

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TROVE BRANDS, LLC,  
Petitioner,

v.

CAMELBAK PRODUCTS, LLC,  
Patent Owner.

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IPR2025-00155  
Patent 11,684,187 B2

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

WORTH, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Trove Brands, LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1, 3–9, 11–17, and 19 of U.S. Patent

No. 11,684,187 B2 (Ex. 1001, “the ’187 patent”). CamelBak Products, LLC (“Patent Owner”) filed a Preliminary Response (Paper 11, “Prelim. Resp.”).

In support of its challenges, Petitioner relies, *inter alia*, on the declaration of Glenn E. Vallee, Ph.D. Ex. 1003. Patent Owner relies on the declaration of Michael Jobin. Ex. 2001.

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition filed under [35 U.S.C. §] 311 and any response filed under [35 U.S.C. §] 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018).<sup>1</sup>

For the reasons set forth below, we determine that Petitioner has not demonstrated that there is a reasonable likelihood that at least one of claims 1, 3–9, 11–17, and 19 of the ’187 patent is unpatentable based on the grounds set forth in the Petition, and we do not institute an *inter partes* review.

### *B. Real Parties-in-Interest*

Petitioner identifies Trove Brands, LLC as the real party-in-interest. Pet. 1.

Patent Owner identifies CamelBak Products, LLC and Vista Outdoor Inc. as real parties-in-interest. Paper 3, 2.

### *C. Related Matters*

The parties indicate that Petitioner filed suit against Patent Owner seeking a declaratory judgment of noninfringement in district court litigation, and Patent Owner has asserted the ’187 patent in the same

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<sup>1</sup> This case was referred to the Board panel to consider the merits and non-discretionary considerations. Paper 12, 1–2.

proceeding: *Trove Brands, LLC d/b/a The BlenderBottle Company v. CamelBak Products, LLC et al.*, No. 5:23-cv-04267 (N.D. Cal.). Pet. 1; Paper 3, 2.

Petitioner also states that IPR2024-01501 and IPR2025-00146 are related proceedings. Pet. 1. The application which led to the '187 patent relates back through a chain of continuity to U.S. Patent Application No. 13/479,962, now U.S. Patent No. 9,782,028, which was the subject of IPR2024-01501, and to U.S. Patent Application No. 15/817,013, now U.S. Pat. No. 10,165,879, which was the subject of IPR2025-00146. *See* Ex. 1001, code (63).

#### *D. The '187 Patent*

The '187 patent is titled “Drink Containers” and “relates generally to drink containers, and more particularly to drink containers with mouth-piece assemblies that have a dispensing configuration and a stowed configuration.” Ex. 1001, 1:26–29.

Figure 7 depicts an embodiment of the '187 patent:

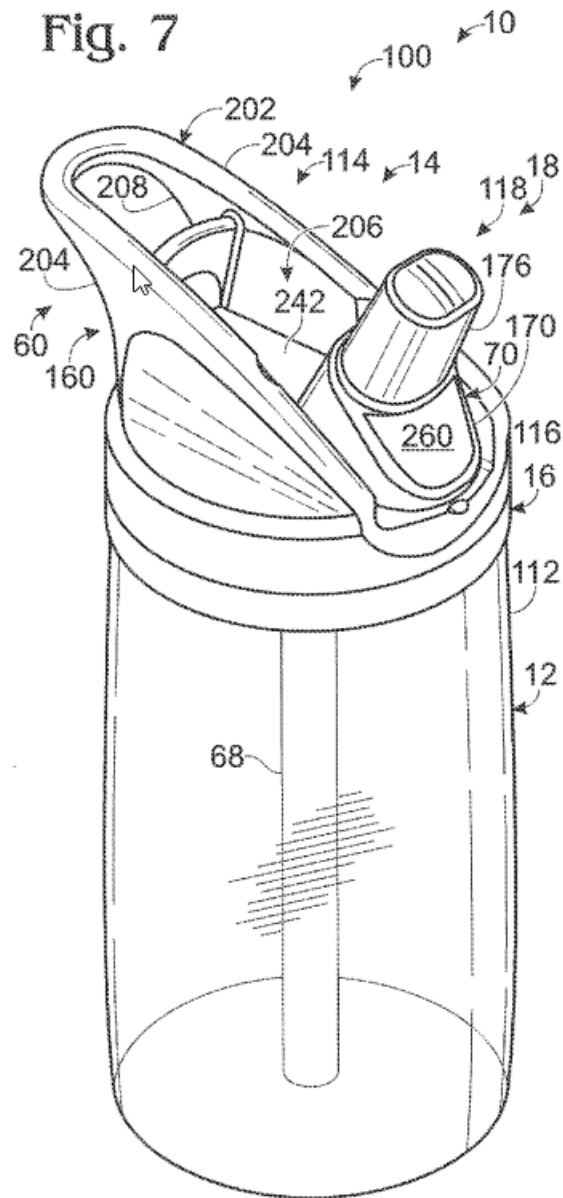


Figure 7 is an isometric view of an example of a drink container according to the disclosure including the mouthpiece assembly, with the drink container illustrated with the mouth assembly in the dispensing configuration. *See id.* at 2:31–34.

Figure 11 is depicted below:

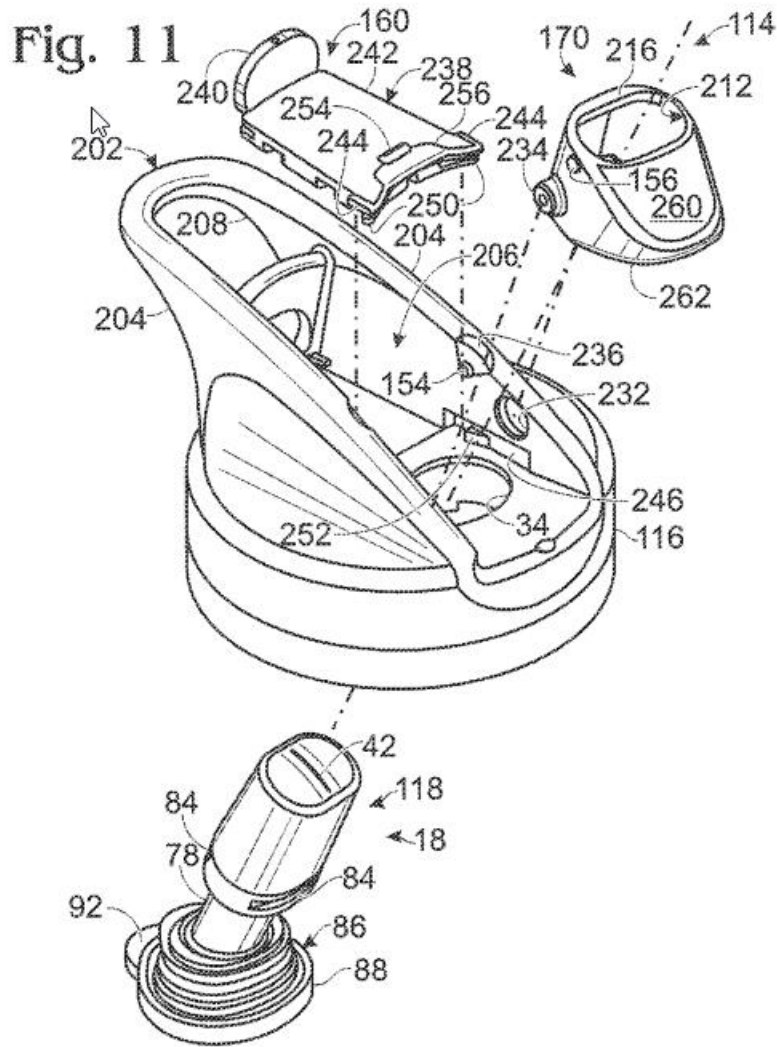


Figure 11 is an isometric exploded view of the cap assembly of the '187 patent. *Id.* at 2:43–44.

The first catch structure of cap assembly 114 includes a pair of cylindrical depressions 154 extending into lateral guards 204 of optional handle 202, and the second catch structure of the rigid collar member includes a pair of hemispherical protrusions 156 positioned and sized to mate with depressions 154 and thereby retain the mouthpiece assembly in its stowed configuration upon a user configuring the mouthpiece assembly to its stowed configuration. *Id.* at 12:43–50.

User release mechanism 160 of drink bottle 100 includes sliding member 238. *Id.* at 12:67–13:2. Sliding member 238 includes user engagement pad 240 and an actuator, such as may be implemented and/or described as generally planar portion 242, that includes a pair of tabs 244 that slide within a pair of corresponding channels 246 that extend into lateral guards 204 of handle 202. *Id.* at 13:2–7. Sliding member 238 is configured to slide relative to the base of the cap assembly upon user actuation of user release mechanism 160 (i.e., upon user engagement and translation of user engagement pad 240). *Id.* at 13:7–11. Sliding member 238 also includes a pair of biasing members 250 that slide within channels 246, and which may be integral with the sliding member. *Id.* at 13:14–16. Biasing members 250 may be described as springs or leaf springs and may include arcuate projections, or tabs, that are biased to the positions illustrated in Figure 11. *Id.* at 13:16–19.

A pair of wedge-shaped tabs 252 is positioned within channels 246, and when sliding member 238 is caused to translate toward tube 78 of the mouthpiece assembly in response to user engagement and translation of the user engagement pad, biasing members 250 are compressed against the wedge-shaped tabs. *Id.* at 13:19–24. When the user engagement pad is released by a user, the sliding member is biased, or springs, away from tube 78 of the mouthpiece assembly. *Id.* at 13:24–26.

Sliding member 238 includes collar engagement portion 254 that is 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). *Id.* at 13:28–32.

Sliding member 238 includes optional depression 256 that extends into planar portion 242 and adjacent tab 254. *Id.* at 13:47–49. Depression 256 is sized and shaped to receive at least a portion of the rigid collar member when the mouthpiece assembly is in the stowed configuration. *Id.* at 13:49–52.

Collar engagement portion 254 of drink bottle 100 is in the form of a tab that extends away from the planar portion. *Id.* at 13:33–34. Accordingly, upon actuation of user release mechanism 160, the collar engagement portion engages rim 216 of the rigid collar member and forces disengagement of the first and second catch structures. *Id.* at 13:35–38.

#### *E. Illustrative Claim*

Claim 1, reproduced below, is the sole independent claim and is illustrative of the claimed subject matter:

1. [preamble] A drink container, comprising:
  - [1[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
  - [1[B]] a cap assembly removably coupled to the liquid container, the cap assembly comprising:
    - [1[B][1]] a base removably coupled to the neck of the liquid container and including a through-passage extending through the base;
    - [1[B][2]] a first catch structure coupled to the base;
    - [1[B][3]] a mouthpiece assembly defining a liquid passage through which drink liquid from the liquid container may selectively flow, the mouthpiece assembly being configured to be selectively positioned between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment into at least the liquid passage, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container through the liquid

passage, wherein the mouthpiece assembly is biased to the dispensing configuration and wherein the mouthpiece assembly comprises:

[1[B][3][a]] a rigid collar member that is pivotally coupled to a portion of the cap assembly;

[1[B][3][b]] a mouthpiece portion extending from the rigid collar member and including an outlet, wherein the rigid collar member extends around at least a portion of the mouthpiece portion; and

[1[B][3][c]] a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration;

[1[B][4]] *and 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, wherein the user release mechanism comprises a displacement mechanism with a user engagement pad, wherein the displacement mechanism is configured to displace the first catch structure to selectively disengage the first and the second catch structures, and wherein the user release mechanism is biased to urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures.*

Ex. 1001, 21:26–22:5 (paragraphing, numbering, and emphasis added).<sup>2</sup>

#### *F. Prior Art and Asserted Grounds*

Petitioner asserts that claims 1, 3–9, 11–17, and 19 of the '187 patent are unpatentable on the following grounds (Pet. 1, 18):

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<sup>2</sup> The paragraph numbering tracks the numbering assigned to limitations in the Petition. See Pet. 16–18.

| Claim(s) Challenged   | 35 U.S.C. § <sup>3</sup> | Reference(s)/Basis                                                  |
|-----------------------|--------------------------|---------------------------------------------------------------------|
| 1, 3–9, 11–17, and 19 | 103                      | Kiyota <sup>4</sup> , Choi <sup>5</sup> , and Ribarits <sup>6</sup> |
| 1, 3–9, 11–17, and 19 | 103                      | Park <sup>7</sup> and Ribarits                                      |
| 15                    | 103                      | Park, Ribarits, and Kiyota                                          |

## II. ANALYSIS

### A. Legal Standards

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. § 103; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “[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.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 50–51 (1966)). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of

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<sup>3</sup> 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. We note that we would not reach a different result under the AIA version of the statute.

