

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GROWLERWERKS, INC.,
Petitioner,

v.

DRINK TANKS CORPORATION,
Patent Owner.

Case IPR2017-00262
Patent 9,156,670 B2

Before PHILLIP J. KAUFFMAN, BEVERLY M. BUNTING, and
JASON W. MELVIN, *Administrative Patent Judges*.

MELVIN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Petitioner, GrowlerWerks, Inc., challenges all claims of U.S. Patent No. 9,156,670 B2 (Ex. 1001, “the ’670 patent”), claims 1–19 (*see* Petition (Paper 2, “Pet.”). We instituted review of claims 1–7, 9–13, and 16–19. Paper 7 (“Institution Decision” or “Inst.”). Patent Owner, Drink Tanks Corporation, filed a Response (Paper 9, “PO Resp.”) and Petitioner filed a Reply (Paper 10). Patent Owner filed a Motion to Exclude Evidence (Paper 13), which we address below. We held a hearing on October 30, 2017, and a transcript of the hearing is included in the record. Paper 23 (“Tr.”).

This a final written decision as to the patentability of claims for which we instituted *inter partes* review. For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–7, 9–13, and 16–19 are unpatentable.

A. RELATED MATTERS

The parties identify the following pending judicial matter as relating to the ’670 patent: *Drink Tanks Corporation v. GrowlerWerks, Inc.*, Case No. 3:16-cv-00410-SI (D. Or.), filed November 16, 2015, in the U.S. District Court for the District of Delaware and transferred to the District of Oregon on March 7, 2016. Pet. 2; *see* Paper 5, 1.

B. THE ’670 PATENT

The ’670 patent is titled “Systems for Storing Beverages.” Ex. 1001, [54]. The ’670 patent describes systems including those “configured for storing carbonated beverages, and include a container capable of

maintaining an internal pressure.” *Id.* at 1:36–39. The ’670 patent describes beverage containers with double-walled construction such that a vacuum may be maintained between the walls, thus thermally insulating the contents. *Id.* at 1:54–59. The ’670 patent’s Figure 3 is reproduced below:

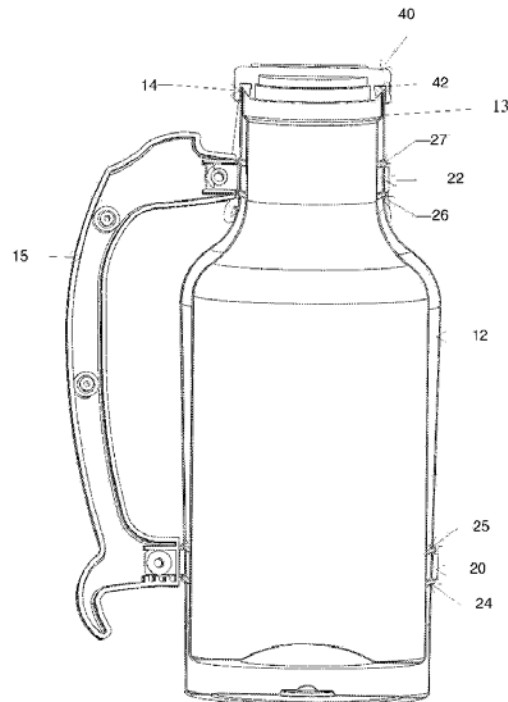


Figure 3 depicts container 12 as a double-walled, vacuum-sealed vessel with a tapered upper section leading to a “wide-mouthed neck 13” that terminates at a rim 14 that “due to the double-walled construction, is in the form of a bend rather than a flat surface.” *Id.* at 3:54–65. The ’670 patent describes a lid for the container including an annular channel holding a seal. *Id.* at 5:7–22. The ’670 patent’s Figure 4 is reproduced below:

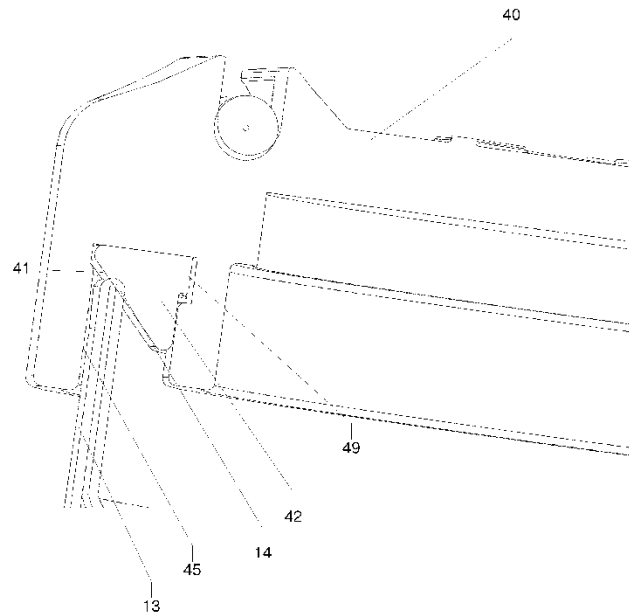


Figure 4 shows greater detail of the rim 14 and lid 40, including how the lid holds the seal 42 and causes it to engage the rim 14. *Id.* at 3:4–5.

In some embodiments, the '670 patent describes a lid with a pressure-inlet fitting, or pressure port, to permit the user to add a gas to further pressurize the contents of the container. *Id.* at 5:46–6:11. The embodiment permitting pressurization also includes a pressure relief valve 80, “designed to release excess pressure from the closed container, thereby minimizing the possibility of explosion or deformation of the container due to over-pressurization.” *Id.* at 6:12–16. The '670 patent describes that, in some embodiments, “the relief valve is a miniature elastomeric umbrella valve.” *Id.* at 6:16–20. The '670 patent’s Figure 15 is reproduced below:

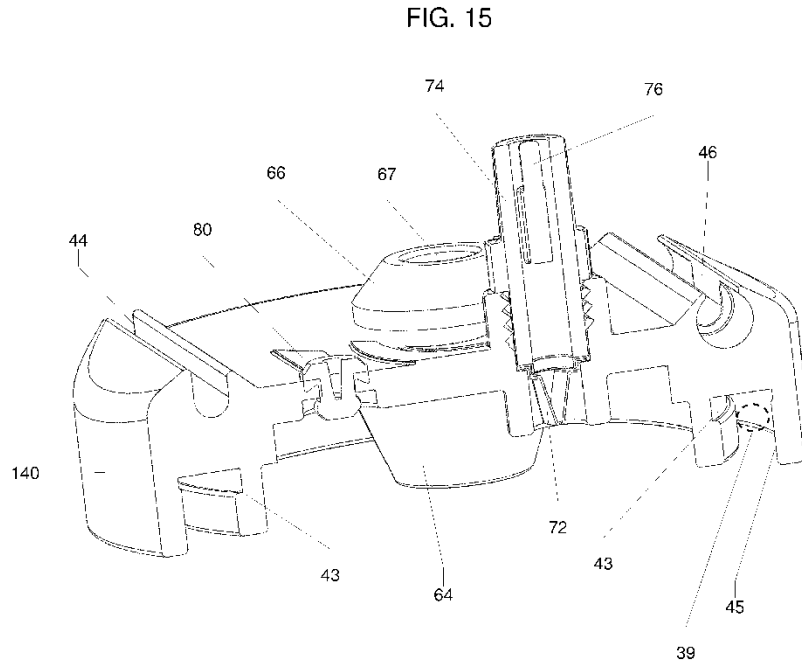


Figure 15 depicts a container cap with an annular recess 43 to receive and retain a seal, a pressure port comprising a duckbill valve 72, and a pressure relieve valve 80. *Id.* at 3:28–29, 5:7–12, 5:56–6:27. The '670 patent further describes that its features “can be used with threaded lids.” *Id.* at 7:15–17.

C. CHALLENGED CLAIMS

Independent claims 1 and 18 of the '670 patent (reproduced below) are illustrative of the claimed subject matter:

1. A beverage storage system comprising:
 - a container body comprising a vacuum sealed metal vessel having a rim which has a non-planar surface,
 - a lid having a threaded portion and a gas inlet valve; and
 - an annular elastomeric seal interposed between a bottom surface of the lid and the rim and configured to seal against the non-planar surface of the rim.

18. A beverage storage system comprising:
- a container body comprising a vacuum sealed metal vessel having a rim which has a non-planar surface,
 - a lid having a gas inlet valve; and
 - an annular elastomeric seal disposed in an annular channel in the bottom surface of the lid and configured to seal against the non-planar surface of the rim;
- wherein the container body includes a generally cylindrical neck region and the channel includes a sidewall configured to abut an outer surface of the neck region.

Ex. 1001, 7:43–49, 8:38–47.

D. REVIEWED GROUNDS OF UNPATENTABILITY

Petitioner relies on the following prior art:

Exhibit	Reference
1009 ("Olson")	U.S. Pat. Pub. No. 2008/0047922 A1, pub. Feb. 28, 2008
1010 ("Rosbach")	U.S. Pat. Pub. No. 2013/0032564 A1, pub. Feb. 7, 2013
1011 ("Snead")	U.S. Pat. Pub. No. 2013/0319969 A1, pub. Dec. 5, 2013
1012 ("Arellano")	U.S. Pat. No. 6,651,852 B2, iss. Nov. 25, 2003
1014 ("Hammond")	U.S. Pat. No. 7,131,560 B2, iss. Nov. 7, 2006
1016 ("Russell")	U.S. Pat. No. 3,159,176, iss. Dec. 1, 1964
1017 ("Windmiller")	U.S. Pat. Pub. No. 2008/0142421 A1, pub. June 19, 2008
1018 ("Wallace")	U.S. Pat. Pub. No. 2011/0151085 A1, pub. June 23, 2011

Exhibit	Reference
1019 ("Mociak")	U.S. Pat. Pub. No. 2014/0262899 A1, pub. Sept. 18, 2014

We instituted review on the following grounds of unpatentability, each based on 35 U.S.C. § 103(a):¹

References	Challenged Claim(s)
Olson, Rosbach, and Snead	1–3, 7, 9, 10, 14, 15, 18, 19
Olson, Rosbach, Snead, and Arellano	3–6
Olson, Rosbach, Snead, and Ash	11–13
Olson, Rosbach, Snead, and Hammond	11–13
Olson, Rosbach, Snead, and Russell	16, 17
Olson, Rosbach, Snead, and Windmiller	16
Olson, Rosbach, Snead, and Wallace	17
Olson, Rosbach, and Mociak	1–4, 7, 9, 10, 18, 19
Olson, Rosbach, Mociak, and Arellano	4–6
Olson, Rosbach, Mociak, and Hammond	11–13
Olson, Rosbach, Mociak, and Windmiller	16
Olson, Rosbach, Mociak, and Wallace	17

¹ The America Invents Act included revisions to, *inter alia*, 35 U.S.C. § 103 effective on March 16, 2013. Because the '670 patent issued from an application filed before March 16, 2013, the pre-AIA version of 35 U.S.C. § 103 applies.

E. LEGAL PRINCIPLES

1. Burden of proof

In *inter partes* reviews, petitioners bear the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must support its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Accordingly, all of our findings and conclusions are based on a preponderance of the evidence.

2. Claim construction

The Board interprets unexpired claims using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under that standard, we generally give a claim term its “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. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (internal quotation and citation omitted). The specification may impose a specialized meaning, departing from the ordinary and customary meaning, by defining a term with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Further, a party in an *inter partes* review may prove “the existence of a ‘clear and unmistakable’ disclaimer” that narrowed a term’s definition in the prosecution history of a challenged patent. *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1063–64 (Fed. Cir. 2016) (quoting *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007)).

3. Obviousness

An invention is not patentable “if the differences between the subject matter sought to be patented 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.” 35 U.S.C. § 103(a). 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) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006)). Whether a combination of elements produced a predictable result weighs in the ultimate determination of obviousness. *KSR*, 550 U.S. at 416–17. We analyze the grounds based on obviousness in accordance with the above-stated principles.

