

Petition for *Inter Partes* Review of U.S. Patent No. 10,952,930

Filed on behalf of Comotomo Inc. and Comotomo Corporation

By:

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMOTOMO INC. and COMOTOMO CORPORATION,
Petitioners

v.

MAYBORN (UK) LIMITED,
Patent Owner.

Inter Partes Review No. _____
Patent 10,952,930 B2

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,952,930**

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EXHIBIT LIST (37 C.F.R. §42.63(E))

Exhibit	Description
1001	U.S Patent No. 10,952,930
1002	Prosecution History of U.S. Patent No. 10,952,930
1003	Declaration of Jim Goldman
1004	Curriculum Vitae for Jim Goldman
1005	PCT Publication No. WO 2004/013001 (“Hakim”)
1006	Japanese Patent No. 3209271 (“Kobayashi”)
1007	Affidavit certifying English translation of Kobayashi

I. INTRODUCTION

Petitioners Comotomo Inc. and Comotomo Corporation (collectively, “Comotomo” or “Petitioners”) hereby request *inter partes* review under 35 U.S.C. § 311 of United States Patent No. 10,952,930 to Rees et al., titled “Baby Bottle With Flexible Nipple Regions” (the “’930 patent”). Comotomo challenges claims 1-20 of the ’930 patent (the “challenged claims”). This Petition demonstrates a reasonable likelihood that Comotomo will prevail on at least one of the challenged claims. The Patent Trial and Appeal Board (“Board”) should therefore institute review of the ’930 patent.

II. COMPLIANCE WITH REQUIREMENTS FOR A PETITION FOR *INTER PARTES* REVIEW

A. Grounds for Standing (37 C.F.R. § 42.104(a))

Comotomo certifies that the ’930 patent is available for *inter partes* review and that Comotomo is not barred or estopped from requesting *inter partes* review of the ’930 patent.

B. Fees for *Inter Partes* Review (37 C.F.R. § 42.15(a))

The Director is authorized to charge the fees specified by 37 C.F.R. § 42.15(a) to Deposit Account No. 19-2555.

C. Mandatory Notices (37 C.F.R. § 42.8(b))

Real Party-In-Interest: Comotomo Inc. and Comotomo Corporation are the real parties-in-interest. No other party had access to the Petition, and no other

party had any control over, or contributed to any funding of, the preparation or filing of this Petition.

Notice of Related Matters: Pursuant to 37 C.F.R. § 42.8(b)(1),

Petitioners are aware of the following related matters:

- Patent Owner asserts U.S. Patent No. 10,952,930 and the related U.S. Patent No. 11,207,244 against Petitioners in *Mayborn (UK) Limited, et al. v. Comotomo Inc., et al.*, Case No. 1:22-cv-00694-PGG (S.D.N.Y. filed January 26, 2022); and
- Petitioners filed a petition for *inter partes* review of U.S. Patent No. 11,207,244, a continuation of the '930 patent, concurrent with the filing of the instant Petition.

D. Designation of Lead and Backup Counsel (37 CFR § 42.8(b)(3))

Petitioners designate Dargaye Churnet (Reg. No. 71,288) as lead counsel and Michael J. Sacksteder (*pro hac vice* to be filed) as back-up counsel. Service of any documents via hand delivery may be made to the mailing address of FENWICK & WEST LLP, 555 California Street, 12th Floor, San Francisco, CA 94104, Telephone: (415) 875-2300 and Fax: (415) 281-1350, with courtesy copies to the email addresses dchurnet@fenwick.com and msacksteder@fenwick.com. Petitioners consent to electronic service to dchurnet@fenwick.com and msacksteder@fenwick.com.

III. THRESHOLD FOR REVIEW (35 U.S.C. § 314(A))

It is reasonably likely that Petitioners will prevail on at least one of the claims challenged in this Petition because the request shows that the subject matter recited in claims 1-20 of the '930 patent is taught by the prior art. Any motivation to combine the prior art is provided herein as necessary.

IV. IDENTIFICATION OF CLAIMS BEING CHALLENGED

In accordance with 37 C.F.R. § 42.104(b), Petitioners challenge claims 1-20 under 35 U.S.C. § 103 on the following grounds:

- Ground 1: Hakim (Ex. 1005) renders obvious challenged claims 1-9, 12-14; 16, 17, 19, and 20; and
- Ground 2: Hakim in view of Kobayashi (Ex. 1006) renders obvious challenged claims 10, 11, 15, and 18.

V. OVERVIEW OF THE '930 PATENT

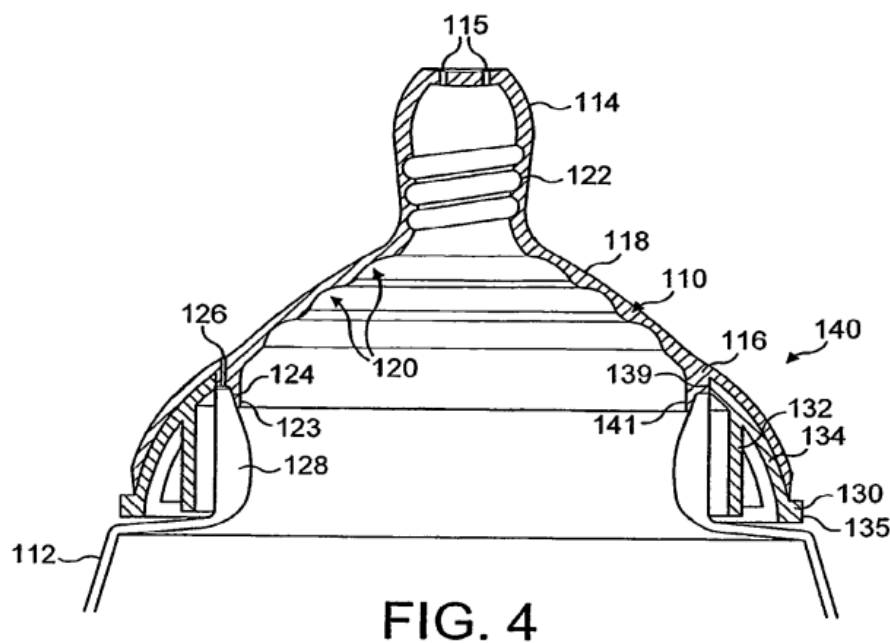
A. Effective Filing Date of the Challenged Claims

The '930 patent was filed on November 24, 2014 and claims foreign priority to GB applications 2004/14560.3, filed June 29, 2004 and 2005/02599.4, filed February 8, 2005. The effective filing date of the challenged claims is therefore no earlier than June 29, 2004. The '930 patent is subject to the pre-AIA provisions of the Patent Statute, so all statutory references in this Petition are to the applicable pre-AIA provision.

B. '930 Patent Description

The '930 patent is directed to a flexible nipple for a baby bottle. Ex. 1001, 1:20-23. The patent admits that prior art baby bottles included flexible nipples. *Id.*, 1:26-41 (citing U.S. Pat. No. 6,645,228). The patent purports to identify two problems in the prior art baby bottles: 1) they did not closely mimic the movement of the human breast during drinking, and 2) the amount of flexing and the point at which flexing takes place were undefined and unpredictable. *Id.*

The '930 patent purports to solve these problems. It discloses two embodiments. *Id.*, 2:9-25. The first embodiment provides a “flex region” that includes “flex channels” at the “areola portion” of the nipple. *Id.*, 2:9-15. The second embodiment adds a “helical flow formation” on the inner face of the nipple’s teat portion. *Id.*, 2:15-23. The purported invention is shown in Figure 4, below.



Id., Fig. 4. Figure 4 shows a cross-sectional view of the disclosed baby bottle nipple, referred to as teat 110. *Id.*, 2:37-38, 2:20-23, Abstract. The teat 110 is attached to a screw collar 130 to form a teat assembly 140 that screws onto infant drinking vessel 112. *Id.*, 4:64-5:3. The teat 110 includes a teat portion 114, an areola region 118, and a base portion 116. *Id.*, 3:57-63. Undulating grooves 120, according to the first embodiment, form the flex region at the areola region 118. *Id.*, 4:14-17. The helical grooves 122, according to the second embodiment, are formed in the teat portion 114. *Id.*, 4:32-38.

The teat assembly 140 also includes a lip valve 123 and vent passage 126. *Id.*, 6:10-15. “When the infant then drinks from the vessel the pressure difference pulls the lip valve 123 away from the inner face of the neck 128 of the vessel 112 allowing venting through vent passage 126 and hence reducing the risk of colic.” *Id.* The patent admits that the prior art disclosed “valved feeding bottles” that “allow air ingress to the teat” to “reduce[] the risk of colic.” *Id.*, 1:47-51. But the patent contends that these prior art valves suffered from certain downsides. Some prior art valves included slits that were purportedly “frail and difficult to machine.” *Id.*, 1:47-53. Other valves were formed by “a downwardly depending cylindrical flange at [a teat’s] base which seals against the inner top face of a vessel neck when deformed by being screwed down by a collar.” *Id.*, 1:60-64. In these valves, “negative pressure inside the vessel lifts the flange away from the vessel neck so that air flows

through the collar and between the neck and the flange into the vessel to relieve the pressure differential.” *Id.*, 1:64-67. The purported downside of these valves was that they relied “on the correct amount of screw pressure being applied by the user on fixing the teat which can give rise to varied levels of valving between uses. Furthermore, the introduction of a circumferential flange increases material costs.” *Id.*, 1:67-2:5.

The patent’s lip valve purports to improve over these prior art valves:

Because of the provision of the lip valve there is no requirement for providing slits and a natural, robust and resilient valve assembly is provided. Furthermore, the valve is formed during the moulding operation and requires no secondary operation for its formation providing commercial and manufacturing benefits. Yet further as a single vent passage is provided at one point on the teat, the risk of leakage is reduced, especially as the vent passes through the teat rather than around the vessel neck.

Id., 6:14-24.

The teat 110, shown in Figure 4 above, also includes a downwardly depending cylindrical flange 141. *Id.*, 4:63-5:3. The patent explains that “[t]he teat 110 is over-moulded onto the screw collar 130 and the domed portion 134 terminates at a central circular orifice corresponding with an outer face of the neck 128 of the vessel 112, the over-moulded portion of the teat extending inwardly slightly from this position and terminating in a downwardly depending cylindrical flange 141.” *Id.* When the

teat assembly 140 is screwed onto the vessel neck 128, “the downward cylindrical flange 141 forms an elastomer sealing ring sealing against the top inner face of the vessel neck 128.” *Id.*, 5:10-15. The screw collar 130 itself has a separate flange, called a horizontal outward annular flange 135. *Id.*, 4:59-64.

VI. CLAIM INTERPRETATION

Claim terms subject to *inter partes* review are to be “construed 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), including construing 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.” 37 C.F.R. § 42.100(b).

Based on the descriptions in the patent, a person of ordinary skill in the art at the time of the invention (“POSITA”) would have applied plain and ordinary meanings to the terms used in the claims. Ex. 1003, ¶ 35.

VII. LEVEL OF ORDINARY SKILL IN THE ART

A POSITA at the time of the alleged invention 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. With more education, such as additional graduate degrees or study, less professional experience is needed to attain the ordinary level of skill. Similarly, with more experiential knowledge of

bottle manufacturing, less professional experience is needed to attain the ordinary level of skill. Ex. 1003, ¶ 25.

VIII. OVERVIEW OF THE PRIOR ART

A. Hakim

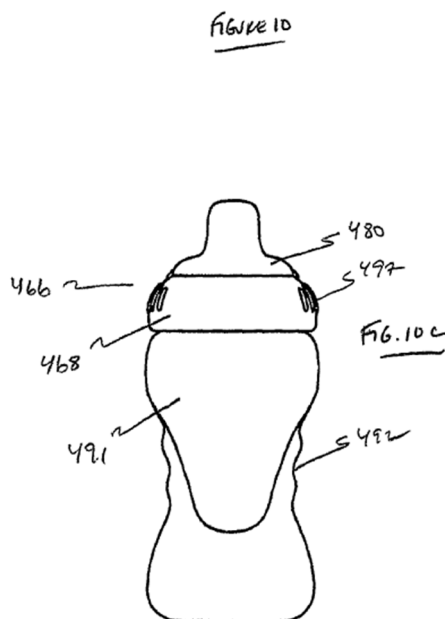
Hakim was filed as a PCT application on August 5, 2003 that published on February 12, 2004, before the '930 patent's earliest priority date of June 29, 2004. Hakim is prior art to the '930 patent under pre-AIA 35 U.S.C. §§ 102(a), 102(e) and 103. The PTO did not consider Hakim during prosecution of the challenged patent.

