

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NANOBEBE US INC.
Petitioner

v.

MAYBORN (UK) LIMITED
MAYBORN USA, INC.
MAYBORN GROUP LIMITED
Patent Owner

IPR
U.S. Patent No. 10,952,930

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

Submitted Electronically via the Patent Review Processing System

I.	Mandatory Notices.....	1
A.	Real Party-in-Interest	1
B.	Related Matters under 37 C.F.R. § 42.8(b)(2)	1
C.	Lead and Backup Counsel under 37 C.F.R. § 42.8(b)(3).....	2
D.	Service Information under 37 C.F.R. § 42.8(b)(4).....	3
II.	CLAIM LISTING	3
	CLAIM 14	3
	CLAIM 16	4
	CLAIM 17	4
	CLAIM 19	4
III.	Requirements Under 37 C.F.R. § 42.104	5
A.	Grounds for Standing	5
B.	Prior Art.....	5
C.	Identification of Challenge.....	5
D.	Discretionary Denial Under 325(d) Is Not Appropriate	6
E.	Discretionary Denial Under Fintiv Is Not Appropriate	8
1.	A stay is likely.....	8
2.	Proximity of the Court’s trial date to final written decision.....	8
3.	Investment in the parallel proceeding.....	9
4.	Overlap between issues.....	9
5.	Party status	10
6.	Other circumstances.....	10
IV.	Overview of the ’930 Patent.....	10
A.	Priority Date	10
B.	Description of the ’930 Patent.....	11
C.	Relevant File History	15
V.	Level of Ordinary Skill in the Art	15
VI.	Claim Construction.....	16
A.	“a teat portion” (Claim 14).....	16

B.	“an areola portion” (Claim 14).....	17
C.	“base portion” (Claim 14).....	17
D.	“domed configuration / a base portion having a domed configuration” (Claim 14).....	17
E.	“a teat portion having a variable wall thickness” (Claim 14).....	17
F.	“at least partially inwardly” (Claim 14).....	18
VII.	Summary of the Prior Art	18
A.	Meyers (Ex[1006])	18
B.	Sepehr (Ex[1007])	20
C.	Ishimaru (Ex[1008])	22
D.	Kurkjian (Ex[1009])	24
VIII.	Asserted Grounds of Invalidity.....	27
A.	Ground 1: Meyers in view of Sepehr Renders Claims 14, 16, 17, and 19 Obvious.....	27
1.	Motivations to Combine	27
2.	Claim 14.....	34
3.	Claim 16.....	57
4.	Claim 17.....	58
5.	Claim 19.....	60
B.	Ground 2: Meyers, Sepehr, and Ishimaru renders Claims 14, 16, 17, and 19 Obvious.....	61
1.	Motivations to Combine	62
2.	Claim 14.....	67
C.	Ground 3: Kurkjian, Sepehr, and Ishimaru renders Claims 14, 16, 17, and 19 Obvious.....	70
1.	Motivations to Combine	70
2.	Claim 14.....	81
3.	Claim 16.....	105
4.	Claim 17.....	106
5.	Claim 19.....	106

IX.	Secondary Considerations	108
X.	Conclusion	108

EXHIBIT LIST

Exhibit No. ¹	Description
1001	U.S. Patent No. 10,952,930 to Rees et al. (the “’930 Patent”)
1002	Prosecution File History for the ’930 Patent
1003	U.S. Patent No. 11,207,244 to Rees et al. (the “’244 Patent”)
1004	Prosecution File History for the ’244 Patent
1005	Declaration of Mr. Brian Silver
1006	U.S. Patent No. 6,032,810 (“ <i>Meyers</i> ”)
1007	G.B. Patent No. 2,250,017 (“ <i>Sepehr</i> ”)
1008	English Translation of J.P. Patent No. 2001-299877 (“ <i>Ishimaru</i> ”), Original Japanese publication of <i>Ishimaru</i> , and Affidavit of Harumi Morota
1009	U.S. Patent No. 2,093,730 (“ <i>Kurkjian</i> ”)
1010	E.P. Patent Pub. No. 0,151,862 (“ <i>Atkin</i> ”)
1011	Complaint in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 01 (S.D.N.Y.) (“Complaint”)
1012	Answer and Counterclaims in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 25 (S.D.N.Y.) (“Counterclaims”)
1013	Complaint in <i>Mayborn (UK) Limited et al. v. Comotomo Inc. et al.</i> , Case No. 1:22-cv-00694-PGG, Dkt. 06 (S.D.N.Y.) (“Comotomo Complaint”)
1014	Petition for Inter Partes Review of U.S. Patent No. 10,952,930, filed by <i>Comotomo Inc. et al.</i> , IPR2022-01325 (PTAB) (Comotomo ’930 Petition)
1015	Petition for Inter Partes Review of U.S. Patent No. 11,207,244, filed by <i>Comotomo Inc. et al.</i> , IPR2022-01326 (PTAB) (Comotomo ’244 Petition)

¹ Citations to patents are made by column and line cite; citations to patent publications are made by paragraph number; citations to other exhibits are made with reference to the Bates-stamped pagination.

Exhibit No.¹	Description
1016	Scheduling Order in <i>Nanobebe US, Inc. v. Mayborn (UK) Limited, et al.</i> , Case No. 1:21-cv-8444-GHW, Dkt. 22 (S.D.N.Y.) (“Scheduling Order”)
1017	Mayborn’s Claim Construction Brief in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 48 (S.D.N.Y.)
1018	Nanobebe’s Claim Construction Response in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 62 (S.D.N.Y.)
1019	Mayborn’s Claim Construction Reply in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 63 (S.D.N.Y.)
1020	Declaration of Brian Silver for Claim Construction in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 62 Ex.[0029] (S.D.N.Y.)
1021	Lauren A. Watt & Graham C. Phero, <i>Success of Motions to Stay Rising, But Why?</i> , PTAB YEAR IN REVIEW 2019, pp. 25-27
1022	Memo Endorsement to Adjourn Markman Hearing in <i>Nanobebe US Inc. v. Mayborn (UK) Limited et al.</i> , Case No. 1:21-cv-08444-GHW, Dkt. 61 (S.D.N.Y.)

Nanobebe US Inc. (“Petitioner”) petitions for *inter partes* review of Claims 14, 16, 17, and 19 of USPN 10,952,930 (“the ’930 Patent”), assigned to Mayborn (UK) Limited, Inc. (“Patent Owner” or “PO”) and cancel the claims in view of the analysis below.

I. MANDATORY NOTICES

A. *Real Party-in-Interest*

Nanobebe US Inc. is the Petitioner and real party-in-interest, and is a subsidiary of Nutrits Ltd., which is also a real party-in-interest.

B. *Related Matters under 37 C.F.R. § 42.8(b)(2)*

Petitioner is aware of the following related civil actions, currently pending:

- *Nanobebe US Inc. v. Mayborn (UK) Limited et al.*, Case No. 1:21-cv-08444-GHW (S.D.N.Y.). Petitioner has filed a declaratory judgment of noninfringement against Patent Owner; Patent Owner has counterclaimed asserting infringement of the ’930 Patent and related U.S. Patent No. 11,207,244 (“the ’244 Patent”) against Petitioner (the “District Court Litigation”). Exs.[1011],[1012](Complaint and Counterclaims).
- *Mayborn (UK) Limited et al. v. Comotomo Inc. et al.*, Case No. 1:22-cv-00694-PGG (S.D.N.Y.). Patent Owner has asserted infringement of

the '930 and '244 Patents against Comotomo Inc. (the “Comotomo Litigation”). Ex[1013](Comotomo Complaint).

Petitioner is aware of the following related IPR petitions, currently pending:

- *Comotomo Inc. et al. v. Mayborn (UK) Limited et al.*, IPR2022-01325 (PTAB), and IPR2022-01326 (PTAB). Comotomo Inc. filed petitions for *inter partes* review of the '930 and '244 Patents. (the “Comotomo Petitions”). Exs.[1014],[1015](Comotomo '930 and '244 Petitions).
- Petitioner filed a petition for *inter partes* review of the '244 Patent, concurrent with this petition.

C. *Lead and Backup Counsel under 37 C.F.R. § 42.8(b)(3)*

Petitioner provides the following designation of counsel.

LEAD COUNSEL	BACK-UP COUNSEL
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D. Service Information under 37 C.F.R. § 42.8(b)(4)

A copy of this entire Petition, including all Exhibits and a Power of Attorney, is being served by Priority Mail Express or by means at least as fast and reliable as Priority Mail Express, costs prepaid, to the address of the attorney or agent of record for Patent Owner in the district court proceedings regarding the '930 Patent: John S. Goetz, Fish & Richardson P.C., 7 Times Square, 20th Floor, New York, NY 10036; Matthew A. Colvin, Aaron P. Pirouznia, Fish & Richardson P.C., 1717 Main Street, Suite 5000, Dallas, TX 75201, and to the address of the attorney or agent of record at the USPTO: Fish & Richardson P.C., P.O. Box 1022, Minneapolis, MN 55440-1022.

Petitioner consents to service at lead counsel's address provided above and consents to e-mail service, provided it is made to all the following e-mail addresses: eliot.williams@bakerbotts.com, matthew.engel@bakerbotts.com, and brianna.potter@bakerbotts.com. A Power of Attorney is filed concurrently herewith under 37 C.F.R. § 42.10(b).

II. CLAIM LISTING

CLAIM 14

14[PRE]	A feeding bottle comprising:
14[A]	a) a vessel having an open top,
14[B]	b) a collar having an upper rim and a lower rim comprising: an internally threaded inner surface,

14[C]	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
14[D]	c) a nipple having: a teat portion having a variable wall thickness including an aperture,
14[E]	a base portion having a domed configuration,
14[F]	an areola portion between the teat portion and the base portion,
14[G]	a flange depending from the base portion,
14[H]	a one-way air inlet valve (i) extending through said base,
14[I]	(ii) projecting downwardly from the base portion,
14[J]	(iii) having a length that does not extend past the collar's lower rim, and
14[K]	(iv) disposed at least partially inwardly from the collar; the flange being arranged to seal with the vessel;
14[L]	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,
14[M]	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.

CLAIM 16

16	The feeding bottle of claim 14 wherein the open top of the vessel comprises an outwardly threaded vessel neck.
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CLAIM 17

17	The feeding bottle of claim 14 wherein the air inlet valve comprises a slit opening.
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CLAIM 19

19	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.
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III. REQUIREMENTS UNDER 37 C.F.R. § 42.104

A. *Grounds for Standing*

Petitioner certifies that the '930 Patent is eligible for *inter partes* review and that Petitioner is not barred or otherwise estopped.

B. *Prior Art*

Ex[1006] – U.S. Patent No. 6,032,810 (“*Meyers*”) issued March 7, 2000. *Meyers* is prior art under § 102(a) and § 102(b).

Ex[1007] – G.B. Patent No. 2,250,017A (“*Sepehr*”) published May 27, 1992. *Sepehr* is prior art under § 102(a) and § 102(b).

Ex[1008] – JP Patent No. P2001-299877 (“*Ishimaru*”) published October 30, 2001. *Ishimaru* is prior art under § 102(a) and § 102(b).

Ex[1009] – U.S. Patent No. 2,093,730 (“*Kurkjian*”) issued September 21, 1937. *Kurkjian* is prior art under § 102(a) and § 102(b).

C. *Identification of Challenge*

Petitioner requests *inter partes* review of Claims 14, 16, 17, and 19 of the '930 Patent under the following grounds.

Ground	Claims	Basis for Challenge
1	14, 16, 17, and 19	<i>Meyers</i> in view of <i>Sepehr</i> render the claims obvious under § 103
2	14, 16, 17, and 19	<i>Meyers</i> in view of <i>Sepehr</i> in further view of <i>Ishimaru</i> render the claims obvious under § 103

3	14, 16, 17, and 19	<i>Kurkjian</i> in view of <i>Sepehr</i> in further view of <i>Ishimaru</i> render the claims obvious under § 103
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Submitted with this Petition is a declaration of Mr. Brian Silver, a qualified technical expert. Ex[1005], ¶¶1–10.

D. Discretionary Denial Under 325(d) Is Not Appropriate

Denial under § 325(d) and *Advanced Bionics* is not appropriate given that the particular combinations of references cited by Petitioner were not presented during examination of the '930 Patent and no similar references to those used as primary references in the combinations that were presented were evaluated during prosecution. Thus, both different arguments and different art were presented to the Office. See *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469 (PTAB Feb. 13, 2020) (Paper 6) (precedential).

The PTAB has chosen not to grant discretionary denial, even where a reference was cited in an IDS, when the record is insufficiently developed as to whether the reference was “previously presented to the Office,” as is the case here. See *Sony Interactive Entertainment LLC v. Bot M8, LLC*, Case No. IPR2020-00726 (PTAB Oct. 6, 2020) (Paper 13). Here, while two of the references cited by Petitioner were listed in an IDS (*Meyers* and *Ishimaru*), the other three were not, and neither the combinations here nor similar combinations were evaluated.