II. DISCUSSION

A. THE LEVEL OF ORDINARY SKILL IN THE ART

Petitioner discusses the level of ordinary skill in the art by pointing to the subject matter of the patent—“systems for storing and dispensing beverages.” Pet. 19–20 (citing Ex. 1001, 1:35–36, 7:43, 8:38). Petitioner asserts that the level of skill “need not be separately determined where the

level of skill in the art might be gleaned from the prior art itself.” *Id.* at 19 (citing *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001)).

Petitioner supports the implicit definition’s adequacy by asserting that “all but one of the applied references is within the same field” as the challenged patent and that the exception to that statement “solves a similar problem” as the challenged patent. *Id.* at 20.

Nonetheless, as we stated in the Institution Decision, the prior art of record here evidences the level of technical detail considered by skilled practitioners. Inst. 11. Many aspects of the claimed technology and the prior art relate to pressurized vessels, a classic subject in mechanical engineering. Thus, as we stated in the Institution Decision, and based on the complete record and the applicable evidentiary standard, we consider the level of ordinary skill in this proceeding to encompass a person trained in mechanical engineering—for example, with a bachelor’s degree—and practicing in the area of pressurized beverage containers; such a person has knowledge of manufacturing technology. *See, e.g.*, Ex. 1009 ¶¶ 2, 26, 46; Ex. 1010 ¶¶ 11, 14, 24, 30; Ex. 1011 ¶¶ 7, 21; Ex. 1019 ¶¶ 13, 23.

Patent Owner argues that Petitioner’s reliance on the prior art to define the level of ordinary skill in the art “is not adequate by itself to support the grounds of invalidity relied on in the Petition.” PO Resp. 10. According to Patent Owner, by not expressly defining the level of skill in the art, Petitioner could not have properly applied the *Graham* factors. *Id.* at 11. Patent Owner asserts that the inventor’s level of skill is relevant to the level of ordinary skill, and describes a named inventor as having a Bachelor of Science degree in Industrial Engineering and working in the field of mechanical engineering. *Id.* at 12–13. Patent Owner asserts a person of

ordinary skill in the art “would be required to have working knowledge of several different areas of mechanical or industrial engineering.” *Id.* at 13. Patent Owner does not identify how its definition of the level of ordinary skill in the art should affect any of our conclusions. We note that all of Patent Owner’s assertions are consistent with how we defined the level of ordinary skill in the Institution Decision and how we define it here.²

B. WHETHER THE PETITION REQUIRED AN EXPERT OPINION

Patent Owner asserts that Petitioner fails to show a reasonable likelihood that any challenged claim is unpatentable because the Petition lacks expert testimony to support the reviewed grounds of obviousness. PO Resp. 20–21. As the Federal Circuit has explained, however, “expert testimony is not required when the references and the invention are easily understandable.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1242 (Fed. Cir. 2010) (citing *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009)). Patent Owner relies on *Wyers* to argue that expert testimony may be critical (PO Resp. 21) but fails to identify adequately how the subject matter at issue is “beyond the comprehension of laypersons” (see *Wyers*, 616 F.3d at 1240 n.5) (internal quotation and citation omitted).

Patent Owner has not identified persuasively any aspect of the Petition that is deficient based on the lack of expert testimony. Our rules do not require expert testimony; rather, the Petition must contain “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, and the governing law,

² If anything, Patent Owner’s more-detailed and more-comprehensive description of the level of ordinary skill in the art would suggest greater abilities by the hypothetical person of ordinary skill. See PO Resp. 13.

rules, and precedent.” 42 C.F.R. § 42.22(a). Patent Owner largely argues that the absence of expert testimony undermines the Petition’s stated reasons that a person of skill would have combined teachings of the prior art as proposed by Petitioner. PO Resp. 21–22. Patent Owner recognizes that we denied institution of certain grounds for review after identifying certain deficiencies with the Petition. *Id.* at 22. As discussed below, we do not agree with Patent Owner’s assertion that the reviewed combinations suffer from those same deficiencies.

C. CLAIM CONSTRUCTION

Petitioner asserts that the claims terms “are presumed to take on their ordinary and customary meaning.” Pet. 20. In turn, Patent Owner proposes a construction for the phrase “vacuum sealed metal vessel having a rim which has a non-planar surface” in independent claims 1 and 18.

PO Resp. 14–17. Having considered the entire record, we determine that, other than as discussed *infra*, there is no need for an express construction of any term. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

According to Patent Owner, the above phrase “is an undivided expression” in that “the rim having a non-planar surface and the vacuum sealed metal vessel describe a single unitary structure that cannot be physically or conceptually separated in the interpretation of the claim” *Id.* at 14; *accord id.* at 15 (“[T]his limitation is intended to be construed as a unified expression, and is not severable.”). We do not consider Patent Owner’s proposed construction to be proper. With its argument, Patent Owner does not seek any particular construction for the claim language, but

instead seeks to preclude an assertion of obviousness where features are combined from multiple references to arrive at the claimed structure. See PO Resp. 23–26. In other words, Patent Owner’s assertion is not a claim interpretation; rather, it is an attempt to change the law of obviousness. We do not agree that it would be proper to construe the claims with such an immunity from multiple-reference obviousness.

Patent Owner argues in part based on the Specification’s teaching that the double-walled construction results in a neck “in the form of a bend rather than a flat surface.” *Id.* at 15 (quoting Ex. 1001, 3:54–67). But having one feature result from another does not inextricably link the two such that a person of skill could not have arrived at the same ultimate structure by following a different course. Stated otherwise, even accepting Patent Owner’s argument that the Specification describes a “single structure” of a vacuum-sealed container with a nonplanar rim (PO Resp. 16–17), such a structure may have been obvious to a skilled artisan based on teachings from multiple prior-art references.

Patent Owner relies on *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010), as holding that “where the claimed structure must be read as a unitary whole, all of the aspects of that structure must be present together as a distinct component.” PO Resp. 23. We do not agree that *Becton, Dickinson* supports such a holding. Rather, in that case the Federal Circuit held that distinct claim terms required distinct structures when the specification of the patent described the structures as separate and did not disclose a unified structure encompassing both terms. 616 F.3d at 1254–55. Nothing in the *Becton, Dickinson* case supports Patent Owner’s attempt to stretch the case to support the notion of an undividable

structure. Patent Owner asserts that “[i]f a single structure does not infringe a claim requiring two discrete structures, a claim requiring a single structure is not rendered obvious by two references that each only purport to disclose a portion of that structure.” PO Resp. 24. But that assertion ignores a fundamental point of obviousness, which is that a person of skill would have found it obvious to combine elements from the prior art. *See KSR*, 550 U.S. at 415–16 (“For over a half century, the Court has held that a ‘patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men.’”) (quoting *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152–53 (1950)).

Patent Owner’s approach to obviousness conflicts with longstanding case law. Patent Owner asserts that “[n]either Olson nor Rosbach discloses all of the aspects of the element that is claimed” and further argues that the “claimed element” here has “several features” that must come from a single reference. PO Resp. 24–25. Thus, Patent Owner would limit the analysis such that a single reference must a vessel both vacuum sealed and having a nonplanar rim. Obviousness, however, “does not require that a single reference suggest all the elements of the claimed combination.” *Banner Eng’g Corp. v. Tri-Tronics Co.*, 1993 WL 432383, *3 (Fed. Cir. 1993) (unpublished). That is because “references are read not in isolation but for what they fairly teach in combination with the prior art as a whole.” *Id.* (citing *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)). Thus, Patent Owner’s proposal would be improper as a matter of law.

D. ASSERTED OBVIOUSNESS OVER OLSON, ROSBACH, AND SNEAD

Petitioner asserts that the combined teachings of Olson, Rosbach, and Snead would have rendered obvious the subject matter of claims 1–3, 7, 9, 10, 18, and 19 to one of ordinary skill in the art at the time of invention. Pet. 21–34. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

1. Summary of Olson (Ex. 1009)

Olson describes a “metal bottle seal” for use with “a metal bottle that is shaped to form a bottle neck, the bottle neck having a curl formed in an edge of the bottle neck.” Ex. 1009, [54], [57], ¶ 3. Olson also describes and depicts a cap with a threaded portion that screws into the neck of the bottle, with an annular channel in cap containing a seal to seal against the curled bottle neck. *Id.* ¶¶ 41–42, Fig. 13. Figure 13 of Olson is reproduced below:

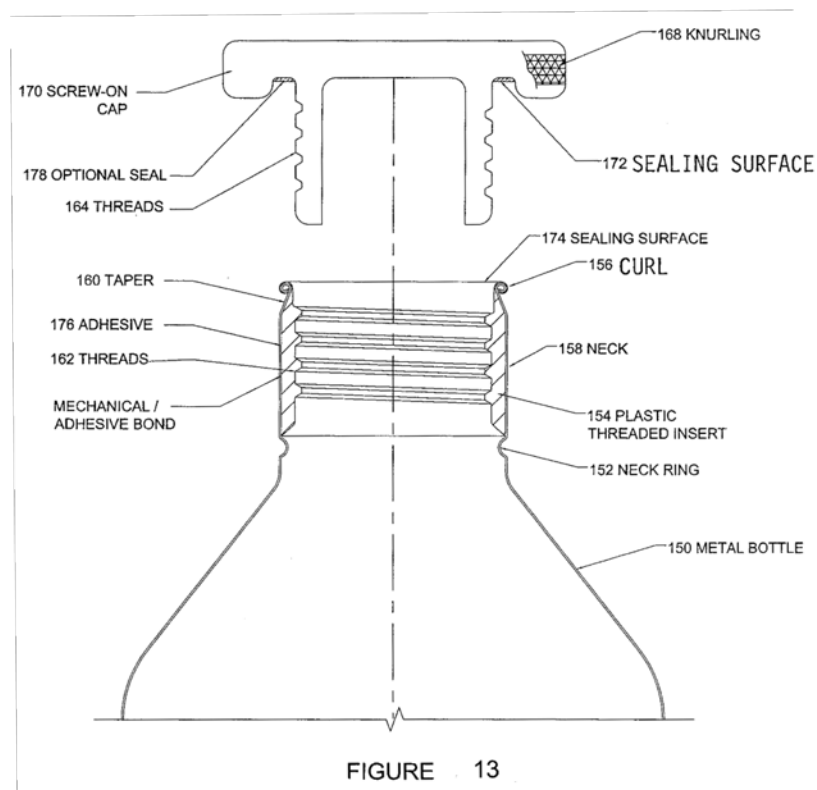


Figure 13 depicts a metal bottle having a neck with an internally threaded portion and a curled edge, and a screw-on cap with threads corresponding to the threads of the metal bottle and an annular channel holding a seal to interface with the curled edge of the bottle. *Id.* ¶¶ 19, 42–43.

2. Summary of Rosbach (Ex. 1010)

Rosbach aims to provide a bottle “that is economical, resealable, providing more thermal protection than a glass bottle without being breakable.” Ex. 1010 ¶ 11. Rosbach describes a “metal thermal bottle adapted for use with beer with the thermal properties of keeping chilled liquids cold, preserving carbonation and being of a proper size for use as a growler.” Ex. 1010 ¶ 12. To this end, Rosbach describes that the bottle comprises an inner bottle and an outer bottle “nested and joined together at their necks to create a vacuum space between the inner and outer bottles and nominal inter-bottle contact or conductivity.” *Id.* ¶ 14. Figure 1 of Rosbach is reproduced below:

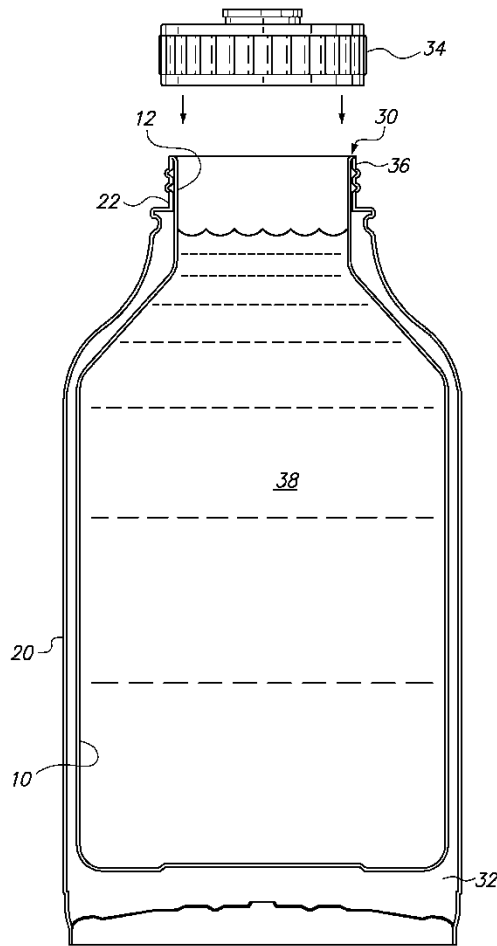


Figure 1 depicts Rosbach's nested bottles with the inner bottle neck portion and outer bottle neck portion connected together to permit a vacuum between the two bottles. *Id.* ¶¶ 18, 24.

