

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TROVE BRANDS, LLC,
Petitioner,

v.

CAMELBAK PRODUCTS, LLC,
Patent Owner.

IPR2024-01501
Patent 9,782,028 B2

Before LINDA E. HORNER, CARL M. DEFRANCO, and
JAMES A. WORTH, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Trove Brands, LLC (“Petitioner”) filed a Petition to institute *inter partes* review of claims 1, 2, 5, 6, 8, 9, 15, 16, and 21 of U.S. Patent No. 9,782,028 B2 (Ex. 1001, “the ’028 patent”). Paper 2 (“Pet.”). CamelBak Products, LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition and the preliminary response shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the Petition and the Preliminary Response, and for the reasons explained below, we determine that Petitioner has not shown a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. Thus, we deny the Petition and do not institute an *inter partes* review of claims 1, 2, 5, 6, 8, 9, 15, 16, and 21 of the ’028 patent.

A. *Real Parties in Interest*

Trove Brands, LLC identifies itself as the real party in interest for the Petitioner. Pet. 1. CamelBak Products, LLC identifies itself and Vista Outdoor Inc. as the real parties in interest for the Patent Owner. Paper 3, 2.

B. *Related Matters*

The parties identify the following related matter involving the ’028 patent: *Trove Brands, LLC v. CamelBak Products, LLC*, No. 5:23-cv-04267 (N.D. Cal.). Pet. 1; Paper 3, 2.

C. The '028 Patent

The '028 patent is titled “Drink Containers.” Ex. 1001, code (54). The '028 patent describes that “[s]ome conventional drink bottles include a threaded or other neck from which a user drinks liquid contained in the drink bottle after removal of the cap,” and others “include a spout, or nozzle, from which the drink liquid may be drawn from the drink bottle without removing the cap.” *Id.* at 1:22–27. The '028 patent discloses a liquid container and a cap assembly having “a mouthpiece assembly that is adapted to be selectively configured between a dispensing configuration, in which drink liquid may be selectively dispensed from the liquid container, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container.” *Id.* at 1:33–39.

Figure 7 of the '028 patent, reproduced below, is an isometric view of an exemplary drink container having a selectively-configurable mouthpiece assembly in its dispensing configuration. Ex. 1001, 2:16–20.

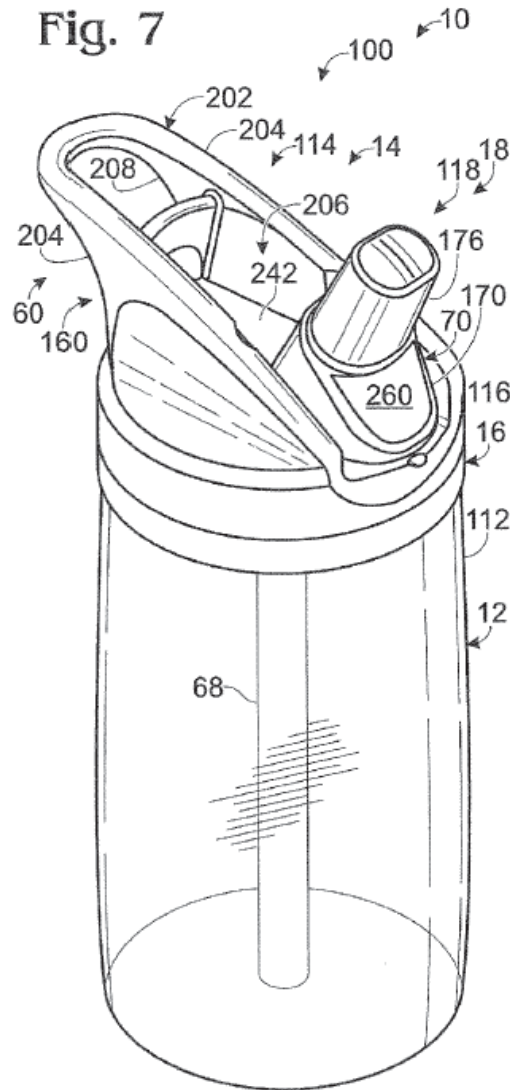


Figure 7 of the '028 patent shows drink bottle 100 including liquid container 12 and cap assembly 114 having mouthpiece assembly 118 and straw 68. *Id.* at 11:2–9, 14:8–11. A portion of mouthpiece assembly 118 is adapted to selectively pivot between a dispensing configuration, as shown, and a stowed configuration. *Id.* at 11:8–14.

Figure 11 of the '028 patent, reproduced below, is an exploded view of cap assembly 114. *Id.* at 2:28–29.

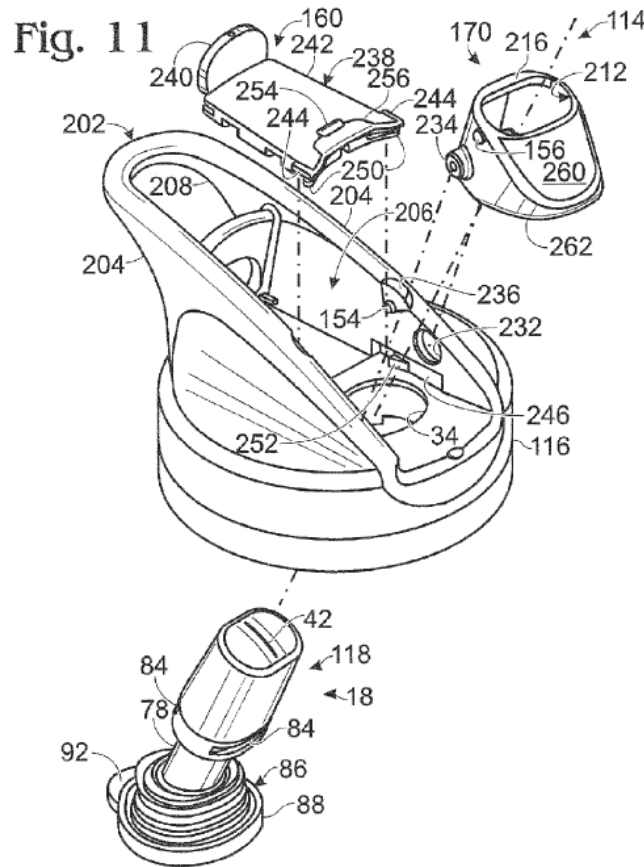


Figure 11 shows the main component parts of cap assembly 114, including base 116, mouthpiece assembly 118, rigid collar member 170, and user release mechanism 160. *Id.* at 11:15–19, 11:40–42, 12:50–54. Mouthpiece assembly 118 includes bite-actuated mouthpiece 176 (numbered in Figure 7), tube 78, and anchor portion 86, which, together, define a liquid passage. *Id.* at 10:27–32. Tube 78 and a portion of bite-actuated mouthpiece 176 extend through opening 212 of rigid collar member 170. *Id.* at 11:42–49. Rigid collar member 170 is pivotally-coupled to base 116 via a hinge formed by cylindrical depressions 232 in lateral guards 204 of handle 202 engaging cylindrical protrusions 234 of rigid collar member 170. *Id.* at 12:13–20. Lateral guards 204 at least partially define stowing region 206, which is adapted to receive bite-actuated mouthpiece 176 and a portion of

tube 78 when mouthpiece assembly 118 is in a stowed configuration. *Id.* at 11:20–29. To retain mouthpiece assembly 118 in the stowed configuration, lateral guards 204 have first catch structures (cylindrical depressions 154) that mate with second catch structures (hemispherical protrusions 156) of rigid collar member 170. *Id.* at 12:30–37.

