

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMOTOMO INC. and COMOTOMO CORPORATION,
Petitioner,

v.

MAYBORN (UK) LIMITED,
Patent Owner.

IPR2022-01326
Patent 11,207,244 B2

Before ULRIKE W. JENKS, MICHAEL L. WOODS, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

JENKS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Comotomo Inc. and Comotomo Corporation (collectively, “Petitioner”) filed a Petition for an *inter partes* review of claims 1–31 (“the challenged claims”) of U.S. Patent No. 11,207,244 B2 (Ex. 1001, “the ’244 patent”). Paper 2 (“Pet.”). Mayborn (UK) Limited (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

B. *Summary of the Institution Decision*

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2020). For the reasons provided below, under 35 U.S.C. § 314, we deny institution of an *inter partes* review.

C. *Real Parties-in-Interest*

Petitioner identifies itself, Comotomo Inc. and Comotomo Corporation, as the real parties-in-interest. Pet. 1–2. Patent Owner identifies itself, Mayborn (UK) Limited, as the real party-in-interest. Paper 5, 2.

D. *Related Matters*

The ’244 patent is at issue in *Mayborn (UK) Limited, et al. v. Comotomo Inc., et al.*, Case No. 1:22-cv-00694-PGG (S.D.N.Y.). Pet. 2; Paper 5, 2. Patent Owner also identifies the following as a related matter: *Nanobebe US Inc. v. Mayborn (UK) Limited et al.*, 1:21-cv-08444 (S.D.N.Y.). Paper 5, 2. Petitioner states that it “filed a petition for *inter partes* review of U.S. Patent No. 10,952,930, from which the ’244 patent is a continuation, concurrent with the filing of the instant Petition.” Pet. 2.

E. *Asserted Grounds of Unpatentability*

Petitioner challenges the patentability of claims 1–31 of the '244 patent on following grounds:

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1–3, 5, 6, 10–12, 14–24, 26, 27, 30, 31	103	Hakim ²
4, 25	103	Hakim, Hakim II ³
7–9, 28, 29 ⁴	103	Hakim, Kobayashi ⁵
13 ⁶	103	Hakim, Manganiello ⁷

Pet. 3. In support of its patentability challenge, Petitioner relies on, *inter alia*, the Declaration of Jim Goldman. Ex. 1003.

F. *The '244 patent (Ex. 1001)*

The '244 patent is titled “Baby Bottle with Flexible Nipple Regions.” Ex. 1001, (54). The '244 patent “relates to a drinking vessel with a nipple, in

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the '244 patent issued from an application that claims priority from an application filed before March 16, 2013, we apply the pre-AIA versions of the statutory bases for unpatentability.

² International Patent Publication No. WO 2004/013001 A2, published February 12, 2004 (Ex. 1005).

³ U.S. Patent Application Publication No. 2005/0056611 A1, published March 17, 2005 (Ex. 1009).

⁴ In its Table of Contents, Petitioner inadvertently lists this ground as “GROUND II” rather than “GROUND III.” Pet. ix.

⁵ Japanese Patent Publication No. 3209271 B2, published September 17, 2001 (Ex. 1006). We refer to the English-language translation of Kobayashi provided by Petitioner (Ex. 1007).

⁶ In its Table of Contents, Petitioner inadvertently lists this ground as “GROUND III” rather than “GROUND IV.” Pet. x.

⁷ U.S. Patent Application Publication No. 2002/0033399 A1, published March 21, 2002 (Ex. 1008).

particular a baby bottle having a nipple of increased flexibility and functionality.” *Id.* at 1:23–25. The ’244 patent explains that teats in the prior art that were designed to mimic human breast include a stem and a base with an areola region and a bulbous region in which the bulbous region acts as a spring element as an infant sucks on the teat. *Id.* at 1:29–36. These teats, however, do not closely mimic movement of a human breast because the amount of flexing and the point of flexing are undefined and unpredictable. *Id.* at 1:37–43. Further, valved feeding bottles that allow air ingress to prevent negative pressure build up create arrangements that are frail and difficult to machine. *Id.* at 1:49–55. Other negative aspects of such arrangements include a pressure differential that gives “rise to varied levels of valving between uses” and a circumferential flange that increases material costs. *Id.* at 1:62–2:7.

The ’244 patent purports to resolve these problems by providing a flex region in the areola portion of the teat that allows “the teat portion and/or areola portion to move towards and away from one another” and to have “a more natural feeding action” using a plurality of flex channels so that “the point of flexure is clearly defined.” *Id.* at 2:11–17. A helical flow formation on the inner face of the teat is also provided that allows continuous flow of liquid even when the teat collapses. *Id.* at 2:17–20.