3. Summary of Snead (Ex. 1011)

Snead discloses an “apparatus to be integrated into portable beverage containers for preserving the contained beverage and the contained beverage’s carbonation, and/or re-introducing effervescence to sparkling beverages.” Ex. 1011 ¶ 1. To that end, Snead discloses a “one-way valve that is removably connectable to an external source of pressure regulated carbon dioxide gas” and “an adjustable pressure relief valve” to release

excess pressure. *Id.* ¶ 7. Snead further discloses that its “described aperture has the ability to be incorporated into a beverage container itself, or any container lid, cap or closure.” *Id.* ¶ 10. Figure 1C of Snead is reproduced below:

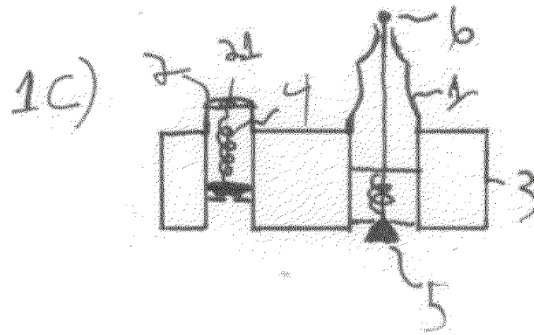


Figure 1C depicts one-way input valve 1 and adjustable pressure-relief valve 2. *Id.* ¶¶ 11, 16–17, Fig. 1C.

4. Analysis

a. *Claim 1*

(1) Evidence of obviousness

Petitioner asserts that Olson teaches many aspects of claim 1, and that a skilled artisan had reason to modify Olson’s container with teachings from Rosbach and Snead. Pet. 21–28. Patent Owner disputes whether the prior art teaches one limitation of claim 1 (PO Resp. 23–26), and also whether a skilled artisan had reason to combine the references (*id.* at 26–37).

Petitioner points out that Olson describes a beverage-storing system and therefore satisfies the preamble of claim 1. Pet. 21 (citing Ex. 1009, [57], ¶ 34). Patent Owner does not contest that Olson satisfies the preamble. It is unnecessary for us to determine whether the preamble limits the claims’ scope because we agree that Olson is consistent with the preamble.

The parties' dispute centers on whether the proposed combination of Olson and Rosbach teaches "a container body comprising a vacuum sealed metal vessel having a rim which has a non-planar surface." As Petitioner identifies, Olson teaches a "metal bottle 150" that "has a neck portion 158 that extends outwardly from the body of the metal body 150" and "[a]t the upper end of the neck 158, a curl 156 is formed that creates a sealing surface 174." Pet. 24 (quoting Ex. 1009 ¶ 41, Fig. 13). Petitioner submits that Rosbach teaches "a container body comprising a vacuum sealed metal vessel." Pet. 21–22 (citing Ex. 1010, [57], ¶¶ 1, 24, Fig. 1). Petitioner further submits that a person of skill had reason to use such a vessel in combination with the remainder of Olson's container, including its nonplanar rim. *Id.* at 22–23. As Petitioner explains, Rosbach discloses that its vacuum-insulated, metal container is particularly applicable to storing beer because it offers improved durability over a glass bottle and offers improved thermal insulation over a single-walled bottle. *See id.* at 22 (citing Ex. 1010 ¶¶ 6, 11, 12, 24). Petitioner submits those disclosures gave a skilled artisan reason to substitute Rosbach's double-walled, vacuum-sealed construction for the single-walled container of Olson because a vacuum-sealed container has better "thermal properties—it keeps the beverage cooler for a longer time." Pet. 23.

Patent Owner argues that Petitioner "improperly deconstructs one claim limitation into multiple sub-parts" and therefore fails to show that the prior art teaches the limitation as claimed. PO Resp. 23–26. As detailed above, Patent Owner's argument is not an appropriate mechanism by which to limit the obviousness analysis to preclude applying teachings from a combination of references to result in the claimed structure. *See supra* at

12–14. Thus, it is inapposite that “[n]either Olson nor Rosbach discloses all of the aspects of the element that is claimed.” PO Resp. 24–25. Such an argument amounts to attacking the references individually, which cannot establish nonobviousness. See *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985) (“A reference must be considered for everything it teaches by way of technology and is not limited to the particular *invention* it is describing and attempting to protect.”); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1076 (Fed. Cir. 2015) (applying *EWP* in the IPR context). We find that, when Olson’s container is modified by Rosbach’s vacuum-sealed construction, the combination teaches “a container body comprising a vacuum sealed metal vessel having a rim which has a non-planar surface.”

Patent Owner’s argument reduces to one that a skilled artisan had no reason to use Rosbach’s vacuum-sealed construction in combination with the remainder of Olson’s container. PO Resp. 26–37. First, Patent Owner claims that Rosbach and Olson involve problems and solutions “too divergent from one another for a person of ordinary skill in the art to consider combining the teachings of one with the other” and that the combination “would change the principle of operation of the device being modified.” *Id.* at 27.

Regarding the particular problems addressed in Olson and Rosbach, Patent Owner clarified that it does not contend the references are nonanalogous art. Tr. 22:3–5. Rather, Patent Owner views the nature of the references as undermining a reason to combine them. PO Resp. 32–33. Patent Owner contends that “[t]he problems confronted by Olson are particular to thin, single-walled bottles involved in mass-manufacture of

beverages and disposable containers.” PO Resp. 28. It asserts that, in contrast, “a person of ordinary skill in the art would understand Rosbach as directed to metal growlers of increasing material thickness as compared to disposable, single-use bottles or cans.” PO Resp. 31.

Much of Patent Owner’s argument relates to thermal properties—that Rosbach’s goal of improved thermal insulation counsels against thin material. *See id.* at 30 (“While Olson stresses the benefits of decreasing material weight and thickness, a person of ordinary skill in the art beginning with Rosbach would be interested in increasing the thickness of the material in thermal containers.”). Rosbach, however, does not disclose using material thickness as the design parameter to affect insulation; instead, it discloses an arrangement of “inner and outer bottles being nested and joined together at their necks to create a vacuum space between the inner and outer bottles.” Ex. 1010 ¶ 14. We do not find Patent Owner’s argument regarding Rosbach’s desire for thick walls to be rooted in Rosbach’s disclosures.

Patent Owner also argues that *minimal* thermal insulation is a benefit to Olson’s design, allowing its bottle to be chilled more quickly. PO Resp. 32. Olson, however, does not discuss such a benefit. While Patent Owner argues that Rosbach’s vacuum-insulated construction would detract from Olson’s goals of minimizing material usage (*id.* at 31), that view represents the tradeoffs that are part of any engineering exercise. Those tradeoffs do not necessarily undermine the reason that a skilled artisan would have incorporated Rosbach’s vacuum-insulated construction into Olson’s bottle. *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“[A] given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate

motivation to combine.”). We find that Olson’s container would not fail to serve its intended purpose if modified with Rosbach’s vacuum-sealed construction. Thus, Patent Owner’s argument in this regard does not persuade us that the Olson could not have been combined

Although Patent Owner argues that Rosbach’s container would not require a nonplanar rim as disclosed in Olson (PO Resp. 32), that does not establish that a person of skill adding Rosbach’s vacuum-sealed construction to Olson’s container would also eliminate Olson’s curved rim. Indeed, Patent Owner seems to turn the asserted combination on its head, arguing that, “Petitioner’s argument begs the question of why Olson would be necessary in the combination at all.” PO Resp. 33–34. Petitioner is not required to justify every feature in Olson’s container when the proposed combination starts with that container and provides a logical reason that a skilled artisan would modify the container to use Rosbach’s vacuum-insulated construction. *Cf. KSR*, 550 U.S. at 424 (“For a designer starting with Asano, the question was where to attach the sensor.”)

Patent Owner also argues that a skilled artisan would not have a reasonable expectation of success if attempting the proposed modification. PO Resp. 35–37. Patent Owner asserts that Petitioner “failed to explain where to place the curl in relation to the joint between the inner and outer vessel wall.” PO Resp. 35. The claims, however, do not limit the location of that joint. Moreover, Rosbach discloses that its inner and outer bottles are “joined together at their necks to create a vacuum space” (Ex. 1010 ¶ 14) and Olson depicts the “neck” as the generally cylindrical portion of the bottle extending from the body to the lip containing a curl (the curved rim). Ex. 1009, Fig. 13. Although Rosbach depicts an embodiment where the two

bottles connect at the far distal end of the neck (Ex. 1010, Fig. 1, ¶ 24), that does not restrict its more general disclosure of joining them “at their necks.” Olson’s and Rosbach’s disclosures are consistent with a combination using Rosbach’s double-walled construction joined at the neck together with Olson’s curved rim. Petitioner was not required to specify a level of detail about the combination exceeding that of the claim at issue. *Cf. Allergan, Inc. v. Sandoz Inc.*, 726 F.3d 1286, 1292 (Fed. Cir. 2013) (“There is no requirement that one of ordinary skill have a reasonable expectation of success in developing [the commercial embodiment]. Rather, the person of ordinary skill need only have a reasonable expectation of success of developing the claimed invention.”). Thus, Petitioner has demonstrated a reasonable expectation of success in implementing the combination and Patent Owner has not persuaded us otherwise.

Having considered the record, we find Rosbach gave a skilled artisan reason to use its vacuum-sealed construction because it would bring the benefit of thermal insulation to Olson’s container.

Regarding the “lid having a threaded portion,” Petitioner relies on Olson’s description and associated Figure 13. Pet. 24 (citing Ex. 1009, ¶ 41, Fig. 13). Patent Owner does not contest that Olson teaches this limitation. We note that our Scheduling Order cautions Patent Owner “that any arguments for patentability not raised in the [Patent Owner’s Response] will be deemed waived.” See Paper 8, 7; see also *In re NuVasive, Inc.*, 842 F.3d 1376, 1380–81 (Fed. Cir. 2016). Having considered the record, we find Olson teaches the claimed lid.

Regarding the “gas inlet valve,” Petitioner asserts a skilled artisan would have looked to Snead’s teachings to incorporate its gas-inlet valve

into Olson’s cap. Pet. 24–26 (citing Ex. 1011, [54], ¶¶ 1–3, 6, 10, 17). For the reason a skilled artisan would use Snead’s valve, Petitioner relies on Snead’s teaching that its valve allows the repressurization of and recarbonation of beverages, thereby preventing oxidation and decarbonation that would otherwise occur. *Id.* (citing Ex. 1011 ¶¶ 3, 6). Patent Owner does not contest this reason or whether Snead teaches the gas inlet valve. Having considered the record, we find that Snead teaches the claimed valve and that a skilled artisan had reason to use Snead’s teaching.