Furthermore, factors (c) and (f) of the *Becton Dickinson* factors, in particular, point against discretionary denial here since the references relied on by Petitioner were only listed in a lengthy IDS, demonstrating that the art was not a basis for rejection or otherwise substantively evaluated during prosecution. Supporting that position are the additional evidence and facts presented here in the Petition in the form of an expert report explaining these references, warranting reconsideration of the prior art. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586 (PTAB Dec. 15, 2017) (Paper 8). *See also, e.g., Advanced Energy Industries v. Reno Technologies*, IPR2021-01397 (PTAB Feb. 16, 2022) (Paper 7), p. 7 (“the Examiner’s consideration of both references appears limited to initialing an IDS”); *Lyft, Inc. v. RideShare Displays, Inc.*, IPR2021-01602 (PTAB April 11, 2022) (Paper 7), pp. 14-15 (stating factor (c) weighs against discretionary denial where the reference was not used as a basis for rejection during prosecution); *Samsung Electronics Co., Ltd. et al. v. Power2B, Inc.*, IPR2021-01190 (PTAB Jan. 6, 2022) (Paper 11), p. 19 (“As for factor (c), the extent to which the asserted art was evaluated during examination, we agree with Petitioner that the record is silent as to any evaluation by the Examiner of Gettemy, short of acknowledgement in an IDS submitted...”); *Advanced Energy Industries Inc. v. Reno Technologies Inc.*, IPR2021-01397 (PTAB Feb. 16, 2022) (Paper 7), pp. 8-9

(stating that an expert’s “testimony is also not so limited that it has no evidentiary value...”).

E. *Discretionary Denial Under Fintiv Is Not Appropriate*

The six factors in considering denial under § 314 strongly favor institution. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (Mar. 20, 2020). The district court case is in early stages, the parties recently completed Claim Construction briefing but no hearing has occurred and no order has issued, and no post-claim construction scheduling order has been entered. Exs.[1017]-[1020](Parties’ Claim Construction Briefing).

1. A stay is likely

If an IPR is instituted, a stay of the co-pending litigation is highly likely. The stay motion grant rate in S.D.N.Y is as high as 88%. Ex.[1021]. Petitioner intends to seek stay upon filing of the Petition, and if pre-institution stay is not granted, will seek stay upon institution. This factor weighs against discretionary denial.

2. Proximity of the Court’s trial date to final written decision

The district court’s scheduling order has not set a trial date. Ex.[1016]. The expected date for a FWD in this case is July 2024. Other factors will contribute to an extended schedule at the district court. The Markman Hearing is scheduled for February 22, 2023. Ex.[1022]. This factor weighs against discretionary denial. *Sand*

Revolution II, LLC v. Continental Intermodal Grp.—Trucking LLC, IPR2020-01393,
Paper 24 (June 16, 2020).

3. Investment in the parallel proceeding

The co-pending litigation is in its early stages, and the investment in it has been minimal. Patent Owner has answered the declaratory judgment complaint (Ex.[1012]), however only limited discovery has occurred. The district court has not issued any substantive orders. The Markman hearing is scheduled for February 22, 2023.² Ex[1022]. A trial date has not yet been set. Ex[1016]. This factor weighs against discretionary denial.

4. Overlap between issues

The issues will be narrowed in the co-pending litigation due to the estoppel provisions of 35 U.S.C. § 315(e)(2). In the event the District Court sets a scheduling order before institution of this proceeding that would plausibly result in trial occurring before the Board's Final Written Decision, Petitioner will consider filing

² Petitioner has advanced theories in the parallel district court proceeding that certain claims of the '930 and '244 Patents are invalid under 35 U.S.C. § 112(b). The arguments expressed herein are expressed with respect to the validity of '930 and '244 Patents with regard to anticipation and/or obviousness, and do not represent an admission or waiver of Petitioner's defenses with regard to 35 U.S.C. § 112(b).

a stipulation in the District Court to avoid potential overlap between the two proceedings. Petitioner will keep the Board apprised of any developments in this regard via mandatory notices.

5. Party status

Petitioner is the Declaratory Judgment Plaintiff/Counterclaim Defendant in the litigation. Ex.[1012](Counterclaims). This factor is neutral.

6. Other circumstances

The merits of Petitioner's arguments are strong; this factor weighs against discretionary denial.

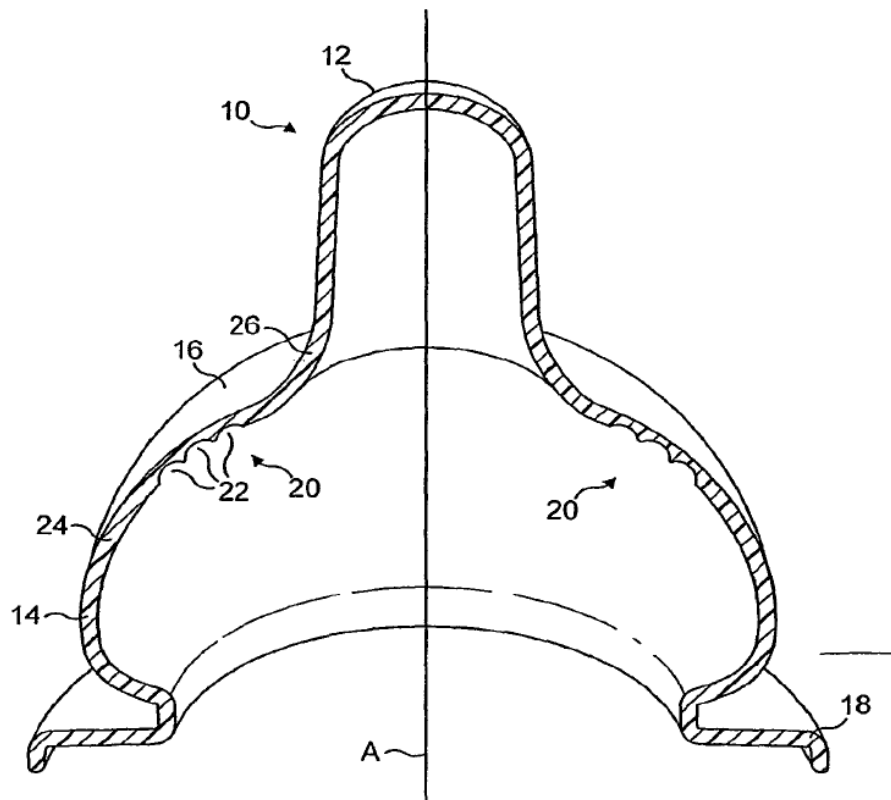
IV. OVERVIEW OF THE '930 PATENT

A. Priority Date

The '930 Patent was filed on November 14, 2014. Ex[1001],(22). The '930 Patent claims priority to the application for U.S. Patent No. 8,910,810, filed on Feb. 2, 2012, which is a continuation of the application for U.S. Patent No. 8,181,800, filed on June 29, 2005. *Id.*,(63). The '930 Patent also claims priority to GB Application No. 2004/14560.3, which was filed on June 29, 2004. *Id.*,(30). Patent Owner has not asserted a priority date for the '930 Patent. Petitioner does not take a position regarding the priority date of the '930 Patent for purposes of this petition because Petitioner relies entirely on prior art that pre-dates June 29, 2004.

B. Description of the '930 Patent

The '930 Patent describes a feeding bottle with flexible region(s) to “provide a more natural feeding by closely mimicking the human breast.” Ex[1001],Abs. A “teat 10” includes a “teat portion 12,” “base portion 14” and “areola portion 16” therebetween. “Flange 18” extends from the base portion “to allow fixing to a feeding bottle.” *Id.*,2:57-60, FIG.1. The base portion may include a one-way air-inlet valve (not shown). *Id.*,2:64. The areola portion 16 includes “flex region 20” comprising grooves around an inner surface of the areola portion which allows flexing of the teat 10. The teat portion 12 is designed to “allow additional flexing of the teat portion relative to the teat as a whole.” *Id.*,3:14-17.



The '930 Patent describes the suckling process, in particular “the infant’s lips 54 contacting the areola portion 16 generally at the flex region 20. As a result, as the infant sucks on the teat, the teat portion [12] and areola portion [16] flex towards and away from one another by virtue of respective collapsing and extending of the flex region [20] around the flexed channels 22.” *Id.*,3:20-34. The back and forth flexure of teat portion 12 mimics skin movement and stretching. *Id.*,3:35-37.

The '930 Patent further describes a “teat assembly 140” includes a “teat 110” having a “teat portion 114” forming a “nipple,” “a base portion 116” and “an areola region 118” therebetween. *Id.*,3:57-4:10, Fig.4. “The shape of the teat is also similar to the human breast, the base portion 116 being shaped like a breast and having a wide, domed configuration.” *Id.*,4:1-3. The teat 110 is integrally formed with a screw collar 130, *Id.*,4:54-58, wherein the collar “includes an internally threaded cylindrical portion...to connect to the vessel 112.” *Id.*,4:54-5:3.

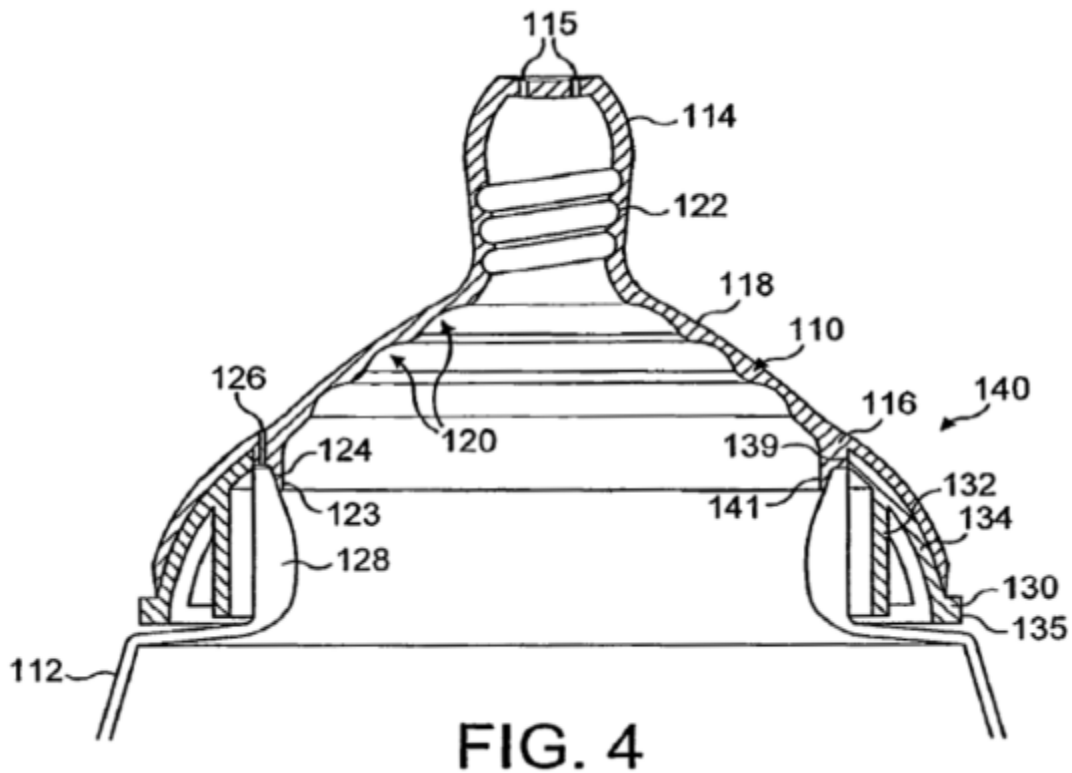


FIG. 4

A “downward cylindrical flange 141” forms an elastomer sealing ring against the “inner face of the vessel neck 128.” *Id.*,5:12-15, Fig.4. Teat 110 further includes “discontinuous flap or lip valve portion 123” that “projects down from the flange 141” and “vent passage 126” through the teat to allow air ingress and “reduce[] the risk of colic which can otherwise occur as a result of negative pressure building up in the feeding bottle. *Id.*,1:47-51; 5:15-32, Fig.4. “[W]hen an infant sucks on the teat, reducing pressure within the vessel, the lip valve 123 will flex away from the neck 128 of the vessel 112. In the region of the vent 126 in the teat 110, this allows venting between the interior of the vessel and atmosphere through the teat.” *Id.*, 5:22-27.

