-handed cosmetic media dispenser. *See* PO Resp. 50.

d. Claims 10 and 11

Claims 10–11 depend from claim 8 and recite “a discharge” (claim 10) and a “medial outlet opening” (claim 11) that can accurately direct material. Ex. 1001, 8:1–6. Petitioner argues that Carsberg discloses the limitations of claims 10 and 11. Pet. 37–38 (citing Ex. 1003 ¶¶ 165–168; Ex. 1008, 1:23–30, 1:60–65). Patent Owner does not contest Petitioner’s arguments and evidence as to claims 10 and 11 other than to argue that its arguments as to claim 8 apply to claims 10 and 11. PO Resp. 51. We find that Petitioner establishes sufficiently that Carsberg discloses the additional

limitations of claims 10 and 11. *See* Pet. 37–38; Ex. 1003 ¶¶ 165–168; Ex. 1008, 1:23–30, 1:60–65.

3. *Conclusion as to Claims 5 and 7–11*

We find that (1) Petitioner’s proposed level of ordinary skill in the art is consistent with the art of record; (2) the combination of Carsberg, Kross, Kress, and Lundblad discloses all the limitations of claims 5 and 7–11; (3) one of ordinary skill in the art would have been motivated to combine Carsberg, Kross, Kress, and Lundblad in the manner Petitioner proposes; and (4) Patent Owner fails to establish a nexus, and even assuming a nexus, the objective evidence is relatively weak. Weighing these underlying factual determinations, a preponderance of the evidence persuades us that claims 5 and 7–11 of the ’494 patent are unpatentable over the combination of Carsberg, Kross, Kress, and Lundblad.

F. *Petitioner’s Additional Challenges*

Petitioner challenges claims 1–11 under 35 U.S.C. § 103 (1) based on Lundblad, Kross, and Kress; (2) based on Kross, Kress, Perritt, and Lundblad; and (3) based on Kross, Kress, Perritt, and the knowledge of a POSITA. Pet. 39–63. We do not reach these challenges because we have concluded that Petitioner has met its burden of establishing that claims 1–11 are unpatentable on other grounds.

G. *Patent Owner’s Motion to Exclude*

Patent Owner moves to exclude a number of items, including Exhibits 1011–1012 and 1018–1023. Paper 30, 3–13. Patent Owner also moves to exclude paragraphs 265 and 271 of Exhibit 1003 because those paragraphs rely on inadmissible Exhibit 1011, and Patent Owner moves to

exclude paragraph 272 of Exhibit 1003 because it relies on inadmissible Exhibit 1012. *Id.*

Although we may have explicitly or implicitly referenced these exhibits when recounting or addressing the parties' arguments, we do not rely on any of the exhibits, or the paragraphs cited in Exhibit 1003, as a basis to make any findings in this Decision. We, therefore, dismiss Patent Owner's Motion to Exclude as moot.

H. Petitioner's Motion to Exclude

Petitioner moves to exclude Exhibits 2001, 2003, 2004, and 2029. Paper 31, 1–15. Although we may have explicitly or implicitly referenced these exhibits when recounting or addressing the parties' arguments, we do not rely on any of the exhibits as a basis to make any findings adverse to Petitioner in this Decision. For example, we considered Exhibits 2004 and 2029 as part of Patent Owner's objective indicia arguments, and found the arguments lacking even after we considered the exhibits. We, therefore, dismiss Petitioner's Motion to Exclude as moot.

CONCLUSION¹⁷

A summary of our conclusions appears in the chart below:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–4, 6	103(a)	Carsberg, Kross, Kress	1–4, 6	

¹⁷ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
5, 7–11	103(a)	Carsberg, Kross, Kress, Lundblad	5, 7–11	
1–11	103(a) ¹⁸	Lundblad, Kross, Kress		
1–11	103(a)	Kross, Kress, Perritt, Lundblad		
1–11	103(a)	Kross, Kress, Perritt, knowledge of POSITA		
Overall Outcome			1–11	

ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–11 of U.S. Patent 7,841,494 B2 have been shown, by a preponderance of the evidence, to be unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Exclude is *dismissed*;

FURTHER ORDERED that Petitioner’s Motion to Exclude is *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

¹⁸ Because we already determined that all of the challenged claims are unpatentable, we did not reach whether the same claims are also unpatentable based on other challenges.

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