Regarding the “annular elastomeric seal interposed between a bottom surface of the lid and the rim and configured to seal against the non-planar surface of the rim,” Petitioner relies on Olson’s disclosure that “[b]ottle seal 178 . . . can be placed on the curl 156 to form the sealing surface 174.” Pet. 26–28 (quoting Ex. 1009 ¶ 42); *id.* at 26–27 (citing Ex. 1009 ¶¶ 3, 5, 13, 28, 30, claim 2, Fig. 13). Patent Owner does not contest that Olson teaches this limitation. Having considered the record, we find Olson teaches the claimed seal.

(2) Objective evidence of nonobviousness

We next turn to Patent Owner’s evidence and arguments relating to secondary considerations of nonobviousness. *See Graham*, 383 U.S. at 17. Notwithstanding what the teachings of the prior art would have suggested to one with ordinary skill in the art at the time of the invention, objective evidence of nonobviousness, may lead to a conclusion that the claimed invention would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–1472 (Fed. Cir. 1984).

Such a conclusion, however, requires the finding of a nexus to establish that the evidence relied upon traces its basis to a novel element in

the claim and not to something in the prior art. *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997). All types of objective evidence of nonobviousness must be shown to have nexus. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (nexus generally); *In re Kao*, 639 F.3d at 1069 (unexpected results); *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (commercial success); *Rambus Inc. v. Rea*, 731 F.3d 1248, 1256 (Fed. Cir. 2013) (long-felt need).

Objective evidence of nonobviousness must also be reasonably commensurate in scope with the claim. *In re Kao*, 639 F.3d at 1068. This does not mean that the proffered evidence must reach every embodiment within the scope of the claim, so long as an “adequate basis to support the conclusion that other embodiments falling within the claim will behave in the same manner.” *Id.*

Here, Patent Owner argues that, beyond the flaws it identifies in Petitioner’s principle case of unpatentability, the claimed invention’s commercial success and industry praise are objective indicia of nonobviousness that support a conclusion of no unpatentability. PO Resp. 46–59.

First, Patent Owner asserts that it manufactures and sells products that embody the claims of the ’670 patent, showing that evidence regarding the products has a nexus with the claims. *Id.* at 47–48; *see WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (“[T]here is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention disclosed and claimed in the patent.’”) (quoting *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997)). Patent

Owner sells an “Insulated Growler” and a “Keg Cap.” *Id.* at 48 (citing Ex. 2012). Patent Owner’s evidence demonstrates sufficiently how the combination of the two products embodies each limitation of claims 1–5, 7, 10, 16, and 17. *Id.* at 48–52.

Petitioner contests Patent Owner’s showing of certain limitations. Reply 24–25. Petitioner asserts that the “threaded portion” of the lid was key to patentability and faults Patent Owner for not specifically showing the threaded portion in its products. *Id.* Petitioner asserts that the “Keg Cap is not threaded since it attaches to the growler by way of the double-bail closure.” *Id.* at 25. That view, however, erroneously limits the claims to a threaded portion that attaches the lid to the container body. Petitioner has not argued for such a construction and in fact, took a contrary position in the Petition when discussing the priority date for the challenged claims. *See* Pet. 11 (“Figure 15 of the ‘038 application appears to show that the pressure inlet fitting 74 is threaded into the lid 140, whereas none of the provisional applications shows a threaded lid.”) (citing Ex. 1003, Fig. 15). Thus, we do not agree that Patent Owner fails to show it sold a product embodying the claims.

Patent Owner asserts that its products have enjoyed commercial success, as shown through a successful Kickstarter campaign and direct sales. PO Resp. 53–54. Petitioner contends that Patent Owner’s evidence is inadequate, because it sells multiple products but provides only a lump-sum amount for sales. Reply 25–28. Petitioner identifies a number of products sold by Patent Owner through its web site. *Id.* at 26 (citing Ex. 1025; Ex. 2012). As Petitioner points out, Patent Owner asserts that the sales figures it cites are “primarily” on sales of the Insulated Growler and Keg

Cap, but does not provide any further breakdown. *See* PO Resp. 54. Similarly, the Kickstarter campaign appears to have included sales that did not include both the Insulated Growler and Keg Cap—Patent Owner asserts that “the overwhelming majority of backers” received both items, but does not quantify that majority. *Id.* Because both items must be used together to embody the claimed invention, and because Patent Owner sold other products that do not embody the claimed invention, Patent Owner’s evidence has not demonstrated the actual revenue of products that embody the claimed invention.

For example, even accepting Patent Owner’s statement that an overwhelming majority of the Kickstarter campaign involved a package that embodied the invention, that does not speak to the other products received by those backers. More significantly, it does not amount to a very large portion of Patent Owner’s overall revenue. *See* Reply 27 (noting that “Kickstarter sales were only about 3% of Patent Owner’s total revenue on the sale of products”). We agree with Petitioner that Patent Owner limits the persuasiveness of its sales evidence by providing only overall revenue without any detail regarding individual products.

Petitioner also argues that Patent Owner’s evidence lacks any context of the larger market, thus precluding analysis of whether Patent Owner’s sales represent a true commercial success. Reply 27–28. Patent Owner directs us to no evidence regarding the size of the market in which it competes. We agree with Petitioner that the lack of such analysis diminishes the significance of Patent Owner’s evidence as showing a true commercial success. *See In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (“Although [the patent applicant’s] affidavit certainly indicates that many units have

been sold, it provides no indication of whether this represents a substantial quantity in this market.”); *In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) (“[T]he number of units sold without evidence of the market share is only weak evidence of commercial success.”).

The above-described deficiencies diminish the significance of Patent Owner’s evidence as having a nexus to the claimed invention. *See* Reply 27–28. They similarly weaken the persuasiveness of Patent Owner’s evidence for demonstrating a commercial success. Thus, we give little weight to Patent Owner’s commercial-success arguments.

Petitioner argues that Patent Owner has not accounted for the effect of its other U.S. patents—one utility patent and three design patents—on sales attributable to the ’670 patent. Reply 28–29. While Petitioner argues that the case law supports a conclusion that the other patents led to the commercial success and industry praise asserted by Patent Owner, Petitioner has not provided any evidence guiding us to reach that conclusion here. *Cf. Weatherchem Corp. v. J.L. Clark, Inc.*, 163 F.3d 1326, 1335 (Fed. Cir. 1998) (noting that the district court determined the commercial success at issue related to another patent). We consider the existence of Patent Owner’s other patents as neutral regarding the objective indicia of nonobviousness before us.

Patent Owner also asserts that its products received industry praise. PO Resp. 55–59. That evidence comes in the form of reviews and articles regarding the products. *See* Ex. 2007; Ex. 2008; Ex. 2009; Ex. 2010; Ex. 2011. We have reviewed Patent Owner’s evidence and agree that it demonstrates some degree of praise.

The Baltimore Post-Examiner article comments simply that the reporter saw a “new Growler that appeared to be both well-made and more feature filled than anything else on the market.” Ex. 2007, 2. Without elaboration, however, that comment provides little to understand its basis. We consider the Post-Examiner article to show some general recognition of the product.

Patent Owner provides an article on The New School, a website for craft beer. Ex. 2008. That article comments that Patent Owner’s product “is unique in design because of one beautiful feature—a keg top.” Ex. 2008, 2. The article continues to give a positive impression of the product, tempering its conclusion by noting that its competitors provide good alternatives in various situations. *Id.* at 3.

An article from Cascades Business News provides an overview of Patent Owner’s company and product, but does not include details that indicate the writer used and evaluated the product. Ex. 2009, 2–3. We consider this exhibit to be of limited significance as industry praise.

Patent Owner submits an article from the Thrillist website. Ex. 2010. This, similar to the Cascades Business News article, does not contain any evaluation of the product or otherwise indicate the writer used the product. *Id.* at 3. We consider this exhibit also to be of limited significance as industry praise.

Patent Owner’s final assertion of industry praise is an article from the time.com website, listing seven products to improve home beer brewing. Ex. 2011. This article, like the prior two, also does not describe any evaluation of the product. *Id.* at 3. We agree that selecting the product for inclusion on a list of products for improved home brewing evidences some

degree of evaluation. Thus, the Time article shows some, albeit limited, industry praise.

Accordingly, we give moderate weight to Patent Owner's contentions relating to industry praise.

On balance, we view Patent Owner's evidence as providing only limited support for nonobviousness. Patent Owner has shown its products collectively embody the claimed invention, and the evidence supports some industry praise. It does not show significant strong commercial success because it lacks analysis of market size and a quantitative apportionment to the patented products. These findings and conclusions regarding Patent Owner's objective indicia of nonobviousness apply to all of the claims and grounds for unpatentability.

(3) Conclusion

In our view, Petitioner's showing of obviousness satisfies the legal thresholds and outweighs Patent Owner's showing of nonobviousness. *See Leapfrog*, 485 F.3d at 1162 (holding that objective considerations of nonobviousness presented, including substantial evidence of commercial success, praise, and long-felt need, were inadequate to overcome the evidence of obviousness). Thus, based on the record, we conclude Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 1 would have been obvious over a combination of Olson, Rosbach, and Snead.

b. Claim 2

Claim 2 depends from claim 1 and additionally requires "the lid further comprises a pressure relief valve." Petitioner asserts this feature is taught by Olson. Pet. 28 (citing Ex. 1009 ¶ 41 ("a pressure relief mechanism

may be incorporated into the metal bottle 150 or into the screw-on cap 170 . . . in the form of a relief valve that may be subjected to multiple uses when the bottle is resealed”)). Patent Owner does not contest that Olson teaches this limitation. We find that Olson teaches the claimed pressure relief valve. Because the valve is part of the structure from which Petitioner begins, Petitioner was not required to justify using it in the combination. *Cf. KSR*, 550 U.S. at 424 (“For such a designer starting with Asano, the question was where to attach the sensor.”). Additionally, Patent Owner does not contest the obviousness of claim 2 based on whether a skilled artisan had reason to keep Olson’s pressure-relief valve.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 2 would have been obvious over Olson, Rosbach, and Snead.

c. Claim 3

Claim 3 depends from claim 1 and additionally requires “the gas inlet valve comprises a pressure inlet fitting configured to receive a gas delivery device.” Petitioner asserts this feature is taught by Snead as part of the gas inlet valve. Pet. 28–29 (citing Ex. 1011 ¶ 17 (describing a pressure-inlet fitting for a CO₂ gas delivery device)). Patent Owner does not contest that Snead teaches this limitation. Having considered the record, we find that Snead teaches the claimed gas inlet valve. As described above, Petitioner persuasively explains why a skilled artisan had reason to incorporate Snead’s pressure-inlet fitting. *See supra* at 24. Petitioner’s reliance on Snead for claim 3 is based on that same motivation and structure.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 3 would have been obvious over Olson, Rosbach, and Snead.

d. Claim 7

Claim 7 depends from claim 1 and additionally requires “the container body is double-walled.” Petitioner asserts this feature is taught by Rosbach’s vacuum-sealed construction, which uses a double-walled structure. Pet. 30 (citing Ex. 1010, [57], ¶¶ 24, 28, Fig. 1). Patent Owner does not contest that Rosbach teaches this limitation. Having considered the record, we find that Rosbach teaches the claimed double-walled construction.

As described above, Petitioner persuasively explains why a skilled artisan had reason to incorporate Rosbach’s vacuum-sealed construction. *See supra* at 19–23. Petitioner’s reliance on Rosbach for the double-walled aspect of claim 7 is based on that same motivation and structure.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 7 would have been obvious over Olson, Rosbach, and Snead.

e. Claim 9

Claim 9 depends from claim 1 and additionally requires “the seal is disposed in an annular channel in the bottom surface of the lid.” Petitioner asserts this feature is taught by Olson’s “178 optional seal” that sits in an annular channel on the bottom of the lid in Figure 13. Pet. 30–31 (citing Ex. 1009, Fig. 13, ¶ 42). Patent Owner does not contest that Olson teaches

this limitation. Having considered the record, we find that Olson teaches the claimed seal.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 9 would have been obvious over Olson, Rosbach, and Snead.

f. Claim 10

Claim 10 depends from claim 9 and additionally requires “the container body includes a generally cylindrical neck region.” Petitioner asserts this feature is taught by Olson’s neck, depicted in Figures 3 and 4. Pet. 31 (citing Ex. 1009, Figs. 3, 4, 13, ¶ 41). Patent Owner does not contest that Olson teaches this limitation. Having considered the record, we find that Olson teaches the claimed neck region.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 10 would have been obvious over Olson, Rosbach, and Snead.

g. Claim 18

Independent claim 18 recites certain limitations that are the same as or broader than those in claim 1. Both recite a “container body comprising a vacuum sealed metal vessel having a rim which has a non-planar surface.” Also, claim 18 recites “a lid having a gas inlet valve,” omitting claim 1’s requirement for “a threaded portion” in the lid. For the foregoing limitations, Petitioner’s assertions, Patent Owner’s arguments, and our analysis and conclusions are identical to those regarding claim 1. See Pet. 32.