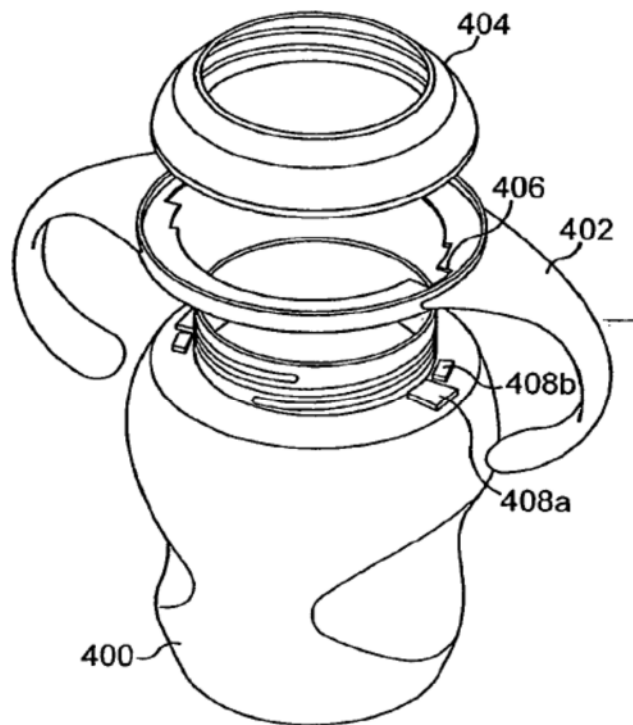


FIG. 7a

In Figs. 7a-7b, the '930 Patent shows “a vessel 400 [which] receives a handle portion 402 and a teat screw collar 404, corresponding to the screw collar 130 described above but with the elastomer teat 10 removed for the purposes of clarity.” *Id.*, 5:39-43.

The '930 Patent concedes that “teats have been designed to mimic the human breast” which allows stretching of the nipple when an infant sucks on the teat. *Id.*, 1:26-46. The '930 Patent also concedes that valved feeding bottles are known in the art, including “slit valves,” “an inner annular resilient flange at its base,” and “a downwardly dependent cylindrical flange at its base which seals against the inner top face of a vessel neck[.]” *Id.*, 1:47-2:5.

C. Relevant File History

Prosecution of the '930 Patent encompassed five Non-Final Office Actions and three Final Office Actions, as well as a Pre-Appeal Brief Conference Request filed on December 26, 2018 and corresponding Appeal Brief filed on April 12, 2019.

After several rounds of Office Actions, the Applicant filed an Appeal Brief. In response, the Examiner reopened prosecution and mailed several subsequent Office Actions with different prior art references. In response, the claims were completely rewritten to resemble the allowed claims of the '930 Patent. In particular, pending claim 20 (issued as Claim 14) was amended to delete all reference to “a vent passage extending through the domed portion of the base portion with a length not to extend past the collar..., a valve portion in communication with the vent passage and projecting downwardly from the flange” at issue on Appeal, and amended to recite: “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[1002],at75-76. A Notice of Allowance was subsequently mailed on November 16,2020. *Id.*,at33-38.

V. LEVEL OF ORDINARY SKILL IN THE ART

As of June 29, 2004, a person of ordinary skill in the art (“POSA”) would have a B.S. in mechanical engineering, industrial design, or similar technical field,

and with 2 or more years of practical experience related to the design of infant feeding products or comparable industry. Ex.[1005],¶47. Additional education could compensate for less practical experience and vice versa. *Id.*

VI. CLAIM CONSTRUCTION

Words in a claim are given their ordinary and customary meaning, which is the meaning understood by a POSA at the time of the alleged invention after reading the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005); 83 Fed. Reg. No. 197, 51341. (Oct. 11, 2018); 37 C.F.R. 42.100(b). At the district court, the parties recently completed Claim Construction briefing. The parties' disputed terms are discussed below. Except where noted below, for purposes of this proceeding, whether the terms of the '930 Patent are afforded Patent Owner's or Petitioner's construction, the grounds render the claims obvious.

A. “a teat portion” (Claim 14)

Petitioner construes this term to mean “the entire part projecting generally perpendicular to the mouth of the vessel, disposed above the areola portion, which extends into a baby's mouth for feeding.” Ex.[1018],12. Patent Owner alleges this term to mean “part projection generally perpendicular to the mouth of the vessel and disposed above the areola portion” *Id.*

B. “an areola portion” (Claim 14)

Petitioner construes this term to mean “a surface area, that includes a different characteristic and functionality than the rest of the nipple, surrounding and extending beyond the bottom of the teat portion [as construed by Petitioner].” Ex.[1018],13. Patent Owner alleges this term to mean “part extending beyond the bottom of the teat portion.” *Id.*

C. “base portion” (Claim 14)

Petitioner construes this term to mean “the lowest portion of the nipple, beginning where the nipple meets the top rim of the vessel, that is mountable to the vessel.” Ex.[1018],16. Patent Owner alleges this term to mean “part below the areola portion.” *Id.*

D. “domed configuration / a base portion having a domed configuration” (Claim 14)

Petitioner construes this term to mean “having a rounded shape in profile.” Ex.[1018],17. Patent Owner alleges this term to mean “wide circular base with an arc-shaped cross-sectional profile.” *Id.*

E. “a teat portion having a variable wall thickness” (Claim 14)

Petitioner construes this term to mean “a teat portion having a helical groove.” Ex.[1018],19. Patent Owner construes this term according to its plain meaning. *Id.*

F. “at least partially inwardly” (Claim 14)

Petitioner construes this term to be indefinite under 35 U.S.C. § 112(b).
Ex.[1018],20. Patent Owner alleges this term to carry its plain meaning. *Id.*

VII. SUMMARY OF THE PRIOR ART

A. Meyers (Ex[1006])

Meyers discloses a one-piece, integral nipple/collar unit for use in conjunction with nurser bottles. Ex.[1006],1:39-41, 3:1-3. Nipple 6 has an upper portion 25 and base area 26 molded over collar 2. *Id.*,3:66-4:3. Nipple 6 covers the entire exterior side 3 of collar 2. *Id.*,4:14-16. The collar includes a fastener 5 such as conventional threads on the interior surface 4 of the collar 2. Rigid collar 2 “includes at least one interlocking portion...shaped to physically capture a portion of nipple 6 to ensure a secure interconnection between collar 2 and nipple 6.” *Id.*,3:25-32. U-shaped ring portion 20 of collar 2 assists in forming a leak resistant seal with an associated nurser bottle 10. In particular, flat lowermost surface 24 “assists in forming a leak resistant seal with an associated nurser bottle 10.” *Id.*,3:51-60. “Nipple 6 also includes a flat sealing flange 29...configured to seal against a neck portion 11 of an associated nurser bottle 11 to form a tight liquid seal.” *Id.*,4:6-10.

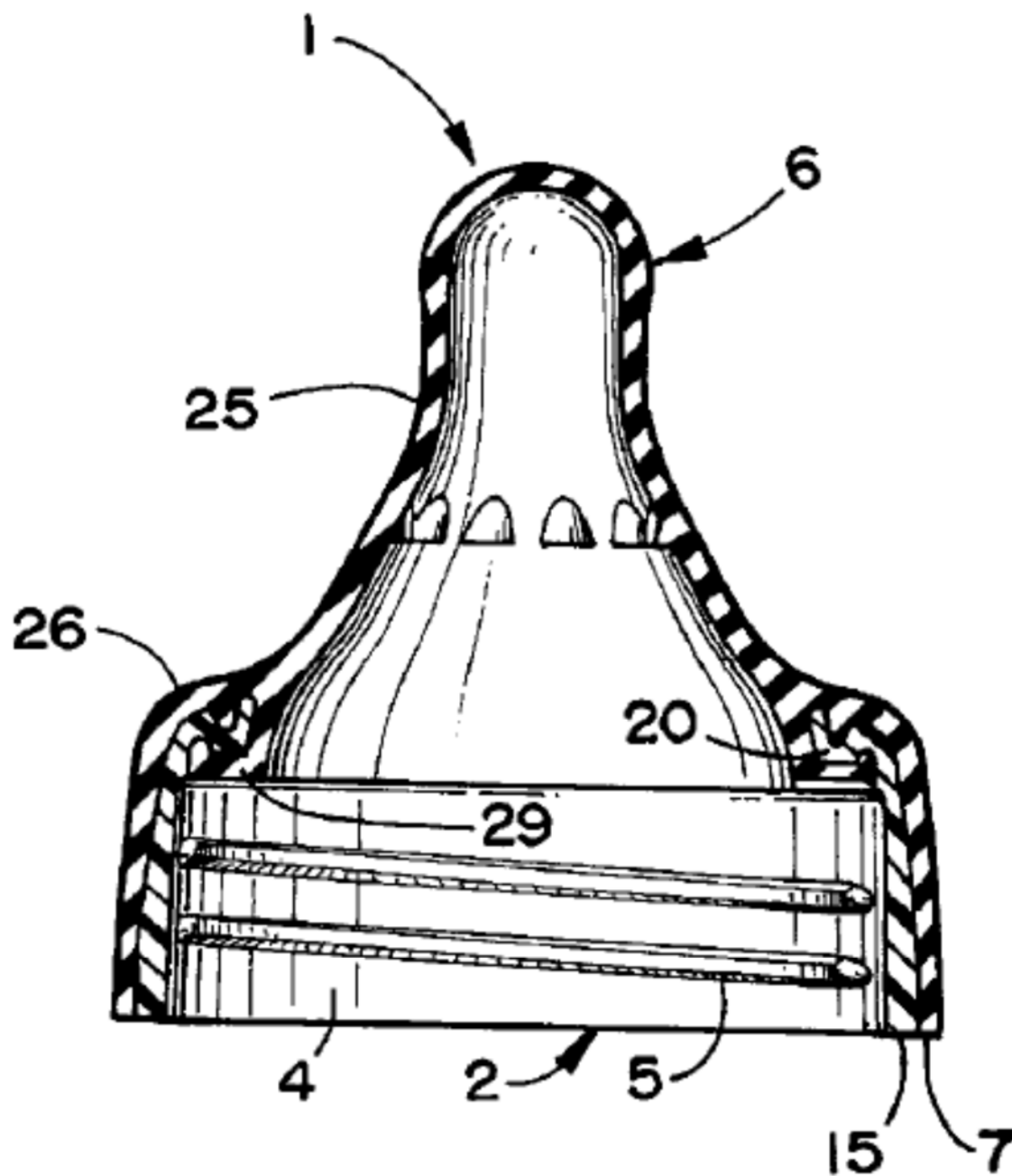


FIG. 5 of Meyers

“Vent 35 is in the form of a channel-shaped aperture extending radially outwardly along sealing flange 29...[and] permits air to be drawn into the nurser bottle around collar threads 5.” *Id.*,4:24-29. Figs. 6-12 illustrate a method of making the one-piece nipple collar 1 using overmolding. *Id.*,1:67, 4:41-65, claim 1.

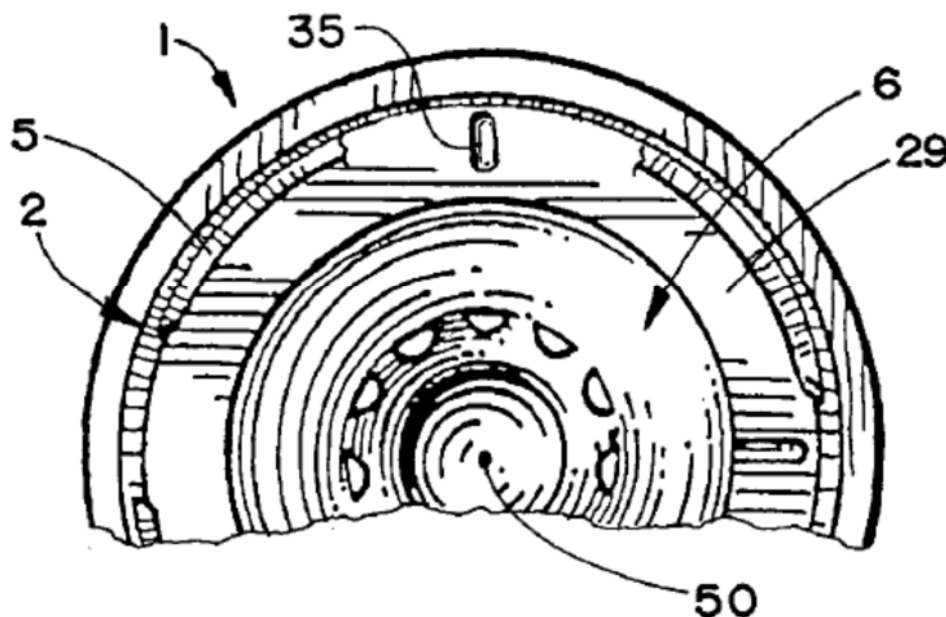


FIG. 13 of Meyers

B. *Sepehr* (Ex[1007])

Sepehr discloses a teat from which a child can suck liquid from a nursing bottle and an automatic “one-way air inlet valve 2.” [1007],Abstract, claim 2. The valve includes “a concave elongate semi spherical shape with a slit at its dome which can be produced of silicone...in a single mould.” *Id.*,2:13-18.