Figures 12 and 13 of the '028 patent, reproduced below, are cross-sectional side views of cap assembly 114 showing mouthpiece assembly 118 in dispensing and stored configurations, respectively. *Id.* at 2:30–35.

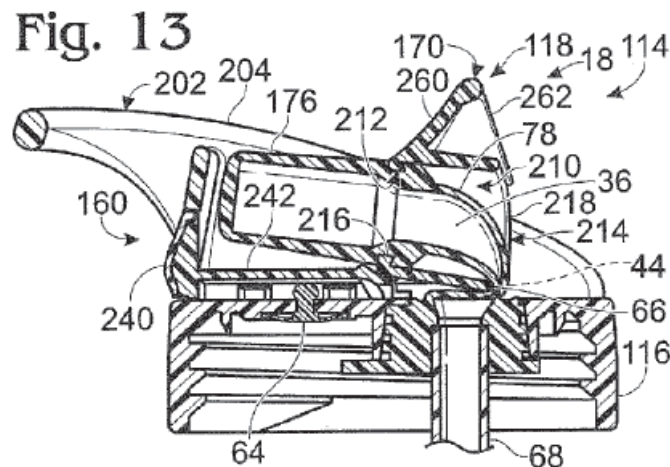
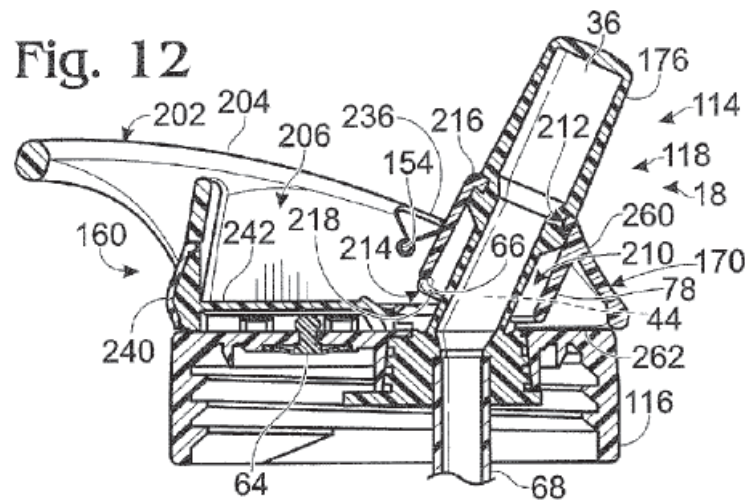


Figure 12 (top image) depicts mouthpiece assembly 118 in a dispensing configuration, and Figure 13 (bottom image) depicts mouthpiece

assembly 118 in a stowed configuration with rigid collar member 170 pivoted such that crimping portion 66 engages and crimps tube 78 to restrict liquid flow. *Id.* at 11:61–67. User release mechanism 160 functions to release mouthpiece assembly 118 from the stowed configuration to the dispensing configuration. *Id.* at 12:50–54. In particular, a user actuates user engagement pad 240 of sliding member 238 (*see id.*, Fig. 11), which slides relative to base 116 and causes collar engagement portion 254 (*see id.*) to engage rim 216 of rigid collar member 170 and force disengagement of the first and second catch structures. *Id.* at 12:54–65, 13:22–25. In addition, or alternatively, rigid collar member 170 may include user engagement portion 260, to which a user can apply force that pivots mouthpiece assembly 118 and disengages the first and second catch structures. *Id.* at 13:40–52.

D. Illustrative Claims

The Petition challenges claims 1, 2, 5, 6, 8, 9, 15, 16, and 21. Pet. 1. Of these, claims 1 and 21 are independent. Ex. 1001, 21:21–26:43. Claim 1, reproduced below with the preamble and limitation identifiers referenced in the Petition (*see* Pet. 12–13), is illustrative of the claimed subject matter.

1. [preamble] A drink container, comprising:

[A] a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid; and

[B] a cap assembly removably coupled to the liquid container, the cap assembly comprising:

[1] a base removably coupled to the neck of the liquid container and including a through-passage;

[2] a first catch structure;

[3] a mouthpiece assembly extending through the through-passage of the base and defining a liquid passage through which drink liquid from the liquid container may

selectively flow, and further defining an inlet through which drink liquid in the internal compartment may enter the liquid passage and an outlet through which drink liquid from the internal compartment of the liquid container is selectively dispensed, wherein the mouthpiece assembly is configured to be selectively configured between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment at least into the liquid passage, and a stowed configuration, in which the liquid passage restricts the flow of drink liquid through the liquid passage, wherein the mouthpiece assembly is biased to the dispensing configuration, and wherein the mouthpiece assembly comprises:

[a] a mouthpiece portion that includes the outlet;

[b] a tube that defines at least a portion of the liquid passage for drink liquid to flow from the internal compartment to the mouthpiece portion, wherein the tube includes a crimping region constructed of a resiliently deformable material and is adapted to restrict the flow of drink liquid through the liquid passage when the mouthpiece assembly is in the stowed configuration, and wherein the mouthpiece portion and the tube are constructed as a unitary assembly of the resiliently deformable material;

[c] an anchor portion extending from the tube distal the mouthpiece portion, wherein the anchor portion is sized to restrict passage of the anchor portion through the through-passage of the base of the cap assembly; and

[d] a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration; and

[4] a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism

and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration.

Ex. 1001, 21:21–22:6.

E. Prior Art and Asserted Grounds

Petitioner asserts that the challenged claims are unpatentable based on the following grounds (Pet. 14):

Claims Challenged	35 U.S.C. §¹	Reference(s)/Basis
1, 2, 5, 6, 8, 9, 15, 16, 21	103(a)	Kiyota ²
1, 2, 5, 6, 8, 9, 15, 16, 21	103(a)	Ribarits ³
6, 9, 21	103(a)	Kiyota, Ribarits
16	103(a)	Kiyota, Choi ⁴
16	103(a)	Ribarits, Choi

Petitioner relies on the declaration testimony of Glenn E. Vallee, Ph.D. (Ex. 1003) in support of the asserted grounds. Patent Owner relies on the declaration testimony of Michael Jobin (Ex. 2001) to support its Preliminary Response.

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102, 103 effective March 16, 2013. Because the challenged patent has an effective filing date before March 16, 2013, we refer to the pre-AIA version of § 103.

² U.S. Patent No. US 6,279,773 B1, issued Aug. 28, 2001 (Ex. 1004, “Kiyota”).

³ World Intellectual Property Organization, International Publication No. WO 2004/063042 A2, published July 29, 2004 (Ex. 1007). Petitioner provides an English-language translation (Ex. 1005, “Ribarits”) and a copy of the translator’s certification statement (Ex. 1006).

⁴ U.S. Patent Application Publication No. US 2007/0039959 A1, published Feb. 22, 2007 (Ex. 1008, “Choi”).

II. PATENTABILITY ANALYSIS

A. *Legal Standards*

Petitioner's asserted grounds of unpatentability are based on obviousness under 35 U.S.C. § 103(a).

Section 103(a) forbids issuance of a patent when “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.”