Where claim 1 requires “an annular elastomeric seal interposed between a bottom surface of the lid and the rim and configured to seal against the non-planar surface of the rim,” claim 18 requires the seal be “disposed in an annular channel in the bottom surface of the lid.” Petitioner asserts this feature is taught by Olson for the same reasons discussed above regarding claim 9, which recites the same claim language. Pet. 32–33. Patent Owner does not contest that Olson teaches this limitation. Having considered the record, we find that Olson teaches the claimed seal.

Claim 18 requires “the container body includes a generally cylindrical neck region.” Petitioner asserts this feature is taught by Olson for the same reasons discussed above regarding claim 10, which recites the same claim language. Pet. 33. Patent Owner does not contest that Olson teaches this limitation. Having considered the record, we find that Olson teaches the claimed neck region.

Claim 18 requires the annular channel in the bottom surface of the lid “includes a sidewall configured to abut an outer surface of the neck region.” Petitioner asserts this feature is taught by Olson in Figure 13 and the associated disclosure. Pet. 33 (citing Ex. 1009, Fig. 13, ¶ 42). Patent Owner does not contest that Olson teaches this limitation. Having considered the record, we find that Olson teaches the claimed sidewall.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 18 would have been obvious over Olson, Rosbach, and Snead.

h. Claim 19

Claim 19 depends from claim 18 and additionally requires “the container body is double-walled.” Petitioner asserts this feature is taught by Rosbach’s vacuum-sealed construction, as described above regarding claim 7, which recites the same language. Pet. 34; *see supra* at 32. Patent Owner does not contest that Rosbach teaches this limitations. Having considered the record, we find that Rosbach teaches the claimed double-walled construction.

As described above, Petitioner persuasively explains why a skilled artisan had reason to incorporate Rosbach’s vacuum-sealed construction. *See supra* at 19–23. Petitioner’s reliance on Rosbach for the double-walled aspect of claim 19 is based on that same motivation and structure.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 19 would have been obvious over Olson, Rosbach, and Snead.

E. ASSERTED OBVIOUSNESS OVER OLSON, ROSBACH, AND SNEAD
IN COMBINATION WITH OTHER REFERENCES

Petitioner also asserts a number of combinations based on the same three references (Olson, Rosbach, and Snead) in further combination with teachings from additional references. *See supra* at 7.

1. Arellano: Claims 3–6

Petitioner challenges claims 3–6 as unpatentable over the combination of Olson, Rosbach, Snead, and Arellano. Pet. 35–37. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

a. Summary of Arellano (Ex. 1012)

Arellano describes a beverage-dispensing system comprising a beverage container, a gas container, and a regulator cap assembly. Ex. 1012, 1:45–47. Arellano states that the regulator cap assembly “can be directly coupled to a gas container without using an external hose,” thus providing “a low cost solution to maintaining a proper environment for the beverage container.” *Id.* at 2:23–27. Arellano’s Figure 11 is reproduced below:

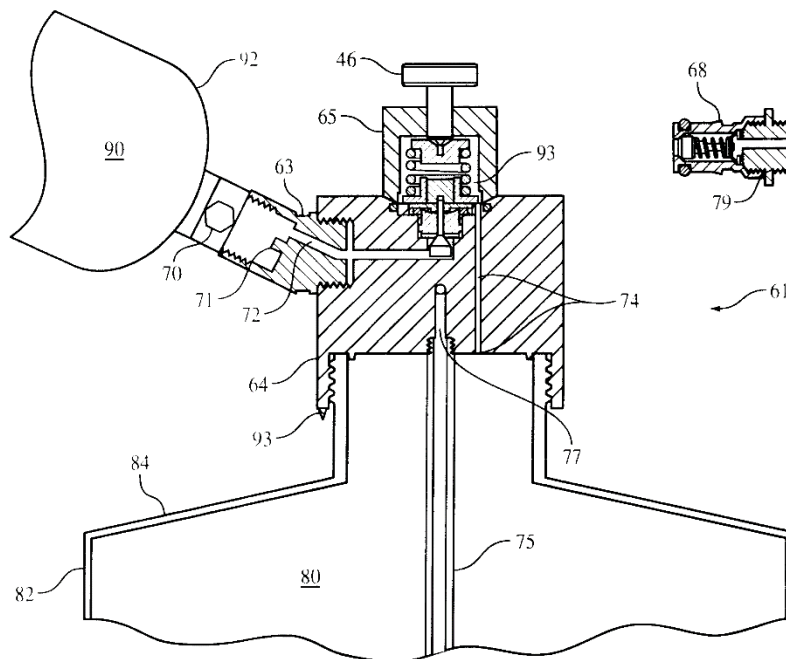


FIG. 11

Figure 11 depicts gas container 92 coupled to gas coupler 63, which is in turn coupled to the body of regulator cap 64. *Id.* at 3:3–4, 5:11–17, Fig. 11. Arellano further discloses that, “[w]hen the gas container 92 is coupled into the gas coupler 63, a raised portion of a pressure bottle coupling 71 depresses the needle valve assembly allowing the compressed gas 90 to escape into a first channel 72.” *Id.* at 5:46–49.

b. Analysis

Claim 3 depends from claim 1 and recites that, “the gas inlet valve comprises a pressure inlet fitting configured to receive a gas delivery device.” Claim 4 depends from claim 3 and recites that, “the pressure inlet fitting comprises a portion configured to actuate a pressure delivery device.” Claim 5 depends from claim 3 and recites that, “the pressure inlet fitting is removable.”

Petitioner asserts that Arellano teaches the additional limitations of claims 3–5 through its regulator cap assembly. Pet. 35–36 (citing Ex. 1012, [54], [57], 5:13–21, 5:46–49, Fig. 11). Patent Owner does not contest that Arellano teaches the limitations of claims 3–5. Having considered the record, we find that Arellano teaches the additional limitations of claims 3–5.

Claim 6 depends from claim 5 and recites that, “the container body has a volume of less than 3 liters.” Petitioner asserts that Rosbach teaches the volume limitation by disclosing a container of 64 oz. volume, about two liters. Pet. 37 (citing Ex. 1010 ¶ 27). Patent Owner does not contest that Rosbach teaches the volume limitation. Having considered the record, we find that Rosbach teaches the volume limitation.

Petitioner asserts that a person of ordinary skill in the art had reason “to combine the regulator cap of Arellano” with the combination asserted against claim 1 “to provide an assembly ‘which can be directly coupled to a gas container without using an external hose’ and also to provide ‘a low cost solution to maintaining a proper environment for the beverage container.’” *Id.* at 35 (citing Ex. 1012, 2:22–26). Patent Owner contests this reasoning, arguing that, “[w]hile these [benefits of Arellano] may purport to be the

benefits of the invention in Arellano, Petitioner fails to explain why the combination of the four references specifically relied on in this ground would have been obvious.” PO Resp. 38.

Patent Owner argues that achieving a benefit “already disclosed by Snead in a different way”—an assembly that can be directly coupled to a gas container without using an external hose—cannot support the combination with Arellano. *Id.* But Patent Owner does not explain how Snead discourages approaches other than its own. *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (“A reference does not teach away . . . if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed.”) (internal quotation and citation omitted). Neither does Patent Owner explain why using Arellano’s regulator cap would lead to unexpected results. *See KSR*, 550 U.S. at 416 (“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.”). In our view, Petitioner’s arguments and evidence explain adequately that Arellano’s regulator cap would provide the benefit of facilitating coupling between the beverage and gas containers.

Regarding Petitioner’s assertion that Arellano provides a low-cost solution, Patent Owner argues that a skilled artisan “would not consider the purported cost benefits of Arellano in view of the full scope of Arellano’s alleged invention.” PO Resp. 39. According to Patent Owner, Arellano discloses a refrigeration compartment because it “purports to solve problems related to storage and dispensing systems for barrels and kegs, not individual

containers.” *Id.* In light of that framing, Patent Owner asserts Arellano’s teachings do not apply to the device taught by Olson and Rosbach. *Id.* Although Arellano may address a number of additional problems, we view the disclosure of a “low cost solution to maintaining a proper environment for the beverage container” (Ex. 1012, 2:22–26) as adequately supporting the reason to use Arellano’s teachings in combination with other beverage containers. *See KSR*, 550 U.S. at 420–21 (holding it was error to limit the applicability of prior art to only the primary purpose of its disclosure).

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 3–6 would have been obvious over Olson, Rosbach, Snead, and Arellano.

2. Hammond: Claims 11–13

Petitioner challenges claims 11–13 as unpatentable over the combination of Olson, Rosbach, Snead, and Hammond. Pet. 41–42. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

a. Summary of Hammond

Hammond discloses “a lightweight portable beer keg tap and beer dispenser operated by CO₂ gas from a compressed gas cylinder.” Ex. 1014, 1:6–10. Relevant here, Hammond discloses a dispensing hose with “a standard hand-dispensing faucet having a hand-operating lever 133 and an outlet spout 135.” *Id.* at 4:30–37. Hammond’s Figure 1 is reproduced below:

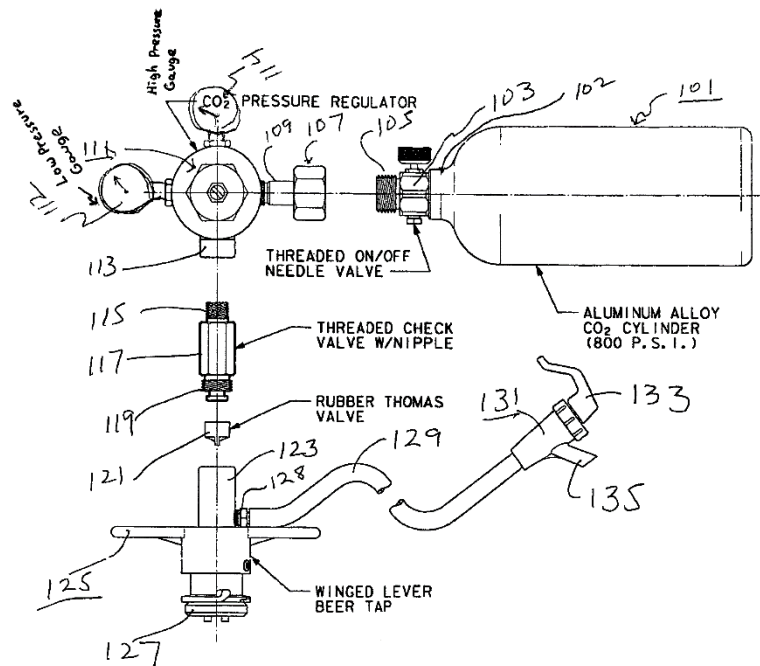


Figure 1 illustrates the dispenser including flexible hose 129, and faucet 131 with outlet spout 135 and hand-operating lever 133. *Id.* at 3:50–52, 4:30–37, Fig. 1.

b. Analysis

Claim 11 depends from claim 1 and further recites “a dispensing device in fluid communication with the body.” Claim 12 depends from claim 11 and further recites that the dispensing device “comprises a tubular conduit disposed outside of the body.” Claim 13 depends from claim 12 and further recites that the dispensing device comprises “an actuating handle at a distal end of the tubular conduit, configured to allow a user to regulate flow from the dispensing device.” Petitioner asserts that Hammond teaches those additional limitations through its dispenser. Pet. 41–42 (citing Ex. 1014, [54], 1:7–10, 4:30–37). Patent Owner does not contest that Hammond teaches the additional limitations of claims 11–13. Having considered the record, we find that Hammond teaches those limitations.