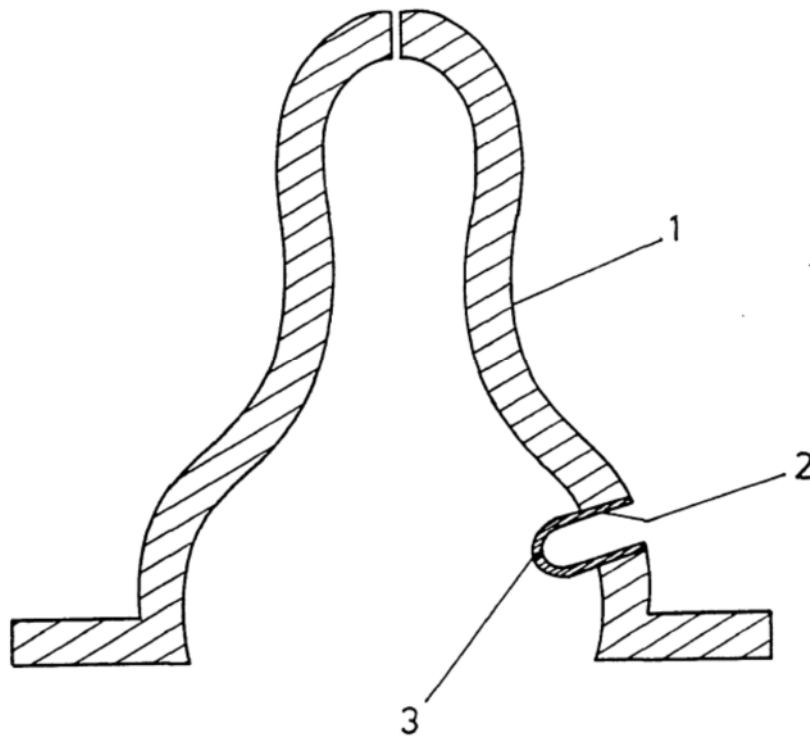


FIG. 1 of Sepehr

“[S]ince the valve operates on the principal of pressure difference between inside and outside the baby bottle it may be located at any part of the bottle. Alternatively, one or more valves may be produced as integral part(s) of the teat which...can easily be cleaned together with the teat following each use.” *Id.*,2:21-26. As the baby drinks, “vacuum is formed within the bottle resulting in the formation of a pressure difference outside the valve 2 which causes the flow of air through the slit 3 into the bottle, hence, maintains easy flow of milk...during feeding.” *Id.*,3:15-19.

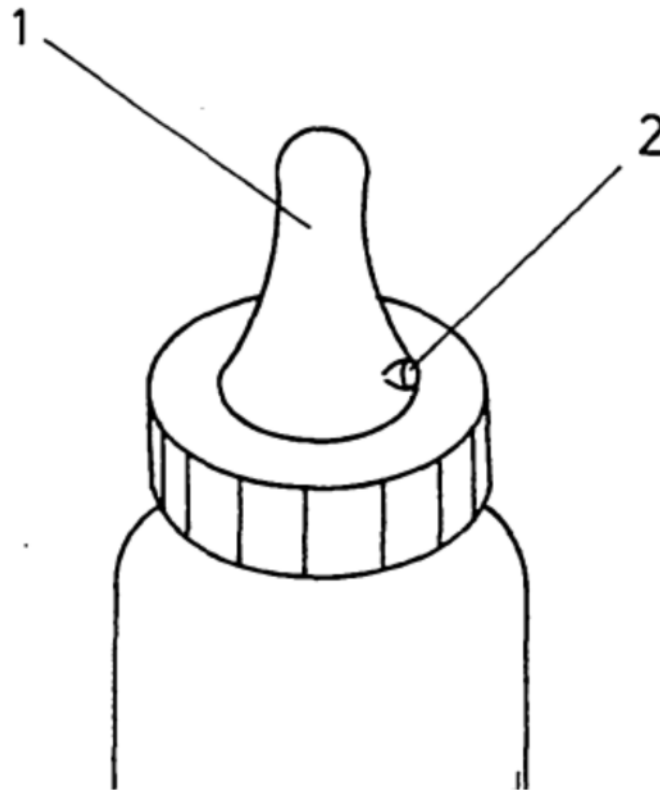


FIG. 3 of Sepehr

C. *Ishimaru* (Ex[1008])

Ishimaru discloses “an artificial nipple which is more similar to the mother’s nipple...having a nipple trunk [110] and teat portion [120] protruding from this nipple trunk,...wherein the...teat portion 120 and/or the...nipple trunk 110 is provided with an elongate portion 122, which is more easily extensible than other portions.” Ex.[1008],Abstract, Fig. 1.

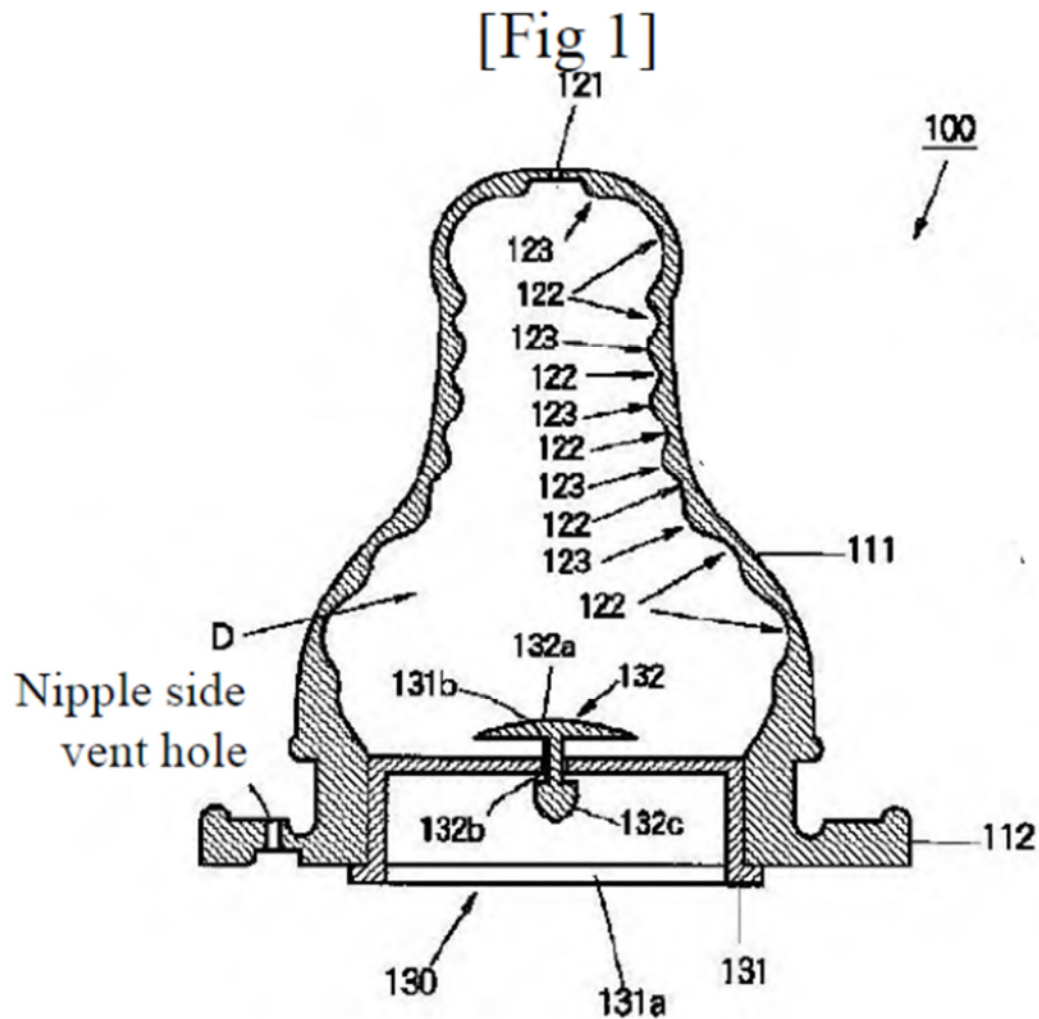


FIG. 1 of Ishimaru

“[T]hin walled portions 122, 122 and 122, which are elongation portions with a thin wall, are formed in a groove-like pattern... [wherein] each of the thin-walled portion 122 is formed in a manner that the wall thickness gradually increases from the thinnest portion...and the inner surface 123 of the artificial nipple becomes smooth, forming a wave shape as shown in Fig. 1.” *Id.*, [0041]. Thin walled portions can also be formed in “a spiral shape.” *Id.*, [0060]. Nipple 100 is mounted on a

feeding bottle containing milk, and the nipple is inserted into the mouth of the infant who sucks the milk up into the nipple 100. *Id.*, [0043], Fig. 5. “In this state, the tip of the teat portion 120...is in contact with the tip of the sucking fossa 220 of the infant 200” performing a “suckling movement by peristaltic movement of the tongue.” *Id.*, [0044]. Further, “there is a base portion 112 with a nipple side vent hole, which is a flange portion for connecting to a feeding bottle main body.” *Id.*, [0037].

D. *Kurkjian (Ex[1009])*

Kurkjian discloses a “flexible nipple having a vented flexible flange” Ex[1007], 1:10-11 which is present in the several disclosed embodiments. The nipple comprises a “body portion constituting a neck 13 . . . and preferably annular flange 14.” *Id.*, 1:48-53. The body portion of the nipple includes “overhanging shoulder 16 adjacent the point of junction between the body portion 13 and the flange 14.” *Id.*, 2:6-9. The flange includes a “single venting aperture 15 and it should be understood that the flange 14 is integral with the body portion 13 of the nipple.” *Id.* “It should be understood that as a vacuum is built up in the bottle through the baby sucking upon the nipple or body portion 13 thereof, the flange 14 may flex away from the inner face of the flange 20 of the cap 17 and draw the upper face of the flange adjacent the vent 15 away from the inner face of the flange 20 of the cap 17 and allow air to pass under the shoulder 16 and between the body portion 13 of the nipple and the edge of the aperture 18, under the under face of the flange 20 of the

cap 17, and through the vent opening 15 into the bottle.” *Id.*,2:54-3:10. The embodiment of Fig. 1 holds the nipple to the bottle using retaining cap 17 fitted with screw threads. *Id.*,2:15-17.

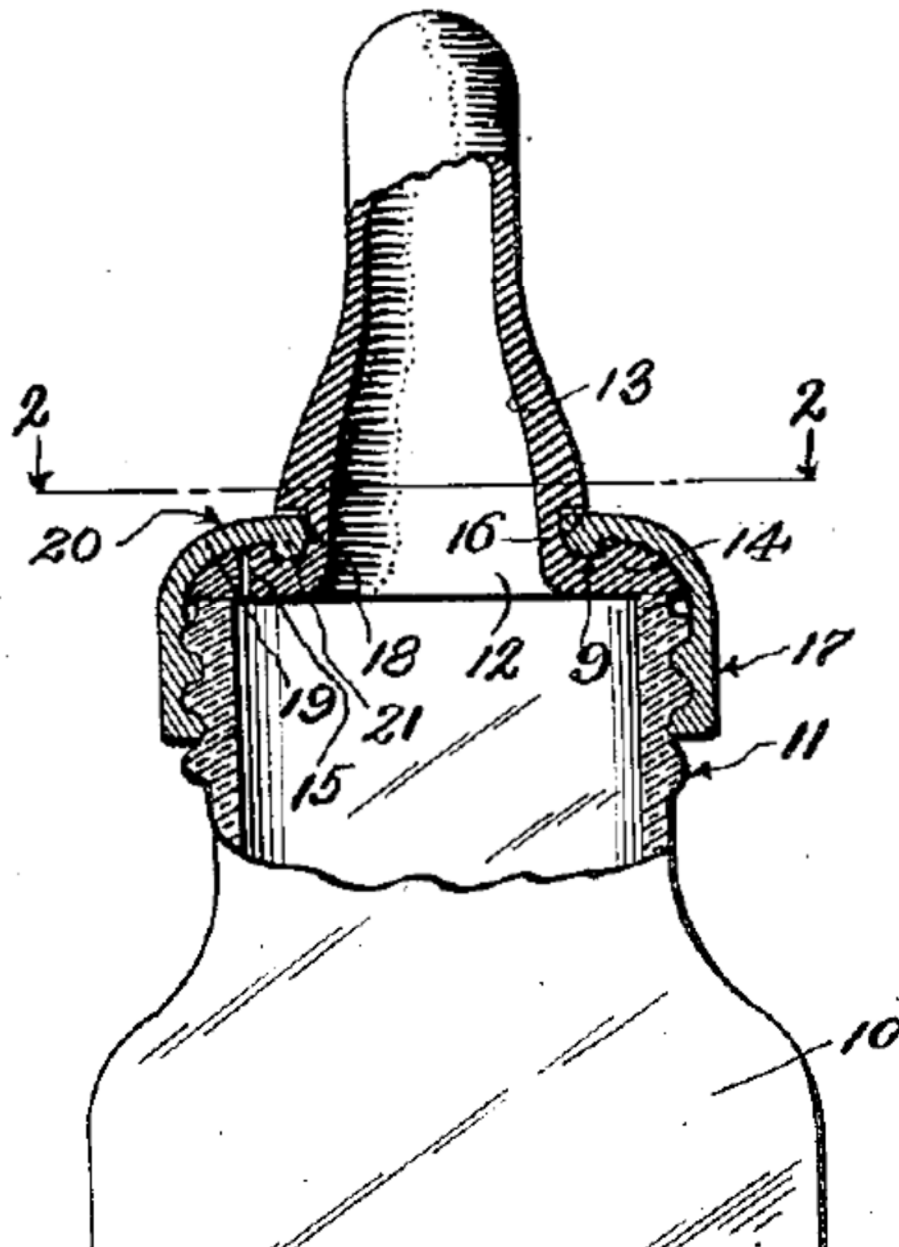


FIG. 1 of Kurkjian

In a modification shown in FIGs. 6-7, the “outer face of the cap 24 preferably conforms to the contour of the nipple 23 and constitutes a continuation thereof to provide a streamline type connection between the nipple 23 and the bottle 28.” *Id.*,3:42-47. In the embodiment of Fig. 7 the nipple is held to the bottle using lugs 33 on the interior of cap 24. *Id.*,3:57-62.