<sup>4</sup> Kiyota, U.S. Patent No. 6,279,773 B1, issued August 28, 2001 (Ex. 1004) (“Kiyota”).

<sup>5</sup> Choi, U.S. Patent Application Publication No. 2007/0039959 A1, published Feb. 22, 2007 (Ex. 1005) (“Choi”).

<sup>6</sup> International Patent Application Publication No. WO 2004/063042 A2, published July 29, 2004 (Ex. 1009, translation of Ex. 1011) (“Ribarits”).

<sup>7</sup> Korean Patent Application No. 20-2002-0012272 (Registration No. 20-0282506), published July 22, 2002 (Ex. 1006, translation of Ex. 1008) (“Park”).

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) objective evidence of non-obviousness. *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) (2018); *see also* 37 C.F.R. § 42.104(b) (2024) (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; 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) (quoting *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). Furthermore, the prior art itself can reflect the appropriate level of ordinary skill in the art. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Petitioner asserts that a person of ordinary skill in the art (“POSITA”) would have had 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. 19 (citing Ex. 1003 ¶ 29). Petitioner asserts that more work experience may substitute for a lower level of education, and vice versa. *Id.*

Patent Owner admittedly sets forth “a similar, though slightly different, level of ordinary skill”: 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. 27 (citing Ex.2001 ¶¶ 60–64). Patent Owner discerns no material difference between the definitions provided by the parties for purposes of the Board’s decision on whether to institute this proceeding. *Id.*

For purposes of this decision, we adopt Petitioner’s proposed level of skill as being consistent with the prior art, although our conclusion on whether to institute would be unchanged under either definition.

### *C. Claim Construction*

We construe each 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.” 37 C.F.R. § 42.100(b) (2024). Under this standard, claim terms are generally given their plain and ordinary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*).

Petitioner proposes a construction for “user release mechanism.” Pet. 20–23.

Patent Owner proposes constructions of the terms (1) “user release mechanism” and (2) “to automatically disengage the first and second catch structures.” Prelim. Resp. 28–34.

We construe “user release mechanism” and “to automatically disengage the first and second catch structures,” as follows.

1. “user release mechanism”

Petitioner argues that “user release mechanism,” which includes “a displacement mechanism,” is governed by 35 U.S.C. § 112 ¶ 6 because it recites a nonce “mechanism” for performing claimed functions without reciting sufficient structure for performing those functions. Pet. 20 (citing *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348–49 (Fed. Cir. 2015); *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008); *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1325 (Fed. Cir. 2004); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1373 (Fed. Cir. 2015); Ex. 1003 ¶ 40). Petitioner argues that “user release” is not structural and instead recites a function performed by the mechanism. *Id.* at 20–21.

Petitioner argues that the recited functions of the “user release mechanism” are (i) 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” and (ii) being “biased to urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures.” *Id.* at 21 (citing Ex. 1001, 21:59–64, 22:3–6).

Petitioner argues that the corresponding structure for “user release mechanism” is sliding member 238 (and its component parts). *See id.*

Petitioner further argues:

The mouthpiece is held in its closed configuration by catch structures 156 on rigid collar member 170 which engage with catch structures 154 on handle 202. A user can press engagement pad 240 to force the sliding member 238 to wedge between base 116 and rigid collar member 170, which disengages catch

structures 154 and 156. The mouthpiece then pivots to its dispensing configuration due to the bias of the tube 78.

The structure that urges the sliding member away from the position where it disengages the first and second catch structures is biasing member 250 (springs or leaf springs), which is compressed against wedge-shaped tabs 250 when the user release mechanism is activated.

*Id.* at 21–22 (citing Ex. 1001, 12:50–13:25, 13:8–21, 13:29–33).

Patent Owner argues that the district court in *Trove Brands, LLC v. CamelBak Products, LLC*, No. 5:23-cv-04267 (N.D. Cal.) held that the term “user release mechanism” is a means-plus-function term governed by 35 U.S.C. §112 ¶ 6 and has construed the corresponding structure for the “user release mechanism” of claim 1 “as including sliding member 238, engagement pad 240, planar portion 242, tabs 244, springs, leaf springs, biasing members 250, tabs 252, collar engagement portion 254, and depression 256.” See Prelim. Resp. 28 (citing Ex. 2002). Patent Owner argues that the court further held that the functions of the “user release mechanism” are “[a]utomatically disengaging the first and second catch structures upon actuation of the user release mechanism and thereby releasing the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration” and “[u]rging the [displacement mechanism] away from a position where the [displacement mechanism] disengages the first and second catch structures.” *Id.* at 28–29 (citing Ex. 2002, 15, 19).

Patent Owner does not dispute that the “user release mechanism” is governed by §112 ¶ 6, for purposes of this proceeding. *Id.* at 29. Patent

Owner also does not dispute including “sliding member 238” in the corresponding structure for claim 1. *See id.* at 30.<sup>8</sup>

The failure to use the word “means” in a claim element creates a rebuttable presumption that § 112 ¶ 6 does not apply. *Williamson v. Citrix Online*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc). The presumption can be overcome and § 112 ¶ 6 will apply if the challenger demonstrates that the claim term fails to “recite[ ] sufficiently definite structure” or else recites “function without reciting sufficient structure for performing that function.”

“Construing a means-plus-function claim term is a two-step process.” *Id.* at 1351. “The [tribunal] must first identify the claimed function.” *Id.* “Then, the [tribunal] must determine what structure, if any, disclosed in the specification corresponds to the claimed function.” *Id.* There may be multiple claimed functions, each with disclosed corresponding structure. *See id.* at 1351–52.

Consistent the claim language and consonant with the district court<sup>9</sup>, we determine that the recited functions for the “user release mechanism” are

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<sup>8</sup> Patent Owner also argues that Petitioner has failed to comply with 37 C.F.R. § 42.104(b)(3) for failing to adequately construe a means-plus-function limitation governed by 35 U.S.C. § 112 ¶ 6 in a manner that “identif[ies] the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.” Prelim. Resp. 30. Patent Owner argues that Petitioner merely identifies “sliding member 238 (and its component parts)” without specifying which particular structures it contends constitutes the “component parts” of sliding member 238. *Id.* Because we deny institution on the merits, we need not reach this argument.

<sup>9</sup> We note that the district court identified two functions with associated structure, one being a first function having the same construction as that of claim 1 of the '028 patent (Ex. 2002, 19 paragraph b.i.), i.e., “Automatically disengaging the first and second catch structures upon actuation of the user release mechanism and thereby releasing the mouthpiece assembly to move

“automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move” and also “urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures.”