Petitioner asserts that a skilled practitioner had reason to use Hammond's dispensing mechanism for "the objective benefit of delivering the beer to a cup or glass." *Id.* at 42. We agree that Petitioner provides an "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Kahn*, 441 F.3d at 988. Patent Owner argues that a skilled artisan "would have no need to look to Hammond at all," because a person wishing to deliver beer to a cup or glass "could do so by tilting the container disclosed in Rosbach towards a horizontal direction in the approximate vicinity of a cup or glass." PO Resp. 40–41. That logic, however, does not undermine Petitioner's reasoning because it does not negate the benefit that would come from using Hammond's mechanism. *See KSR*, 550 U.S. at 417 ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."). Patent Owner characterizes Petitioner's reason as "arbitrary or perfunctory" and, therefore, insufficient (PO Resp. 41–42) but relies on case law where the prior art did not support the reason to combine. *See Zoltek Corp. v. U.S.*, 815 F.3d 1302, 1313 (Fed. Cir. 2016) ("Neither the government's attorney argument, nor Dr. Sullivan's testimony, nor the opinion of the Court of Federal Claims, points to any suggestion in the prior art to select the data selected by Dr. Sullivan and create the mathematical formula to construct a graph to track Figure 4."). Here, Petitioner has identified how Hammond's device provides a benefit evident from Hammond's disclosures. *See Pet.* 42. In light of the evidence of record, we find a skilled artisan had reason to use Hammond's dispensing mechanism with Olson, Rosbach, and Snead.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 11–13 would have been obvious over Olson, Rosbach, Snead, and Hammond.

3. Russell: Claims 16 and 17

Petitioner challenges claims 16 and 17 as unpatentable over the combination of Olson, Rosbach, Snead, and Russell. Pet. 44–46. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

a. Summary of Russell

Russell discloses a “check-relief valve element” applicable to “fields where it is desired to permit flow of fluid in one direction but to check it in the opposite direction, and where a relief action in said opposite direction must be provided for in the event that the back pressure exceeds a certain value.” Ex. 1016, 1:9–16. As one embodiment, Russell discloses a valve with both a “duck bill valve element” and an “annular rim or umbrella portion.” *Id.* at 2:2–8. Russell’s Figure 1 is reproduced below:

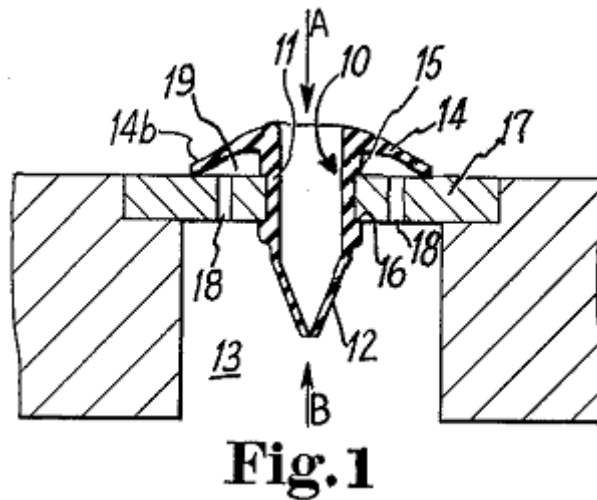


Figure 1 depicts the valve with both duck-bill element 12 and umbrella portion 14. *Id.* at 1:18–28, 1:40–41.

b. Analysis

Claim 16 depends from claim 2 and further requires “the pressure relief valve comprises an umbrella valve.” Petitioner asserts that Russell teaches this limitation. Pet. 44 (citing Ex. 1016, Title, 1:11–16, 2:2–12, 2:60–64, Fig. 2). Claim 17 depends from claim 1 and requires that “the gas inlet valve comprises an elastomeric duckbill valve.” Petitioner asserts that Russell teaches this limitation. *Id.* at 45–46 (citing Ex. 1016, 1:65–71, 2:50–59, Fig. 2). Patent Owner does not contest that Russell teaches the umbrella-valve and duckbill-valve limitations. Having considered the record, we find that Rosbach teaches those limitations.

According to Petitioner, a person of ordinary skill would have looked to Russell’s check-relief valve “to provide such a valve ‘where it is desired to permit flow of fluid in one direction but to check it in the opposite direction’ and that ‘eliminates the need for a spring.’” *Id.* at 44–45 (citing Ex. 1016, 1:12–13, 1:28–33). Patent Owner does not contest that a skilled artisan had reason to incorporate Russell’s valve. *See* PO Resp. 37

(contesting reasons to use teachings from Arellano, Hammond, and Windmiller). We find that Russell supports sufficiently that a skilled practitioner had reason to substitute Russell's valve for that in Snead. *KSR*, 550 U.S. at 416 (“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.”). Using Russell's valve in place of Snead's valve appears to have been nothing more than a simple substitution with the additional benefit of eliminating a spring in the valve.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 16 and 17 would have been obvious over Olson, Rosbach, Snead, and Russell.

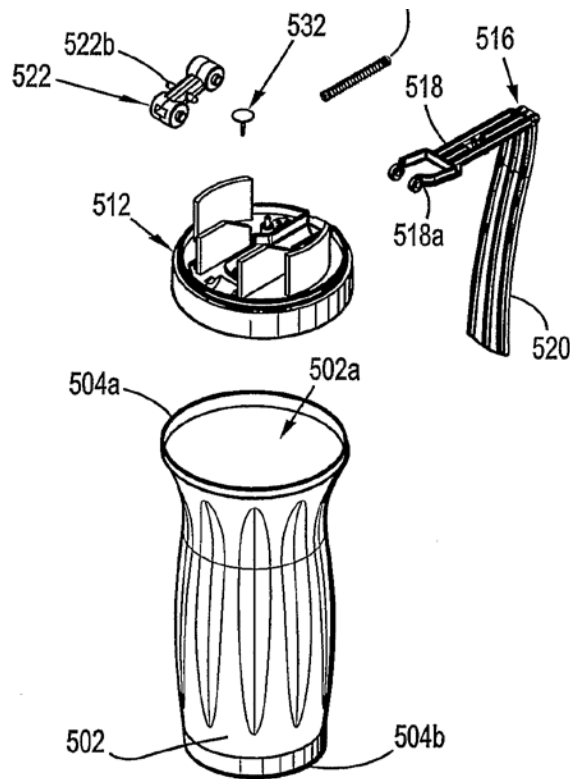
4. Windmiller: Claim 16

Petitioner challenges claim 16 as unpatentable over the combination of Olson, Rosbach, Snead, and Windmiller. Pet. 46. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

a. Summary of Windmiller

Windmiller discloses bottles that may be filled from the bottom, and systems for charging the bottom-fillable bottles with fluid. Ex. 1017 ¶ 3. In particular, Windmiller discusses elements to enable filling or charging bottles “with or without removing a cap therefrom.” *Id.* ¶ 7. Relevant here, in one aspect, Windmiller discloses that “[w]hen using the charging system of the present disclosure, bottle 10 must be vented.” *Id.* ¶ 89. To this end,

Windmiller discloses that “[a]n umbrella valve 532 may be operatively supported on lid member 512 for providing venting to cavity 502a of body portion 502 during charging and/or recharging of the same.” *Id.* ¶ 110. A portion of Windmiller’s Figure 18 is reproduced below:



In the excerpted portion, Figure 18 depicts bottle assembly body portion 502, lid member 512, and umbrella valve 532. *Id.* ¶¶ 38, 104, 105, 110.

b. Analysis

Claim 16 depends from claim 2 and recites that “the pressure relief valve comprises an umbrella valve.” Petitioner asserts that Windmiller teaches this additional limitation. Pet. 46 (citing Ex. 1017 ¶ 110, Fig. 18). Patent Owner does not contest that Windmiller teaches an umbrella valve. Having considered the record, we find that Windmiller teaches the claimed umbrella valve.

Petitioner argues that a person of skill had reason to use Windmillers umbrella valve for the “benefit of venting the drinking bottle during charging or recharging of the bottle.” *Id.* at 46 (citing Ex. 1017 ¶¶ 89, 103, 104, 110, Figs. 11, 18). As Petitioner points out, Windmiller states that, “[w]hen using the charging system of the present disclosure, bottle 10 must be vented.” Ex. 1017 ¶ 89; Pet. 46. Thus, reasons Petitioner, Windmiller’s valve “vents and relieves pressure in the drinking bottle.” Pet. 46.

Patent Owner challenges this reasoning. PO Resp. 42–43. Patent Owner argues that Windmiller’s bottle must be vented because “Windmiller discloses a system for bottom-filling bottles with fluid such as cola or seltzer.” *Id.* (citing Ex. 1017 ¶ 100). According to Patent Owner, “the bottle disclosed by Olson and Rosbach are not intended to be vented during normal charging or recharging.” *Id.* at 43. But whether each reference involved an identical invention is not the relevant question; rather, we determine whether the prior art addressed a problem relevant to the claimed invention. *See KSR*, 550 U.S. at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”).

Here, the combination Petitioner proposes modifying by Windmiller’s valve already includes a pressure-relief valve. *See* Pet. 28 (describing how Olson teaches “a pressure relief valve,” the additional limitation of claim 2, from which claim 16 depends; citing Ex. 1009 ¶ 41). As we stated in the Institution Decision, we view Petitioner’s argument regarding Windmiller’s valve—that it “vents and relieves pressure in the drinking bottle”—as paralleling the benefit of Olson’s valve. Inst. 35. Thus, Windmiller’s valve

would be a simple substitution for Olson’s valve. *Id.* Patent Owner argues that the Board cannot adopt an argument beyond what the Petitioner has made. PO Resp. 43 (citing Inst. 36). As explained, we do not view characterizing the use of Windmill’s valve as a “substitution” as a wholly new argument. Further, Patent Owner had notice and opportunity to respond, and, thus, cannot complain that it was unable to address whether Windmill’s valve was a simple substitution for Olson’s. *See SAS Inst., Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1351 (Fed. Cir. 2016) (“[A]n agency may not change theories in midstream without giving respondents reasonable notice of the change and the opportunity to present argument under the new theory.”) (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015)). Because Olson’s and Windmill’s pressure-release valves both provide the same functionality, we find that a skilled artisan had reason to use Windmill’s valve in place of Olson’s.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 16 would have been obvious over Olson, Rosbach, Snead, and Windmill.

5. Wallace: Claim 17

Petitioner challenges claim 17 as unpatentable over the combination of Olson, Rosbach, Snead, and Wallace. Pet. 47. We conclude that Petitioner has met its burden regarding the unpatentability of the claim for this ground.

a. Summary of Wallace

Wallace discloses an apparatus “for preserving opened bottles of sparkling wines and other carbonated beverages.” Ex. 1018 ¶ 2. To that end, Wallace discloses “[a]n air-tight carbonation cap” for beverage containers, “used to isolate the internal space of the bottle from outside.” *Id.* ¶ 15. Further, a “one-way valve built into the carbonation cap may be used to re-pressurize the beverage inside the bottle using a pressurized gas source.” *Id.* Wallace discloses that the one-way valve “may be a duck-bill valve that opens in one direction under gas pressure and self-seals when gas pressure is removed.” *Id.* ¶ 26. Wallace’s Figure 3 is reproduced below:

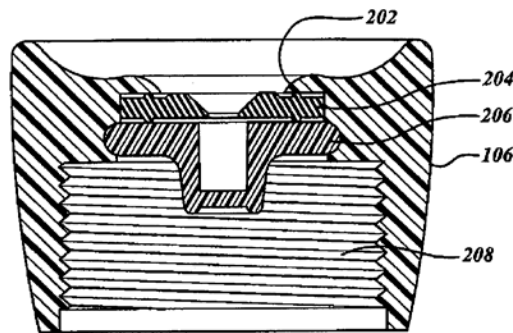


FIG.3

Figure 3 depicts carbonation cap 106 with one-way valve 206. *Id.* ¶ 9.

b. Analysis

Claim 17 depends from claim 1 and recites that “the gas inlet valve comprises an elastomeric duckbill valve.” Ex. 1001, 8:37–38. Petitioner asserts that Wallace teaches this limitation. Pet. 47 (citing Ex. 1018, Fig. 1, ¶¶ 15, 24, 26). Patent Owner does not contest that Wallace teaches the duckbill valve. Having considered the record we find that Wallace teaches the claimed valve.