Figure 1 of the '244 patent is reproduced below.

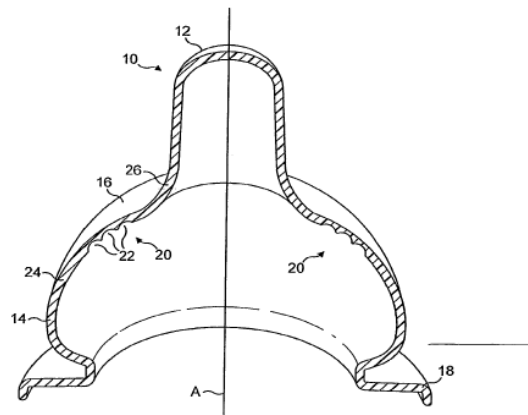


FIG. 1

Figure 1 is a cross-sectional side view of an exemplary teat. *Id.* at 2:31–32. Teat 10 includes teat portion 12, base portion 14, and areola portion 16 therebetween. *Id.* at 2:57–59. Flange 18 extends from base portion 14 for fixing to a bottle. *Id.* at 2:59–61. Areola portion 16 includes flex region 20 which comprises grooves or flex channels 22 “extending around an inner surface of the areola portion effectively forming circular thinned regions parallel/concentric with each other about the axis A and hence surrounding the teat portion.” *Id.* at 2:66–3:3. Flex region 20 is provided between transition region 24, that separates base portion 14 and areola portion 16, and transition region 26, that separates areola portion 16 and teat portion 12, thereby allowing teat 10 to flex. *Id.* at 3:3–8.

Figure 4 of the '244 patent is reproduced below.

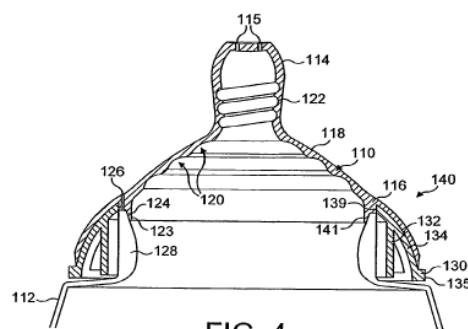


FIG. 4

Figure 4 is a cross-sectional side view of a teat assembly in accordance to another embodiment. *Id.* at 2:39–40. Teat assembly 140 is mounted to infant vessel 112. *Id.* at 3:59–61. Teat assembly 140 includes teat 110 with teat portion 114, base portion 116 mountable to infant vessel 112, and areola portion⁸ 118 therebetween. *Id.* at 3:61–65. Areola portion 118 includes undulating grooves 120 “forming, in cross-section, a wavy profile on the inner surface” of areola portion 118 and extending circumferentially. *Id.* at 4:16–19. Base portion 110 has screw collar 130 that includes internally threaded cylindrical portion 132 and peripheral downwardly domed portion 134 that surrounds cylindrical portion 132. *Id.* at 4:59–62. Domed portion 134 includes horizontal outward annular flange 135. *Id.* at 4:62–63. Teat 110 is “over-moulded onto” screw collar 130 and domed portion 134 terminates at a central circular orifice corresponding with an outer face of neck 128 of infant vessel 112 such that the over-moulded portion of the teat extends inwardly slightly and terminate in downwardly depending cylindrical flange 141. *Id.* at 4:64–5:3. Teat 110 also includes vent passage 126 and lip valve portion 123 that projects down from flange 141. *Id.* at 5:15–19. When the infant drinks from infant vessel 112, the pressure difference pulls lip valve portion 123 away from the inner face of neck 128 thereby allowing venting through vent passage 128. *Id.* at 6:10–13. Helical groove 112 is also provided around the inner surface of teat portion 114 to form flow passage even when teat portion 114 is collapsed. *Id.* at 4:33–43.

The ’244 patent discloses that a feeding bottle can have “a vessel, collar, nipple and handle portion removably secured to the vessel by the

⁸ The ’244 patent uses “areola region” and “areola portion” interchangeably to describe item 118. *See, e.g.*, Ex. 1001, 3:59–65, 4:16–19.

collar.” *Id.* at Abstr. The feeding bottle can have a threaded upper portion for connection to a collar that is removably coupled to the nipple and handle, and a middle portion that is tapered inward. *Id.* at Fig. 7a. Further, base portion 14 (shown in Figure 1) of teat 10 may include a one-way air-inlet valve (not shown), such as “an integrally moulded duck-bill valve.” *Id.* at 2:61–64.