We find that the term “user release mechanism” does not recite a definite structure. We agree with Petitioner that the term “user release” is functional, and we agree with Petitioner that “mechanism” may be a “nonce” word, as it is here. *See Williamson v. Citrix Online*, 792 F.3d at 1348.

Claim 1 recites that the “user release mechanism” “comprises a displacement mechanism with a user engagement pad.” Ex. 1001, 21:65–66. For similar reasons as for “user release mechanism,” we find that “displacement mechanism” does not provide structure. Although “user engagement pad” is structural, we determine that it is not itself sufficient structure to perform the recited functions, i.e., “automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move” and also “urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures.”

We therefore determine that “user release mechanism” is subject to § 112 ¶ 6. We further adopt the district court’s identification of corresponding structure for the recited functions. *See* Ex. 2002, 15–17, 19–

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via its bias from the stowed configuration to the dispensing configuration,” and a second function (Ex. 2002, 19–20 paragraph b.ii.), i.e., “Urging the [sliding member/displacement mechanism] away from a position where the [sliding member/displacement mechanism] disengages the first and second catch structures.”

21. In particular, we determine that the structure corresponding to both recited functions is sliding member 238 (including its component parts), i.e., for automatically disengaging the catch structures, and also includes engagement pad 240, planar portion 242, tabs 244, springs, leaf springs, biasing member 250, tabs 252, collar engagement portion 254, and depression 256, i.e., for urging the sliding member away from the position where it disengages the catch structures. *Id.*<sup>10</sup> We determine that the district court’s construction is consistent with the corresponding structure disclosed in the Specification to perform the recited functions. *See, e.g.*, Ex. 1001, 13:2–52; *see also* Section I.D. (discussing in detail the disclosure of the Specification of the ’187 patent). Accordingly, we construe “user release mechanism” to refer to this corresponding structure and equivalents thereof. *See* 35 U.S.C. § 112 ¶ 6.

2. *“to automatically disengage the first and second catch structures”*

Patent Owner proposes that the claim phrase “to automatically disengage the first and second catch structures” means that the claimed disengagement must be at least in part caused by the bias of the mouthpiece assembly as opposed to being wholly caused by the user. Prelim. Resp. 31 (citing Ex. 2001 ¶ 78). Patent Owner relies on the plain meaning of the claim language and also on the Specification. *Id.* at 31–32. Petitioner did not comment on the construction of this claim phrase. *See* Pet. 20–23.

Patent Owner argues that in reciting that the “user release mechanism” performs the function of “automatically disengag[ing] the first and second catch structures,” claim 1 recites that “thereby” the mouthpiece assembly is

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<sup>10</sup> We do not reach whether user engagement portion 260 is part of the corresponding structure for the ’187 patent.

“release[d]” to “move via its bias.” Prelim. Resp. 31–32. Patent Owner argues that the automatic action results in the mouthpiece assembly moving via its bias. *Id.* at 32 (citing Ex. 2001 ¶ 79). Patent Owner also argues that dictionary definitions, caselaw, and the district court construction are consistent therewith. *See id.* at 32–33 (citing, e.g., Exs. 2005–2007; *Space Sys./Loral, Inc. v. Lockheed Martin Corp.*, 243 F.3d 558, 2000 WL 1205154, at \*5 (Fed. Cir. 2000); Ex. 2002; Ex. 2001 ¶ 81).

Patent Owner also argues that the ’187 patent specification repeatedly equates its use of “automatic” to movement under the force of a bias, as opposed to being movement that is wholly achieved by the action of the user (i.e., wholly manual in nature). *Id.* at 32 (citing Ex. 1001, 1:64–67, 6:31–34, 11:24–29; Ex. 2001 ¶ 80).

We are persuaded by Patent Owner that the term “automatically” in “to automatically disengage the first and second catch structures” means that it is not just the force applied by the user that disengages the first and second catch structures, but also the bias of the mouthpiece that helps to disengage the first and second catch structures. In the first instance, we agree with Patent Owner that the claim itself recites that, upon actuation, the mouthpiece assembly is “release[d]” to “move via its bias from the stowed configuration to the dispensing configuration.” *See* Ex. 1001, 21:59–64. This meaning is supported by the Specification which states: “In some examples, the mouthpiece assembly is biased toward the dispensing configuration and thus moves automatically under its bias upon release by the user-release mechanism.” Ex. 1001, 1:64–67.

We further agree with Patent Owner that the plain and ordinary meaning of “automatic” is that the user operation alone is not responsible for the action. For example, in one dictionary cited by Petitioner, “automatic” is

defined as “2: having a self-acting or self-regulating mechanism.” *See* Ex. 2007, 1.<sup>11</sup>

The district court construction is consistent therewith. The district court identified two functions, the first of which is the same as that of the ’028 patent, i.e., “Automatically disengaging the first and second catch structures upon actuation of the user release mechanism and thereby releasing the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration.” *See* Section II.C.1, *supra*. In discussing that function, the district court states: “While a user may impart force upon user engagement portion 260 to release the mouthpiece, the bias of the mouthpiece towards the dispensing configuration causes the mouthpiece to move automatically, satisfying the requirements of Claim 1.” Ex. 2002, 16.

We conclude that the term “automatically” in “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” means that it is not just the force applied by the user that disengages the first and second catch structures, but also the bias of the mouthpiece that helps to disengage the first and second catch structures.

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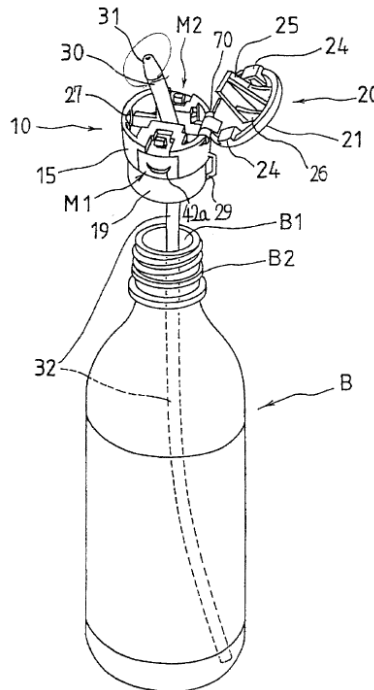
<sup>11</sup> Exhibit 2007 appears to be from an online Merriam-Webster dictionary accessed March 14, 2025. Ex. 2007, 4. At this time, there is no argument in the record that this definition would have been different before the critical date of the patent.