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when available, objective evidence, such as commercial success, long felt but unsolved needs, and failure of others.⁵ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In an *inter partes* review, a petition must identify “with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

B. *Level of Ordinary Skill in the Art*

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art;

⁵ Patent Owner does not direct us to any objective evidence of non-obviousness in the current record.

prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (internal quotation marks and citation omitted).

Petitioner contends that a person of ordinary skill in the art (POSITA) would have “an undergraduate degree in mechanical engineering or equivalent coursework, and a year or more of experience in designing, prototyping, and/or manufacturing fluid containers or similar products.” Pet. 15 (citing Ex. 1003 ¶ 29). Petitioner proposes that “[m]ore work experience may substitute for a lower level of education, and vice versa.” *Id.*

Patent Owner argues that a POSITA would have “a bachelor’s degree in mechanical engineering or the equivalent coursework and approximately one year of experience with liquid-containing devices, with more work experience substituting for less education and vice versa.” Prelim. Resp. 23 (citing Ex. 2001 ¶¶ 56–65). Patent Owner also states that it “discerns no material difference between the definitions provided by the parties for purposes the Board’s decision on whether to institute this proceeding.” *Id.*

We agree that there appears to be no material difference in the parties’ definitions of the level of ordinary skill in the art. For the purposes of this Decision, we apply Petitioner’s definition of the level of ordinary skill in the art. We determine that this definition is consistent with the prior art of record and the skill reflected in the Specification of the ’028 patent, based on our review of the limited record. Moreover, the prior art itself may be sufficient to demonstrate the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not

required “where the prior art itself reflects an appropriate level and a need for testimony is not shown”) (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

C. Claim Construction

In *inter partes* reviews, we interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). Under this standard, we construe the claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* “The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (alteration in original) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Both Petitioner and Patent Owner propose constructions for the term “user release mechanism,” as recited in claims 1 and 21. Pet. 16–17; Prelim. Resp. 23–26. Patent Owner also proposes constructions for “mouthpiece portion,” as recited in claims 1 and 21, “automatically disengage the first and second catch structures,” as recited in claim 1, and “automatically release the mouthpiece assembly,” as recited in claim 21. Prelim. Resp. 23–32.

For purposes of this Decision, we determine that only the term “user release mechanism” requires construction to resolve the dispositive issue in Petitioner’s challenge discussed below—namely, whether the asserted art teaches or suggests a “user release mechanism,” as claimed.

1. “*user release mechanism*”

Claim 1 recites, in relevant part, “a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration.” Ex. 1001, 22:1–6. Claim 21 similarly recites “a user release mechanism adapted to automatically release the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly.” *See id.* at 26:40–43.

Petitioner asserts that “user release mechanism” should be construed as a means-plus-function limitation under 35 U.S.C. § 112, sixth paragraph, because “mechanism” is a nonce word for performing the claimed function without reciting structure for performing that function, and a POSITA would not have understood the term to have “a sufficiently definite meaning as the name for a structure that performs the claimed function.” Pet. 16–17 (citing Ex. 1003 ¶ 39).

For claim 1, Petitioner identifies two distinct structures described in the ’028 patent that correspond to the claimed “user release mechanism” for performing the claimed functions. *Id.* at 34. Specifically, Petitioner asserts that the ’028 patent describes a first embodiment in which the corresponding structure includes sliding member 238, and its component parts. *Id.* at 34–35 (citing Ex. 1001, 12:50–13:25, 13:29–33). In the second embodiment, the corresponding structure includes user engagement portion 260 on rigid collar 170. *Id.* at 35–36 (citing Ex. 1001, 13:40–54). Petitioner does not separately address the structure corresponding to the “user release mechanism” as recited in claim 21. *Id.* at 53–54 (relying on the same arguments presented for unpatentability of claim 1).

Patent Owner responds that, after the Petition was filed, the district court issued a claim construction order in the parallel litigation construing the term “user release mechanism” as a means-plus-function limitation under § 112, sixth paragraph. Prelim. Resp. 23 (citing Ex. 2002, 12–15). The district court ruled that the corresponding structure for claim 1 includes “[s]liding member 238, including its component parts,” or “[u]ser engagement portion 260.” Ex. 2002, 15. For claim 21, the district court ruled that the corresponding structure includes “[s]liding member 238, including its component parts” or “[u]ser engagement pad 240, planar portion 242, tabs 244, collar engagement portion 254, depression 256.” *Id.* at 17. Patent Owner indicates that, “[f]or purposes of this proceeding only,” it does not dispute that the claimed user release mechanisms are means-plus-function limitations, and it does not dispute the corresponding structure identified by Petitioner, even though the district court did not specifically identify engagement portion 260 as corresponding structure for claim 21. Prelim. Resp. 25 (citing Ex. 2002, 15–19).

Although Patent Owner does not dispute Petitioner’s proposed interpretation of the “user release mechanism,” because claim interpretation is a matter of law and the dispositive issue in this Decision turns on the interpretation of this claim limitation, we address it in this Decision. We agree with the parties that the “user release mechanism” elements recited in claims 1 and 21 are means-plus-function limitations governed by § 112, sixth paragraph. *See* 35 U.S.C. § 112 ¶ 6 (“An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.”).

Although the term “user release mechanism” does not include the word “means,” it uses the nonce word “mechanism” without reciting structure for performing the functions recited in the claims. *See Williamson v. CitrixOnline, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (“Generic terms such as ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word “means” because they ‘typically do not connote sufficiently definite structure’ and therefore may invoke § 112, para. 6.”).

In claim 1, the function associated with the “user release mechanism” includes “automatically disengag[ing] the first and second catch structures upon actuation of the user release mechanism and thereby releas[ing] the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration.” Ex. 1001, 22:1–6. The function associated with the “user release mechanism” in claim 21 includes “automatically releas[ing] the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly.” *Id.* at 26:41–44.

The structure disclosed in the ’028 patent corresponding to the above functions includes sliding member 238, which has “collar engagement portion 254 . . . adapted to engage the rigid collar member and force disengagement of the first and second catch structures upon actuation of the user release mechanism (i.e., upon engagement and translation of the user engagement pad).” Ex. 1001, 13:15–19. Additionally, the structure disclosed in the ’028 patent corresponding to the above functions includes user engagement portion 260, which “when the mouthpiece assembly is in the stowed configuration, is adapted to receive a user-imparted force that

pivots the mouthpiece assembly and thereby forces disengagement of the first and second catch structures of the mouthpiece securing mechanism.” *Id.* at 13:47–52.

As such, for the purposes of this Decision, we construe the “user release mechanism,” as recited in claims 1 and 21, to cover sliding member 238, including its component parts, or user engagement portion 260 on rigid collar 170, and equivalents thereof.

D. Ground 1: Alleged Obviousness Over Kiyota

Petitioner contends that Kiyota renders obvious the subject matter of independent claims 1 and 21, and claims 2, 5, 6, 8, 9, 15, and 16, which depend from claim 1. Pet. 17–54. For the reasons discussed below, Petitioner has failed to establish a reasonable likelihood that Kiyota discloses or suggests “a user release mechanism,” as recited in claims 1 and 21. We provide below a brief overview of Kiyota and a discussion of the deficiency in Petitioner’s assertion of unpatentability.