Illustrative Claims

Claims 1, 21, 30, and 31 are the independent claims challenged by Petitioner in this proceeding. Independent claim 1, reproduced below, is illustrative of the subject matter:

1. A feeding vessel, comprising:
a container comprising:
 - i. a threaded upper portion with an opening into the interior of the container,
 - ii. a middle portion below the upper portion, and
 - iii. a bottom portion below the middle portion, wherein the middle portion is tapered inward; andan assembly configured to mount over the opening of the container, the assembly comprising:
 - i. a nipple having a base, a teat portion with an aperture, an areola portion between the teat portion and the base, and a flange depending from the base defining the nipple circumference furthest from the aperture, wherein the teat portion defines a bite region and the areola portion defines *a flex region configured to allow the teat portion to flex towards and away from the areola portion*, and
 - ii. a collar configured to removably couple to the nipple to seal the container; andwherein the collar and the base of the nipple together define a downward domed shape that extends outwardly and

downwardly between the flex region of the nipple and a widest circumferential edge of the collar.

Ex. 1001, 6:61–7:17 (emphasis added). Claims 21, 30, and 31 are drawn to a drinking vessel or a feeding vessel and are similar to claim 1 in that they recite “a flex region configured to allow” movement away from a lower portion of the nipple or movement towards and away from the areola portion. *Id.* at 8:1–20, 8:41–10:24.

II. ANALYSIS

A. *Principles of Law*

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *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 “the scope and content of the prior art”; “differences between the prior art and the claims at issue”; and “the level of ordinary skill in the art.” *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art “to combine . . . known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418. A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

Accordingly, a party that petitions the Board for a determination of unpatentability based on obviousness must show that “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (internal quotations and citations omitted).

B. *Level of Ordinary Skill in the Art*

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner asserts that a person of ordinary skill in the art would have had “a bachelor’s degree in mechanical engineering or a related field, with at least two years of professional experience working in bottle manufacturing” but “[w]ith more education, such as additional graduate degrees or study, less professional experience is needed to attain the ordinary level of skill” and “[s]imilarly, with more experiential knowledge of bottle manufacturing, less professional experience is needed to attain the ordinary level of skill.” Pet. 8 (citing Ex. 1003 ¶ 25). Patent Owner does not dispute Petitioner’s definition of the person of ordinary skill. Prelim. Resp., *passim*. Because Petitioner’s proposed definition is unopposed and appears consistent with the Specification and art of record, we apply it here.

C. *Claim Construction*

The Board applies 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. § 100(b) (2019). Under that standard, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner contends that the “plain and ordinary meanings” should be applied to terms in the claims. Pet. 8.

Patent Owner disagrees. Patent Owner argues that “the [’244] specification makes clear that the claim term ‘flex region’ has a special meaning.” Prelim. Resp. 9–10. Specifically, Patent Owner contends that “[r]eading ‘flex region’ as simply a region made of flexible material would strip the term of meaning.” *Id.* at 11, *see also id.* at 12 (“Petitioner’s circumvention of the Board’s rules on claim construction is revealed by its mapping to Hakim, which relies on an implicit ‘flex region’ interpretation far broader than any semblance of plain meaning”).

In this case, the dispute centers over the phrase “flex region” as recited in each independent claim. We begin by looking to the ’244 specification to determine the meaning of “flex region,” because a claim

cannot be compared to the prior art until the meaning of the claim terms is ascertained. Figure 1 of the '244 specification is reproduced below:

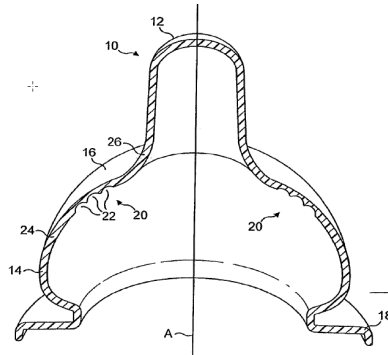


Figure 1 is a cross-sectional side view of a teat. Ex. 1001, 2:31. The teat 10 includes a teat portion 12, a base portion 14, and an areola portion 16 located in between the teat portion and the base portion. *Id.* at 56–59.

The areola portion 16 includes *a flex region 20 comprising three grooves or flex channels 22 extending around an inner surface of the areola portion effectively forming circular thinned regions parallel/concentric with each about the axis A and hence surrounding the teat portion.* The flex region 20 is generally provided between a transition region 24 separating the base portion 14 and the areola portion 16 and a transition region 26 separating the areola portion 16 and the teat portion 12. The flex region 20 allows flexing of the teat.