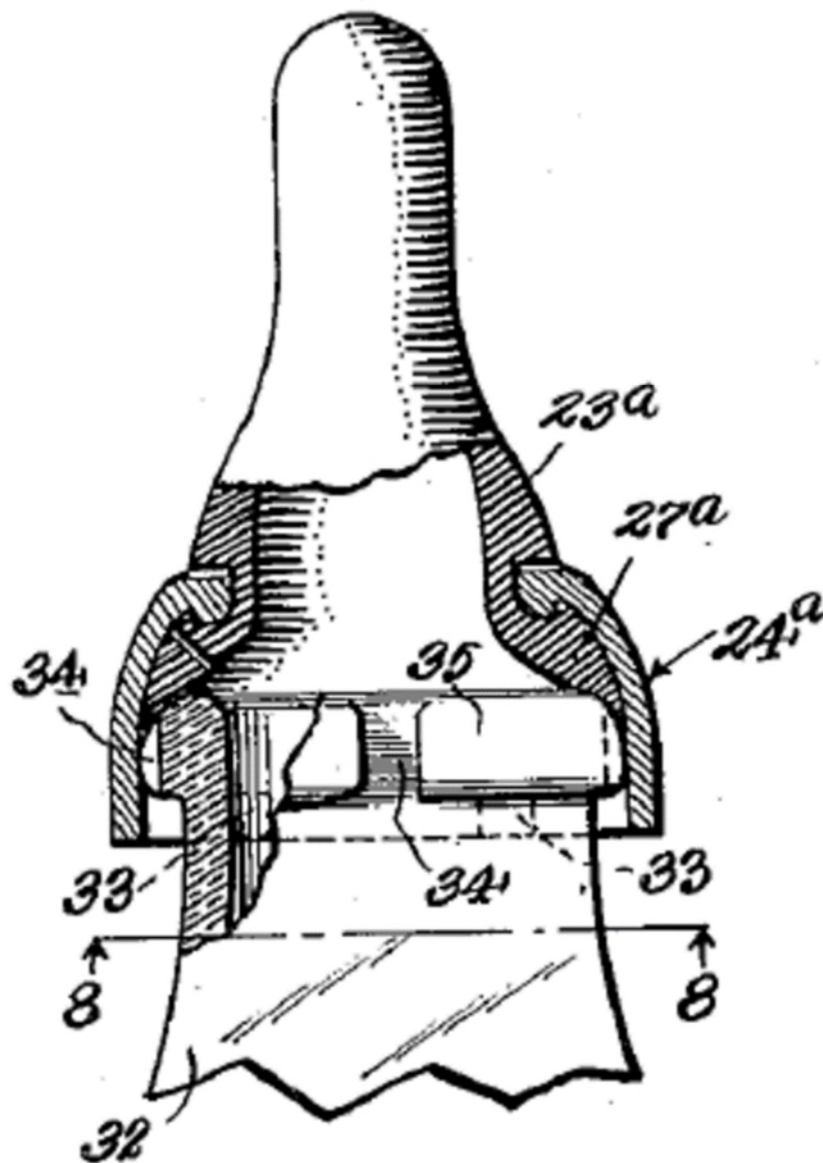


FIG. 7 of Kurkjian

VIII. ASSERTED GROUNDS OF INVALIDITY

A. *Ground 1: Meyers in view of Sepehr Renders Claims 14, 16, 17, and 19 Obvious*

Meyers in view of *Sepehr* discloses or renders obvious Claims 14, 16, 17, and 19 of the '930 Patent under Patent Owner's proposed constructions.

1. **Motivations to Combine**

A POSA would have considered *Meyers* and *Sepehr* in the same field of endeavor as they both relate to nursing bottles and nipples that attach thereto. Ex[1005],¶159; Ex[1006]1:1-12; Ex[1007]1:3-7. A POSA would be motivated to modify or combine the nipples of *Meyers* and *Sepehr* because they both teach analogous solutions for, and describe the benefits of, nipples with air vents and collars to provide a durable, hygienic design that relieves negative pressure in the nipple, and permits easy cleaning. Ex[1005],¶159; Ex[1006],4:28-35; Ex[1007],Abs., 2:4-11.

Meyers is directed to an integral nipple/collar unit having nipple 6 molded over collar 2 covering the exterior surface 3 of collar 2. Ex[1006],1:39-41, 3:1-3., 3:66-4:16. The collar is screwed directly to a nurser bottle. *Id.*,3:3-7. The nipple also includes a flange 29 to seal against the neck of the bottle 11 to form a tight liquid seal. *Id.*,4:6-10. The nipple 6 further includes a vent 35 "in the form of a channel-

shaped aperture” extending through flange 29 allowing air to be drawn into the bottle. *Id.*

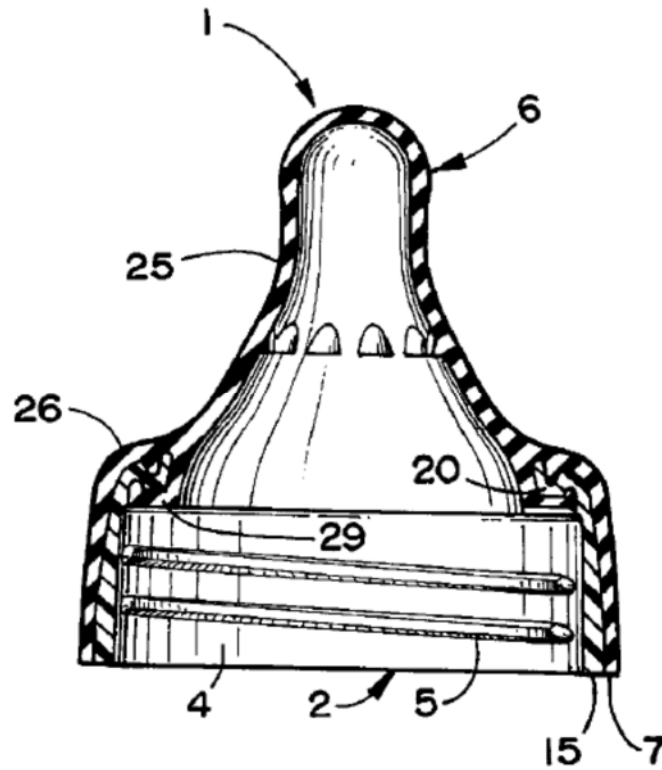


FIG. 5 of Meyers

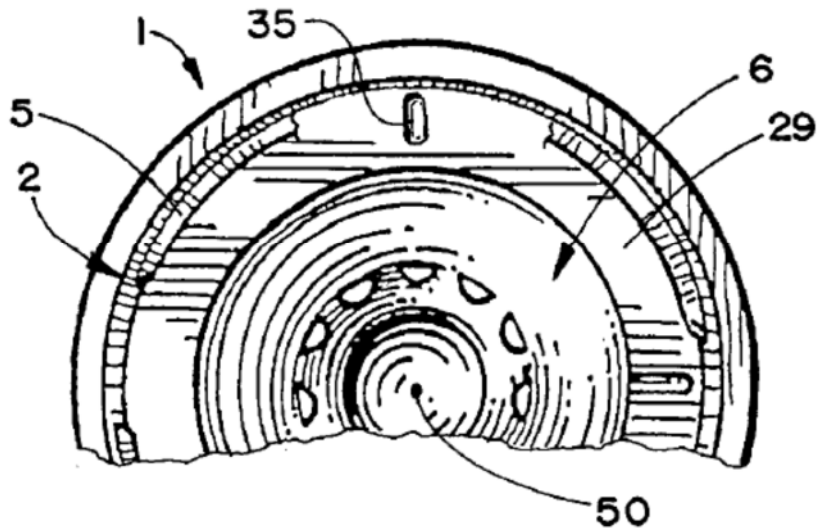


FIG. 13 of Meyers

Sepehr is directed to a nipple having a valve 2 with a slit 3 at the end of the valve to allow air to enter when a vacuum is formed due to sucking. *Id.*,3:15-19. The valve 2 is located on the base of the nipple as shown in Fig. 1 of *Sepehr*. For example, the valve 2 is located at the base of the nipple 1 directly above the collar as shown in Fig. 3 of *Sepehr*.

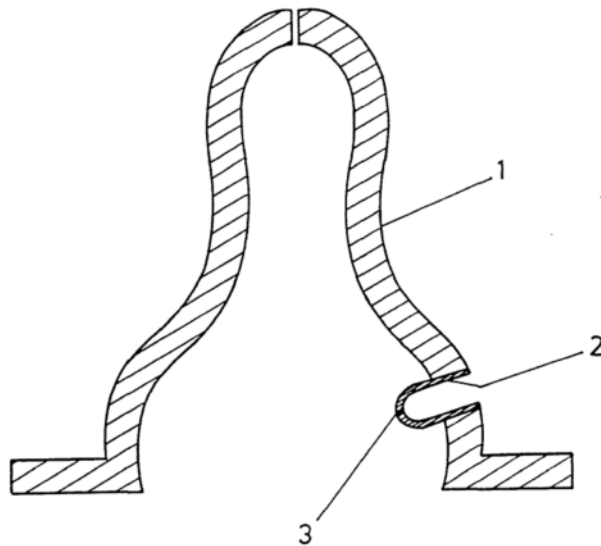


FIG. 1 of Sepehr

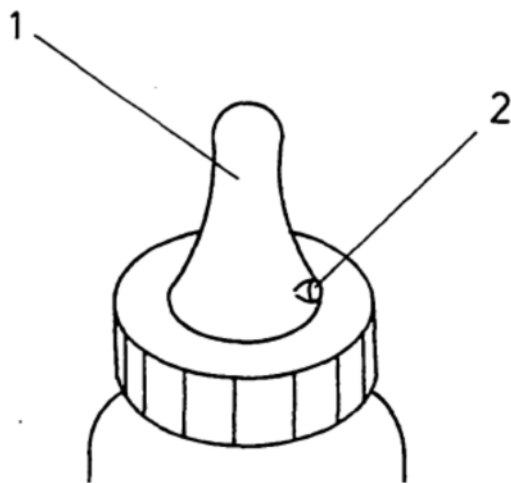


FIG. 3 of Sepehr

A POSA would be motivated and find it obvious to modify the nipple design of *Meyers* such that the air valve is placed above the collar as taught by *Sepehr* because it would be an obvious design choice to place the vent there, as taught in *Sepehr*, and in order to further improve reliability of the nipple to equalize the pressure. Ex[1005],¶160; Ex[1006],4:28-35; Ex[1007],1:9-16, 2:4-11, Fig.3. Both *Meyers* and *Sepehr* identify the need to incorporate an air vent to equalize the pressure in the bottle to prevent, for example, nipple collapse and colic. Ex[1005],¶160; Ex[1006],4:31-35, Ex[1007],1:9-16, 2:4-11.

Meyers discloses a vent 35. *Meyers* further discloses that the vent can “assume different shapes, and be positioned at various locations.” Ex[1006],4:34-35. A POSA would be motivated to place the vent such that the vent projects downwardly from the base portion. Ex[1005],¶¶161-164.