1. Overview of Kiyota

Kiyota is a U.S. patent titled “Lid Body of a Beverage Container.” Ex. 1004, code (54). Kiyota relates “to a lid body with a cap comprising the lid body and a cap connectable with the lid body and storing a suction tube for sucking a beverage within a beverage container connectable with a mouthpiece tube provided in the lid body.” *Id.* at 1:11–15. Kiyota explains that an “object of the invention is to provide a lid body of a beverage container which is easily handled such that the mouthpiece tube is stored within the main body portion with lid-closing operation of the openable lid by one touch, and is released and standing from the storing portion with lid-opening operation of the openable lid by one touch.” *Id.* at 2:50–55.

FIG. 2

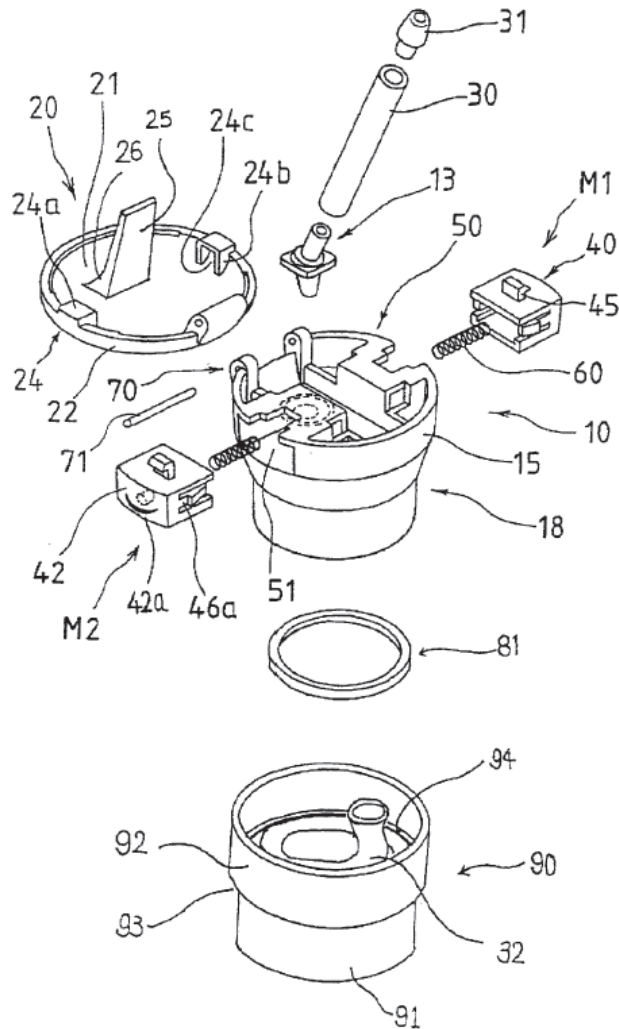
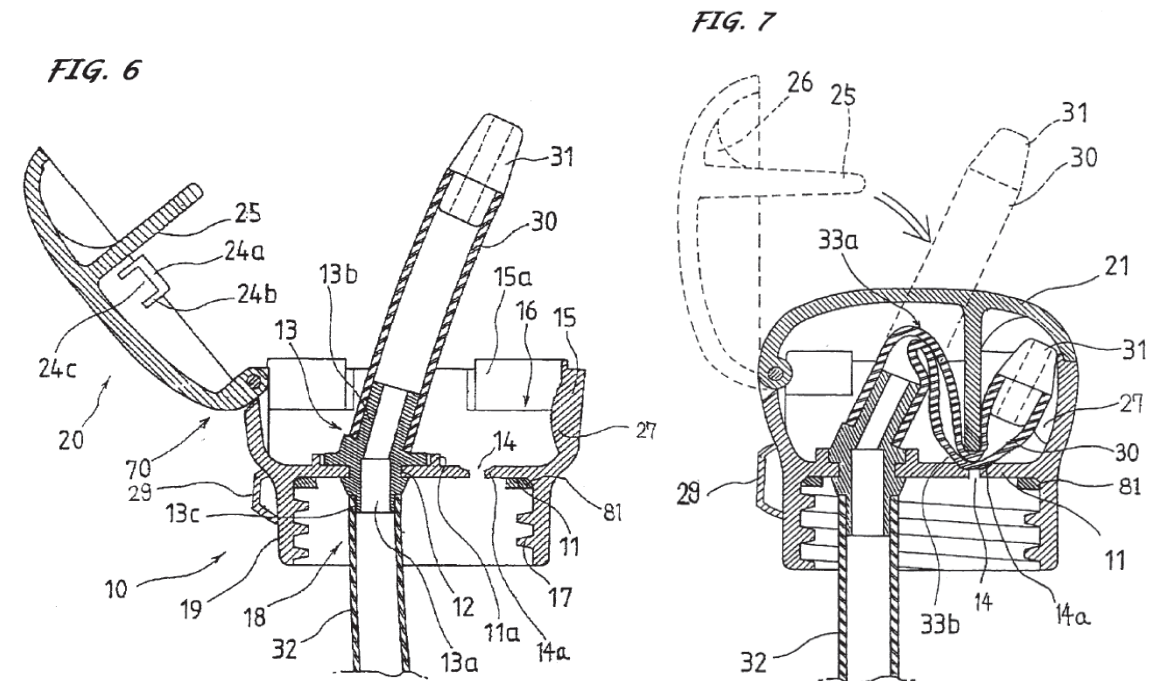


Figure 2 of Kiyota shows switching devices M1 and M2, each including lock release button 40 movably-fixed within socket 50. *Id.* at 5:61–67, 6:1–2. Lock release buttons 40 include hook-like stopper pieces 45, which attach to corresponding connecting portions 24 included on peripheral portion 22 of top board 21 of openable lid 20. *Id.* at 6:34–38, 7:25–27. Upon closing openable lid 20, springs 60 apply energizing force on lock release buttons 40 so that stopper pieces 45 are fitted and connected in connecting portions 24. *Id.* at 7:43–59.

Figures 6 and 7 of Kiyota, reproduced below, are cross-sectional illustrations of the lid body in different configurations. *Id.* at 4:28–35.



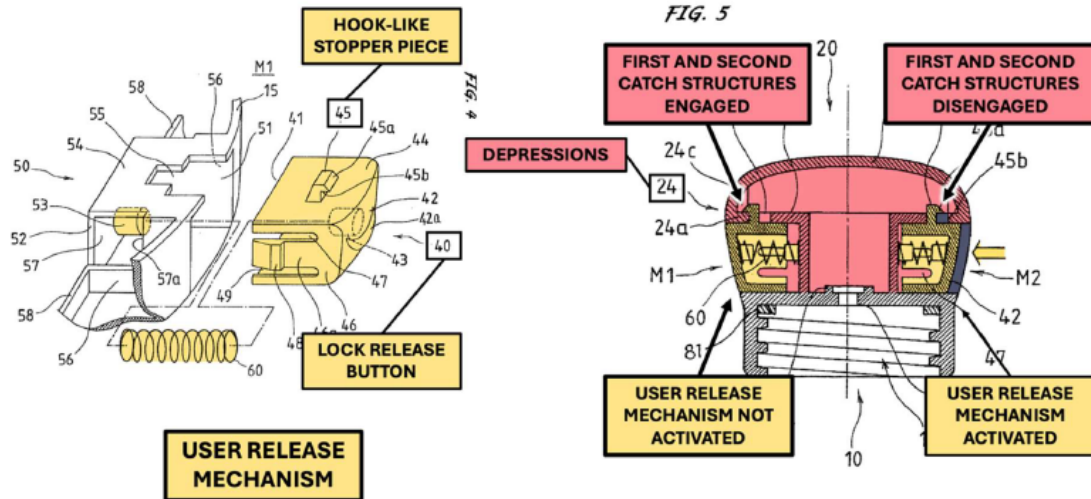
Figures 6 and 7 of Kiyota depict the lid body with openable lid 20 in an open configuration and a closed configuration, respectively. *Id.* Main body 10 includes baseplate 11 having air hole 14 and communicating hole 12, to which coupling tube 13 is detachably fixed. *Id.* at 5:21–23, 5:29–33. Coupling tube 13 includes first coupling tube 13b, to which mouthpiece tube 30 is detachably fixed, and second coupling tube 13c, to which suction tube 32 is detachably connected. *Id.* at 5:40–44. Mouthpiece tube 30 and suction tube 32 are formed of elastic and flexible resin material, such as polyurethane or silicon. *Id.* at 5:47–50. With openable lid 20 in the closed configuration, as shown in Figure 7, mouthpiece tube 30 is pushed and folded by presser piece 25 and stored in storing portion 16. *Id.* at 10:13–16. The elasticity of mouthpiece tube 30 puts upward force on presser piece 25 and, thereby, strongly couples receiving pieces 24a of connecting