Id. at 2:66–3:8 (emphasis added).

The '244 specification explains that “as the infant sucks on the teat, the teat portion and areola portion flex towards and away from one another by virtue of respective collapsing and extending of the flex region around the flexed channels 22.” *Id.* at 3:24–27. For example, “suction on the teat portion 12 away from the base portion 14 collapses the flexible region 20 extending the teat portion and areola portion away from one another.” *Id.* at 3:31–34.

A *flex region 37* [found in Figure 3 (not shown)], is situated at the non-bite areola portion 36, and *comprises grooves or*

channels extending around the inner surface of the teat 31 at the areola portion 36. As an infant sucks on the teat 31, the teat portion 32 flexes back and forth as a result of the respective collapsing and extending of the flex region 37 grooves. As before, this back and forth movement mimics the movement of a human breast during suckling, but with the flex region in a non-bite area.

Id. at 3:49–54 (emphasis added).

Figure 4 of the '244 patent is reproduced below.

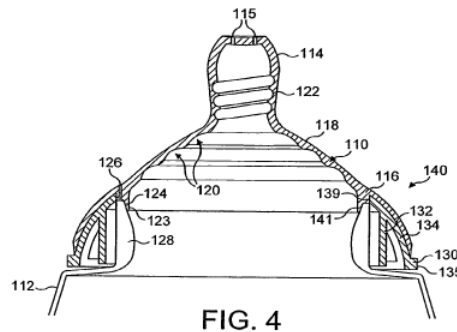


Figure 4 is a cross-sectional side view of a teat assembly in accordance to another embodiment. *Id.* at 2:39–40.

The areola portion 118 further includes undulating grooves forming, in cross-section, a wavy profile on the inner surface of the areola portion 118 and extending circumferentially. In the embodiments shown *three such grooves are formed adjacent one another providing a bellows action as well as flexing in a direction perpendicular to the flow direction* and increasing the flexibility especially in conjunction with the decreasing wall thickness providing a more natural stretching characteristic and sensory feedback to the infant. Yet further, the teat can be textured on its outer and/or inner surface to enhance operation or realism of the teat as appropriate.

Id. at 4:16–27 (emphasis added).

The '244 specification explains:

[T]he flex channels in the flex region can be of any appropriate profile for example square, semi-circular or triangular in cross-section and can be provided on the inner or outer surface of the

teat and in any appropriate number. Instead of providing thinned regions the flexed channels can be formed by a concertina or bellows configurations moulded into the teat or any other appropriate hinge or fold mechanism.

Id. at 6:34–41.

Based on these disclosures in the '244 specification, we agree with Patent Owner that the “flex region” is understood to be more than just a region made of flexible material. *See* Prelim. Resp. 9–12. Specifically, we agree with Patent Owner that the “flex region” contains structural components that provide the “surface characteristics that control flexing.” *Id.* at 12.

Accordingly, based on the '244 specification, we determine that the “flex region” is reasonably interpreted to contain structural components that provide characteristics that control flexing of the structure, such as grooves or flex channels surrounding the teat portion, these grooves or flex channels can be either on the inner or outer surface of the teat portion, forming circular thinned regions of parallel/concentric channels, providing for a bellows action as well as flexing in a direction perpendicular to the fluid flow direction.

D. *Overview of Asserted References*

1. *Hakim (Ex. 1005)*

Hakim “relates to no-spill drinking products.” Ex. 1005, 1. Such products can be a no-spill cup intended for young children or a baby bottle with a nipple. *Id.* at 1–2.

Figure 1(A) of Hakim is reproduced below.