Petitioner further asserts that a person of ordinary skill would have looked to Wallace’s teachings of an elastomeric duckbill valve “to re-pressurize the beverage inside the bottle using a pressurized gas source.” *Id.* (quoting Ex. 1018 ¶ 15). Petitioner identifies Wallace’s teaching of how its one-way valve operates and of the benefit it provides—“maintaining carbonation of sparkling beverages.” Pet. 47 (quoting Ex. 1018 ¶¶ 15, 24, 26, Fig. 1). The element at issue in claim 17 relates to permitting gas pressurization and Wallace teaches a valve “that opens in one direction under gas pressure and self-seals when gas pressure is removed.” Ex. 1018 ¶ 26. Patent Owner does not contest that a skilled artisan had reason to use Wallace’s teachings. See PO Resp. 37 (contesting reasons to use teachings from Arellano, Hammond, and Windmiller). We find Petitioner has provided sufficient evidence that a person of skill had reason to use Wallace’s valve in the asserted combination.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 17 would have been obvious over Olson, Rosbach, Snead, and Wallace.

F. ASSERTED OBVIOUSNESS OVER OLSON, ROSBACH, AND MOCIAC

Petitioner asserts that claims 1–4, 7, 9, 10, 18, and 19 are unpatentable over a combination of Olson, Rosbach, and Mociak. Pet. 48–53. We conclude that Petitioner has met its burden regarding the unpatentability of those claims for this ground.

1. Summary of Mociak

Mociak describes a “recharging cap to maintain the carbonation and freshness of a beverage.” Ex. 1019, [57]. Mociak incorporates by reference the disclosures of provisional application No. 61/782,050, filed March 14, 2013 (Ex. 1020) (“Mociak Provisional”). Ex. 1019 ¶ 1. Mociak describes that the cap “may include a gas injection valve and a pressure relief valve.” *Id.* ¶ 13. Mociak describes that, through the use of its cap, “[t]he beverage may maintain the CO₂ level longer and the freshness of the carbonated beverage may be retained.” Ex. 1020, 14:18–19.³ Mociak depicts its cap in, for example, Figure 3, which is reproduced below:

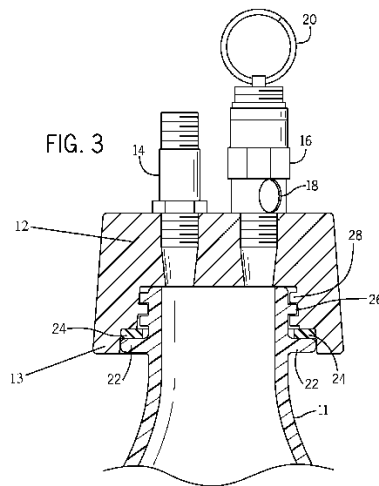


Figure 3 depicts Mociak’s cap with a gas injection valve 14 and pressure relief valve 16. Ex. 1019 ¶¶ 9, 16, Fig. 3.

2. Analysis

Whether Mociak applies as prior art to the challenged claims requires two date determinations: Mociak’s effective filing date, and that of the

³ Unless noted otherwise, citations to Exhibit 1020, the Mociak Provisional Application, are to the page numbers added by Petitioner

challenged claims. See pre-AIA 35 U.S.C. § 102(e). We also consider whether the record shows the claimed subject matter would have been obvious to a person of ordinary skill at the time of invention.

a. Applicable Dates

Mociak, a published patent application, was filed October 30, 2013 (Ex. 1019, [22]), whereas the application resulting in the '670 patent is a continuation of an application filed June 28, 2013 (Ex. 1001, [63]). Based only on those two dates, Mociak would not serve as prior art to the challenged claims. Mociak, however, claims the benefit of the filing date of the Mociak Provisional (Ex. 1019, [60], ¶ 1), so Petitioner may proffer evidence establishing that Mociak is entitled to the benefit of the filing date of Mociak Provisional. See *Dynamic Drinkware*, 800 F.3d at 1380 (holding petitioner bears the burden of showing the prior art's entitlement to an earlier priority date); 35 U.S.C. § 120.

Even if Mociak is entitled to the filing date of its provisional, Patent Owner may nonetheless provide evidence showing that the challenged claims are themselves entitled to the benefit of an earlier filing date. See *Dynamic Drinkware*, 800 F.3d at 1380 (holding that once petitioner identifies invalidating prior art, the burden shifts to patent owner to show either that the art does not invalidate the challenged claims or that those claims are entitled to an earlier filing date); *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1305–06 (Fed. Cir. 2008) (holding that, absent the PTO's actual determination of priority date, once a party asserting invalidity has made an initial case, the burden of production shifts to patent owner to establish entitlement to an earlier filing date).

Thus, we consider whether the record shows that (1) the earlier Mociak Provisional filing date applies to Mociak, (2) the challenged claims' subject matter would have been obvious over the combinations including Mociak, and (3) the challenged claims are not entitled to an earlier priority date. We first address the two priority-date issues.

(1) Effective filing date of Mociak

To show that Mociak is entitled to the filing date of the Mociak Provisional, Petitioner must show the Mociak Provisional's disclosure supports the claims of Mociak. *Dynamic Drinkware*, 800 F.3d at 1381 (citing *In re Wertheim*, 646 F.2d 527, 537 (CCPA 1981)). Petitioner explains where the Mociak Provisional supports the limitations of Mociak's claim 1. Pet. 15–16. Patent Owner does not challenge Petitioner's assertions.

Having considered the record, we conclude Petitioner has shown that Mociak is entitled to the filing date of the Mociak Provisional. Because the application resulting in the '670 patent was a continuation of an application filed June 28, 2013, i.e., after the March 14, 2013, filing date of the Mociak Provisional, Mociak presumptively operates as prior art to the challenged claims of the '670 patent.

(2) Effective filing date of the challenged claims

The '670 patent claims priority to three provisional applications: serial number 61/766,048, filed February 18, 2013 (Ex. 1004, "the '048 provisional"); serial number 61/766,941, filed February 20, 2013 (Ex. 1005, "the '941 provisional"); and serial number 61/766,949, filed February 20, 2013 (Ex. 1006, "the '949 provisional"). Ex. 1001, [22], [63], [60], 1:5–12. Petitioner asserts that the challenged claims are not entitled to an effective

filing date before June 28, 2013, because none of those provisional applications provides written-description support for the challenged claims. Pet. 9–12; *see* 35 U.S.C. § 120; *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1359 (Fed. Cir. 2010) (“Claims enjoy the earlier filing date only if the provisional application provided adequate written description under 35 U.S.C. § 112, ¶ 1.”).

Patent Owner does not contest Petitioner’s assertions regarding the filing date applicable to the challenged claims, agreeing that the claims are entitled to a June 28, 2013, filing date. PO Resp. 19–20.

Having considered the record, we agree with the parties. Thus, we conclude that the challenged claims of the ’670 patent have an effective filing date of June 28, 2013. We therefore proceed to consider the grounds of unpatentability based on Mociak.

b. Claim 1

As Patent Owner notes (PO Resp. 44), Petitioner’s mappings for the claims based on Olson, Rosbach, and Mociak largely parallels those for the same claims based on Olson, Rosbach, and Snead, substituting teachings of Mociak regarding a gas-inlet valve for those of Snead. Thus, Petitioner relies on its earlier assertions regarding Rosbach and Olson to also make its challenge based on Mociak. Pet. 48 (citing the references and also referring back to earlier assertions). Petitioner submits that Rosbach and Olson teach all limitations of claim 1, other than the claimed gas inlet valve in the lid, and submits that a skilled artisan had reason to combine Rosbach and Olson’s teachings as claimed. *See supra* at 18–24. We need not repeat our discussion regarding Olson or Rosbach; those same findings regarding the

teachings of the references and the reasons a skilled artisan would use those teachings together all apply also to this ground. *See id.*

Regarding claim 1's requirement that the lid have a "gas inlet valve," Petitioner relies on Mociak's "gas injection valve." Pet. 48–49 (citing Ex. 1019, [57], ¶¶ 14, 16, 18; Ex. 1020, 14:13–19, 15:1–10, Figs. 1–5). Patent Owner does not contest that Mociak teaches the claimed gas inlet valve. Having considered the record, we find Mociak teaches the claimed valve.

Petitioner further asserts that a skilled artisan had reason to use Mociak's disclosures with Olson and Rosbach in light of Mociak's disclosure that, with its invention, "[t]he beverage may maintain the CO₂ level longer and the freshness of the carbonated beverage may be retained." Pet. 49–50 (quoting Ex. 1020, 14:18–19; citing Ex. 1019, [57]). Patent Owner argues that the challenges including Mociak "merely attempt to incorporate [Petitioner's] argument with respect to the combinations involving Snead, without presenting particularized arguments explaining why those arguments would be applicable to Mociak." PO Resp. 44. We do not agree.

Petitioner's assertions are grounded in Mociak's disclosures. As Petitioner shows, using Mociak's disclosures in combination with Olson and Rosbach would provide a benefit similar to Snead's disclosures. *Compare* Pet. 26 ("preventing oxidation and de-carbonation of beverages"), *with* Pet. 50 ("maintaining the carbonation and freshness of a beverage"). But we do not agree with Patent Owner that such similarity exhibits a flaw with Petitioner's assertions. Because we conclude that Petitioner provides "articulated reasoning with some rational underpinning to support the legal

conclusion of obviousness” (*Kahn*, 441 F.3d at 988), we likewise find that a skilled artisan had reason to combine Mociak’s teachings as set forth by Petitioner.

Having considered the record, we conclude Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 1 would have been obvious over a combination of Olson, Rosbach, and Mociak. In our view, the evidence of obviousness satisfies the legal thresholds and outweighs the evidence of nonobviousness.

c. Claim 2

Claim 2 depends from claim 1 and additionally requires “the lid further comprises a pressure relief valve.” For the additional limitation of claim 2, Petitioner relies on the same assertions described above for claim 2 and combination of Olson, Rosbach, and Snead. Pet. 50 (citing Ex. 1009 ¶ 41); *see supra* at 30. For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 2 would have been obvious over Olson, Rosbach, and Mociak.

d. Claim 3

Claim 3 depends from claim 1 and additionally requires “the gas inlet valve comprises a pressure inlet fitting configured to receive a gas delivery device.” Petitioner asserts this feature is taught by Mociak as part of the gas inlet valve. Pet. 50–51 (citing Ex. 1019 ¶ 18; Ex. 1020, Figs. 1–7, 15:12–13). Patent Owner does not contest that Mociak teaches this limitation. Having considered the record, we find that Mociak teaches the claimed gas inlet valve.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 3 would have been obvious over Olson, Rosbach, and Mociak.

e. Claim 4

Claim 4 depends from claim 3 and requires “the pressure inlet fitting comprises a portion configured to actuate a pressure delivery device.” Petitioner asserts this feature is taught by Mociak as part of the gas inlet valve. Pet. 50–51 (citing Ex. 1020, 14:15–16, 15:11–13, 16:12–13). Patent Owner does not contest that Mociak teaches this limitation. Having considered the record, we find that Mociak teaches the claimed pressure inlet fitting.