portions 24 with lower edge portions 45a of stopper pieces 45. *Id.* at 10:33–38. To open openable lid 20 and release mouthpiece tube 30, a user presses lock release buttons 40, which moves stopper pieces 45 such that lower edge portions 45b slip away from depressions 24c and stopper pieces 45 separate from connecting portions 24. *Id.* at 7:60–8:2, 9:4–7. Mouthpiece tube 30 pushes upward on top board 21 via its elastic force to open openable lid 20. *Id.* at 9:7–13.

2. *Analysis*

a) *Independent Claims 1 and 21*

Petitioner contends that Kiyota discloses a user release mechanism that performs the recited function and is equivalent to the corresponding structure described in the '028 patent (i.e., sliding member 238, including its component parts). Pet. 36–38 (citing Ex. 1003 ¶¶ 85–91). In particular, Petitioner asserts that Kiyota's "lock release buttons 40 are adapted to automatically disengage the first and second catch structures (hook-like stopper pieces 45 and connecting portions 24) when a user presses the buttons." *Id.* at 36 (citing Ex. 1004, 8:66–9:13). Petitioner provides an annotated reproduction of Kiyota's Figures 4 and 5, reproduced below. *Id.* at 37.



Petitioner’s annotated Figures 4 and 5 of Kiyota, above, show lock release buttons 40 with hook-like stopper pieces 45 highlighted in yellow, and connecting portions 24 highlighted in red. *Id.* According to Petitioner, lock release buttons 40 “are equivalent to the structures of the ’028 patent” for the “user release mechanism” because “[t]hey perform the claimed function in the same way to achieve the same result.” *Id.* (citing Ex. 1003 ¶ 89). Petitioner explains that, in the first embodiment of the ’028 patent, “a user pushes a sliding element forward, towards the mouthpiece assembly, to disengage the catch structures,” and “[t]his is substantially the same in Kiyota, wherein a user presses on the release buttons 40, which slide towards the mouthpiece assembly to automatically disengage the first and second catch structures.” *Id.* (citing Ex. 1003 ¶ 89).

Patent Owner argues that Petitioner fails to show, with a reasonable likelihood, that Kiyota’s lock release buttons 40 perform the same function recited in the claims in substantially the same way to achieve substantially the same result as the ’028 patent’s sliding member 238. Prelim. Resp. 34 (citing *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000)). According to Patent Owner, Petitioner alleges that the two

structures operate similarly because “they both involve pushing and sliding,” but “neither Petitioner nor its declarant explain why this alleged similarity demonstrates that Kiyota’s structure functions in ‘substantially the same way’ to achieve ‘substantially the same result’ as the sliding member 238 in the ’028 patent.” *Id.* at 37 (citing Pet. 37–38; Ex. 1003 ¶ 89). Patent Owner points to differences demonstrating that the structures do not operate in substantially the same way or achieve substantially the same result. *Id.* at 37–39.

In particular, Patent Owner explains that “the ’028 patent describes a single sliding member [238] that performs the recited function by lifting another portion of the mouthpiece assembly—rigid collar 170—which disengages the catch structures.” *Id.* at 37 (citing Ex. 1001, 12:54–65, 13:15–25; Ex. 2001 ¶ 92). Patent Owner further explains that, in contrast, Kiyota’s lock release buttons 40 “must be ‘simultaneously depressed,’ which disengages the alleged catch structures integral to each lock release button (‘stopper pieces 45, 45’) from depressions 24c, 24c.” *Id.* (citing Ex. 1004, 8:65–9:7; Ex. 2001 ¶ 93).⁶ In other words, “releasing the alleged mouthpiece in Kiyota requires a user to press simultaneously on two distinct, opposing buttons (40) on the sides of the cap assembly[,], where[as] the ’028 patent describes a user only engaging a single sliding member 238 on the top of the cap assembly.” *Id.* at 38 (citing Ex. 1001, 12:56–65, 13:15–25; Ex. 1004, 8:65–9:7; Ex. 2001 ¶ 95). Patent Owner also explains that Kiyota’s catch structures are integral with lock release buttons 40, whereas sliding member 238 of the ’028 patent moves another component (i.e., rigid

⁶ These facts are not in dispute. Patent Owner agrees with Petitioner’s characterizations of the structures in the ’028 patent and Kiyota. Prelim. Resp. 37 (citing Pet. 34–36).

collar 170) where the catch structures are located. *Id.* at 38–39 (citing Ex. 1001, 13:15–25; Ex. 1004, 6:28–35; Ex. 2001 ¶ 96). In this regard, Patent Owner’s expert, Mr. Jobin, opines that one of ordinary skill in the art “would have understood that two buttons that must be simultaneously actuated and that directly disengage catch structures, as in Kiyota, do not work in substantially the same way nor achieve substantially the same result as a single actuator that indirectly disengages catch structures, as in the ’028 patent.” Ex. 2001 ¶ 97.

Patent Owner further argues that the differences in the way the two structures operate and the result each achieves would not have been insubstantial to one of ordinary skill in the art. Prelim. Resp. 39 (citing Ex. 2001 ¶ 98). Specifically, Patent Owner asserts that a POSITA would have appreciated that the ’028 patent’s sliding member 238 requires only one finger to operate, whereas Kiyota’s lock buttons 40 require at least two fingers. *Id.* (citing Ex. 2001 ¶ 98). Additionally, Patent Owner asserts that “the ’028 patent’s mechanism better prevents inadvertent openings in a superior way . . . in light of its indirect, rather than direct, disengagement of the catches.” *Id.* at 40 (citing Ex. 2001 ¶¶ 98–100).

We agree with Patent Owner that Petitioner has not shown sufficiently that Kiyota’s release buttons 40 are equivalent to the structure described in the ’028 patent for performing the claimed function (i.e., sliding member 238, including its component parts).

“[U]nder § 112, ¶ 6 equivalence, functional *identity* is required” and “[s]tructural equivalence under § 112, ¶ 6 is met only if the differences are insubstantial, that is, if the assertedly equivalent structure performs the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the specification.”

Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267 (Fed. Cir. 1999) (citing *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1308 (Fed. Cir. 1998)).