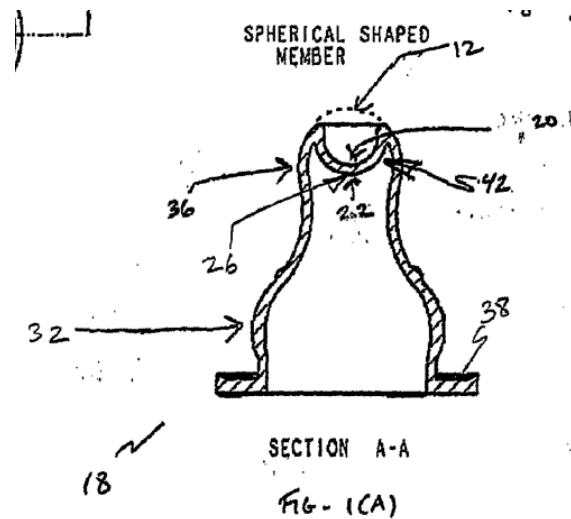


Figure 1(A) shows a “no-spill baby bottle nipple.” *Id.* at 7. “The nipple itself is made of a flexible material.” *Id.* at 11. “[The] flexible nipple is attached to a hard screw-ring to form a cap for a baby bottle, with the nipple protruding through the hole in the screw ring” and “[t]he nipple further includes a bottom rim, such as rim 38 or 338” so that “[w]hen the hard cap having the nipple attached thereto is screwed onto the baby bottle, the bottom rim of the nipple is compressed between the top of the bottle and the bottom of the hard cap to further secure the nipple in the cap.” *Id.* at 12. The nipple includes a top concave surface 20 with opening 26 at bottom 22 of concave surface 20, upper portion 36, and base 32. *Id.* at 13, 16. A bottom valve (shown in Figures 3a, 6f, and 11d) can be positioned “in the bottom rim of the nipple” for airflow into the nipple. *Id.* at 16.

2. *Hakim II (Ex. 1009)*

Hakim II is titled “Baby Bottles with Sealing Icons, Integral Handles and/or Protective Skirts.” Ex. 1009, (54). Hakim II discloses that it is preferable to have the top of a baby bottle handle snap into a recess of a cap

to form a secure fit and “[a]s a result, the handles and the caps are integrated into a single unit.” *Id.* ¶ 30.

Figure 2 of Hakim II is reproduced below.

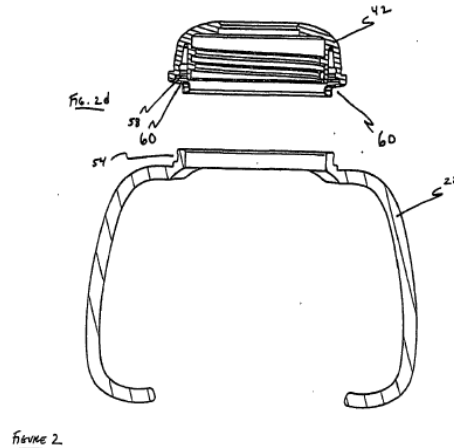


Figure 2 shows a handle in conjunction with an exploded, cross-sectional view of a cap (Figure 2d) for a baby bottle. *Id.* ¶ 9. Cap 42 can be removed from the bottle thereby allowing handle 28 to be “removed from the cap.” *Id.* ¶¶ 32–33. To reassemble, ring 54 of handle 28 is inserted into recess 58 of cap 42 “to snap into and form a secure fit between” handle 28 and cap 42. *Id.* ¶ 34.

3. Kobayashi (Ex. 1007)

Kobayashi “relates to a shape and a material of a nipple for a feeding bottle.” Ex. 1007 ¶ 1. Kobayashi explains that “in a case where a wall thickness is simply thick and the rigidity of the nipple is high, the rigidity of the entire nipple is high, and the baby needs physical strength when drinking milk.” *Id.* ¶ 7.

Figure 2 of Kobayashi is reproduced below.

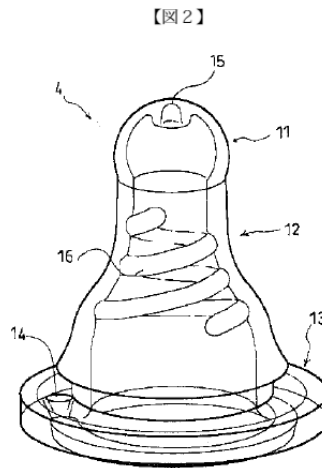


Figure 2 is a perspective view of a nipple. *Id.* ¶ 13. Nipple 4 includes upper portion 11, body portion 12, and lower portion 13. *Id.* ¶ 15. Upper portion 11 has milk suction port 15 and lower portion 13 has air hole 14 so that “milk can flow out smoothly.” *Id.* Body portion 12 has a substantially conical shape and spiral groove 16 formed on its inner side surface. *Id.* The portion of body portion 12 of nipple 4 where spiral groove 16 resides “is molded thinly” to have a concave shape at the inner surface of body portion 12 whereas “in the body portion 12, a thick portion (convex portion) has a spiral structure.” *Id.* “[T]he concave portion formed by the spiral groove 16 becomes easy to elongate.” *Id.* ¶ 16. The convex portion also “makes it easier for the body portion to elongate in a tip direction within a certain range.” *Id.* ¶ 17. Consequently, “the elongation characteristics of the nipple can be brought closer to that of the natural rubber nipple and even the human nipple” such that “the elongation of the nipple in the tip direction is improved” and “can aid the supply of milk to the upper portion” of nipple 4. *Id.* ¶¶ 21, 23.