Hakim's U.S. counterpart—U.S. Patent Publication No. 2007/0221604—was cited, along with over 150 other references, in a January 23, 2015 Information Disclosure Statement By Applicant (IDS). The PTO did not cite or rely on the counterpart in any action during prosecution of the '930 patent. Even if this Petition relied on the counterpart as a ground for institution—which it does not—its citation in the IDS alone is insufficient to deny institution under 35 U.S.C. § 325(d) and in view of *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GMBH*, IPR2019-01469, Paper 6 (P.T.A.B. Feb. 13, 2020). See *Satco Products Inc. v. The Regents of the Univ. of California*, IPR2021-00662, Paper 13 at 25 (P.T.A.B. Nov. 8, 2021); *Samsung Electronics Co., Ltd., et al. v. Evolved Wireless LLC*, IPR2021-00943, Paper 9 at 11-12 (P.T.A.B. Dec. 1, 2021); *Carrier Fire & Security America's*

Corp. v. Sentrilock, LLC, IPR2021-00664, Paper 12 at 21-23 (P.T.A.B. Sept. 16, 2021).

As its title suggests, Hakim discloses “No-spill drinking products.” *See* Ex. 1005. The “no-spill products includ[ing] baby bottle nipples and their associated baby bottles. . . . are provided for feeding infants, young children, and any other user.” *Id.*, 4. Hakim generally focuses on two embodiments of drinking products: the first includes a cap with a nipple (such as a baby bottle nipple) and the second includes a soft lid with a spout (such as a “trainer cup”). , Abstract, *Id.*, 4, 11, 5. Hakim teaches that its descriptions of these embodiments are interchangeable. *Id.*, 35 (“instead of a nipple, a soft spout can be used on a drinking vessel with any combination of the features shown herein”), 19-20 (“the discussion provided herein with respect to the baby bottle nipple applies well to the spout embodiments as well”), 16-17, 41. And along with the features specifically described in Hakim, the “invention can be used with any other configuration or type of baby bottle nipple desired, or with other drinking vessels.” *Id.*, 35.

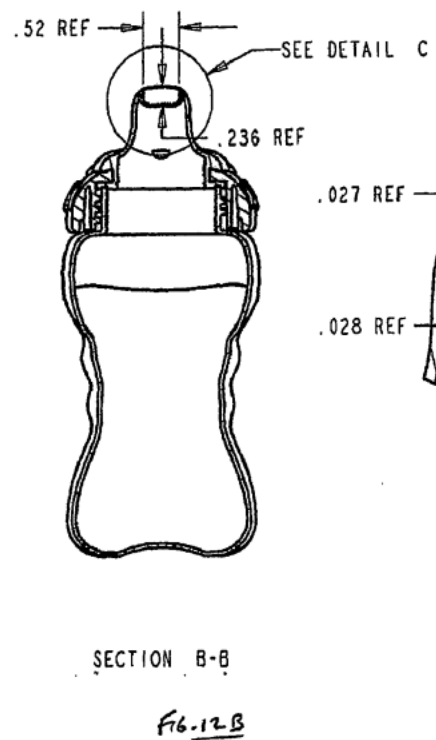
A no-spill drinking product is shown in Fig. 10c, below.



Id., Fig. 10c. The drinking product (here, a bottle) includes a drinking vessel (or cup) 491, screw ring 468, and soft lid (or nipple) 480.¹ *Id.*, 12, 37. The screw ring 468 and nipple 480 together form a cap 466. *Id.* The screw ring 468 and nipple 480

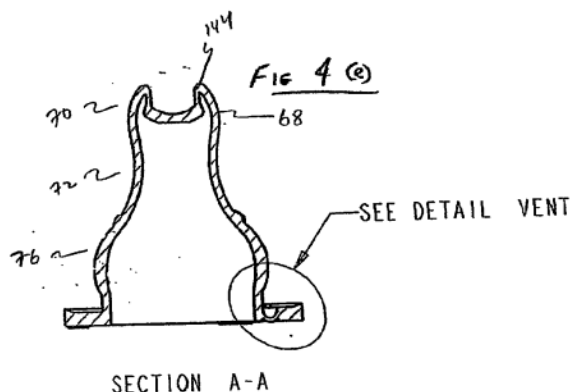
¹ Figures 10, 11, and 12 of Hakim show a drinking product with the cap attached to the drinking vessel. The specification describes these figures as including a soft lid (e.g., soft lid 480) with the cap (e.g., cap 466). But, as explained above, Hakim teaches that each embodiment, including those described with reference to Figs. 10, 11, and 12, applies interchangeably using a soft lid or a nipple. *See, e.g.*, Ex. 1005, 35, 16-17, 41; Ex. 1003, ¶ 52. Accordingly, Figs. 10, 11, and 12 are described in this Petition for embodiments that include a nipple (e.g., the nipple show in Fig. 4e) instead of a soft lid.

are separable; and the screw ring 468 attaches to the nipple 480 by “snugly fit[ting] in the groove” of the recess at the bottom of the nipple 480, as shown in Fig. 12b (a cross-sectional view of the bottle shown in Fig. 10c, above). *Id.*, 38-39, 30, 12 (“When 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.”).

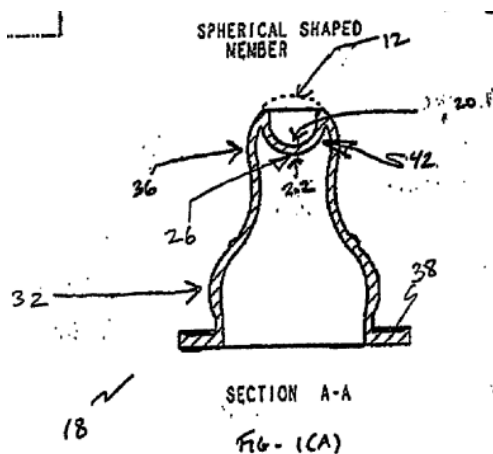


Id., Fig. 12b.

Figure 4e, below, shows a nipple according to an embodiment of Hakim.



Id., Fig. 4e. The nipple includes a tip 70, neck 72, and base portion 76. *Id.*, 20. The nipple also includes a flange (circled in the figure above and labeled 38 in Figure 1a, below). *Id.*, 12.



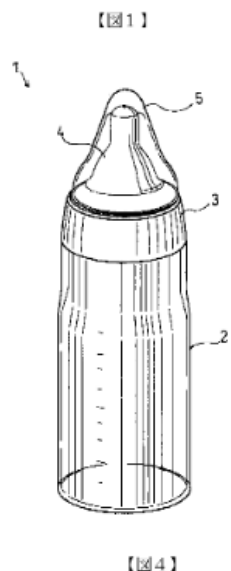
Id., Fig. 1a. The screw ring attaches to the nipple by sealing between the base portion and flange of the nipple. *Id.*, 38-39, 30, 12. The cap (*i.e.*, screw ring with attached nipple) can then screw onto the neck of the baby bottle. *Id.*, 12, 37-38. When the cap is screwed on, the flange of the nipple forms a “secure seal” on the open top of the baby bottle. *Id.*, 37, 30.

Hakim explains that “[o]ne or more air valves can be provided in the nipple.” *Id.*, 29, 5. The air valve may be located “at the bottom of the baby bottle nipple,” and it “extends downward into the nipple.” *Id.*, 12-13. The air valve is used to “facilitate the flow of air back into the bottle while the baby is drinking.” *Id.*, 30.

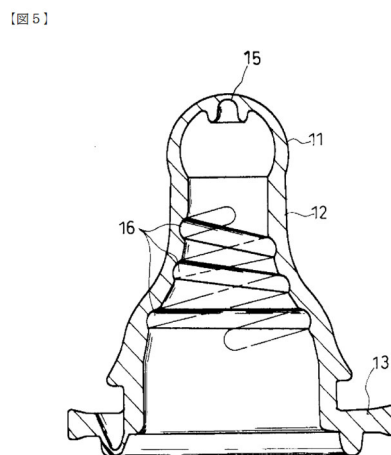
B. Kobayashi

Kobayashi was published as Japanese Patent No. 3209271 on September 17, 2001, before the ’930 patent’s earliest priority date of June 29, 2004 and more than one year before the ’930 patent’s PCT filing date of June 29, 2005. *See* Ex. 1006 (English translation of the Japanese patent); *see also* Ex. 1007 (affidavit certifying the English translation of Kobayashi). Kobayashi is prior art to the challenged patent under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and 103. The PTO did not consider Kobayashi during prosecution of the challenged patent.

Kobayashi is titled “Nipple for a Feeding Bottle” and describes a nipple for a baby bottle. Ex. 1006, ¶ 1. With reference to Fig. 1, the “feeding bottle 1 is configured of a bottle 2, a cap 3, and a nipple 4.” *Id.*, ¶ 14.



Id., Fig. 1. The nipple 4 is “fitted or screwed to the cap 3,” and then a lower portion of the nipple is “sandwiched between the cap 3 and an upper portion of the bottle 2” when the cap 3 is screwed onto the bottle 2. *Id.*, ¶ 14. The nipple is shown in greater in Fig. 5.



Id., Fig. 5. The nipple includes an upper portion 11, body portion 12, and lower portion 13. *Id.*, ¶ 15. The nipple also includes a milk suction port 15 where the milk

comes out of the bottle. *Id.* An “air hole” can be included (for example, at lower portion 13) so that “[a]ir flows into the bottle . . . and milk can flow out smoothly.” *Id.*

As shown in the figure, the nipple described in Kobayashi also includes a spiral groove 16. “The spiral groove 16 is formed in a spiral shape upward from a lower position of the body portion 12 of the nipple 4 along the inner side surface of the body portion 12.” *Id.* The spiral groove makes “the elongation characteristics of the nipple . . . closer to the mother’s nipple for the baby” and makes the nipple easier to clean. *Id.*, ¶ 21.

As shown in Figure 5, above, the nipple decreases in thickness from the base portion to the teat portion. *Id.*, Fig. 5. The wall thickness of the nipple is shown with the shading (diagonal lines) in the figure. *Id.* The lowest end of the base portion (*i.e.*, above the gap above lower portion 13) is thicker than the nipple wall above it. *Id.* Upper portion 11 of the teat portion is thinner and the wall above milk suction port 15—at the top of the teat portion—is the thinnest portion of the nipple wall. *Id.* Kobayashi distinguishes its nipple wall of various thickness from the prior art that used “substantially uniform thickness.” *Id.*, ¶ 5.

IX. GROUND I: CLAIMS 1-9, 12-14, 16, 17, 19, AND 20 ARE RENDERED OBVIOUS BY HAKIM

A. Claim 1

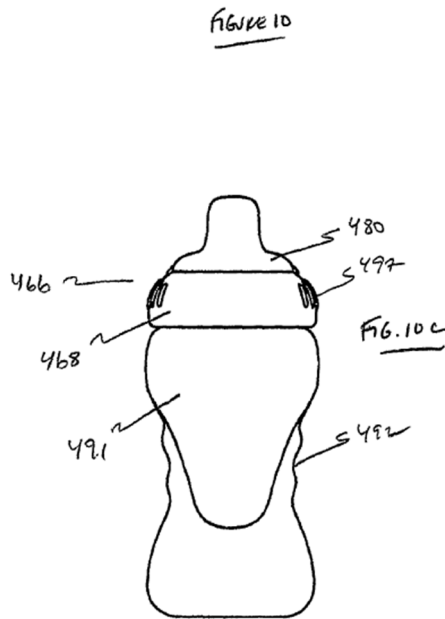
1. Hakim discloses “A feeding bottle comprising:”

Hakim—titled “No-spill drinking products”—describes “no-spill products includ[ing] baby bottle nipples and their associated baby bottles.” Ex. 1005, 4. The “no-spill products are provided for feeding infants, young children, and any other user.” *Id.*

Hakim therefore discloses a feeding bottle (*i.e.*, a no-spill drinking product, such as a baby bottle). Ex. 1003, ¶ 60.