Here, Petitioner states that Kiyota’s lock release buttons 40 “perform the claimed function in the same way to achieve the same result” as the ’028 patent’s sliding member 238, and its component parts (Pet. 37) without providing sufficient supporting explanation or evidence. Petitioner explains only that the two structures operate in “substantially the same way” by a user pressing an element that that slides towards the mouthpiece assembly to disengage the catch structures. *Id.* at 37–38 (citing Ex. 1003 ¶ 89). The Petition does not discuss any of the differences between Kiyota’s structure and the ’028 patent’s structure or provide an explanation of why these differences are insubstantial. Indeed, as Patent Owner persuasively explains, there are notable differences in the “way” the two structures perform the claimed function and the “result” they achieve. *See* Prelim. Resp. 39–40 (discussing the ’028 patent’s one-finger operation and indirect catch disengagement, versus Kiyota’s two-finger operation and direct catch disengagement). Moreover, the analysis in Dr. Vallee’s declaration substantially parallels the discussion in the Petition and does not provide any additional explanation or evidence to show that the differences between the “way” the two structures operate or the “result” they achieve are insubstantial. *Compare* Ex. 1003 ¶¶ 85–91, *with* Pet. 34–38.

For these reasons, Petitioner fails to show sufficiently that Kiyota discloses an equivalent structure to the structure described in the ’028 patent corresponding to the “user release mechanism” recited in claim 1. Accordingly, Petitioner has not met its burden to show a reasonable likelihood that claim 1 is unpatentable as obvious over Kiyota.

Petitioner’s challenge of independent claim 21 relies on the same arguments that we find deficient for the reasons discussed above in connection with claim 1. *See* Pet. 52–53 (asserting that “Kiyota renders claim 21 obvious for the same reasons addressed above”). Thus, for the same reasons, Petitioner likewise has not met its burden to show a reasonable likelihood that claim 21 is unpatentable as obvious over Kiyota.

b) Dependent Claims 2, 5, 6, 8, 9, 15, and 16

Petitioner’s additional arguments and evidence regarding claims 2, 5, 6, 8, 9, 15, and 16, which depend from claim 1, do not remedy the deficiency in Petitioner’s arguments for claim 1. *See id.* at 38–52. Accordingly, for the same reasons discussed above in our analysis of claim 1 (*see supra* § II.D.2.a), Petitioner fails to show a reasonable likelihood that any of claims 2, 5, 6, 8, 9, 15, and 16 are unpatentable as obvious over Kiyota.

E. Ground 2: Alleged Obviousness Over Ribarits

Petitioner contends that Ribarits renders obvious the subject matter of independent claims 1 and 21, and claims 2, 5, 6, 8, 9, 15, and 16, which depend from claim 1. Pet. 54–81. For the reasons discussed below, Petitioner has failed to establish a reasonable likelihood that Ribarits discloses or suggests “a user release mechanism,” as recited in claim 1, and as similarly recited in claim 21. We provide below a brief overview of Ribarits and a discussion of the deficiency in Petitioner’s assertion of unpatentability.

1. Overview of Ribarits

Ribarits is titled “Drinking Device” and “relates to a drinking device which enables a drink to be drunk in a pleasant, hygienic manner, and can be both opened and closed with one hand.” Ex. 1005, codes (54), (57).

Ribarits discloses a drinking device with a pivoting spout. *Id.* at 2. Figure 1 of Ribarits, reproduced below, provides perspective views of a drinking device for a bottle.

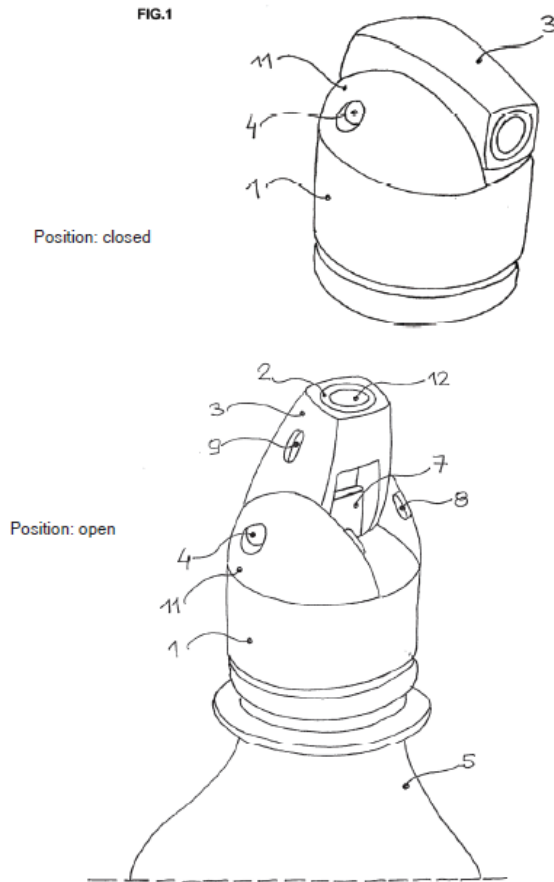


Figure 1 of Ribarits provides two views of a drinking device showing drinking spout 3 in a closed position (top) and an open position (bottom). *Id.* The drinking device also includes closing cap 1 having threads for screwing onto a bottle and sealed tubular element 2 made of rubber or latex. *Id.* at 2–3. Closing cap 1 includes lateral parts 11, to which drinking spout 3 is movably fixed by two axial pins 4. *Id.*

Figure 3 of Ribarits, reproduced below, provides cross-sectional and top-down views of the drinking device.