A POSA reviewing *Sepehr* would further be motivated to move the location of the vent 35 of *Meyers* from below the collar as shown in Figs. 13-14 of *Meyers*, to a location above the collar as taught in *Sepehr*, to improve air flow. A one-way air vent communicating directly with the external environment as in *Sepehr* is more effective than pulling air through the threads as in *Meyers*. Ex[1005],¶162; Ex.[1006],4:24-29.

A POSA reviewing *Sepehr* would be further motivated to move the location of the vent 35 of *Meyers* from below the collar as shown in Figs. 13-14 of *Meyers*,

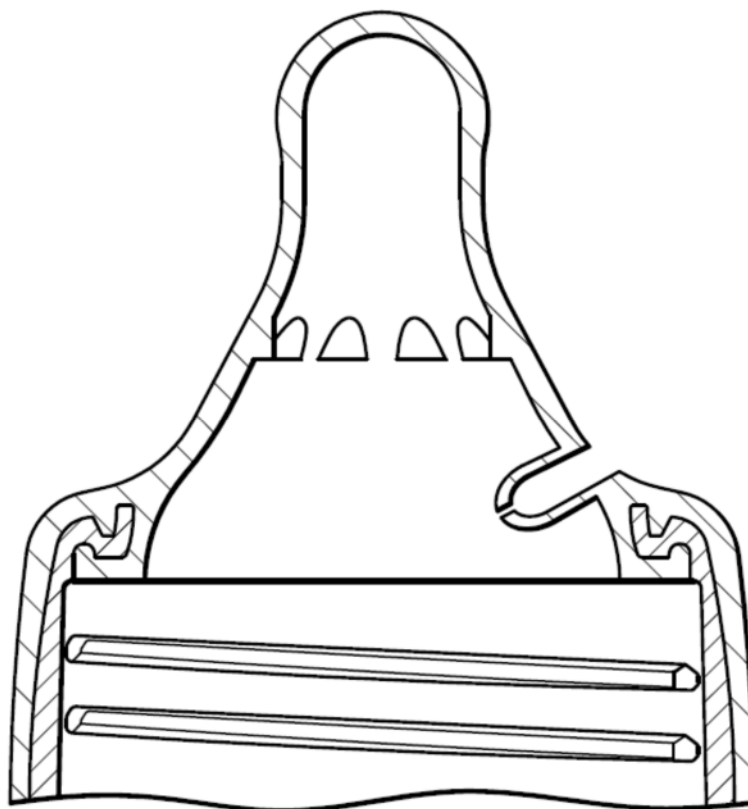
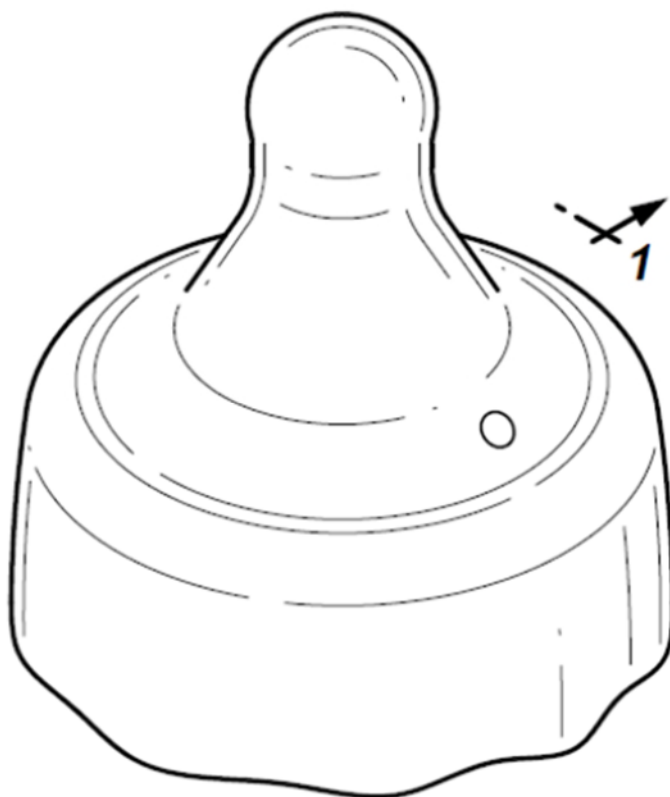
to a location above the collar as taught in *Sepehr*, to avoid debris that may be trapped in the collar region that would impede the reliability of the valve to maintain constant pressure in the nipple. Ex[1005],¶¶162-163.

A POSA would be further motivated and find it obvious, to the extent not disclosed by *Meyers*, to modify the nipple design of *Meyers* such that the air valve is placed above the collar as taught by *Sepehr* in order to improve cleaning and maintenance of the nipple. Ex[1005],¶163; Ex[1006],1:64-2:6, 5:29-34, Ex[1007],3:21-24, Fig.3. Both *Meyers* and *Sepehr* teach the importance and inconvenience of cleaning and disinfecting the nipple, for example by disassembling the nipple from the collar, and the risk of contamination during this process. Ex[1006],1:12-28, 1:64-2:6, 5:29-34; Ex[1007],2:20-26, 3:21-24. A POSA reading *Sepehr* in view of *Meyers* would be motivated to locate the vent above the collar, e.g., in the nipple, such that “it can easily be boiled and hygienically cleaned following each use.” Ex[1005],¶163; Ex[1007],2:20-26, 3:21-24. As disclosed by *Sepehr*, A POSA would understand moving the vent would allow for “low cost of production and can easily be cleaned together with the teat following each use.” Ex[1005],¶163; Ex[1007],2:20-26.

The example combinations and modifications described represent a known, finite number of identified predictable solutions to solve the problem of designing a nipple that (1) equalizes the pressure in the bottle to prevent, for example, nipple

collapse and colic, and (2) is hygienic and can be easily cleaned. Ex[1006],1:12-28, 1:64-2:6, 4:31-35, 5:29-34; Ex[1007],1:9-16, 2:4-11, 2:20-26, 3:21-24. A POSA reading *Meyers* and *Sepehr* would be motivated to combine and substitute these familiar elements according to known methods to yield predictable results. Ex[1005],¶165. A POSA would expect that relocating the vent above the collar would provide a more reliable and more hygienic solution to equalize the pressure in the bottle. *Id.* Moreover, a POSA would have had a reasonable expectation of success in combining these nipples because each nipple would work as in their respective disclosures, and the references demonstrate that a POSA could have combined the disclosed features with reasonable expectation of success in doing so. *Id.*

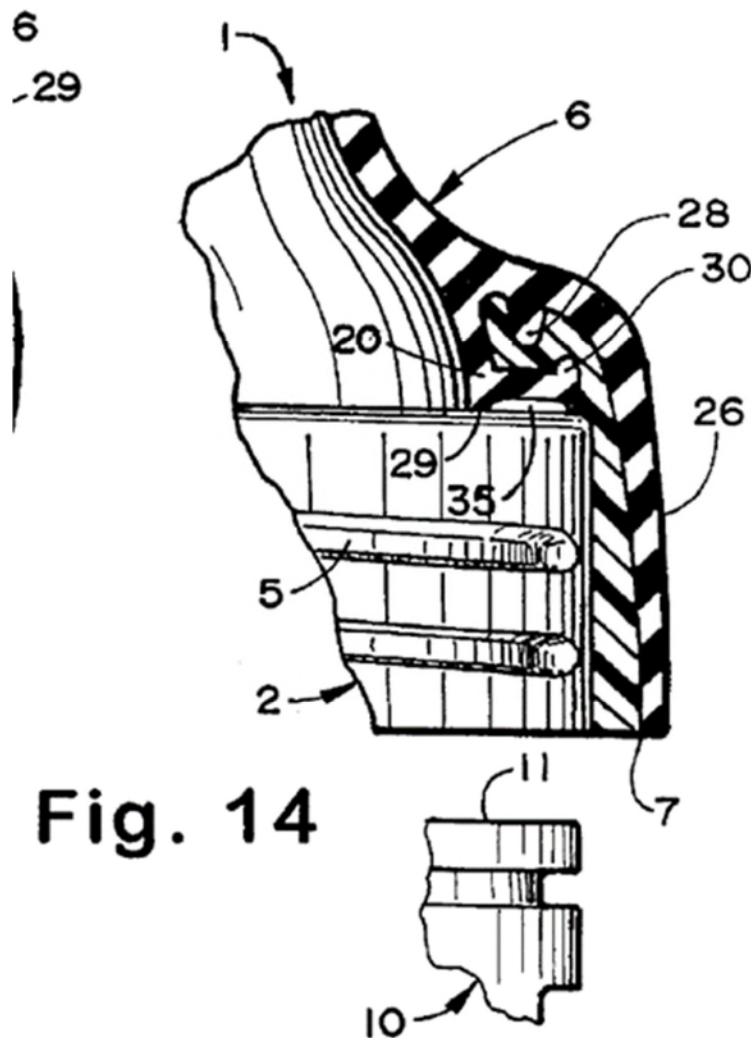
After considering the disclosures of both *Meyers* and *Sepehr*, a POSA at the time of the priority date of the 930 Patent would therefore have combined one or more of these features for the reasons stated above and would have been motivated to design a nipple and collar similar to the following:



2. **Claim 14**

(a) **14[PRE]: A feeding bottle comprising:**

Meyers teaches a “[o]ne-piece nipple/collar 1 include[ing] a collar 2 having...a fastener 5 thereon for detachably connecting the same with an associated **nurser bottle 10**” to feed infants. Ex.[1006],3:1-7 (emphasis added), Abs., 1:34-38. Fig.14 below illustrates “nipple/collar and an associated nurser bottle 10.” Ex.[1006],2:43-45, Fig.14.



(b) **14[A]: a vessel having an open top,**

Meyers teaches “conventional bottles, reusable and/or disposable nursers, and other similar drinking vessels” and containers. Ex.[1006],3:1-22, Fig.14. A POSA would understand a conventional bottle, disposable nurser or drinking vessel/container has an open top. Ex.[1005],¶172.

(c) **14[B]: a collar having an upper rim and a lower rim comprising: an internally threaded inner surface,**

Meyers teaches a collar that can detachably connect to a nurser bottle. Ex. [1006],3:3-7 Specifically, *Meyers* teaches “conventional threads disposed on the interior surface 4 of collar 2.” Ex.[1006],3:24-31, 4:29-30, Fig.2 (annotated below with threads colored yellow).

Meyers also teaches that its “collar 2 includes a lower edge 15” and “upper edge 18.” *Id.* at 3:41-45; Ex.[1005],¶175.

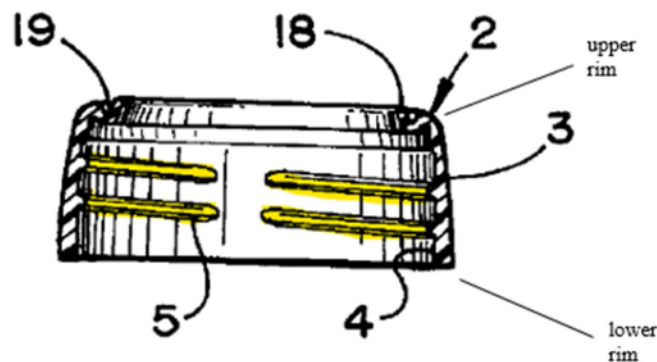


Fig. 2

- (d) **14[C]: 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**

Meyers discloses a collar in Figure 9, where the outermost surface (colored yellow in annotated Figure 9 below) comprises a sloping portion that extends outwardly and downwardly relative to the upper rim and comprises a majority of the collar's outermost surface. Ex.[1006], Fig.6, Fig.9, Fig.14; Ex.[1005], ¶¶178-180.