4. *Manganiello (Ex. 1008)*

Manganiello “relates generally to an improved leak-proof cup” in which a cup assembly has “a drinking spout, an air vent spaced from the drinking spout, and a removable flow control element that engages in the vicinity of the drinking spout and air vent to control the flow of liquid and air from the drinking spout and the air vent.” Ex. 1008 ¶ 3.

Manganiello’s Figure 2 is reproduced below.

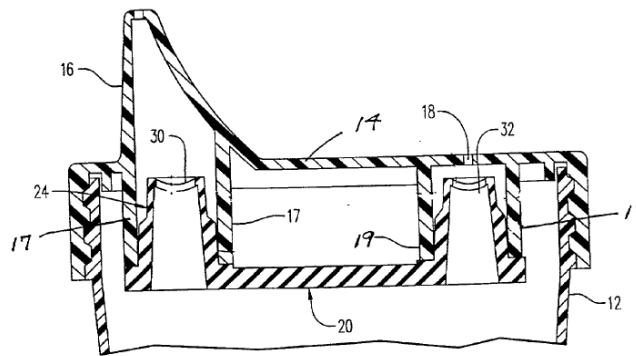


FIG. 2

Figure 2 is a cross-sectional view of a trainer cup with a removable valve. *Id.* ¶ 14. Trainer cup includes container 12 and cap 14. *Id.* ¶ 22. Cap 14 has spout 16 and air vent 18 in its surface. *Id.* Cap 14 also includes flow mechanism 20 with valve portions 30, 32 in which valve portion 30 “is a duck bill valve that aligns with spout 16. *Id.* ¶¶ 24, 26.

E. *Obviousness in View of Hakim*

For the reasons discussed below, on this record, Petitioner has not shown a reasonable likelihood of establishing that at least one of the challenged claims is unpatentable as obvious over Hakim.

1. *Claim 1*

Petitioner contends that claim 1 is unpatentable for obviousness over Hakim. Pet. 19–29. Specifically, Petitioner contends that Hakim discloses a

feeding vessel, with a threaded portion that has an opening to the interior of the container, and an assembly to mount over the opening. Pet. 19–22.

Petitioner contends that Hakim disclose a nipple, having a base, a teat portion with a bite region, and areola portion with a flex region, as well as having a collar to couple the nipple to the container. *Id.* at 22–23, 25.

According to Petitioner,

The areola portion in Hakim is between the neck 72 and the base portion 76, shown in Fig. 4e. *See id.*, Figure 4e; Ex. 1003, ¶ 71. The areola portion is made of “any of the flexible materials currently used in the art of baby bottle nipple construction.” Ex. 1005, 10. The flexible materials used in the areola portion (and for the nipple as a whole) enables the teat portion to flex towards and away from the areola portion. Ex. 1003, ¶ 71.

Pet. 23–24; Ex. 1003 ¶ 71 (“The flexible materials used in the areola portion (and for the nipple as a whole) enables the teat portion to flex towards and away from the areola portion. This flexing mimics natural breast feeding.”).

Patent Owner does not disagree with Petitioner’s position that Hakim contains many of the elements recited in the claim. Patent Owner, however, disagrees that Hakim teaches a nipple with a “flex region” as recited in claim 1. Specifically, Patent Owner contends that equating the “flex region” as merely being made of flexible material would read the surface characteristics described in the ’244 specification out of the claim. Prelim.

Resp. 12. Patent Owner contends that:

the ’244 Patent always describes the “flex region” in terms of surface characteristics that control flexing. For example, the specification describes an embodiment where “flex region 20 compris[es] three grooves or flex channels 22.” EX1001, 2:66–3:1; *see also id.*, 2:11–17 (“because of the inclusion of a plurality of flex channels the point of flexure is clearly defined”), 3:53–56 (“flex region 37 grooves”), 6:34–37 (“the flex channels in the

flex region can be of any appropriate profile”), 6:38-41 (“the flex channels can be formed by a concertina or bellows...or any other appropriate hinge or fold mechanism”).

Prelim. Resp. 12 (footnote omitted).