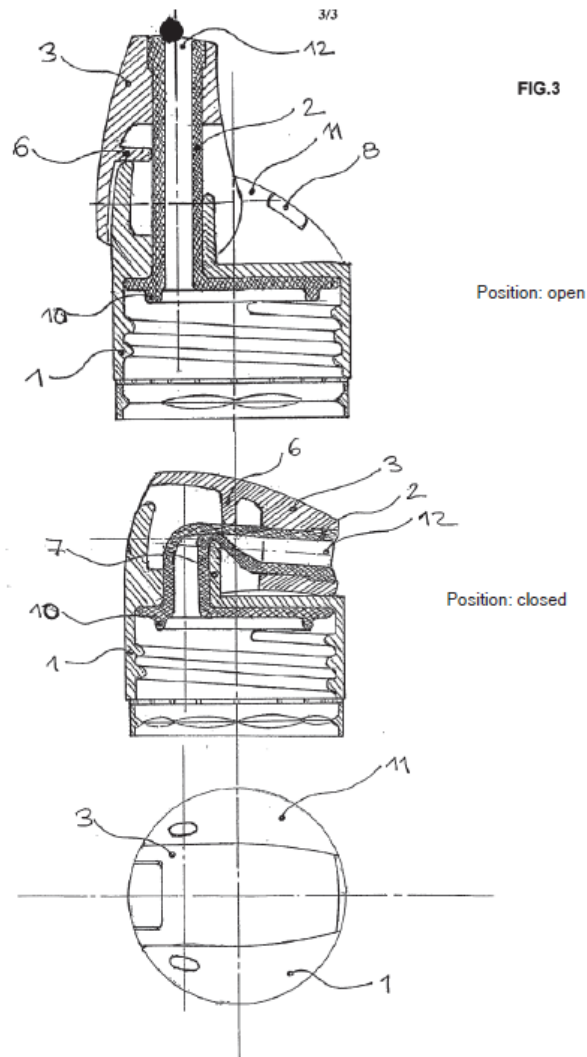


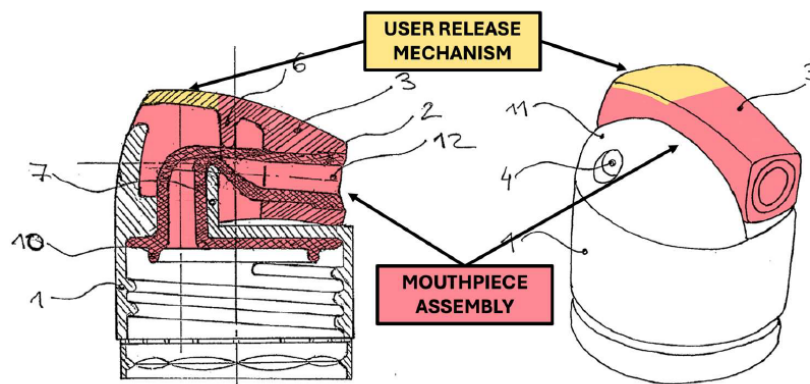
Figure 3 of Ribarits shows three vertically-aligned views of the drinking device, including cross-sectional views of drinking spout 3 in an open position (top) and a closed position (middle) and a top-down perspective view (bottom). *Id.* at 2. With drinking spout 3 in the open position, sealed tubular element 2 is straightened so that liquid can be withdrawn from the bottle. *Id.* Pivoting drinking spout 3 downward to the closed position bends sealed tubular element 2 to prevent liquid from exiting the bottle. *Id.* To prevent accidental opening, the drinking device also includes a securing mechanism in the form of knobs 8 on lateral parts 11 of

closing cap 1 that engage corresponding recesses 9 in drinking spout 3.
Id. at 2–3.

2. Analysis

a) Independent Claims 1 and 21

Petitioner contends that Ribarits discloses, in relevant part, “a user release mechanism,” as recited in claim 1. Pet. 70–72. In particular, Petitioner asserts that Ribarits discloses a drinking spout having “a lever arm that can be engaged by the user’s finger to open and close the spout.” *Id.* at 70. Petitioner provides an annotated reproduction of Figures 1 and 3 of Ribarits, reproduced below. *Id.* at 71.



Petitioner’s annotated Figures 1 and 3 of Ribarits show drinking spout 3 highlighted in red and labeled “Mouthpiece Assembly,” and a portion of drinking spout 3 highlighted in yellow and labeled “User Release Mechanism.” *Id.* Petitioner explains that, “[w]hen the drinking spout is in the stowed configuration, the user may apply a force to the drinking spout to facilitate disengagement of the snap-fit connection between the catch structures, i.e. the ‘knobs’ and ‘recesses.’” *Id.* (citing Ex. 1005, 2). Petitioner asserts that “[b]ecause the flexible tube within the drinking spout is comprised of an elastic ‘rubber or latex’ material, it is inherently biased toward the dispensing configuration,” which “further facilitates the

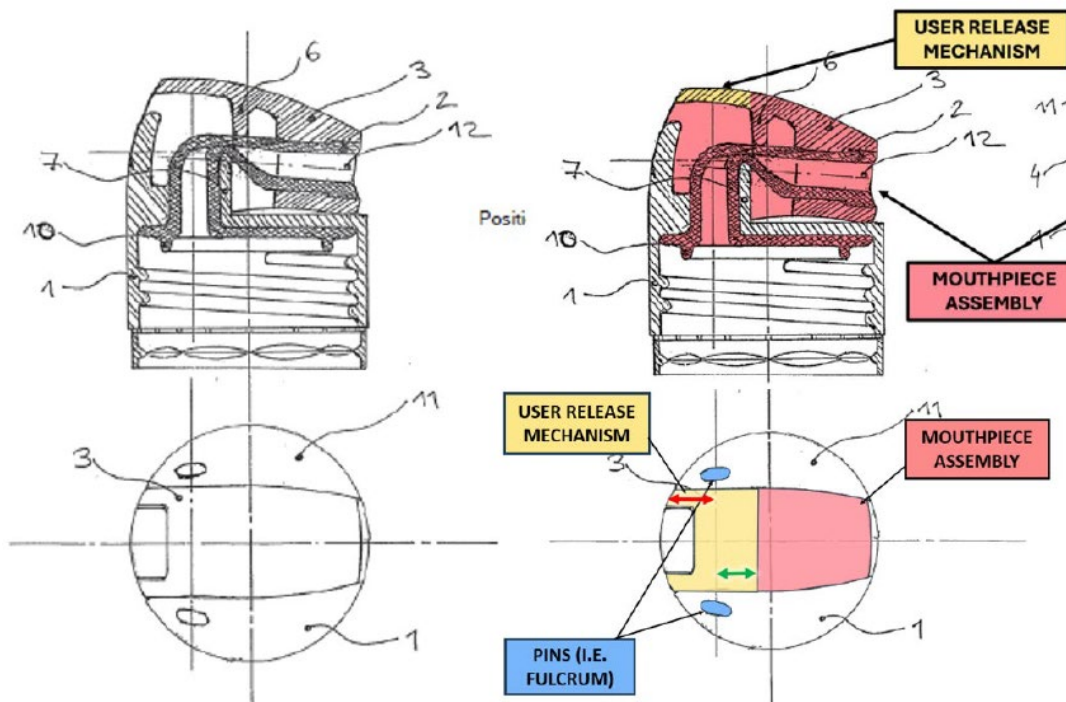
automatic disengagement of the first and second catch structures.” *Id.* (citing Ex. 1003 ¶ 190).

Petitioner asserts that the identified “lever arm” of Ribarits is equivalent to the structure described in the second embodiment of the ’028 patent for performing the claimed function (i.e., user engagement portion 260 on rigid collar 170). *Id.* at 72 (citing Ex. 1003 ¶ 191); *see also supra* § II.C.1 (construing “user release mechanism” to cover either sliding member 238, including its component parts, or user engagement portion 260 on rigid collar 170, and equivalents thereof). In particular, Petitioner asserts that Ribarits’s “lever arm” and the ’028 patent’s user engagement portion 260 “perform the claimed function in the same way to achieve the same result.” *Id.* at 72 (citing Ex. 1003 ¶ 191). According to Petitioner, the two structures are “substantially the same” because both require a user pressing on them to force the catch structures to disengage and, thereby, release the mouthpiece. *Id.*

Patent Owner argues that Petitioner fails to show that the “lever arm” of Ribarits “performs ‘the identical function, in substantially the same way, with substantially the same result’ as the user engagement portion 260 of the rigid collar member 170 of the ’028 patent to prove it is an ‘equivalent’ under § 112[, sixth paragraph].” Prelim. Resp. 52 (quoting *Kemco Sales*, 208 F.3d at 1364). Patent Owner asserts that Ribarits “never separately labels or separately describes Petitioner’s alleged ‘lever arm’ area of its drinking spout,” and “never discloses that a user may open the drink spout by pushing down on this alleged ‘lever arm.’” *Id.* at 54 (citing Ex. 1005, 1–5, Figs. 1–3; Ex. 2001 ¶ 121).

Reproduced below from page 58 of the Preliminary Response is a figure comprising excerpts from Ribarits’s Figure 3 and Petitioner’s

annotated figure with further annotations added by Patent Owner. *Id.* at 58–59 (citing Pet. 71).