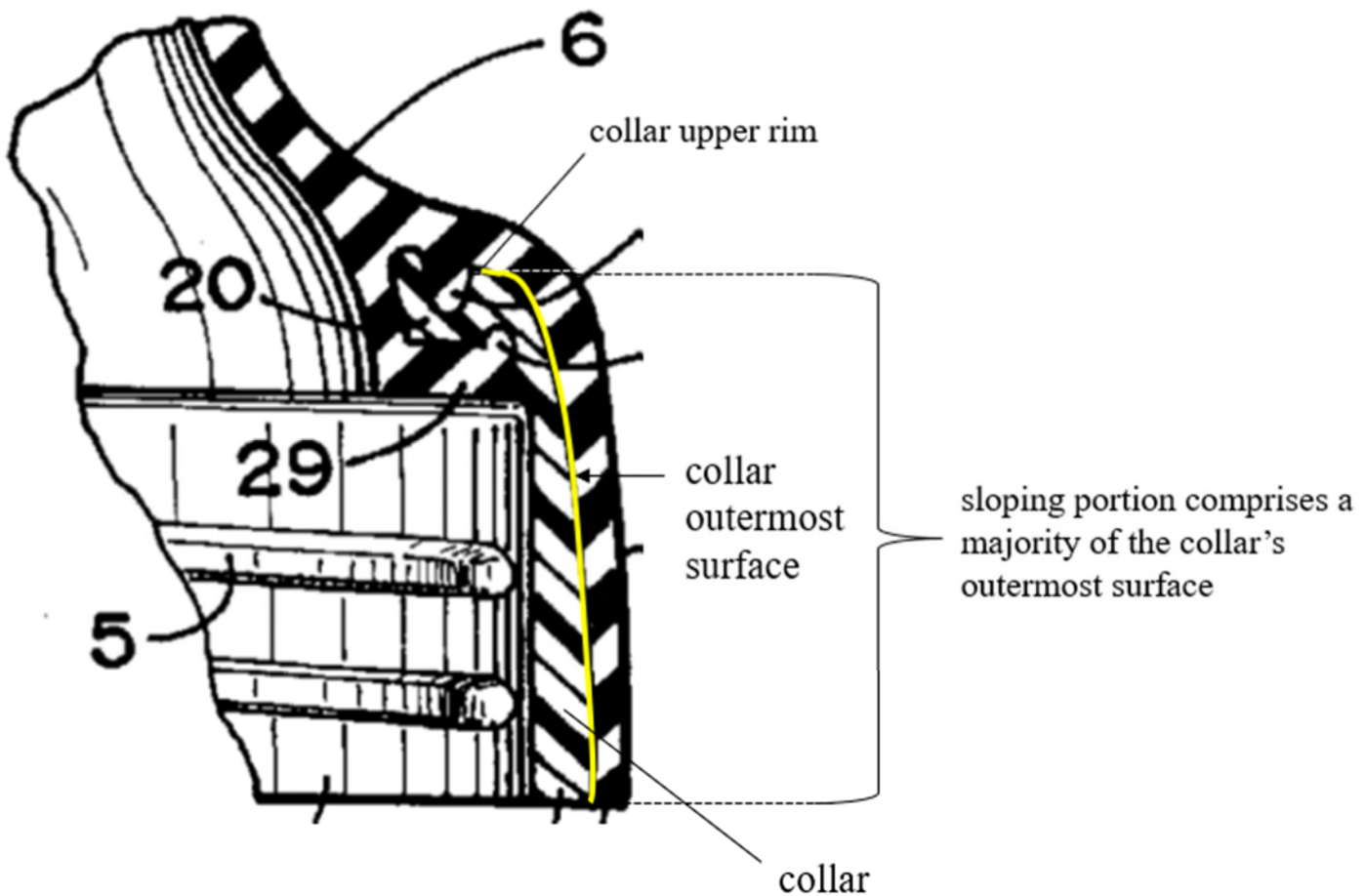


FIG. 9 of Meyers

(e) **14[D]: a nipple having: a teat portion having a variable wall thickness including an aperture,**

Meyers discloses “a nipple having: a teat portion” under Patent Owner’s proposed construction and Petitioner’s proposed construction even after being modified in the manner discussed above. *Meyers* discloses “a teat portion having a variable wall thickness” under Patent Owner’s proposed construction. *Meyers* is silent as to “a teat portion having a variable wall thickness” under Petitioner’s proposed construction.

Under Patent Owner’s construction of “teat portion”, a teat portion is a “part projecting generally perpendicularly relative to the mouth of a vessel and disposed above the areola portion.” Ex.[1017],5. *Meyers* discloses a nipple that includes an upper portion 25 and a base area 26. Ex. [1006],3:66-4:1, Fig.5 at25, Fig.10. Under Patent Owner’s construction of “teat portion,” the teat portion of *Meyers* projects generally perpendicularly upward relative to the mouth of a vessel as illustrated in annotated Figure 5 of *Meyers* below according to Patent Owner’s construction (FIG. 5-PO). *Meyers* discloses the vessel being located below the nipple and screwed to the collar. Ex.[1006],1:8-11, 52-56. A POSA would understand *Meyers*’ teat portion is located above the areola portion as shown in annotated Fig. 5-PO. Ex[1005],¶183; Ex.[1006], Fig.5.

Under Patent Owner's construction of "variable wall thickness", a teat portion with a variable wall thickness is accorded its plain meaning. Ex.[1017],6. Meyers discloses this limitation. *Meyers'* teat portion as shown in annotated Fig. 5-PO below includes a variable wall thickness. Ex.[1006],Figs.1,5,6. As shown in annotated Fig. 5-PO, the teat portion has different levels of wall thickness when comparing portions of the teat wall to other portions of the teat wall within the teat portion. For example, variations in wall thickness of the teat portion are shaded in red in Fig. 5-PO.

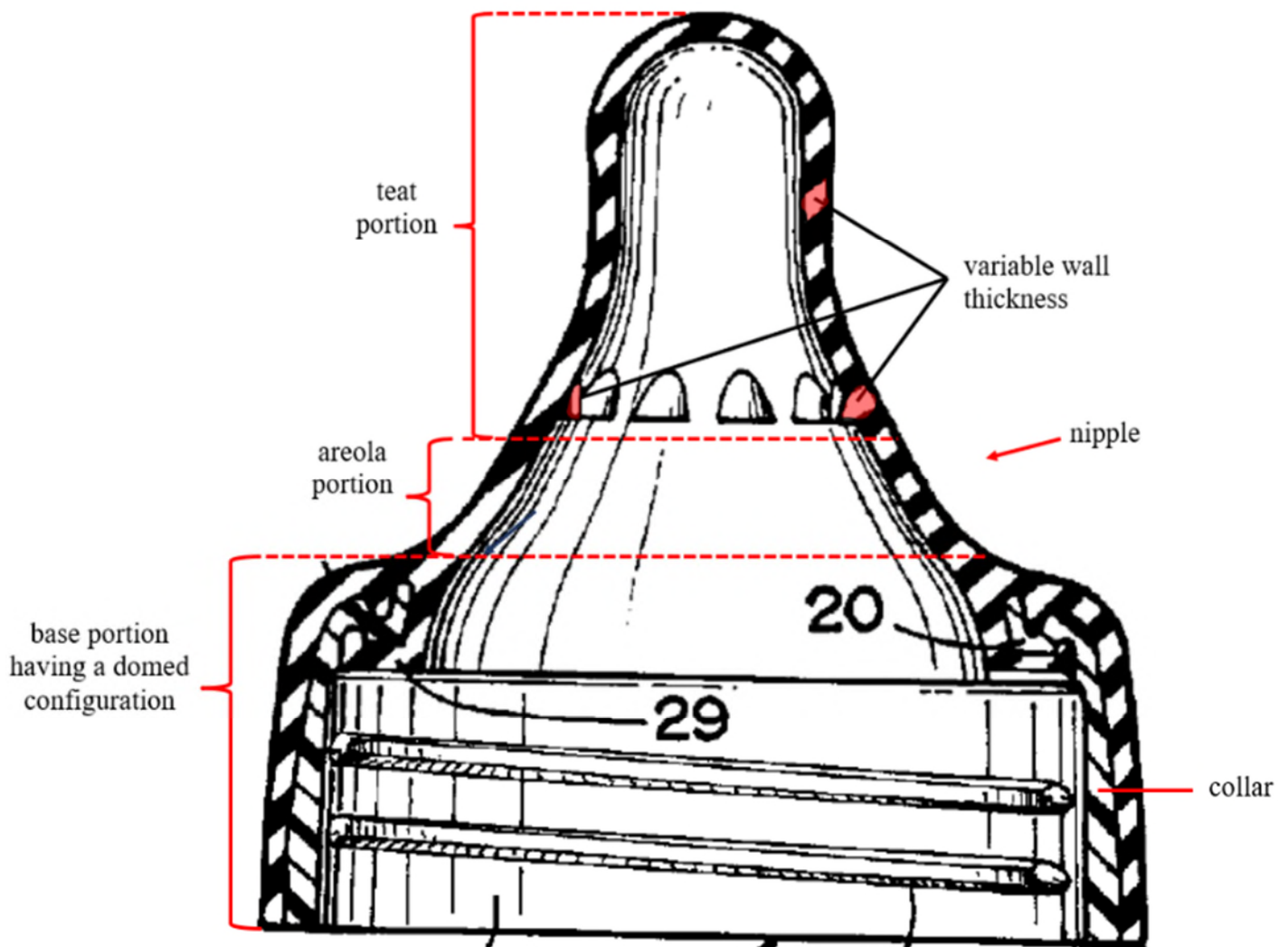


**FIG. 5 of Meyers (FIG. 5-PO)
Patent Owner's Construction**

Regarding the aperture, *Meyers* teaches that the nipple has “**at least one orifice**” in the upper portion of the nipple, by which there is a “fluid flow” therethrough. Ex.[1006],5:8-12, 5:27, Fig.1 at50, Claim 9.

Under Petitioner’s construction of “teat portion”, the teat portion is “the entire part projecting generally perpendicular to the mouth of the vessel, disposed above the areola portion, which extends into a baby’s mouth for feeding.” Ex.[1018],12. *Meyers* meets that construction because the teat projects perpendicularly upward relative to the mouth of the vessel, and is located above the areola portion as shown in annotated Figure 5 of *Meyers* according to Petitioner’s construction (FIG. 5-PET) below. Ex.[1006],Fig.5. The vessel 10 of *Meyers* is located below the nipple and screwed to the collar, and thus the teat portion projects perpendicularly upward relative to the mouth of the vessel. Further, the nipple of *Meyers* is for a “nurser.” Ex.[1006],Title, 1:34-39, 3:13-17. A POSA would understand that the teat portion of a nipple “extends into a baby’s mouth for feeding,” as required by Petitioner’s construction. Ex[1005],¶¶159-166, 180-185.

Under Petitioner’s construction of “variable wall thickness”, a teat portion with a variable wall thickness is “a teat portion having a helical groove.” Ex.[1018],19. *Meyers* is silent as to the Petitioner’s construction of a teat portion with a “variable wall thickness,” but this is addressed in a different ground below.

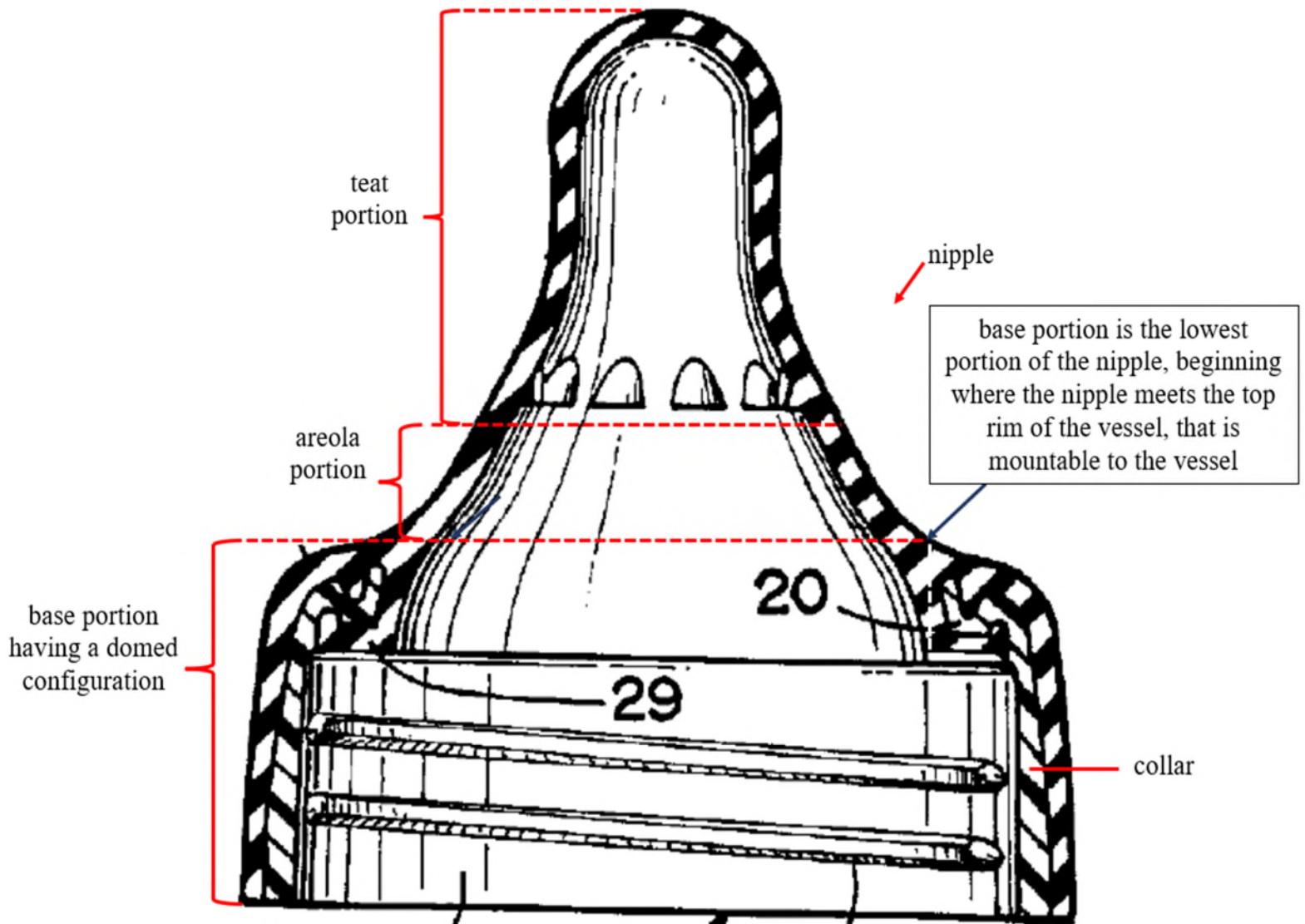


FIG. 5 of Meyers (FIG. 5-PET)
Petitioner's Construction

(f) **14[E]: a base portion having a domed configuration,**

Meyers discloses “a base portion having a domed configuration” under Patent Owner’s proposed construction, and Petitioner’s proposed construction, including after being combined with *Sepehr*.