For the reasons discussed above in the claim construction section, we interpret a “flex region” as being a structural element. *See above* II.C. Specifically, the “flex region” contains structure such as grooves or flex channels surrounding the teat portion, where the grooves or flex channels can be, for example, either on the inner or outer surface of the teat portion, forming circular thinned regions of parallel/concentric channels, providing for a bellows action as well as flexing in a direction perpendicular to the fluid flow direction. Accordingly, we agree with Patent Owner that the recitation in claim 1 of “a flex region configured to allow the teat portion to flex towards and away from the areola portion” is a structural limitation. *See* Prelim. Resp. 12

Hakim teaches “no-spill drinking products providing an extremely secure seal against accidental liquid flow when the user is not drinking therefrom.” Ex. 1005, Abstr.; *see also id.* at 4 (These “no-spill products include baby bottle nipples and their associated baby bottles”). Hakim teaches that the nipple includes a valve, “such that the act of biting on the soft spout and/or compression of the soft spout with the tongue causes the valve to open. Upon opening, a user can suck liquid out of the spout (i.e. apply negative pressure), to drink comfortably therefrom. In contrast, when not in use, the valve sits in a resting, closed position.” *Id.* at 4. Hakim further teaches a spout or nipple with a “dual valve configuration (i.e. at least two valves), wherein the second valve is likewise provided with an opening.” *Id.* at 5. Hakim explains that “the second opening acts as an air vent,

preventing the formation of a vacuum within that drinking product, which would prevent liquid from flowing out of the product.” *Id.* Hakim further explains that the second valve opening seals “when the user is not applying negative pressure at the spout (i.e. when the user is not drinking).” *Id.* at 6. Hakim teaches that “[t]he nipple itself is made of a flexible material, and has the no-spill valve provided inside the nipple.” *Id.* at 11. Hakim, however, does not teach a nipple containing structural elements such as grooves or flex channels surrounding the teat portion, forming circular thinned regions of parallel/concentric channels, providing for a bellows action as well as flexing in a direction perpendicular to the fluid flow direction.

For the reasons discussed above in the claim construction section (II.C), we are not persuaded by Petitioner’s contention that merely describing that the nipple is made of flexible material supports the “flex region” limitation as recited in the claims and described in the ’244 specification. *See* Pet. 23–24; Ex. 1003 ¶ 71. Petitioner also has not identified a reason to add structural elements, such as grooves or flex channels surrounding the teat portion, forming circular thinned regions of parallel/concentric channels to Hakim’s nipple. Based on our review of this record, Petitioner has not sufficiently shown a reasonable likelihood that Hakim would have rendered claim 1 obvious.

2. Claims 21, 30, and 31

Petitioner contends that independent claims 21, 30, and 31 are unpatentable for obviousness over Hakim. Pet. 41–47, 50–62. We are not persuaded for the same reasons discussed above for claim 1; namely, Petitioner has failed to show a reasonable likelihood that Hakim teaches or suggests the “flex region” of claims 21, 30, and 31. Petitioner therefore has

not shown a reasonable likelihood of prevailing on its assertion that claims 21, 30, and 31 would have been rendered obvious.

3. *Dependent claims 2, 3, 5, 6, 10–12, 14–20, 22–24, 26, and 27*

Claims 2, 3, 5, 6, 10–12, 14–20, 22–24, 26, and 27 are dependent claims. Pet. 29–41, 7–50. For at least the same reasons discussed above for claim 1, we also determine that Petitioner has not shown a reasonable likelihood of prevailing on its assertion that dependent claims 2, 3, 5, 6, 10–12, 14–20, 22–24, 26, and 27 would have been rendered obvious by Hakim.

4. *Summary*

For the foregoing reasons, Petitioner has not shown a reasonable likelihood of prevailing on its assertion that Hakim would have rendered any one of claims 1–3, 5, 6, 10–12, 14–24, 26, 27, 30, and 31 obvious.

F. *Obviousness in View of Hakim and Hakim II*

Petitioner relies on Hakim II to describe “a handle that locks into the baby bottle.” Pet. 62. Petitioner, therefore, is not relying on Hakim II for the missing “flex region” limitation as recited in each of the independent claims. For at least the same reasons discussed above for claim 1, we also determine that Petitioner has not shown a reasonable likelihood of prevailing on its assertion that claims 4 and 25 would have been rendered obvious by Hakim and Hakim II.