*D. Alleged Obviousness of Claims 1, 3–9, 11–17, and 19 over Kiyota, Choi, and Ribarits*

Petitioner contends that claims 1, 3–9, 11–17, and 19 would have been obvious over Kiyota, Choi, and Ribarits. Pet. 23–66. Patent Owner disagrees. *See* Prelim. Resp. 34–63.

## 1. Kiyota

Kiyota is a U.S. Patent, titled “Lid Body of Beverage Container” (Ex. 1004, code (54), and relates to “a lid body detachably mounted on the mouth portion of a beverage container, and to a lid body with a cap provided with a cap connectable with the lid body.” *See id.* at 1:4–7. Figure 1 of Kiyota is reproduced below:



The lid body of the invention is composed of main body portion 10 threaded in a mouth portion B1 of beverage container B and openable lid 20 openably mounted on main body portion 10 via hinge portion 70. Ex. 1004, 4:54–58.

Kiyota's Figure 5 is reproduced below:

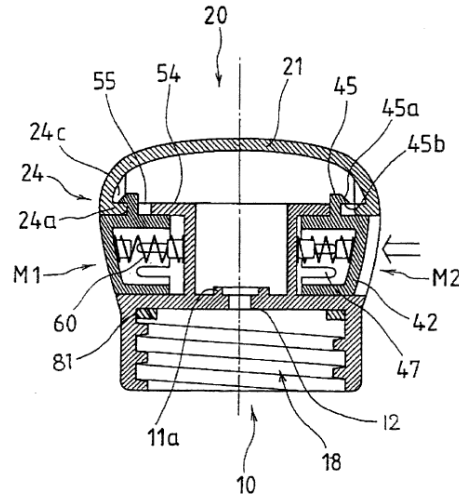


Figure 5 is a longitudinal section showing the state of closing openable lid 20 in main body portion 10. Ex. 1004, 7:34–35. When the end edges of each receiving piece 24a, 24a are passed each inclined face 45a, 45a, each lock release button 40, 40 moves in the direction parting from respective sockets 50, 50 by energization force of springs 60, 60, so that lower edge portions 45b, 45b of each stopper piece 45, 45 are fitted and connected within depressions 24c, 24c of each connecting portion 24, 24 (left drawing of Figure 5). *Id.* at 7:49–55. Thereby, each connecting portion 24, 24 is completely connected with each lock release button 40, 40 to completely close main body portion 10 by means of openable lid 20. *Id.* at 7:56–59.

In order to open openable lid 20, each pressure wall 42, 42 is pressed with pressure against energization force of each spring 60, 60, and lock release buttons 40, 40 are moved in the inside direction of sockets 50, 50 (arrow direction of Figure 5). *Id.* at 7:60–64.

## 2. Choi

Choi is titled “Drink Bottles with Bite-Actuated Mouthpieces” and relates to the subject matter of the title. See Ex. 1005, code (54), ¶ 2.

Figure 2 depicts an embodiment of Choi:

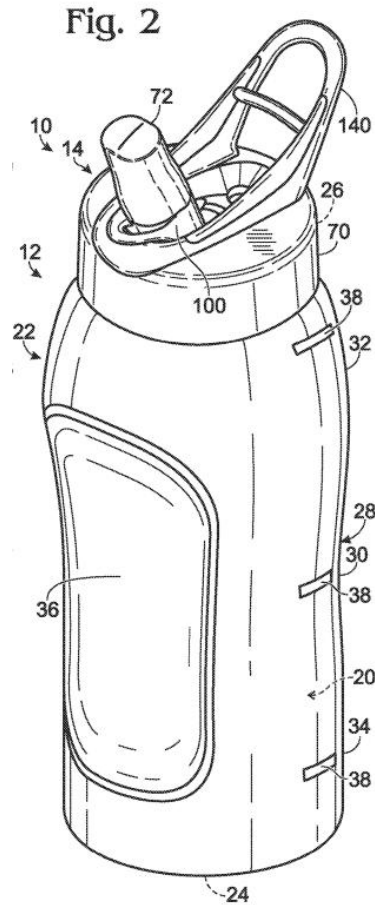


Figure 2 is a perspective view of a bite-actuated drink bottle. *Id.* ¶ 6.

Figure 25 depicts a mounting mechanism (*see id.* ¶ 79):

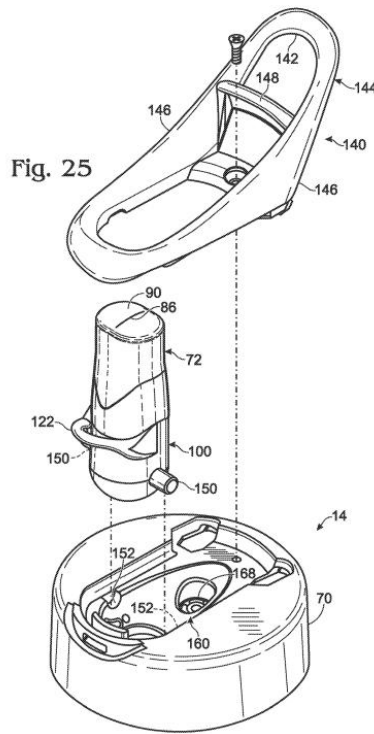


Figure 25 is an exploded isometric view of a cap assembly, which illustrates a non-exclusive example for a suitable pivotal mounting mechanism for mount 100. *Id.* ¶¶ 29, 79. The mount has lateral projections 150 that are received in sockets 152 defined by portions of base 70 and handle 140 of the cap assembly. *See id.* ¶ 79. The projections are rotatable within the sockets, and thereby function as rotatable supports, or axles, upon which the mount and any attached mouthpiece may be pivotally moved relative to the base of the cap assembly, such as between stowed and dispensing configurations (or otherwise within a range of positions). *See id.*

### 3. Ribarits

Ribarits is a Patent Cooperation Treaty publication of an international application titled “Drinking Device.” Ex. 1009, code (54). Ribarits “relates to a device for comfortably drinking and portioning from one of the bottles common today” 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.” *Id.* at 1, code (57). Ribarits discloses, among other things, “a drinking spout being pivoted at the top in a common closing cap provided with a thread.” *Id.* at 2.