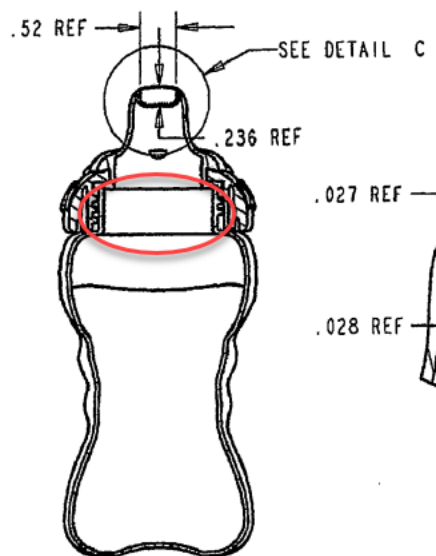
2. Hakim discloses “a) a vessel having: a cylindrical neck comprising an open top with a first diameter and threads on an outer surface of said neck, and a body with a second diameter, the body being connected with said neck, and the first diameter of the open top being less than the second diameter of the body;”

The no-spill drinking product described in Hakim includes a “drinking vessel such as a cup 491,” shown in Figure 10c, below. Ex. 1005, 37.



Id., Fig. 10c. The drinking vessel in the figure, like most prior art baby bottles, is cylindrical. *See id.*, Fig. 10(c); *id.*, 11 (“bottles (or cups) are known in the art, and. . . are usually cylindrical in shape”); *id.*, 22-23.

The drinking vessel includes a bottle neck (to which screw ring 468 is screwed in Fig. 10c). *Id.*, 17, 28-29; *see also id.*, 29, 38, 39-40. The bottle neck is circled in red in Fig. 12b, below, which provides a cross-sectional view of the bottle shown in Fig. 10c, above.



SECTION B-B

Fig. 12 B

Id., Fig. 12b (emphasis added); *see also id.*, 8; Ex. 1003, ¶ 62. The bottle neck has an open top that enables an infant or other user to drink the liquid (*i.e.*, milk) held in the drinking vessel. Ex. 1005, 11 (“Such bottles (or cups) are known in the art, and are used for a baby to drink therefrom during the years when the baby is nursing.”); Ex. 1003, ¶ 62.

The neck of the drinking vessel includes threads on its outer surface that “mate” with the threads on the inner surface of the screw ring so the ring can screw onto the vessel. Ex. 1005, 12, 37-38, 30, Fig. 12b. And the neck, cylindrical in shape, has a diameter. *Id.*, 17 (identifying bottle neck diameters); *id.*, 38, Fig. 12b.

The drinking vessel also includes a body. The body is shown in Figure 10c (and 12b), above, and includes cup 491 and grip 492. *Id.*, Fig. 10c; Ex. 1003, ¶ 64.

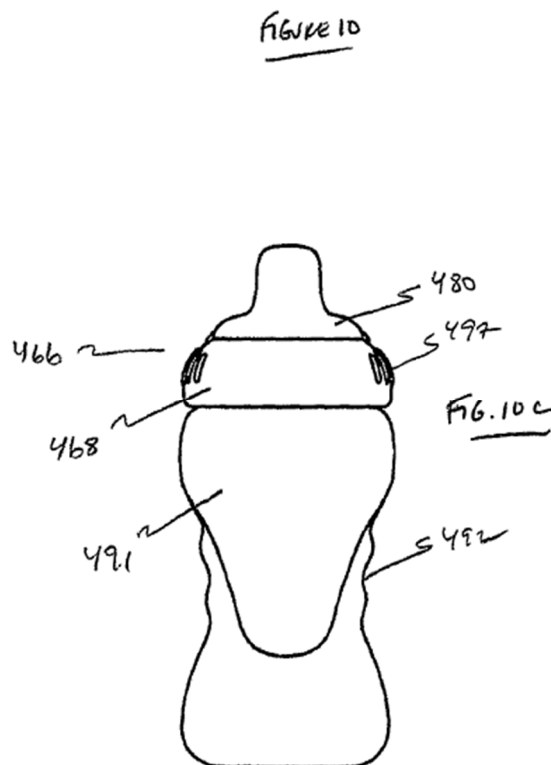
The body is connected to the neck, which in Figure 10c, is underneath the screw ring 468 and is circled in Fig. 12b, above. Ex. 1005, 37, Fig. 10c, Fig. 12b; Ex. 1003, ¶ 64.

The drinking vessel is cylindrical and therefore has a diameter. Ex. 1005, 11, 22; Ex. 1003, ¶ 65. Hakim explains that the diameter of the drinking vessel's neck may be smaller than the diameter of its body, as shown, for example, in Fig. 12b. Ex. 1005, 38, Fig. 12b; Ex. 1003, ¶ 65.

Hakim therefore discloses a feeding bottle (*i.e.*, a no-spill drinking product) comprising a vessel (*i.e.*, drinking vessel, such as cup 491) having: a cylindrical neck comprising an open top with a first diameter and threads on an outer surface of said neck and a body with a second diameter, the body being connected with said neck, and the first diameter of the open top being less than the second diameter of the body. Ex. 1003, ¶ 66.

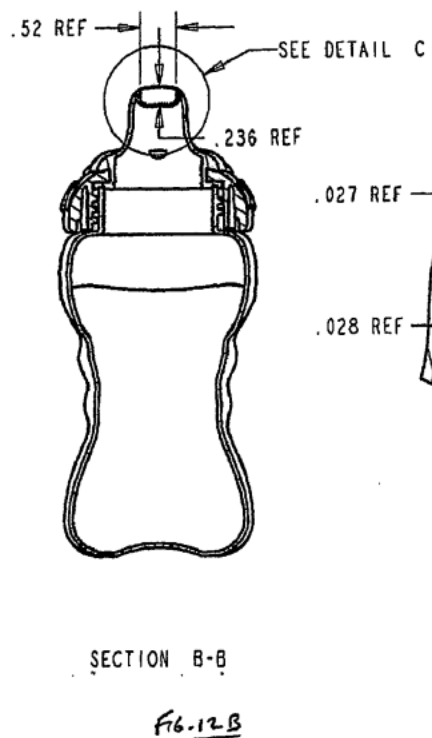
3. Hakim discloses “b) an internally threaded collar having: an outermost surface comprising a downwardly domed portion beginning at an upper end of the collar and extending outwardly and downwardly therefrom and disposed at least partially above said internal threads;”

The no-spill drinking product disclosed in Hakim includes a “screw ring.” Ex. 1005, 12. The nipple attaches to the screw ring to form a cap that is screwed onto the drinking vessel. *Id.* An example of a cap 466, including screw ring 468 and nipple 480, is shown in Fig. 10c.



Id., Fig. 10c.

The internal surface of the screw ring “includes screw threads for engagement with a series of screw threads on the baby bottle, so as to screw that cap onto the bottle.” *Id.*, 12, 37-38 (“[T]he no-spill cap 466 and the drinking vessel include mating male and female screw threads, such that the cap 466 is a screw-on cap which can be easily rotated onto the cup, as is known in the art.”). The mating threads of the screw ring and bottle neck are shown in Fig. 12b.



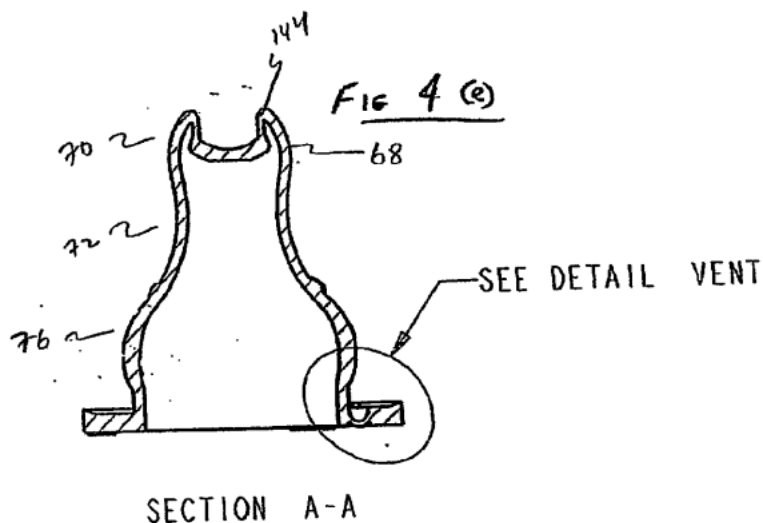
Id., Fig. 12b (see left and right edges of the bottle neck).

The outer surface of the screw ring 468 of Figures 10c and 12b, above, is dome-shaped. *Id.*, Figs. 10c, 12b; Ex. 1003, ¶ 69. The domed shape begins at the upper end of the screw ring and extends outwardly and downwardly. *Id.* The threads are internal to the screw ring and the domed outer surface is located at least partially above the internal threads. *Id.*, 12, 28, Figs. 10c, 12b; Ex. 1003, ¶ 69.

Hakim therefore discloses a feeding bottle (*i.e.*, no-spill drinking product) comprising an internally threaded collar (*i.e.*, screw ring) having: an outermost surface comprising a downwardly domed portion beginning at an upper end of the collar and extending outwardly and downwardly therefrom and disposed at least partially above said internal threads. Ex. 1003, ¶ 70.

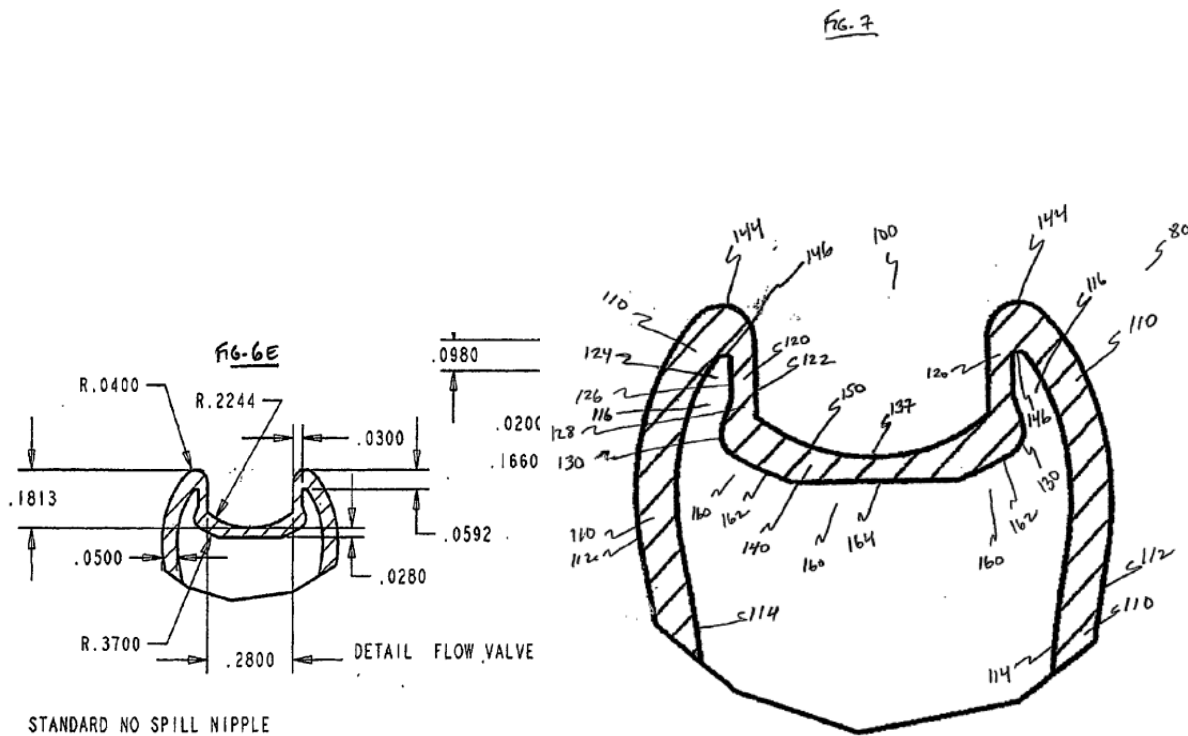
4. **Hakim discloses “c) a nipple having: a teat portion having a variable wall thickness including an aperture, a base portion disposed adjacent to said collar and comprising an outermost surface comprising a downwardly sloping portion between said teat portion and the upper end of the collar that, together with said collar, defines a substantially continuous outermost surface between said teat portion and a bottom of said downwardly domed portion of said collar, an areola portion between the teat portion and the base portion, wherein said areola portion has a flex region on its inner surface comprised of a plurality of thinned regions,”**

The no-spill drinking product of Hakim includes a nipple. Ex. 1005, 12 (“The nipple of the present invention is preferably removably attached to the baby bottles, as is currently known in the art.”); *id.*, 11. The nipple includes regions that meet the claimed teat portion, base portion, and areola portion, as shown in Figure 4e.