G. *Obviousness in View of Hakim and Kobayashi*

Petitioner relies on Kobayashi for teaching a “a baby bottle nipple with a flex region. Kobayashi describes a nipple that includes a ‘spiral groove’ that is ‘formed on an inner side’ of the nipple.” Pet. 66. According

to Petitioner, “[t]he spiral groove ‘aid[s] the supply of milk to the upper portion of the nipple’ when a baby is drinking milk.” Pet. 67 (citing Ex. 1006 ¶ 23). Petitioner further contends that “[t]he spiral grove therefore enables the teat portion and areola portion to flex towards and away from one another by respective collapsing and extending of the flex region in the spiral groove.” *Id.* According to Petitioner, “[a] person of ordinary skill would have been motivated to add Kobayashi’s spiral groove into Hakim’s nipple so that ‘elongation of the nipple in the tip direction is improved,’ the ‘supply of milk to the upper portion of the nipple’ is improved, and the ‘tactile sensation. . . . can induce feeling of contact with the mother.’” *Id.* at 68.

The burden is on Petitioner to explain how the proposed combination of prior art would have rendered the challenged claims unpatentable. “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3)); *see also Intelligent Bio-Sys.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

Here, Petitioner has not shown a reasonable likelihood that the combination of Hakim and Kobayashi would have rendered the claims obvious. Kobayashi describes a nipple that includes a “spiral groove.” *See* Ex. 1006, Figure 5; Ex. 1007, 5, 10, 20. A spiral (or helical) groove is a continuous winding curve. *See, e.g.*, Ex. 1001, 4:33–39 (describing a helical groove that has three turns and forms a flow passage). Kobayashi’s spiral groove, therefore, is a single continuous winding groove. On this record, Petitioner has not persuasively demonstrated that a *single* continuous winding groove meets the limitation of “a *plurality* of grooves in an inward

facing surface” as required by claim 7. In other words, there is an element missing from the combination of Hakim and Kobayashi as articulated by Petitioner. Claims 8 and 9 each depend from claim 7, and thereby, the claims are also missing the plurality of grooves element.

For dependent claims 20, 28, and 29, Petitioner relies on Kobayashi for teaching a flange comprising a downwardly extending skirt (Pet. 72 (claim 20)), or a spiral groove in the bite region of the nipple configured to pass fluid (*id.* at 75 (claim 28)) or have a thinned region (*id.* at 77 (claim 29)). Petitioner does not, however, rely on Kobayashi for teaching or suggesting the “flex region” limitation of the underlying independent claims; it instead relies on Hakim for this limitation. *See generally id.* at 71–77.⁹ Thus, the combination as articulated by Petitioner for claims 20, 28, and 29 does not rectify the missing “flex region” element of the underlying independent claims. *See above II.E.1–2.*

On this record, Petitioner has not shown a reasonable likelihood of prevailing on its assertion that claims 7–9, 20, 28, and 29 would have been rendered obvious by Hakim and Kobayashi.

⁹ We observe that in connection with claim 7, the Petition states that “Hakim in view of Kobayashi therefore teaches the feeding vessel of *claim 1*, wherein the flex region comprises a *plurality of grooves* in an inward facing surface of the nipple.” Pet. 68 (emphases added). Petitioner, however, does not rely on Kobayashi in its challenge of claim 1 (*see* Pet. 3, 65 (challenging only claims 7–9, 20, 28, and 29 based on Hakim in view of Kobayashi)), and the “Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016); *EmeraChem Holdings, LLC v. Volkswagen Grp. of Am., Inc.*, 859 F.3d 1341, 1348 (Fed. Cir. 2017) (noting that the APA imposes particular procedural requirements on the USPTO regarding timely notice and the opportunity to respond to matters of fact and law asserted).

H. *Obviousness in View of Hakim and Manganiello*

Petitioner relies on Manganiello to describe a “duck bill valve” as recited in claim 13. Pet. 79. Petitioner, therefore, is not relying on Manganiello for the missing “flex region” limitation as recited in claim 1. For at least the same reasons discussed above for claim 1, on this record, we also determine that Petitioner has not shown a reasonable likelihood of prevailing on its assertion that claim 13 would have been rendered obvious by Hakim and Manganiello.

III. CONCLUSION

After considering the evidence and arguments presented in the record, we determine that Petitioner has not demonstrated a reasonable likelihood of success in proving that the challenged claims of the ’244 patent are unpatentable. We, therefore, deny the Petition requesting institution of an *inter partes* review of claims 1–31 of the ’244 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner’s request for an *inter partes* review, pursuant to 35 U.S.C. § 314(a), of claims 1–31 of the ’244 patent is *denied*.

IPR2022-01326
Patent 11,207,244 B2

FOR PETITIONER:

Dargaye Churnet
FENWICK & WEST LLP
dchurnet@fenwick.com

FOR PATENT OWNER:

John S. Goetz
Kenneth Darby
Matthew Colvin
FISH & RICHARDSON P.C.
goetz@fr.com
kdarby@fr.com
colvin@fr.com