Figure 2 of Ribarits is reproduced below:

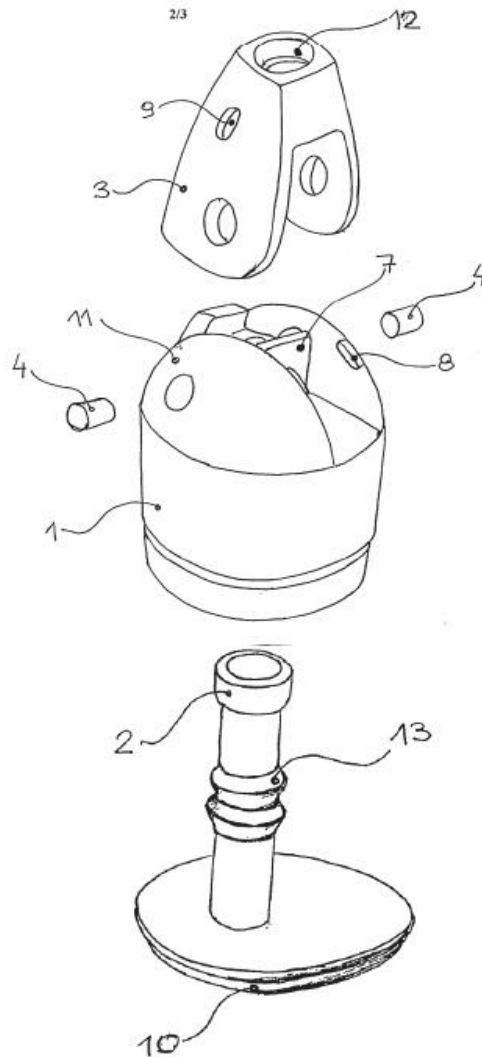


Figure 2 of Ribarits is a perspective view that shows the individual components of Ribarits’s device. *Id.* at 2.

As recited in one of Ribarits’s claims, Ribarits discloses closing cap 1, sealed tubular element 2 inserted therein, and drinking spout 3 which is fixed in lateral parts 11 by two axial pins 4, wherein sealed tubular element 2 is inserted into drinking spout 3. *Id.* at 3 (claim 1). When closing cap 1 is

screwed onto bottle 5, tightness is obtained by means of sealing rings 10, and knobs 8 applied to lateral parts 11 engage in recesses 9 on drinking spout 3. *Id.*

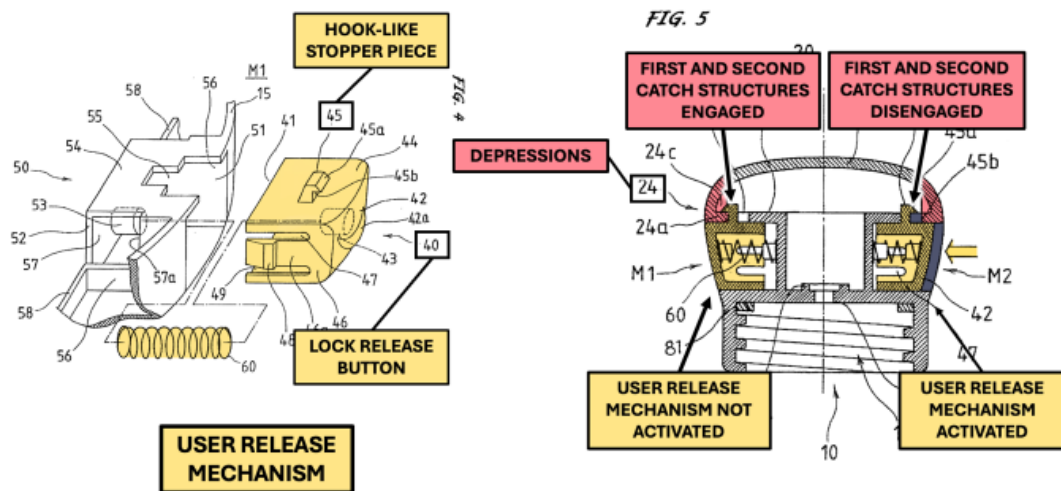
#### 4. Analysis of Independent Claim 1

We focus on the dispositive issue.

##### a) [1[B][4]] “user release mechanism”

For a claim limitation that falls under 35 U.S.C. § 112 ¶ 6, a limitation is literally met by structure that performs the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the Specification. *See Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1267–68 (Fed. Cir. 1999) (discussing law in context of literal infringement). In other words, there must be functional identity and either structural identity or equivalence. *Id.* at 1267.

In setting forth its contentions for its asserted ground, Petitioner provides annotated versions of Kiyota’s Figures 4 and 5 (Pet. 43):



Petitioner’s annotated version of Kiyota’s Figure 4 (the figure on the left) shows lock release button 40 with hook-like stopper piece 45 and spring 60 in yellow, with “hook-like stopper piece” as an annotation of item 45, “lock

release button” as an annotation of item 40, and “user release mechanism” as an annotation at the bottom (with all annotations in yellow boxes). *See id.* Petitioner’s annotated version of Kiyota’s Figure 5 (the figure on the right) shows items 24 in red and what appears to be lock release button 40 and hook-like stopper piece 45 in yellow, with “depressions” as an annotation of item 24 (in a red box), and (on the left side of Figure 5) “first and second catch structures engaged” (in a red box) and “user release mechanism not activated” (in a yellow box), and (on the right side of Figure 5) “first and second catch structures disengaged” (in a red box) and “user mechanism activated” (in a yellow box). *See id.*

Petitioner asserts that Kiyota discloses a user release mechanism that performs the recited function, and which is equivalent to the ’187 patent structure. Pet. 42 (citing Ex. 1003 ¶¶ 99–106). Petitioner asserts that lock release buttons 40 automatically disengage the first and second catch structures (hook-like stopper pieces 45 and connecting portions 24) when pressed. *Id.* (citing Ex. 1004, 8:66–9:13).

Petitioner asserts that the structures in Kiyota that perform the claimed user release mechanism function are equivalent to the structures of the ’187 patent. *Id.* at 43 (citing Ex. 1003 ¶ 103). Petitioner argues that when a user of Kiyota’s device presses buttons 40 to displace the first catch structure to disengage the first and second catch structures, that this is substantially the same as a user in one embodiment of the ’187 patent who pushes a sliding element forward to displace the first catch structure to selectively disengage the first and second catch structures. *Id.*

Patent Owner argues that Petitioner has argued in a conclusory fashion that the structures in Kiyota are equivalent to the ’187 patent because they perform the claimed function in the same way to achieve the

same result, but that Petitioner's assertion is devoid of analysis. Prelim. Resp. 42 (citing *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1267 (Fed. Cir. 1999); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1309 (Fed. Cir. 1998)). Patent Owner argues that Dr. Vallee's declaration is equally conclusory. *Id.* at 43 (citing Ex. 1003 ¶ 103).