Id., Fig. 4e. The teat portion includes neck 72 and tip 70; the base portion is labeled 76; and the areola portion is the region between the base portion 76 and the neck 72. *Id.*, 20; Ex. 1003, ¶ 72.

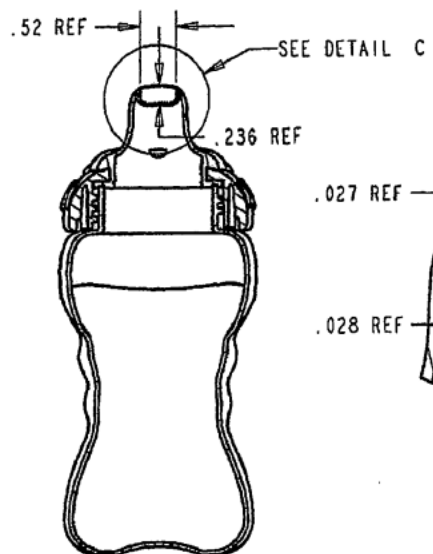
The tip 70 includes an aperture, which “can be, for example, a hole, a slit, a slot, an orifice, or so forth.” Ex. 1005, 5; *see also id.*, 20, 5. Hakim explains, with reference to Figures 6e and 7 below, that liquid valve 100 of the tip 70 has a variable wall thickness.



Id., Figs. 6e and 7; *id.*, 26-27 (identifying preferred (and varying) thicknesses throughout liquid valve 100). For example, the upper segment 126 “is preferably 0.0300 inches in thickness” and the “thickness of outer wall 110 of the nipple is preferably 0.0500 inches.” *Id.*, 27.

The base portion (*i.e.*, base portion 76) of the nipple in Hakim is located adjacent to the screw ring. *Id.*, 12 (“[I]n the common design currently in use, a 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.”). Fig. 12b, below, shows the screw ring secured between the adjacent base portion and bottom rim.



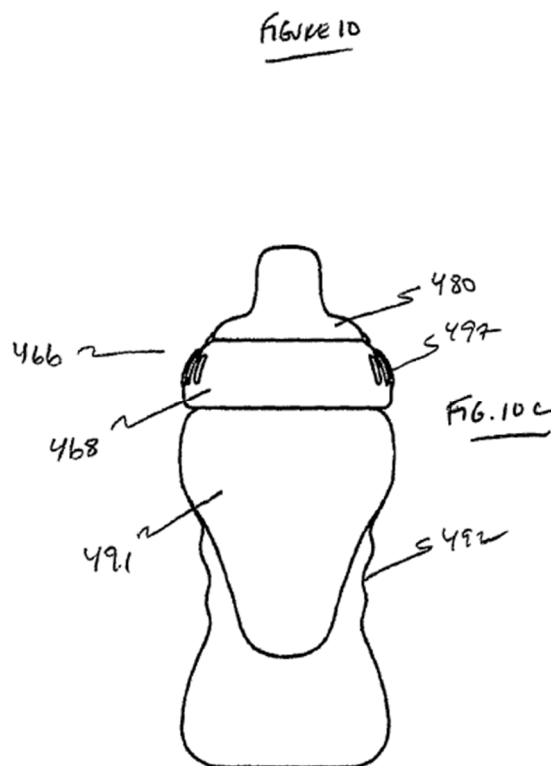
SECTION B-B

Fig. 12b

Id., Fig. 12b.

As shown in Fig. 4e, above, the outermost surface of base portion 76 includes a downwardly sloping portion between the neck 72 and above the groove between the base portion and bottom rim where the screw ring attaches. *Id.*, Fig. 4e, Figs. 10c, 12b. When the screw ring is attached, the base portion therefore downwardly slopes to the top edge of the screw ring. *Id.*; Ex. 1003, ¶ 74. Together with the screw ring, and as illustrated in Fig. 12b above and Fig. 10c below, the base portion defines a substantially continuous outermost surface between the teat portion and a bottom

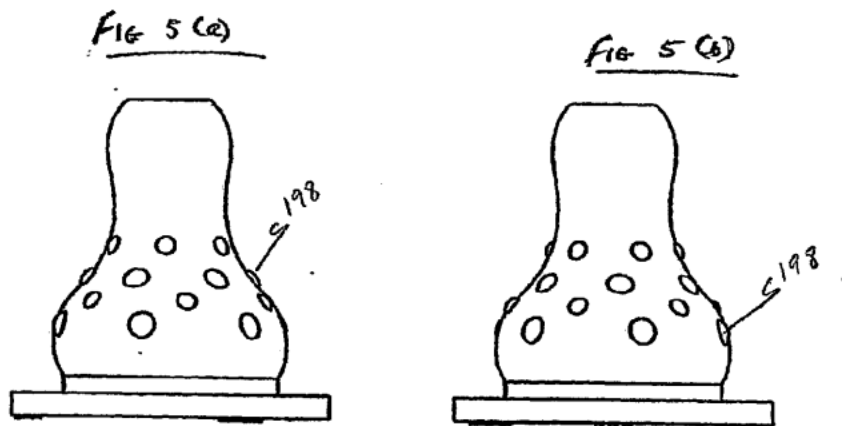
of the downwardly domed portion of the screw ring. *See* Ex. 1005 Figs. 10b, 12c; Ex. 1003, ¶ 74.



Ex. 1005, Fig. 10c.

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, ¶ 75. 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 areola can include a plurality of thinned regions in the form of “depressions” or “bumps,” as shown in Figures 5a and 5b. *Id.*, 34; Ex. 1003, ¶ 75 (“The surface where the bumps or depressions are formed will have a different thickness than the surrounding area of the areola, leading to

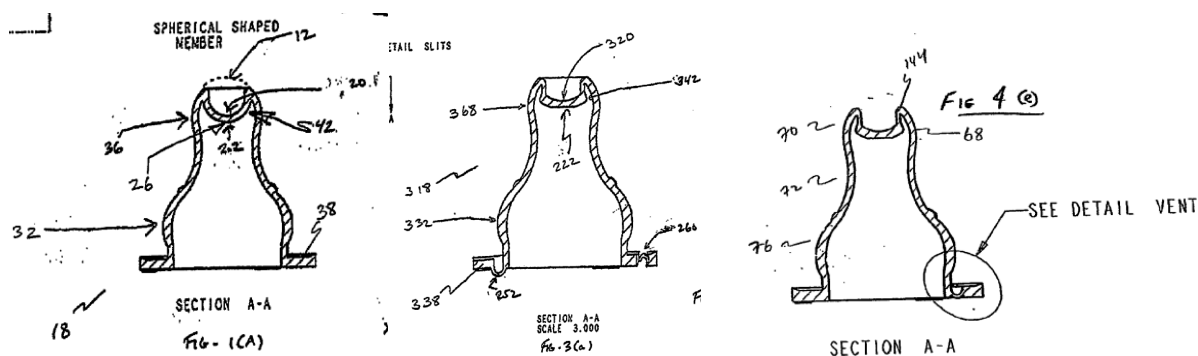
regions thinner than others in the areola portion. For example, each bump has a surface thicker than the surrounding portions of the areola region, which are thinner.”).



Hakim therefore discloses a feeding bottle (*i.e.*, a no-spill drinking product) comprising a nipple (*i.e.*, nipple 80) having: a teat portion (*i.e.*, the tip 70 plus neck 72) having a variable wall thickness including an aperture (*i.e.*, liquid valve 100 with opening), a base portion (*i.e.*, base portion 76) disposed adjacent to said collar (*i.e.*, screw ring 468) and comprising an outermost surface comprising a downwardly sloping portion between said teat portion and the upper end of the collar that, together with said collar, defines a substantially continuous outermost surface between said teat portion and a bottom of said downwardly domed portion of said collar, an areola portion between the teat portion and the base portion (*i.e.*, region between base portion 76 and neck 72), wherein said areola portion has a flex region on its inner surface comprised of a plurality of thinned regions. Ex. 1003, ¶ 76.

5. Hakim discloses “a flange depending from the base portion,”

The nipple disclosed in Hakim includes a bottom rim. Ex. 1005, 12, 30. The bottom rim is shown in Figs. 1a (labeled 38), 3a (labeled 338), and 4e (circled), each reproduced below.



As shown in the figures above, the bottom rim is connected to and extends from the base portion (*i.e.*, 76 in Fig. 4(e)). *Id.*, Figs. 1a, 3a, 4e.

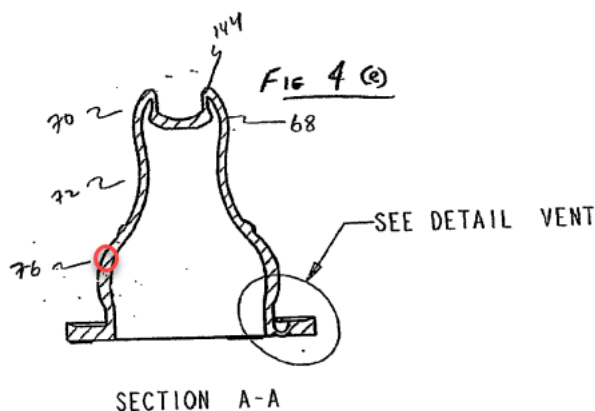
A “flange,” according to the ’930 patent, “extends from the base of the base portion to allow fixing to a feeding bottle (not shown) in any appropriate known manner.” Ex. 1001, 2:55-59. The bottom rim of Hakim likewise extends from the base of the base portion 76 to form a “secure seal” with the drinking vessel. Ex. 1005, 37; *see also id.*, 30 (“The bottom rim of the baby bottle nipple is usually covered by the hard portion of the screw cap (*i.e.* the ring which screws on to the baby bottle) which presses against it tightly.”).

Hakim therefore discloses a flange (*i.e.*, a bottom rim) depending from the base portion (*i.e.*, base portion 76). Ex. 1003, ¶ 80.

6. Hakim discloses “an air valve extending through said nipple and disposed (i) radially inwardly from the collar and (ii) above the flange, and”

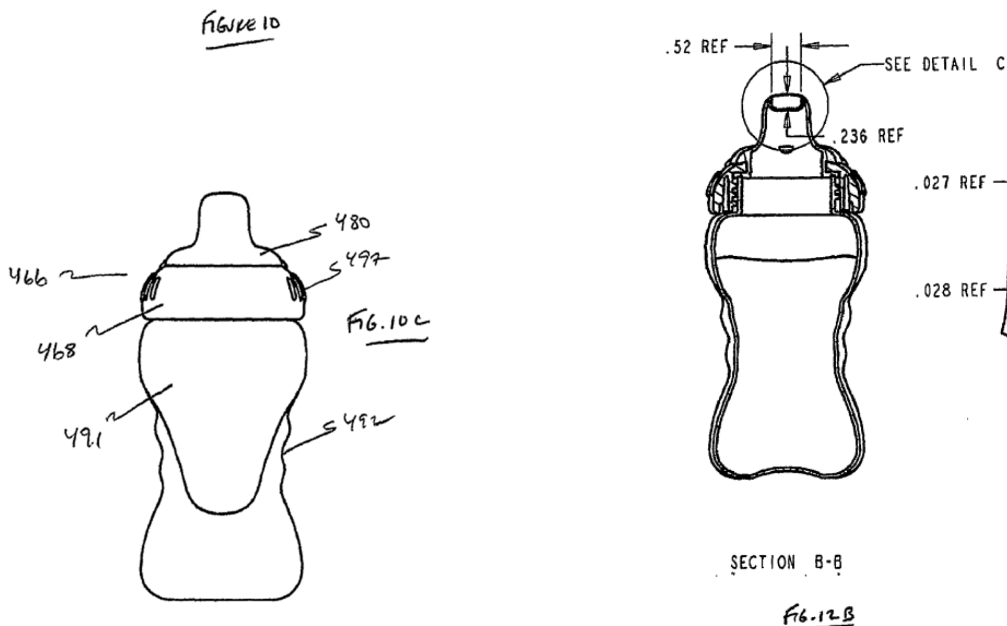
Hakim explains that “[o]ne or more air valves can be provided in the nipple.”