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 4 would have been obvious over Olson, Rosbach, and Mociak.

f. Claim 7

Claim 7 depends from claim 1 and additionally requires “the container body is double-walled.” Petitioner asserts this feature is taught by Rosbach’s vacuum-sealed construction for the same reasons provided regarding the combination of Olson, Rosbach, and Snead. Pet. 52 (citing Ex. 1010, [57], ¶¶ 24, 28, Fig. 1); *see supra* at 32.

For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the

evidence that the subject matter of claim 7 would have been obvious over Olson, Rosbach, and Mociak.

g. Claim 9

Claim 9 depends from claim 1 and additionally requires “the seal is disposed in an annular channel in the bottom surface of the lid.” Petitioner asserts this feature is taught by Olson’s “optional seal” for the same reasons provided regarding the combination of Olson, Rosbach, and Snead. Pet. 52 (citing Ex. 1009, Fig. 13, ¶ 42); *see supra* at 32.

For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 9 would have been obvious over Olson, Rosbach, and Mociak.

h. Claim 10

Claim 10 depends from claim 9 and additionally requires “the container body includes a generally cylindrical neck region.” Petitioner asserts this feature is taught by Olson’s neck for the same reasons provided regarding the combination of Olson, Rosbach, and Snead. Pet. 52 (citing Ex. 1009, ¶ 41, Figs. 3–4, 13); *see supra* at 33.

For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 10 would have been obvious over Olson, Rosbach, and Mociak.

i. Claim 18

As discussed above, independent claim 18 recites certain limitations that are the same as or broader than those in claim 1. *See supra* at 33. Thus, our analysis of claim 1 resolves much of the question regarding claim 18. *See supra* at 53.

For the elements of claim 18 that differ from claim 1, Petitioner relies on the same assertions described above for the combination of Olson, Rosbach, and Snead, none of which relate to Snead or Mociak. Pet. 52–53, *see supra* at 33. Patent Owner does not specifically contest Petitioner’s assertions regarding claim 18 in light of Olson, Rosbach, and Mociak.

For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 18 would have been obvious over Olson, Rosbach, and Mociak.

j. Claim 19

Claim 19 depends from claim 18 and additionally requires “the container body is double-walled.” Petitioner asserts this feature is taught by Rosbach’s vacuum-sealed construction for the same reasons provided regarding the combination of Olson, Rosbach, and Snead. Pet. 53 (citing (Ex. 1010, [54], [57], ¶¶ 6, 11, 12, 24, 28, Fig. 1); *see supra* at 35, 32.

For the same reasons discussed above, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 19 would have been obvious over Olson, Rosbach, and Mociak.

G. ASSERTED OBVIOUSNESS OVER OLSON, ROSBACH, AND MOCIAK
IN COMBINATION WITH OTHER REFERENCES

Petitioner presents a number of grounds for unpatentability based on Olson, Rosbach, and Mociak further combined with an additional reference per ground—Arellano, Hammond, Windmiller, and Wallace. Pet. 52–57. Those grounds largely parallel the grounds for unpatentability discussed above, using Mociak in place of Snead.

1. Reasons for the combinations

For grounds based on a combination of Olson, Rosbach, Mociak, and a fourth reference (Arellano, Hammond, Windmiller, or Wallace), Petitioner argues that a skilled artisan would use teachings of the fourth reference for the same reason that person would use those teachings with Olson, Rosbach, and Snead. Pet. 53–57. Patent Owner contends that the arguments for unpatentability based on combinations with Olson, Rosbach, Mociak, and a fourth reference should fail because they lack explanation “why those arguments would be applicable to Mociak.” PO Resp. 44. We discuss above why we do not agree with Patent Owner regarding the basis for using Mociak in place of Snead. *See supra* at 54.

As for the additional references, we also do not agree with Patent Owner, because the reasons that Petitioner provides for using the teachings of Arellano, Hammond, Windmiller, or Wallace do not relate to Snead or Mociak, thus, they apply equally to use those references with Olson, Rosbach, and Mociak as they do to using them with Olson, Rosbach, and Snead. Stated otherwise, if Petitioner provides a reason to use a teaching from a fourth reference in combination with Olson, Rosbach, and Snead, and that reason is independent of the presence or some characteristic of Snead,

then the reason applies equally to combining the fourth reference with Olson, Rosbach, and Mociak. This is not a case like *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364 (Fed. Cir. 2016), where the petitioner relied on an alternative primary reference without explaining the reason for substituting that alternative reference. *See Magnum*, 829 F.3d at 1379. Here, Petitioner has explained independently why a person of skill would have combined Mociak with Olson and Rosbach (*see supra* at 54), and the rationale for looking to teachings from additional references may be the same as when starting with a combination of Olson, Rosbach, and Snead. Thus, overlap between grounds including Mociak and those including Snead does not indicate a flaw with Petitioner's showing.

2. Arellano: claims 4–6

To assert unpatentability of claims 4–6 over Olson, Rosbach, Mociak, and Arellano, Petitioner relies on the same teachings in Arellano and reason for using those teachings as asserted for unpatentability based on Olson, Rosbach, Snead, and Arellano, using Mociak in place of Snead. *Compare* Pet. 53–54, *with id.* at 36. Other than as discussed above, Patent Owner does not specifically address Petitioner's assertions in this regard. PO Resp. 44–46.

As stated above, we find that Arellano teaches the additional limitations of claims 4 and 5, and that Rosbach teaches the additional limitation of claim 6. *See supra* at 37. We also find that Arellano gave a person of skill reason to combine features of its regulator cap with the container taught by a combination of Olson, Rosbach, and Mociak, because using Mociak's gas inlet valve rather than Snead's valve would not affect the reason to use features from Arellano's regulator cap. *See id.*

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 4–6 would have been obvious over Olson, Rosbach, Mociak, and Arellano.

3. Hammond: claims 11–13

To assert unpatentability of claims 11–13 over Olson, Rosbach, Mociak, and Hammond, Petitioner relies on the same teachings in Hammond and reason for using those teachings as asserted for unpatentability based on Olson, Rosbach, Snead, and Hammond, using Mociak in place of Snead. *Compare* Pet. 55, *with id.* at 41–42.

As stated above, we find that Hammond teaches the additional limitations of claims 11–13. *See supra* at 40. We also find that Hammond gave a person of skill reason to combine features of its dispensing mechanism with the container taught by a combination of Olson, Rosbach, and Mociak, because using Mociak’s gas inlet valve rather than Snead’s valve would not affect the reason to use Hammond’s dispensing mechanism. *See id.*

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 11–13 would have been obvious over Olson, Rosbach, Mociak, and Hammond.

4. Windmiller: claim 16

To assert unpatentability of claim 16 over Olson, Rosbach, Mociak, and Windmiller, Petitioner relies on the same teachings in Windmiller and reason for using those teachings as asserted for unpatentability based on Olson, Rosbach, Snead, and Windmiller, using Mociak in place of Snead. *Compare* Pet. 56, *with id.* at 46.

As stated above, we find that Windmiller teaches the additional limitation of claim 16. *See supra* at 45. We also find that Windmiller gave a person of skill reason to use its umbrella valve in place of Olson's with the container taught by a combination of Olson, Rosbach, and Mociak, because using Mociak's gas inlet valve rather than Snead's valve would not affect the reason to use Windmiller's umbrella valve. *See id.*

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 16 would have been obvious over Olson, Rosbach, Mociak, and Windmiller.

5. Wallace: claim 17

To assert unpatentability of claim 17 over Olson, Rosbach, Mociak, and Wallace, Petitioner relies on the same teachings in Wallace and reason for using those teachings as asserted for unpatentability based on Olson, Rosbach, Snead, and Wallace, using Mociak in place of Snead. *Compare* Pet. 56–57, *with id.* at 47.

As stated above, we find that Wallace teaches the additional limitation of claim 17. *See supra* at 48. We also find that Wallace gave a person of skill reason to use its duckbill valve with the container taught by a

combination of Olson, Rosbach, and Mociak, because using Mociak's gas inlet valve rather than Snead's valve would not affect the reason to use Windmiller's umbrella valve. *See id.*

Accordingly, having considered the record, including the objective indicia of nonobviousness addressed above, we conclude that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 17 would have been obvious over Olson, Rosbach, Mociak, and Wallace.

H. PATENT OWNER'S MOTION TO EXCLUDE EXHIBITS 1022 AND 1025

Patent Owner moves to exclude Exhibits 1022 and 1025. Paper 13 ("Motion"). Exhibit 1022 is the rebuttal declaration of Petitioner's expert, Dr. Prevish, which Patent Owner objects to as irrelevant and unduly prejudicial under Federal Rules of Evidence 401 and 403, to the extent Petitioner does not cite to or rely on the declaration, and as not qualified-expert testimony under Federal Rule of Evidence 702 to the extent Dr. Prevish discusses commercial success. Motion 1–5. Exhibit 1025 is a series of printouts from Patent Owner's website, which Patent Owner objects to as "hearsay under FRE 802," but argues is "not authenticated," an objection that invokes Federal Rule of Evidence 901. *Id.* at 5–6; Paper 19, 6–7.

Petitioner opposes the motion on several grounds, including that it was not properly served, that Patent Owner did not timely object to the evidence as required, and that motion should fail substantively. Paper 17.

Regarding service of the motion, while we agree with Petitioner that Patent Owner's motion did not comply with the service requirement of 37 C.F.R. § 42.6(e) because the parties did not have an agreement for

electronic service, we elect to waive that service requirement in this instance. *See* 37 C.F.R. § 42.5(b). As Patent Owner points out, Petitioner did have actual notice of the motion, and we conclude that rigid enforcement of the service rule in this instance would discourage parties from agreeing to electronic service.

Regarding objection to the evidence, we agree with Petitioner. Our rules require that, once trial is instituted, a party must file any objection to evidence within five business days of service of the evidence in question. 37 C.F.R. § 42.64(b)(1). Any motion to exclude evidence “must identify the objections in the record.” § 42.64(c). The requirement for objection is particularly relevant for evidence, such as Exhibit 1025 here, that a party seeks to exclude based on concerns of authentication. By not timely objecting to Exhibit 1025, Patent Owner deprived Petitioner of an opportunity to respond with supplemental evidence as permitted by 37 C.F.R. § 42.64(b)(2).

Accordingly, we deny Patent Owner’s Motion to Exclude Exhibits 1022 and 1025.⁴

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that:

- a) claims 1–3, 7, 9, 10, 18, and 19 are unpatentable as obvious over a combination of Olson, Rosbach, and Snead;

⁴ We do not rely on Dr. Prevish’s Declaration to reach our conclusions regarding unpatentability, so even if we were to waive the objection requirement, we would deny Patent Owner’s motion to exclude Exhibit 1022 as moot.

- b) claims 3–6 are unpatentable as obvious over a combination of Olson, Rosbach, Snead, and Arellano;
- c) claims 11–13 are unpatentable as obvious over a combination of Olson, Rosbach, Snead, and Hammond;
- d) claims 16 and 17 are unpatentable as obvious over a combination of Olson, Rosbach, Snead, and Russell;
- e) claim 16 is unpatentable as obvious over a combination of Olson, Rosbach, Snead, and Windmiller;
- f) claim 17 is unpatentable as obvious over a combination of Olson, Rosbach, Snead, and Wallace;
- g) claims 1–4, 7, 9, 10, 18, and 19 are unpatentable as obvious over a combination of Olson, Rosbach, and Mociak;
- h) claims 4–6 are unpatentable as obvious over a combination of Olson, Rosbach, Mociak, and Arellano;
- i) claims 11–13 are unpatentable as obvious over a combination of Olson, Rosbach, Mociak, and Hammond;
- j) claim 16 is unpatentable as obvious over a combination of Olson, Rosbach, Mociak, and Windmiller; and
- k) claim 17 is unpatentable as obvious over a combination of Olson, Rosbach, Mociak, and Wallace.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–7, 9–13, and 16–19 of U.S. Patent No. 9,156,670 are unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Exclude Exhibits 1022 and 1025 is denied:

FURTHER ORDERED that, because this is a Final Written Decision, 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.

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