Patent Owner also argues that there are three main differences between Kiyota's device and the '187 patent:

The presence of at least these differences, including: (i) two buttons requiring simultaneous actuation on the sides rather than a single button located elsewhere; (ii) direct disengagement rather than indirect disengagement of catches; and (iii) disengagement of catches through clearing interference rather than forceful distortion, demonstrates that Kiyota's lock release buttons 40 do not operate in substantially the same way nor achieve substantially the same result as the sliding member 238 of the user release mechanism in the '187 patent.

*Id.* at 48 (citing Ex. 2001 ¶ 102).

We agree with Patent Owner that Petitioner and Petitioner's expert have provided only a cursory analysis to show that there is an insubstantial difference in the way that Kiyota's device releases the catches. *See* Pet. 43; Ex. 1003 ¶ 103. Petitioner's expert merely states that "Kiyota's mechanism functions in substantially the same way: a user presses the release buttons, which slide toward the mouthpiece assembly to automatically disengage[] the catch structures." Ex. 1003 ¶ 103. Petitioner's expert "additionally" explains how the lock release buttons cause lower edge portions 45b of each stopper piece 45 to separate from depressions 24c of each connection portion 24, and additionally explains how spring 60 pushes lock release button 40 away from back plate 52. *See id.* ¶¶ 104–105. However, Petitioner's expert

does not adequately explain how the differences between Kiyota and the corresponding structure of the '187 patent are insubstantial.

Further, we are persuaded by Patent Owner that there are several differences in the way that Kiyota's device releases. First, Kiyota's device requires pressing two buttons simultaneously. Ex. 1004, 11:32–34 (“in order to open the openable lid **20**, it is necessary to operate each switching device **M1**, **M2** simultaneously.”), 6:1–2 (“The switching device **M1** is composed of a socket **50** and a lock release button **40** movably fixed within the socket”), 5:61–63 (“each switching device **M1**, **M2** is made of the same member arranged in opposition to each other.”), Fig. 5; Ex. 2001 ¶¶ 100, 102. This is in contrast to the '187 patent which has one sliding member 238, which in turn can cause movement of the rigid collar and disengagement of the catch structures. *See* Ex. 1001, 13:28–30; Fig. 11.

Second, we are persuaded by Patent Owner that Kiyota's device relies on direct disengagement of the first and second catch structures, where stopper pieces 45 (the alleged first catch structures) are integral with lock release buttons 40, and where depressing lock release buttons 40 causes stopper pieces 45 to clear connecting portions 24 (the alleged second catch structures). Ex. 2001 ¶¶ 101–102 (citing Ex. 1004, 7:10–11 (“Moreover, the stopper piece 45 is projected from the upper plate 44 of the lock release button 40”), Fig. 2). This is in contrast to the '187 patent, where, as described immediately above, moving sliding member 238 indirectly causes the disengagement of the first and second catch structures, via the movement of the rigid collar member. *See id.*; Ex. 1001, 13:28–30; Fig. 11.

Third, we are persuaded by the testimony of Patent Owner's expert that Kiyota relies on clearing an interference (where hook-like stopper pieces 45 clear depressions 24) (*see* Ex. 2001 ¶ 102), and Petitioner has not

adequately explained how this is an insubstantial difference from the '187 patent which relies on disengagement of first and second catch structures 154 and 156. *See id.*

Therefore, Petitioner has not adequately explained how there is an insubstantial difference between Kiyota and the corresponding structure of the '187 patent. In particular, Petitioner does not discuss the differences between Kiyota and the '187 patent and show how the “way” in which the claimed functions are performed and the differences in the “result” are insubstantial. Petitioner does not rely on Choi or Ribarits to remedy the deficiency in Kiyota. Accordingly, Petitioner has not made an adequate showing for this limitation.

*b) Summary of Claim 1*

We determine that Petitioner has not demonstrated a reasonable likelihood that claim 1 of the '187 patent would have been obvious over Kiyota, Choi, and Ribarits.

*5. Analysis of Dependent Claims 3–9, 11–17, and 19*

Because we determine that Petitioner has not demonstrated a reasonable likelihood that claim 1 of the '187 patent would have been obvious over Kiyota, Choi, and Ribarits, we determine that Petitioner has not demonstrated a reasonable likelihood for its dependent claims.

*E. Alleged Obviousness of Claims 1, 3–9, 11–17, and 19 over Park and Ribarits*

Petitioner contends that claims 1, 3–9, 11–17, and 19 would have been obvious over Park and Ribarits. Pet. 66–107. Patent Owner disagrees. Prelim. Resp. 63–79.

### 1. Park

Park is a Korean patent application publication titled “Portable water bottle with a straw.” Ex. 1006, code (54). Park “relates to a portable water bottle with a straw, and more in detail to a portable water bottle with a straw which, when an operating button formed on a lid of the water bottle is pressed in a one-touch manner, a cover formed on the lid is opened and a straw built into the water bottle is automatically protruded to facilitate drinking water, and when the opened cover is closed, the straw is automatically inserted to facilitate carrying and storage” *Id.* at 3; *see also id.* at 1, Abstr.

Figure 3 of Park is reproduced below:

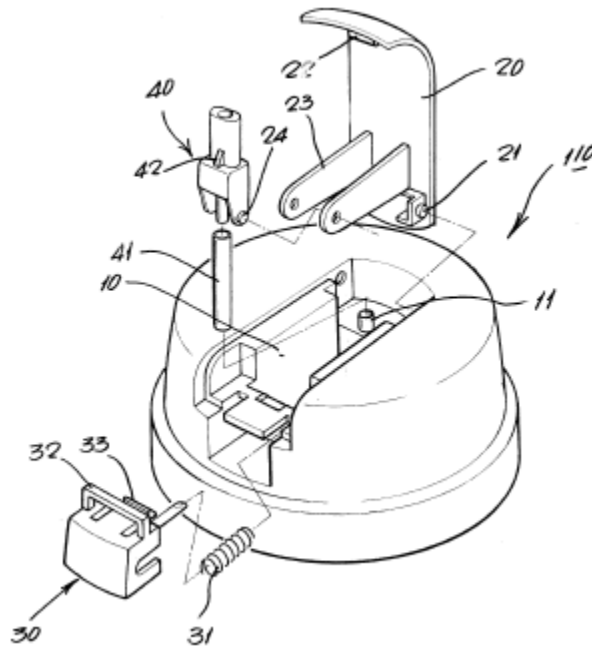


Figure 3 of Park is an exploded perspective view showing the main part of the lid. *Id.* at 2, Fig. 3 [description].