Ex. 1005, 29, 5. The air valve may be located “at the bottom of the baby bottle nipple.” *Id.*, 12. For example, Hakim discloses that the air valve may be placed in the nipple’s bottom rim. *Id.* (Hakim states that the air valve may be located “at the bottom of the baby bottle nipple (e.g. in the nipple’s bottom rim or in the soft lid).”) Hakim’s use of “e.g.” highlights that the bottom rim is just one example of a location “at the bottom of the baby bottle nipple” where the air valve may be placed. *Id.* With reference to Figure 4e, below, it would have been obvious to place the air valve, for example, at the red circle on base portion 76 because this location is “at the bottom of the baby bottle nipple.” Ex. 1003, ¶ 81.



Ex. 1005, Fig. 4(e) (emphasis added). At this location, the air valve is above the bottom rim (*i.e.*, the flange). *Id.* The air valve also “extends downward into the nipple.” *Id.*, 13. It is also located radially inwardly from screw ring, for example,

screw ring 468 shown in Fig. 10c (and cross-sectionally in Fig. 12b) below that attaches to the groove between the base portion and the bottom rim. Ex. 1003, ¶ 81.



Hakim therefore discloses the nipple having an air valve extending through said nipple and disposed (i) radially inwardly from the collar and (ii) above the flange. Ex. 1003, ¶ 82.

7. Hakim discloses “the flange being arranged to seal with the vessel;”

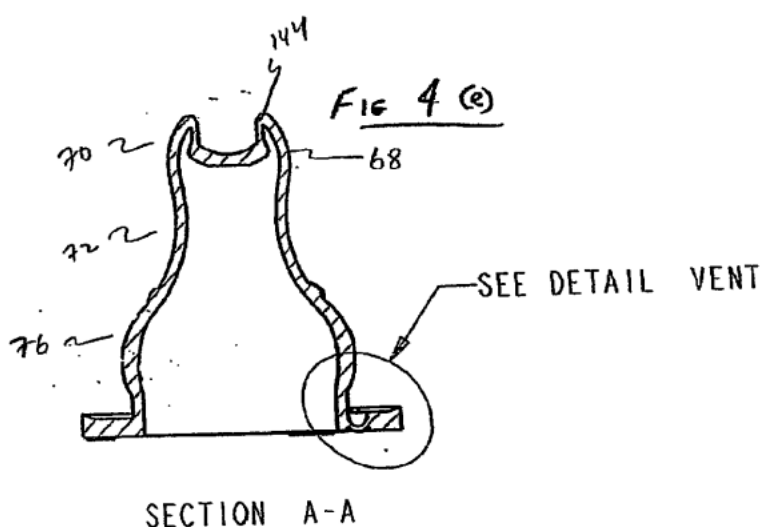
Hakim explains that “[w]hen the hard cap having the nipple attached thereto is screwed onto the baby bottle, the bottom rim of the nipple is compressed between the top of the bottle and the bottom of the hard cap to further secure the nipple in the cap.” Ex. 1005, 12. In so doing, the bottom rim forms a “secure seal” with the drinking vessel. *Id.*, 37; *see also id.*, 30 (“The bottom rim of the baby bottle nipple

is usually covered by the hard portion of the screw cap (i.e. the ring which screws on to the baby bottle) which presses against it tightly.”), Fig. 12b.

Hakim therefore discloses the flange (i.e., bottom rim) being arranged to seal with the vessel (i.e., Ex. 1005, 12, 30, 37). Ex. 1003, ¶ 84.

8. Hakim discloses “d) the nipple being secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange; and,”

Hakim explains that the “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.” Ex. 1005, 12. The nipple includes a “recess,” like the recess between the base portion 76 and the bottom rim shown in Fig. 4e below, where the screw ring attaches. *Id.*, 12.



Id., Fig. 4e. The inner edge of the screw ring “snugly fits in the groove” of the recess, pressing tightly against the base portion above it and the bottom rim below it. *Id.*,

Fig. 12b, *id.*, 38, 30, 12 (“When 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.”).

Hakim therefore discloses d) the nipple being secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange. Ex. 1003, ¶ 86.

9. Hakim discloses “e) the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel.”

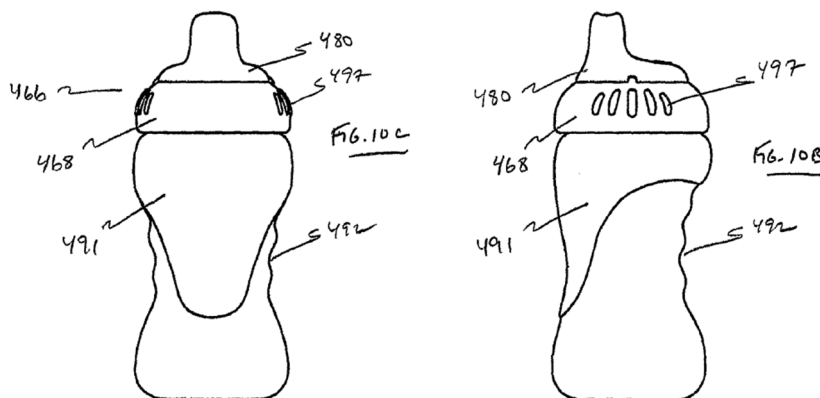
Hakim explains that “[w]hen the hard cap having the nipple attached thereto is screwed onto the baby bottle, the bottom rim of the nipple is compressed between the top of the bottle and the bottom of the hard cap to further secure the nipple in the cap.” Ex. 1005, 12. The nipple is therefore secured to the drinking vessel because the screw ring “presses against it tightly” and forms “a secure seal” when screwed onto the drinking vessel’s neck. *Id.*, 30, 37, 12, Fig. 12b.

Hakim therefore discloses the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel. Ex. 1003, ¶ 87.

B. Claim 2

- Hakim discloses “The feeding bottle of claim 1 wherein the vessel has two indentations.”**

The drinking vessel described in Hakim includes a grip, “i.e. a gripping area for use to hold the cup more securely.” Ex. 1005, 36. The grip has multiple indentations, “in the form of a series of contours.” *Id.* These contours are shown in grip 492 of Figures 10b and 10c, below.



Id., Figs. 10b, 10c. The contours are indentations in the drinking vessel. *Id.*; Ex. 1003, ¶ 88.

Hakim therefore discloses the feeding bottle of claim 1 wherein the vessel has two indentations. Ex. 1003, ¶ 89.

C. Claim 3

- Hakim discloses “The feeding bottle of claim 1 wherein the flange forms an elastomer sealing ring sealing against the top of the vessel.”**

The nipple described in Hakim, including its bottom rim (i.e., the flange), “can be constructed out of any of the flexible materials currently used in the art of baby

bottle nipple construction.” Ex. 1005, 10. These materials include elastomers such as “silicone, latex, rubber, plastic, or so forth.” *Id.*; Ex. 1003, ¶ 90.

The bottom rim forms a sealing ring against the top of the drinking vessel when the cap is screwed onto the vessel. Ex. 1005, 12 (“When 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.*, 30 (“The bottom rim of the baby bottle nipple is usually covered by the hard portion of the screw cap (i.e. the ring which screws on to the baby bottle) which presses against it tightly.”); *id.*, 37 (“The no-spill cap 466 forms a cover for placement onto the cup 491. When attached to the cup, a secure seal is formed such that no liquid can emerge through the connection between the cap and the cup.”).

Hakim therefore discloses the feeding bottle of claim 1 wherein the flange forms an elastomer sealing ring sealing against the top of the vessel. Ex. 1003, ¶ 92.

D. Claim 4

1. Hakim discloses “The feeding bottle of claim 1 wherein the teat portion comprises an elastic material.”

Hakim explains that the nipple “can be constructed out of any of the flexible materials currently used in the art of baby bottle nipple construction.” Ex. 1005, 10. “Such materials are preferably . . . elastic.” *Id.*; Ex. 1003, ¶ 93. The nipple includes

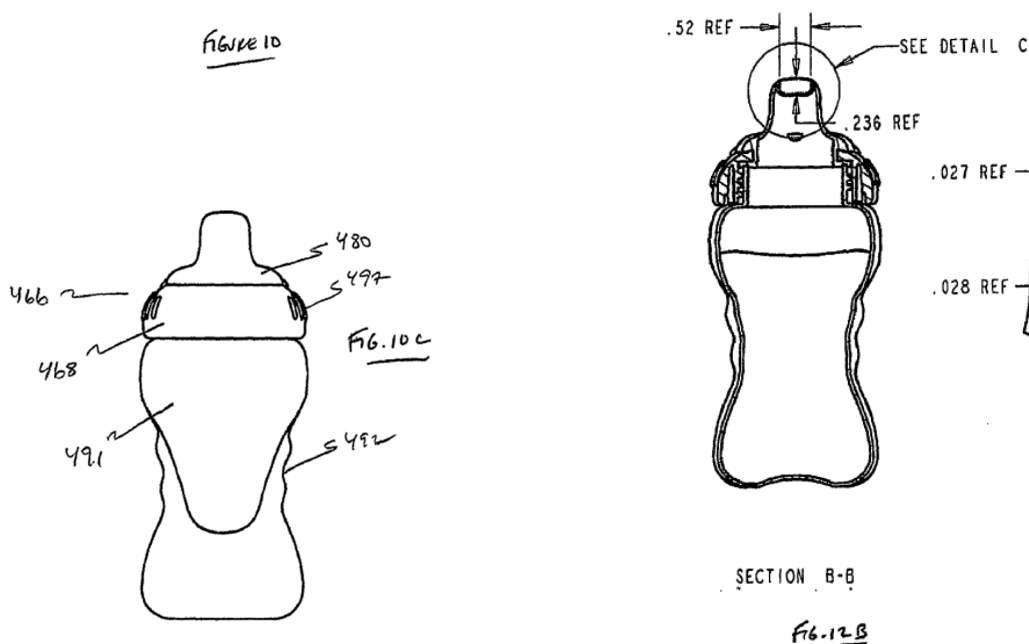
a teat portion (*i.e.*, neck 72 with tip 70 as shown in Fig. 4e). Ex. 1005, 20, Fig. 4e; Ex. 1003, ¶ 93.

Hakim therefore discloses the feeding bottle of claim 1 wherein the teat portion comprises an elastic material. Ex. 1003, ¶ 93.

E. Claim 5

- 1. Hakim discloses “The feeding bottle of claim 1 wherein the teat portion projects perpendicular to the open top of the vessel.”**

When the cap is screwed onto the drinking vessel, the teat portion (*i.e.*, tip 70 and neck 72) of the nipple described in Hakim projects vertically above the drinking vessel, as shown in Figs. 10c and 12b.



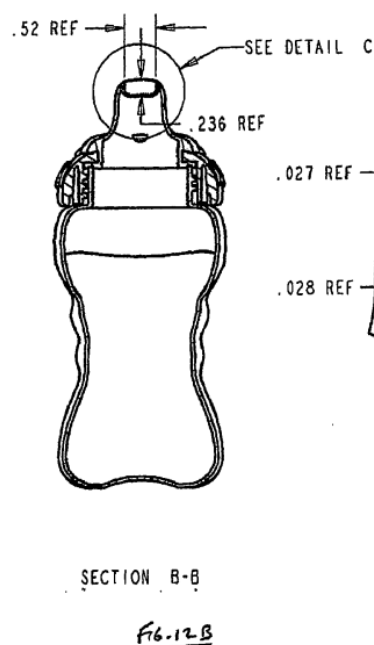
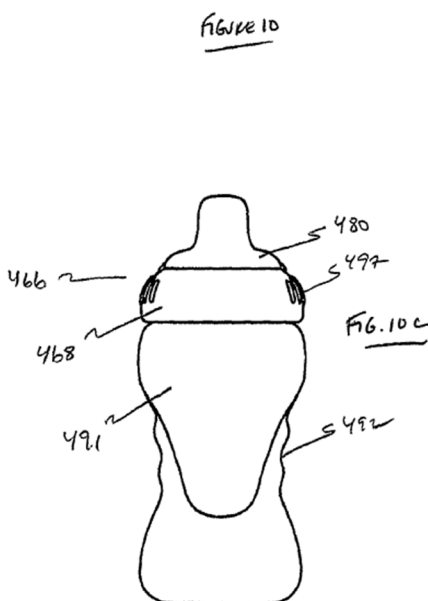
Ex. 1005, Fig. 10c. In this configuration, the teat portion, projecting vertically, is perpendicular to the horizontal plane of the drinking vessel neck. *Id.*; Ex. 1003, ¶ 95.