Patent Owner’s annotated figure includes excerpts of Figure 3 of Ribarits (top left, bottom left, bottom right), an excerpt of Petitioner’s annotated Figure 3 (top right (*see* Pet. 71)), and further annotations added by Patent Owner (bottom right) to identify pins 4 highlighted in blue and labeled “Pins (i.e., Fulcrum)” relative to Petitioner’s identified “User Release Mechanism” highlighted in yellow. *Id.* Patent Owner explains that the alleged “lever arm” is nearly on top of the fulcrum point at pins 4. *Id.* at 56–57 (citing Ex. 2001 ¶ 123). Referring to the testimony of its expert, Mr. Jobin, Patent Owner asserts that “[a] POSITA would have known that applying force at a fulcrum point of a lever does not generate any torque and, as a result, does not generate any motion about the fulcrum point,” and, “[s]imilarly, applying force near a fulcrum point of a lever generates

relatively less torque than applying force farther from the fulcrum point.”

Id. at 55 (citing Ex. 2001 ¶ 122). Patent Owner further argues:

Given the very small area where the user could potentially place their finger to attempt to create any lever arm at all within Petitioner’s alleged “user release mechanism” area and its extremely close proximity to the fulcrum point defined by the pins 4, a POSITA would not have understood Ribarits to either expressly or inherently disclose that this alleged “lever arm” would have allowed a user to generate sufficient torque to overcome the frictional force from the snap-fit connection between the recesses 9 and knobs 8 (i.e., the alleged catch structures), especially given that Ribarits provides no description that this is possible, no description of how much frictional force holds this snap-fit connection in place, and no description of whether it is possible to create a lever arm or how much torque it would generate.

Id. at 59 (citing Ex. 2001 ¶ 123). According to Patent Owner, a POSITA would have recognized that “it would have been far easier and far more natural for them to instead grip and then lift upward with their finger the drinking spout’s front, outlet portion from which liquid is dispensed.” *Id.* (citing Ex. 2001 ¶ 124).

Patent Owner further argues that Petitioner fails to provide sufficient argument or evidence showing that the alleged “lever arm” of Ribarits operates in substantially the same way to achieve substantially the same result as user engagement portion 260 of the ’028 patent. *Id.* at 71. In particular, Patent Owner asserts that Petitioner’s analysis merely restates part of the function recited in the claim without “provid[ing] any explanation whatsoever of the ‘way’ or ‘result’ independent of the claimed function, as required under the law.” *Id.* at 72 (citing *Odetics*, 185 F.3d at 1267; *Chiuminatta*, 145 F.3d at 1309).

We agree with Patent Owner that Petitioner fails to show sufficiently that the alleged “lever arm” of Ribarits’s drinking spout is equivalent, under § 112, sixth paragraph, to user engagement portion 260 of the ’028 patent. Specifically, Petitioner has not set forth persuasive argument or evidence that the two structures “perform the identical function, in substantially the same way, with substantially the same result,” as required to be “equivalent” under § 112, sixth paragraph. *Kemco Sales*, 208 F.3d at 1364 (citing *Odetics*, 185 F.3d at 1267). First, Petitioner fails to demonstrate a reasonable likelihood that the alleged “lever arm” of Ribarits’s drinking spout 3, if pressed by a user, would function to “disengage the first and second catch structures” (i.e., knobs 8, recesses 9), as claimed. Ribarits is silent as to *how* a user opens the drinking spout 3 with one hand. Ex. 1005, 2 (describing “[w]hen the drinking spout is pivoted open”). We find persuasive Patent Owner’s argument and evidence that, given the location of axial pins 4 serving as a fulcrum point relative to the alleged “lever arm,” a POSITA would not have readily understood that pressing downward on the small “lever arm” area of drinking spout 3 would generate sufficient torque to overcome friction and disengage knobs 8 and recesses 9. *See* Prelim. Resp. 55–56 (citing Ex. 2001 ¶ 122). To the contrary, based on the record before us, we find it reasonably likely that a POSITA would instead push upward on the mouthpiece end of drinking spout 3 opposite the alleged “lever arm” to disengage the catch structures and pivot the mouthpiece. *See* Ex. 2001 ¶ 124.

Even assuming, *arguendo*, that the alleged “lever arm” of Ribarits, when pressed by a user, performs the identical function as user engagement portion 260 of the ’028 patent, Petitioner has not set forth persuasive argument or evidence that the two structures “perform the claimed function

in substantially the same way to achieve substantially the same result,” as required for a structure to be “equivalent” under § 112, sixth paragraph. *Odetics*, 185 F.3d at 1267. Specifically, Petitioner fails to support sufficiently its conclusory assertion that Ribarits’s structure “function[s] in the same way to achieve the same result.” Pet. 72. Petitioner states that Ribarits’s and the ’028 patent’s structures both require a user pressing on a respective structure to disengage catch structures and release the mouthpiece. *Id.* However, this limited discussion fails to explain adequately how the two structures perform the claimed function in substantially the same way to achieve substantially the same result. Moreover, Dr. Vallee’s testimony largely repeats the arguments presented in the Petition without providing further explanation or supporting evidence. Compare Ex. 1003 ¶¶ 186–193, with Pet. 70–72.

For the reasons discussed above, Petitioner fails to show sufficiently that Ribarits discloses an equivalent to the structure described in the ’028 patent for the “user release mechanism” recited in claim 1. Accordingly, Petitioner has not met its burden to show a reasonable likelihood that claim 1 is unpatentable as obvious over Ribarits.

Petitioner’s challenge of independent claim 21 relies on the same unpersuasive arguments presented with respect to claim 1. See Pet. 80 (asserting that “Ribarits renders claim 21 obvious for the same reasons addressed above”). Thus, Petitioner likewise has not met its burden to show a reasonable likelihood that claim 21 is unpatentable as obvious over Ribarits.

b) Dependent Claims 2, 5, 6, 8, 9, 15, and 16

Petitioner's additional arguments and evidence regarding claims 2, 5, 6, 8, 9, 15, and 16, which depend from claim 1, do not remedy the deficiency in Petitioner's arguments for claim 1. *See* Pet. 72–80. Accordingly, for the same reasons discussed above in our analysis of claim 1 (*see supra* § II.E.2.a), Petitioner fails to show a reasonable likelihood that any of claims 2, 5, 6, 8, 9, 15, and 16 would have been unpatentable as obvious over Ribarits.

F. Remaining Grounds 3–5

In the remaining grounds, Petitioner asserts that claims 6, 9, and 21 would have been unpatentable as obvious over Kiyota and Ribarits, claim 16 would have been unpatentable as obvious over Kiyota and Choi, and claim 16 would have been unpatentable as obvious over Ribarits and Choi. Pet. 81–91. Petitioner's additional arguments and evidence advanced in the Petition do not cure the deficiencies in the disclosures of Kiyota and Ribarits with respect to the claimed “user release mechanism” discussed above in connection with the first and second grounds. Accordingly, for the same reasons discussed above, Petitioner fails to show a reasonable likelihood of prevailing with respect to any of the remaining grounds.

III. CONCLUSION

For the foregoing reasons, the information presented in the Petition and accompanying evidence does not establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least one of the challenged claims.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied*; and

FURTHER ORDERED that no *inter partes* review is instituted.

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Patent 9,782,028 B2

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