Park discloses:

The locking means comprises an operating button 30 fastened at the front surface of the operating chamber 10, and this operating button 30 is elastically installed by a spring 31 and is

configured to be moved forward and backward, and a hook 32 is formed at a predetermined position on the upper part for locking and unlocking the cover 20, and at the same time, on the upper part at the rear end with a stopper 33 protruding to limit the operating range.

*Id.* at 4. Park discloses that cover 20 is axially coupled in operating chamber 10 by rotary shaft 21 and is opened and closed using the shaft as a supporting point, and protrusion 22 is formed at the lower part of the front surface which is engaged with hook 32 of the aforementioned operating button 30. *Id.*

## 2. Analysis of Independent Claim 1

We focus on the dispositive issue.

### a) [1[B][4]] “user release mechanism”

Petitioner asserts that Park discloses “locking means” comprising “operating button 30 fastened at the front surface of the operating chamber 10” that “is configured to be moved forward and backward, and a hook 32 ... for locking and unlocking the cover 20 ...” Pet. 87 (citing Ex. 1006, 4). Petitioner asserts that “operating button 30 is elastically installed by a spring 31 and is configured to be moved forward and backward” within the “operating chamber 10.” *Id.* Petitioner asserts that during operation, a user presses the exterior surface of “operating button 30,” which causes the button to slide relative to the base of the lid within the channel. *Id.* at 88.

Petitioner argues that because a user interacts with Park’s operation button by pressing its exterior surface, a person of ordinary skill would have understood the exterior surface of Park’s operating button to constitute a “user engagement pad.” *Id.* at 89 (citing Ex. 1003 ¶ 269). Petitioner also argues that a person of ordinary skill would have understood Park’s operating button to constitute a “displacement mechanism” because the

sliding movement of the “operating button 30” causes “hook 32” to disengage from “protrusion 22,” which causes “cover 20” to be “unfolded by the elastic force of the connecting hose 41” and “straw 40” to be opened into the dispensing configuration. *Id.* (citing Ex. 1006, 5; Ex. 1003 ¶ 270).

Petitioner also asserts that Park’s “locking mechanism” includes spring 31, which biases operating button 30 away from the dispensing configuration. *Id.* at 89–90 (citing Ex. 1003 ¶ 272).

Patent Owner argues, *inter alia*, that Park’s operating button does not perform the identical function of “automatically disengage[ing] the first and second catch structures upon actuation.” Prelim. Resp. 78. Patent Owner argues that because the mouthpiece assembly provides no lateral bias assisting the user to depress the button against the spring and move the position of the hook so that it disengages from the protrusion, a person of ordinary skill would have understood that the hook and protrusion are not “automatically” disengaged. Prelim. Resp. 77 (citing Ex. 2001 ¶ 140).

Above, we have construed “to automatically disengage the first and second catch structures” to mean that it is not just the force applied by the user that disengages the first and second catch structures. See Section II.C.2, *supra*. Applying this claim construction, Petitioner has not shown that Park’s device performs this function because Petitioner has not shown that anything besides the manual force applied by the user helps to disengage the first and second catch structures. For example, as Petitioner argues, Park’s “locking mechanism” includes spring 31, which biases operating button 30 away from the dispensing configuration. See Ex. 1006, 4 (“operating button 30 is elastically installed by the spring 31 at the front end of the operating chamber 10 and is always moved forward by the elastic force thereof to maintain the operating standby state”); Ex. 1003 ¶ 272; Pet. 89–90.

In the '187 patent, in contrast, the bias of the mouthpiece helps to disengage the first and second catch structures. *See* Ex. 1001, 21:59–64 (claim 1), 11:24–29. Patent Owner's expert explains it this way:

This action is “automatic” because, when the sliding member 238 is engaged, it imparts a force onto the rim of the rigid collar member, which then applies a force to the first and second catch structures (154 and 156). This is in addition to the force applied by the bias of the mouthpiece assembly to the first and second catches (154 and 156). The combination of the two forces disengage the catch structures.

Ex. 2001 ¶ 136 (citing Ex. 1001, 5:66–67, 12:43–45, 13:35–38, 13:43–46).

Petitioner has not identified any similar forces that add to the user disengaging the catch structures in Park. Although Park discloses an elastic force that causes straw 40 to protrude (Ex. 1006, 4), there is no evidence that this elastic force helps Park's hook 32 disengage from protrusion 22.

Therefore, Petitioner has not adequately explained how Park's device performs the identical function “to automatically disengage the first and second catch structures,” recited in claim 1 of the '187 patent. Petitioner does not rely on Ribarits to remedy the deficiency in Kiyota. Because Petitioner has not shown the prior art discloses the identical function, Petitioner has not made an adequate showing for this limitation under § 112 ¶ 6. *See Odetics*, 185 F.3d at 1267.

#### *b) Summary of Claim 1*

We determine that Petitioner has not demonstrated a reasonable likelihood that claim 1 of the '187 patent would have been obvious over Park and Ribarits.

#### *3. Analysis of Dependent Claims 3–9, 11–17, and 19*

Because we determine that Petitioner has not demonstrated a reasonable likelihood that claim 1 of the '187 patent would have been

obvious over Park and Ribarits, we determine that Petitioner has not demonstrated a reasonable likelihood for its dependent claims.

*F. Alleged Obviousness of Claim 15 over Park, Ribarits, and Kiyota*

Claim 15 depends from claim 1. Petitioner does not rely on Kiyota to remedy the deficiency in the ground of obviousness of claim 1 over Park and Ribarits. Pet. 107–109. Accordingly, we determine that Petitioner has not demonstrated a reasonable likelihood that claim 15 of the '187 patent would have been obvious over Park, Ribarits, and Kiyota.

III. CONCLUSION

We conclude, on the present record, that Petitioner has not demonstrated a reasonable likelihood of prevailing on its assertion that at least one of claims 1, 3–9, 11–17, and 19 of the '187 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review is not instituted on any claim of the '187 patent based on the grounds asserted in this Petition; and

FURTHER ORDERED that the Petition is denied.

IPR2025-00155  
Patent 11,684,187 B2

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