Hakim therefore discloses the feeding bottle of claim 1 wherein the teat portion projects perpendicular to the open top of the vessel. Ex. 1003, ¶ 96.

F. Claim 6

- 1. Hakim discloses “The feeding bottle of claim 1 wherein the internally threaded collar is sized to mate with the open top of the vessel.”**

Hakim explains that “the no-spill cap 466 and the drinking vessel include mating male and female screw threads, such that the cap 466 is a screw-on cap which can be easily rotated onto the cup, as is known in the art.” Ex. 1005, 37-38. “The screw ring includes screw threads for engagement with a series of screw threads on the baby bottle, so as to screw that cap onto the bottle,” as shown in Figs. 10c and 12b. *Id.*, 12.



Hakim therefore discloses the feeding bottle of claim 1 wherein the internally threaded collar is sized to mate with the open top of the vessel. Ex. 1003, ¶ 98.

G. Claim 7

1. Hakim discloses “The feeding bottle of claim 1 wherein the collar comprises polypropylene.”

Hakim explains that the drinking vessel (*i.e.*, cup 491 of Fig. 10c) “is constructed from polypropylene.” Ex. 1005, 37. The screw ring that is screwed onto the drinking vessel is also made of a “hard” material. *Id.*, 37, 8. It would have been obvious to one of ordinary skill to construct the screw ring from polypropylene because polypropylene is a hard material that Hakim describes using to construct the drinking vessel to which the hard screw ring attaches. Ex. 1003, ¶ 99. Polypropylene was typically used to construct screw rings at the effective filing date of the ’930 patent. *Id.*, ¶ 99.

Hakim therefore teaches the feeding bottle of claim 1 wherein the collar comprises polypropylene. *Id.*, ¶ 100.

H. Claim 8

1. Hakim discloses “The feeding bottle of claim 1 wherein the air valve is a one-way air-inlet valve.”

The air valve described in Hakim “functions to facilitate the flow of air back *into* the bottle while the baby is drinking.” Ex. 1005, 30 (emphasis added). Indeed, Hakim *only* describes the air valve as enabling air to flow *into* the bottle, not out of the bottle. *See, e.g., id.*, 28 (“These bottom valves are air valves (*i.e.* valves for

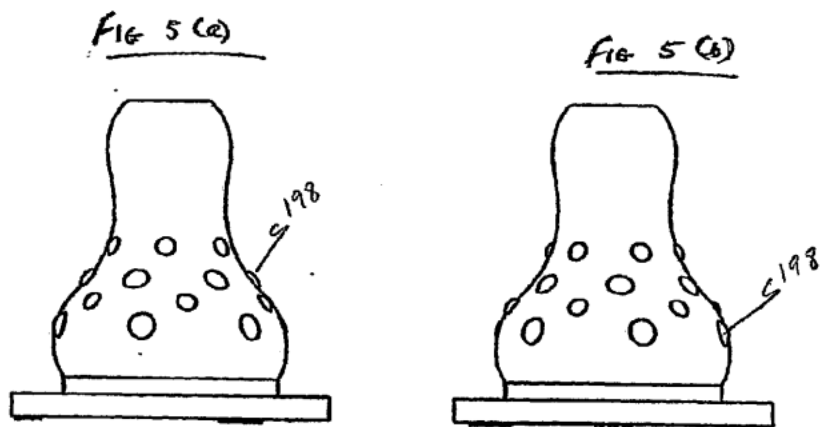
allowing air to flow into the nipple.”); *id.*, 30 (“Opening of this air valve enables air to go back into the bottle easier, which in turn makes it much easier for the child to extract liquid through the top of the nipple.”); *see also id.*, 5-6 (the air valve “opens to allow air into the drinking product”), 16 (the air valve “is provided for air flow into the nipple”).

Hakim therefore discloses the feeding bottle of claim 1 wherein the air valve is a one-way air-inlet valve. Ex. 1003, ¶ 101.

I. Claim 9

- 1. Hakim discloses “The feeding bottle of claim 1 wherein an outer surface of the teat portion has a first texture and an outer surface of the areola portion has a second, different texture.”**

Hakim explains that the nipple can include “bumps,” as shown in Figures 5a and 5b below, or “depressions.” Ex. 1005, 34.



Id., Figs. 5a and 5b. The bumps or depressions are in the areola portion of the nipple, as shown in the figures above. *Id.*; Ex. 1003, ¶ 102. The bumps or depressions

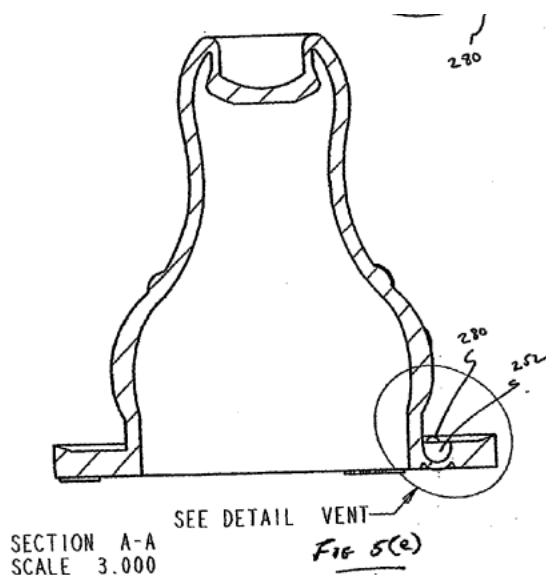
provide a different texture than provided in the teat portion, and this different texture is used “to ease discomfort during the teething process.” Ex. 1005, 34-35. For example, “the bumps are preferably harder than the soft material of the nipple.” *Id.*

Hakim therefore discloses the feeding bottle of claim 1 wherein an outer surface of the teat portion has a first texture and an outer surface of the areola portion has a second, different texture. Ex. 1003, ¶ 102.

J. Claim 12

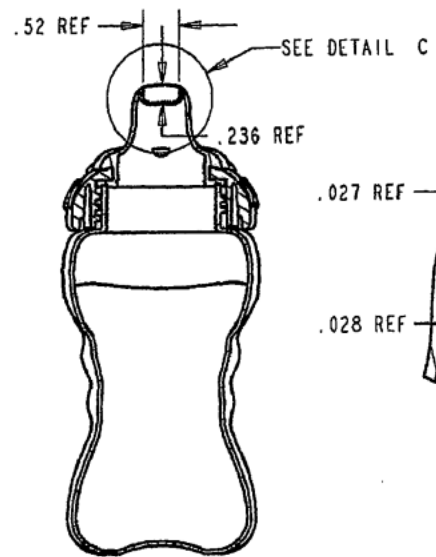
1. Hakim discloses “The feeding bottle of claim 1 wherein the air valve is located below a top edge of the collar.”

Hakim explains that the air valve “can be provided at the bottom of the baby bottle nipple (e.g. in the nipple’s bottom rim or in the soft lid).” Ex. 1005, 13. This embodiment is shown in Fig. 5e, below.



Id., Fig. 5e. Air valve 252 is located at the bottom rim in this embodiment. *Id.* The inner edge of the screw ring “snugly fits in the groove” above the bottom rim and

below the base portion, as shown in Fig. 12b, below. *Id.*, 38-39, 30, 12 Fig. 12b, (“When 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.”).



SECTION B-B

Fig. 12B

Hakim therefore discloses the feeding bottle of claim 1 wherein the air valve is located below a top edge of the collar. Ex. 1003, ¶ 105.

K. Claim 13

1. Hakim discloses “A feeding bottle comprising:”

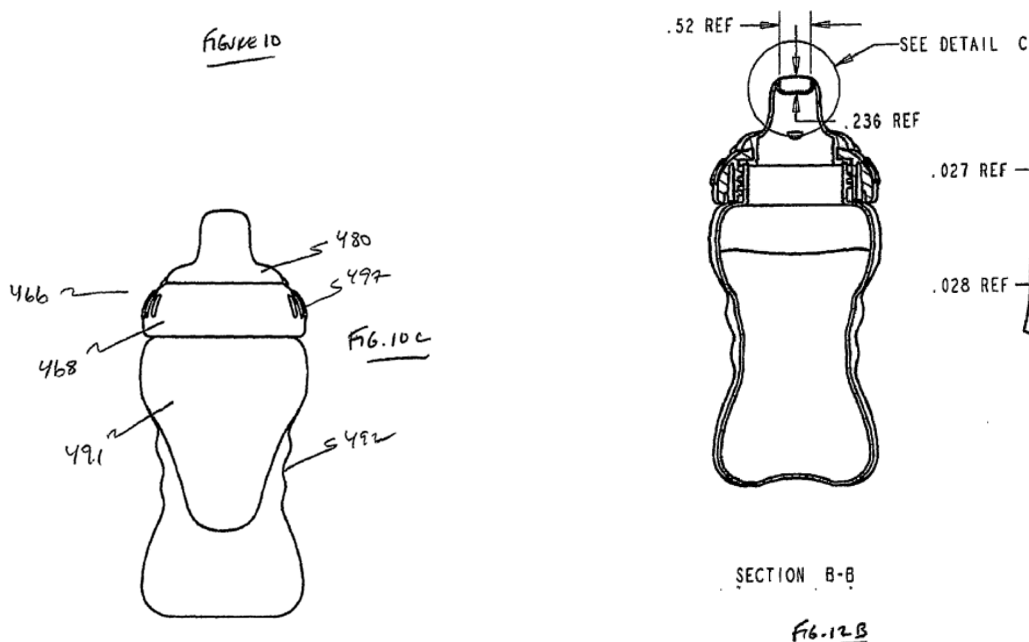
Hakim discloses this limitation for the reasons provided in Section IX.A.1 above.

2. **Hakim discloses “a) a vessel having: an open top with a first diameter, and a body with a second diameter, the body being connected with the open top, and the first diameter of the open top being less than the second diameter of the body;”**

Hakim discloses this limitation for the reasons provided in Section IX.A.2, above. As explained in Section IX.A.2, the body of the drinking vessel in Hakim (including cup 491 and grip 492 in Fig. 10c) is connected to the neck (circled above in Fig. 12b), which itself has an open top. Hakim therefore discloses the body being connected with the open top. Ex. 1003, ¶ 107.

3. **Hakim discloses “b) a collar having: an internally threaded portion, and a downwardly extending outer domed portion connected to the internally threaded portion, wherein most of the domed portion extends radially away from an inner edge of the collar;”**

The no-spill drinking product disclosed in Hakim includes a “screw ring.” Ex. 1005, 12. The nipple attaches to the screw ring to form a cap that is screwed onto the drinking vessel. *Id.* An example of a cap 466, including screw ring 468 and soft lid (or nipple) 480, is shown in Figs. 10c and 12b.



Id., Figs. 10c, 12b.

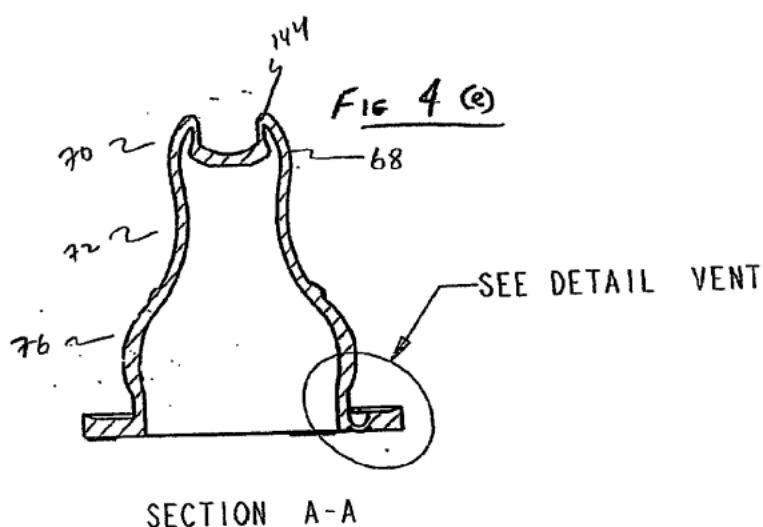
The internal surface of the screw ring “includes screw threads for engagement with a series of screw threads on the baby bottle, so as to screw that cap onto the bottle.” *Id.*, 12; *id.*, 37-38 (“[T]he no-spill cap 466 and the drinking vessel include mating male and female screw threads, such that the cap 466 is a screw-on cap which can be easily rotated onto the cup, as is known in the art.”).

The outer surface of the screw ring 468 of Figures 10c and 12b, above, is dome-shaped. *Id.*, Figs. 10c, 12b; Ex. 1003, ¶ 109. The domed outer surface of the screw ring extends downwardly and is connected to the internal threads. Ex. 1005, 12, 28, Fig. 10c, 12b; Ex. 1003, ¶ 109. Most of the domed portion extends radially away from an inner edge of the screw ring. Ex. 1005, Fig. 10c, 12b; Ex. 1003, ¶ 110.

Hakim therefore discloses the feeding bottle including a collar having: an internally threaded portion, and a downwardly extending outer domed portion connected to the internally threaded portion, wherein most of the domed portion extends radially away from an inner edge of the collar. Ex. 1003, ¶ 111.

4. **Hakim discloses “c) a nipple having: a teat portion having a variable wall thickness including an aperture, a base portion having a wall thickness, an areola portion between the teat portion and the base portion,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.4, above with reference to Fig. 6e. And the base portion of Hakim has a wall thickness, as illustrated in Fig. 4e.



Ex. 1005, Fig. 4e. The figure shows the wall thickness of base portion 76 using the shading at the nipple wall. *Id.* Hakim therefore discloses the base portion having a wall thickness. Ex. 1003, ¶ 112.

5. Hakim discloses “a flange depending from the base portion,”

Hakim discloses this limitation for the reasons provided in Section IX.A.5 above.

6. Hakim discloses “a vent passage extending through the base portion and spaced inwardly from the collar, and a valve portion in communication with the vent passage and projecting from the base portion,”

Hakim describes a “channel” that “extends from the bottom air valve” through “the outer surface of the nipple wall.” Ex. 1005, 31. The channel may extend “to where the screw cap meets the outer wall of the nipple,” meaning the channel is spaced inwardly from the screw cap and its screw ring. *Id.*; Ex. 1003, ¶ 114.

Hakim therefore discloses the nipple including a vent passage extending through the base portion and spaced inwardly from the collar, and a valve portion in communication with the vent passage and projecting from the base portion. *Id.*, ¶ 114.

7. Hakim discloses “the flange being arranged to seal with the vessel;”

Hakim discloses this limitation for the reasons provided in Section IX.A.7., above.

8. Hakim discloses “wherein an outer surface of the teat portion has a first texture and an outer surface of the areola portion has a second, different texture;”

Hakim discloses this limitation for the reasons provided in Section IX.I., above.

9. **Hakim discloses “d) the nipple being secured to the collar by sealingly capturing the inner edge of the collar between the base portion and the flange; and,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.8.,
above.

10. **Hakim discloses “e) the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel.”**

Hakim discloses this limitation for the reasons provided in Section IX.A.9
above.

L. Claim 14

1. **Hakim discloses “A feeding bottle comprising:”**

Hakim discloses this limitation for the reasons provided in Section IX.A.1
above.

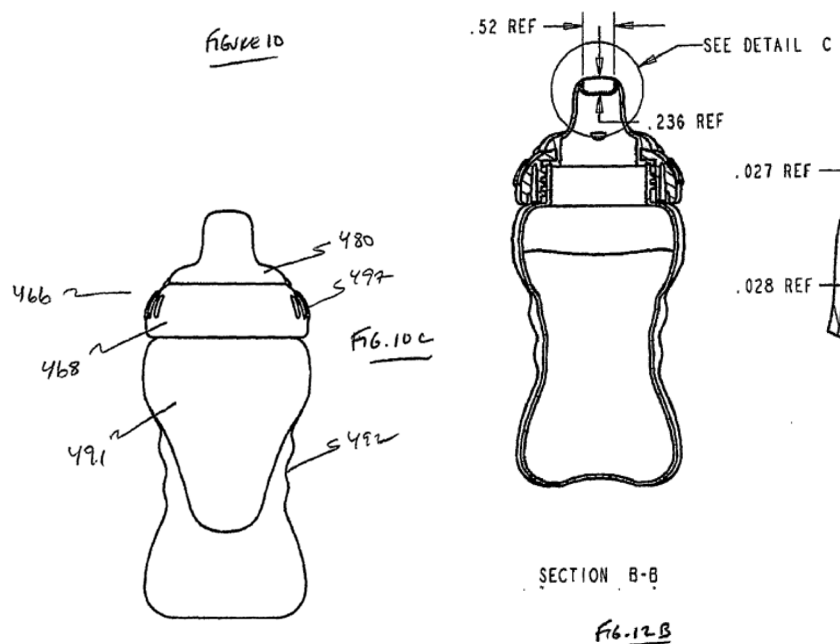
2. **Hakim discloses “a) a vessel having an open top,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.2
above.

3. **Hakim discloses “b) a collar having an upper rim and a lower rim comprising: an internally threaded inner surface, an outermost surface having a sloping portion that extends outwardly and downwardly relative to said upper rim, and wherein said sloping portion comprises a majority of the collar’s outermost surface,”**

The no-spill drinking product disclosed in Hakim includes a “screw ring.”
Ex. 1005, 12. The nipple attaches to the screw ring to form a cap that is screwed

onto the drinking vessel. *Id.* An example of a cap 466, including screw ring 468 and soft lid (or nipple) 480, is shown in Figs. 10c and 12b.



Id., Fig. 10c, 12b. The screw ring 468, as shown in the figures, includes an upper rim and a lower rim. *Id.* The upper rim is secured between the base portion and bottom rim of the nipple and the bottom rim is at the bottom of the screw ring, adjacent to the drinking vessel. *Id.*

The internal surface of the screw ring “includes screw threads for engagement with a series of screw threads on the baby bottle, so as to screw that cap onto the bottle.” *Id.*, 12; *id.*, 37-38 (“[T]he no-spill cap 466 and the drinking vessel include mating male and female screw threads, such that the cap 466 is a screw-on cap which can be easily rotated onto the cup, as is known in the art.”).

The outer surface of the screw ring 468 of Figure 10, above, is dome-shaped. *Id.*, Fig. 10c; Ex. 1003, ¶ 122. The domed outer surface of the screw ring extends outwardly and downwardly relative to the upper rim. Ex. 1005, Fig. 10c; Ex. 1003, ¶ 122.

Hakim therefore discloses the feeding bottle including a collar having an upper rim and a lower rim comprising: an internally threaded inner surface, an outermost surface having a sloping portion that extends outwardly and downwardly relative to said upper rim, and wherein said sloping portion comprises a majority of the collar's outermost surface. Ex. 1003, ¶ 123.

4. **Hakim discloses “c) a nipple having: a teat portion having a variable wall thickness including an aperture, a base portion having a domed configuration, an areola portion between the teat portion and the base portion,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.4. above.

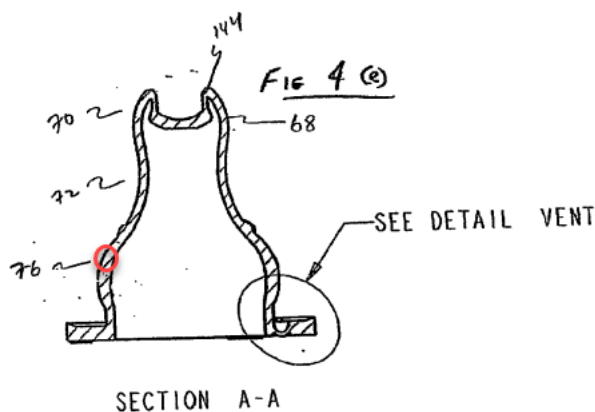
5. **Hakim discloses “a flange depending from the base portion,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.5. above.

6. **Hakim discloses “a one-way air inlet valve (i) extending through said base, (ii) projecting downwardly from the base portion, (iii) having a length that does not extend past the collar’s lower rim, and (iv) disposed at least partially inwardly from the collar;”**

Hakim explains that “[o]ne or more air valves can be provided in the nipple.”

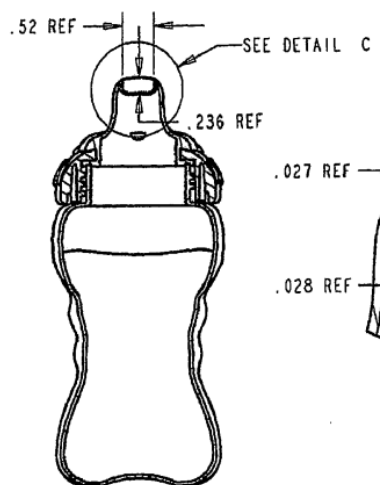
Ex. 1005, 29, 5. The valve is a one-way air inlet valve for the reasons provided in Section IX.H.1. The air valve may be located “at the bottom of the baby bottle nipple,” and it “extends downward into the nipple.” *Id.*, 12-13. With reference to Figure 4e, below, it would have been obvious to place the air valve, for example, at the red circle on base portion 76 because this location is “at the bottom of the baby bottle nipple.” Ex. 1003, ¶ 126.



Id., Fig. 4e.

The air valve is “a depression in a flexible membrane” of the nipple wall, and the air valve has a depth of just 0.0895 inches, for example. Ex. 1005, 29, 33. In Fig. 4e above, an air valve is shown and circled in the bottom rim on the right-side of the figure. *Id.*, Fig. 4e. This air valve, if placed instead at the location circled in

red in the figure above would not extend below the bottom rim, and certainly not to the screw ring's lower rim—which is below the bottom rim and shown in Fig. 12b, below. *Id.*; *id.*, Fig. 12b; Ex. 1003, ¶ 127.



It is also located inwardly from screw ring, for example, screw ring 468 shown below that attaches to the groove between the base portion and the bottom rim. Ex. 1003, ¶ 128.

Hakim therefore discloses a one-way air inlet valve (i) extending through said base, (ii) projecting downwardly from the base portion, (iii) having a length that does not extend past the collar's lower rim, and (iv) disposed at least partially inwardly from the collar. Ex. 1003, ¶ 129.

7. **Hakim discloses “the flange being arranged to seal with the vessel;”**

Hakim discloses this limitation for the reasons provided in Section IX.A.7.
above.

8. **Hakim discloses “d) the nipple being secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange; and,”**

Hakim discloses this limitation for the reasons provided in Section IX.A.8.
above.

9. **Hakim discloses “e) the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel.”**

Hakim discloses this limitation for the reasons provided in Section IX.A.9.
above.

M. Claim 16

1. **Hakim discloses “The feeding bottle of claim 14 wherein the open top of the vessel comprises an outwardly threaded vessel neck.”**

Hakim discloses this limitation for the reasons provided in Section IX.A.6.
above.

N. Claim 17

1. **Hakim discloses “The feeding bottle of claim 14 wherein the air inlet valve comprises a slit opening.”**

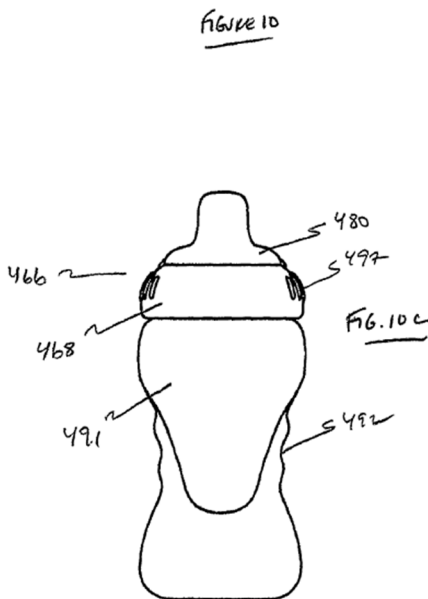
Hakim explains that “the opening in the air valve is a slit.” Ex. 1005, 32; *id.*
30 (the air valve includes an opening, “such as a slit”).

Hakim therefore discloses the feeding bottle of claim 14 wherein the air inlet valve comprises a slit opening. Ex. 1003, ¶ 134.

O. Claim 19

- 1. Hakim discloses “The feeding bottle of claim 14 wherein the vessel comprises an upper body having a first internal diameter and a portion below the upper body having a second, different internal diameter.”**

As shown in Figure 10c, the drinking vessel disclosed in Hakim includes an upper body (e.g., where cup 491 is labeled) with a first internal diameter and a portion below the upper body (e.g., where grip 492 is labeled) having a second (smaller) internal diameter.



Ex. 1005, Fig. 10c; *id.*, 11 (Baby “bottles (or cups) are known in the art, and. . . are usually cylindrical in shape.”); *id.*, 22-23.

Hakim therefore discloses the feeding bottle of claim 14 wherein the vessel comprises an upper body having a first internal diameter and a portion below the upper body having a second, different internal diameter. Ex. 1003, ¶ 135.

P. Claim 20

- 1. Hakim discloses “The feeding bottle of claim 19 wherein the first internal diameter is greater than the second internal diameter.”**

Hakim discloses this limitation for the reasons provided in Section IX.O.1. above.

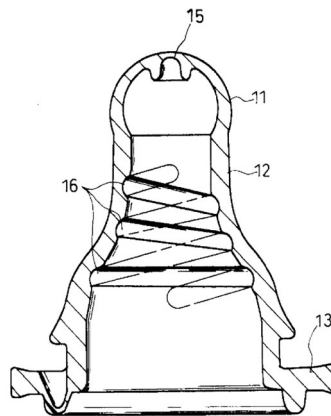
X. GROUND II: CLAIMS 10, 11, 15, AND 18 ARE RENDERED OBVIOUS BY HAKIM IN VIEW OF KOBAYASHI

A. Claim 10

- 1. Hakim in view of Kobayashi discloses “The feeding bottle of claim 1 wherein an inner surface of the teat portion includes a helical flow path.”**

Kobayashi describes a nipple that includes a “spiral groove” that is “formed on an inner side” of the nipple. Ex. 1006, ¶ 15. The spiral groove 16 is shown in Figure 5, below.

[圖 5]



Id., Fig. 5. The spiral groove 16 is at the inner surface of the body portion 12. *Id.*, ¶ 15. The spiral groove of Kobayashi meets the helical flow path of the challenged patent (labeled 122 in Fig. 4, below). Ex. 1003, ¶ 137.

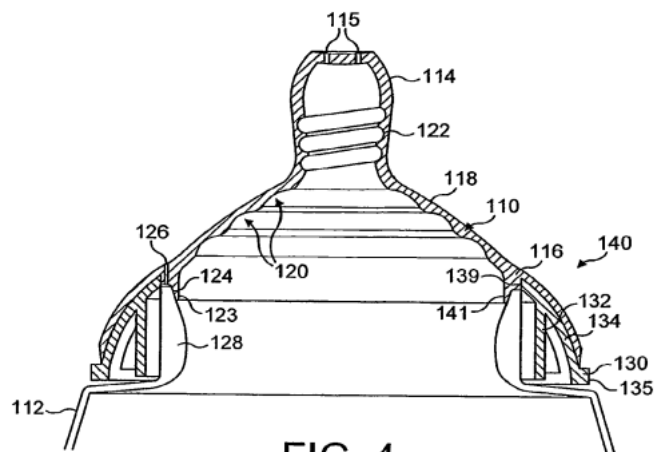
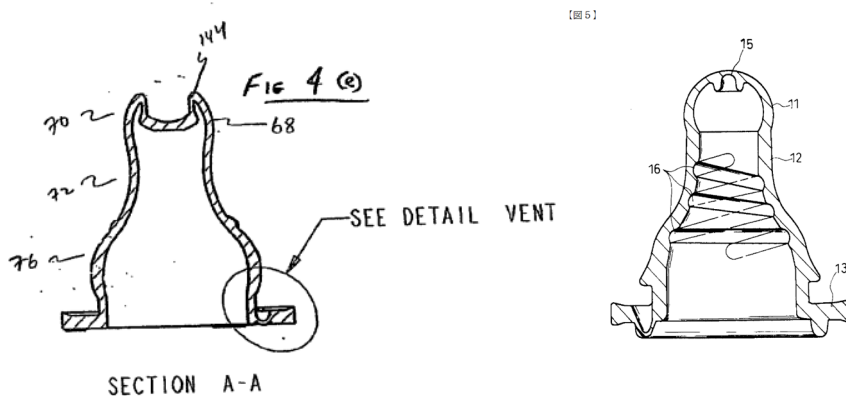


FIG. 4

To the extent Hakim does not disclose a helical flow path, it would have been obvious to add the spiral groove of Kobayashi into the teat portion (*i.e.*, neck 72 with tip 70) of Hakim. Both Hakim and Kobayashi are directed to improvements to baby

bottle nipples. Ex. 1005, 8-9; Ex. 1006, ¶ 1. The nipples, show in the figures below, have generally the same shape and structure.



Ex. 1005, Fig. 4e (left), Ex. 1006, Fig. 5 (right). Adding Kobayashi's spiral groove into the nipple of Hakim combines prior art elements to yield predictable results. Ex. 1003, ¶ 138. 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." Ex. 1006, ¶ 23; Ex. 1003, ¶ 138.

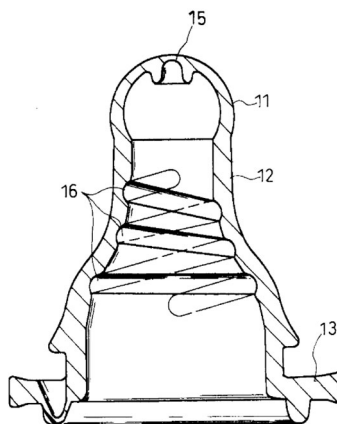
Hakim in view of Kobayashi therefore discloses the feeding bottle of claim 1 wherein an inner surface of the teat portion includes a helical flow path. Ex. 1003, ¶ 139.

B. Claim 11

- 1. Hakim in view of Kobayashi discloses “The feeding bottle of claim 1 wherein the nipple walls decrease in thickness from the base portion through to the teat portion.”**

As shown in Figure 5, below, Kobayashi discloses a baby bottle nipple that decreases in thickness from the base portion to the teat portion.

【圖 5】



Ex. 1006, Fig. 5. The wall thickness of the nipple is illustrated with the shading (diagonal lines) in the figure. *Id.* The lowest end of the base portion (*i.e.*, above the gap above lower portion 13) is thicker than the nipple wall above it. *Id.* Upper portion 11 of the teat portion is significantly thinner and the wall above milk suction port 15—at the top of the teat portion—is the thinnest portion of the nipple wall. *Id.* Kobayashi distinguishes its nipple wall of various thickness from the prior art that used “substantially uniform thickness.” Ex. 1006, ¶ 5.

To the extent Hakim does not disclose nipple walls decreasing in thickness from the base portion through to the teat portion, it would have been obvious to modify the wall thicknesses as disclosed in Kobayashi. As explained in Section X.A., both Hakim and Kobayashi are directed to improvements to baby bottle nipples that have generally the same shape and structure. Hakim discloses nipple walls of varying thicknesses. Ex. 1005, 26-27, Fig. 7, Fig. 6e. Modifying Hakim nipple walls with those disclosed in Kobayashi is a simple substitution of known elements to obtain predictable results. Ex. 1003, ¶ 141. A person of ordinary skill would have been motivated to modify Hakim's nipple walls as disclosed in Kobayashi because "by adjusting the widths of the thick portion and the thin portion, a nipple having an elongation close to that of the human body can be molded" to aid the baby in feeding. Ex. 1006, ¶ 18; Ex. 1003, ¶ 141.

Hakim in view of Kobayashi therefore discloses the feeding bottle of claim 1 wherein the nipple walls decrease in thickness from the base portion through to the teat portion. Ex. 1003, ¶ 142.

C. Claim 15

- 1. Hakim in view of Kobayashi discloses "The feeding bottle of claim 14 wherein an inner surface of the teat portion has a groove configured to flex in a direction of the liquid flow."**

Hakim in view of Kobayashi discloses an inner surface of the teat portion has a spiral groove for the reasons provided in Section X.A., above. The spiral groove

“aid[s] the supply of milk to the upper portion of the nipple” when a baby is drinking milk. Ex. 1006, ¶ 23. Specifically, the spiral groove elongates in the direction of the teat as the baby drinks milk. *Id.* The spiral grove therefore flexes in the direction of the liquid flow. *Id.*

It would have been obvious to add the spiral groove described in Kobayashi to the nipple of Hakim for the reasons provided in Section X.A., above.

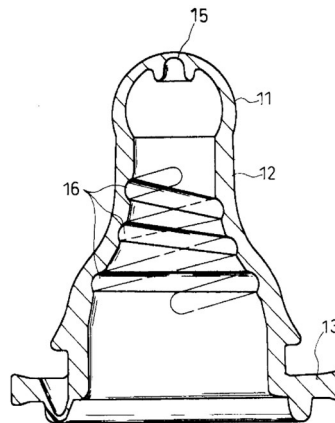
Hakim in view of Kobayashi therefore discloses the feeding bottle of claim 14 wherein an inner surface of the teat portion has a groove configured to flex in a direction of the liquid flow. Ex. 1003, ¶ 145.

D. Claim 18

1. Hakim in view of Kobayashi discloses “The feeding bottle of claim 14 wherein an inner surface of the areola portion has a groove extending circumferentially.”

As Kobayashi explains, “[t]he spiral groove 16 is formed in a spiral shape upward from a lower position of the body portion 12 of the nipple 4 along the inner side surface of the body portion 12.” Ex. 1006, ¶ 15. The spiral groove is shown in Fig. 5, below.

【圖 5】



Id., Fig. 5. The “spiral shape” extends circumferentially around the nipple. *Id.* The spiral groove is in the portion of the nipple that includes the areola portion claimed in the challenged patent. *Id.*; Ex. 1003, ¶ 146.

It would have been obvious to combine add the spiral groove described in Kobayashi to the nipple of Hakim for the reasons provided in Section X.A., above.

Hakim in view of Kobayashi therefore discloses the feeding bottle of claim 14 wherein an inner surface of the areola portion has a groove extending circumferentially. Ex. 1003, ¶ 148.

XI. CONCLUSION

Therefore, *Inter Partes* Review under §§ 311-319 and 37 CFR §§ 42.200 *et seq.*, of claims 1-20 of United States Patent No. 10,952,930 is hereby requested.

Petition for *Inter Partes* Review of U.S. Patent No. 10,952,930

Dated: July 26, 2022

Respectfully submitted,

FENWICK & WEST LLP

/Dargaye Churnet/

Dargaye Churnet

(Reg. No. 71,288)

Attorneys for Petitioners

Comotomo Inc. and Comotomo

Corporation

**CERTIFICATE OF COMPLIANCE
WITH TYPE-VOLUME LIMITATION**

Pursuant to 37 CFR § 42.24 et seq., the undersigned certifies that this Petition complies with the 14,000-word type-volume limitation. This Petition contains 8,632 words, excluding the parts of the Petition exempted from the type-volume limitation.

Dated: July 26, 2022

FENWICK & WEST LLP

/Dargaye Churnet/
Dargaye Churnet
(Reg. No. 71,288)

Attorneys for Petitioners
Comotomo Inc. and Comotomo
Corporation

CERTIFICATE OF SERVICE (37 C.F.R. §§42.63(E), 42.105(A))

The undersigned hereby certifies that a complete and entire copy of the above-captioned “**PETITION FOR *INTER PARTES* REVIEW U.S. PATENT NO. 10,952,930**” and all supporting exhibits numbered 1001-1007 were provided via U.S. Express Mail, postage prepaid, to the Patent Owner’s correspondence address as stated below:

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(Mayborn Group Limited)
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Minneapolis, MN 55440-1022

*Patent Owner’s correspondence
address of record for USP 10,952,930*

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