Under Patent Owner’s construction of “base portion”, a base portion is the “part below the areola portion.” Ex.[1017],7. *Meyers* discloses a nipple including an upper portion 25 and a base area 26 such that the “base area 26...is molded over collar 2.” Ex. [1006],4:1, Fig.5at26, Fig.10. Under Patent Owner’s construction of “base portion,” the base portion in *Meyers* is the part below the areola portion as illustrated in Fig. 5-PO annotated from *Meyers* Figure 5 above. Ex.[1006],Fig.5.

Under Patent Owner’s construction of “domed configuration,” a domed configuration is a “wide circular base with an arc-shaped cross-sectional profile.” Ex.[1017],8. *Meyers* discloses this limitation. Ex.[1006],Figs.1,5,6,10. *Meyers*’ domed configuration as shown in annotated Fig. 5-PO.A below includes an arc-shaped cross-sectional profile as shown in yellow dashed line. *Id.*,Fig.5. In Fig. 5A-PO, the base portion has a cross-sectional profile which is shaped like an arc.

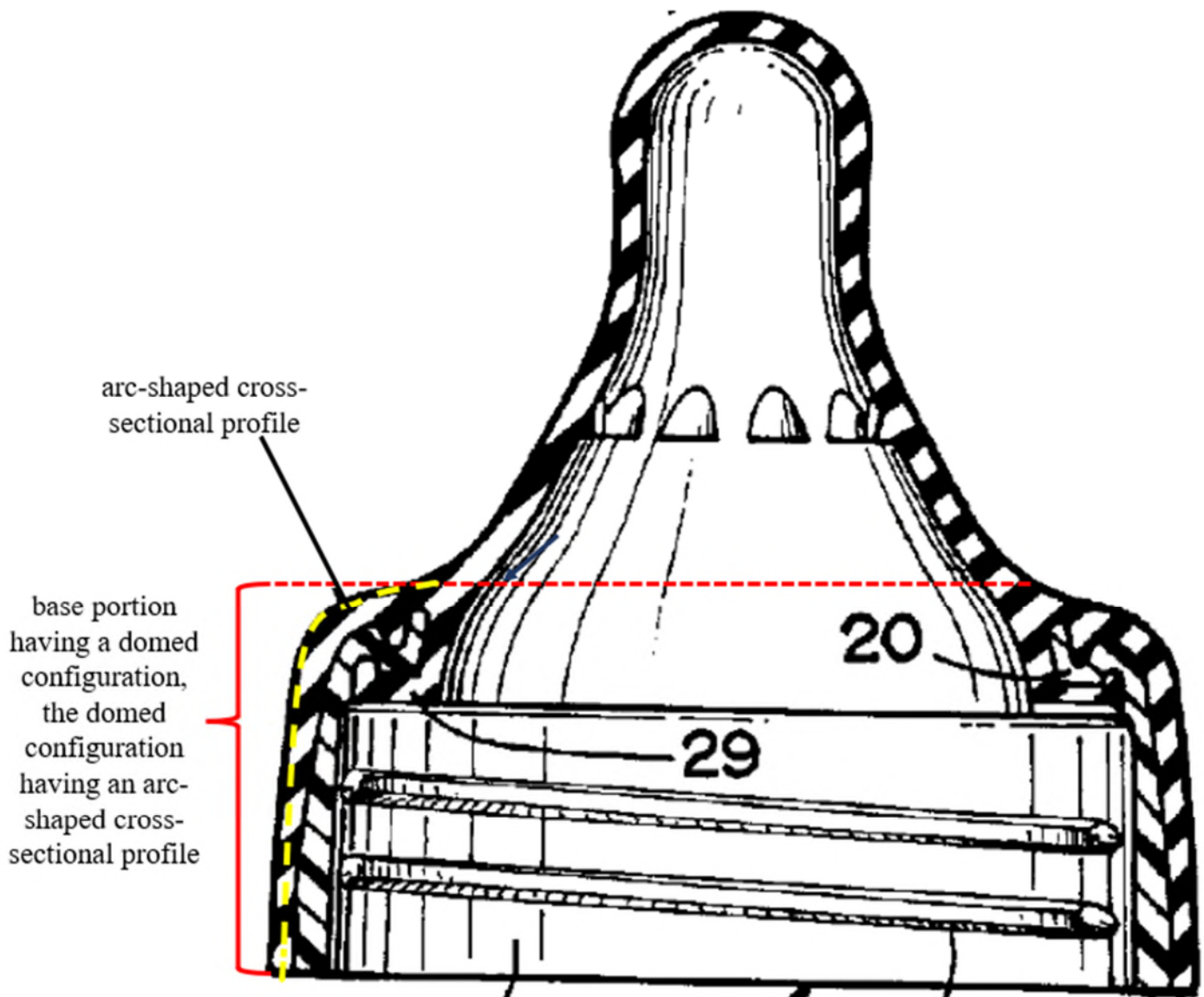


FIG. 5-PO.A
Patent Owner's Construction

Regarding the “wide circular base,” the base portion 26 as viewed from above and below in Figs. 11-13 is circular. *Id.*, Fig. 1, 11-13.

Under Petitioner’s construction of “base portion”, a base portion is “the lowest portion of the nipple, beginning where the nipple meets the top rim of the vessel, that is mountable to the vessel.” Ex.[1018],7. Under Petitioner’s construction, starting from the top of the nipple, the base portion begins at the point above where the nipple first meets the top rim of the vessel. *Meyers* discloses a nipple including an upper portion 25 and a base area 26 such that the “base area 26...is molded over collar 2.” Ex.[1006],4:1, Fig.5at26, Fig.10. Under Petitioner’s construction of “base portion,” the base portion of *Meyers* is the lowest portion of the nipple, beginning where the nipple meets the top rim of the vessel, that is mountable to the vessel as illustrated in Figure 14 of *Meyers* shown as annotated Fig. 14-PET below. Ex.[1006],Fig.5.

Under Petitioner’s construction of “domed configuration,” a domed configuration is “having a rounded shape in profile.” Ex.[1018],17. *Meyers* discloses this limitation. Ex.[1006],Figs.1,5,6,10,14. *Meyers*’ domed configuration as shown in annotated Fig. 14-PET below includes a rounded shape in profile as shown. *Id.*,Fig.5. In Fig. 14-PET, the base portion has a rounded shape when viewed in profile.

(g) **14[F]: an areola portion between the teat portion and the base portion,**

Meyers discloses “an areola portion between the teat portion and the base portion” under Patent Owner’s proposed construction and Petitioner’s proposed construction.

Under Patent Owner’s construction of “areola portion”, an areola portion is the “part extending beyond the bottom of the teat portion.” Ex.[1017],10. Under Patent Owner’s construction of “areola portion,” the areola portion in *Meyers* is the part extending beyond the bottom of the teat portion as illustrated in Fig. 5-PO above. Ex.[1006],Fig.5; Ex.[1017],13, *supra* (14D), (14E). Furthermore, a POSA would understand the nipple disclosed in *Meyers* comprises different portions, including an areola portion located between the teat and the base portion. Ex.[1005], ¶¶196-197.

Under Petitioner’s construction of “areola portion”, an areola portion is “a surface area, that includes a different characteristic and functionality than the rest of the nipple, surrounding and extending beyond the bottom of the teat portion.” Ex.[1018],13. Under Petitioner’s construction of “areola portion”, the areola portion in *Meyers* is surrounding and extending beyond the bottom of the teat portion as shown in Fig. 5-PET.

Furthermore, in combined device of *Meyers and Sepehr*, the areola portion is a surface area that includes a different characteristic and functionality than the rest of the nipple.

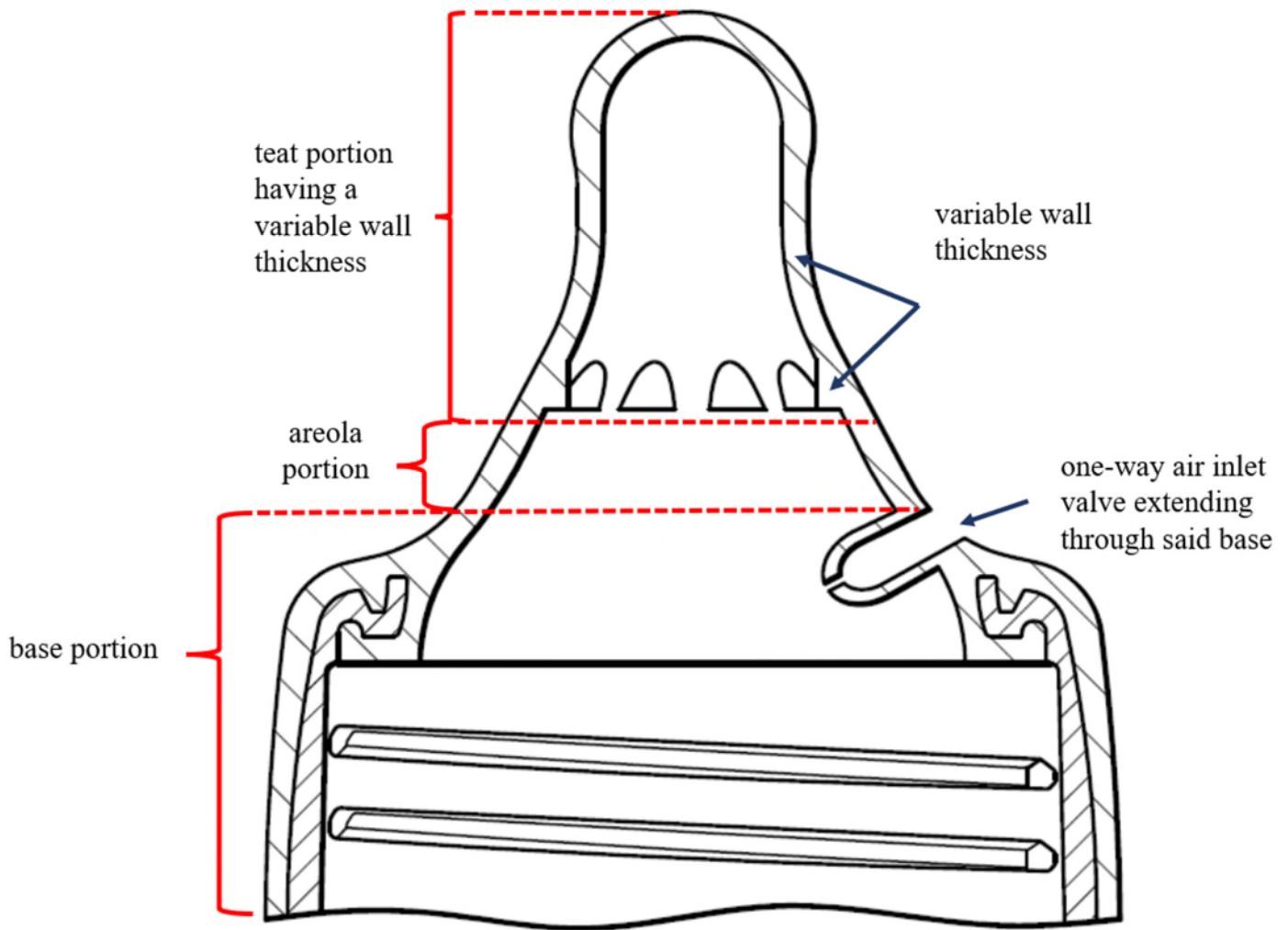


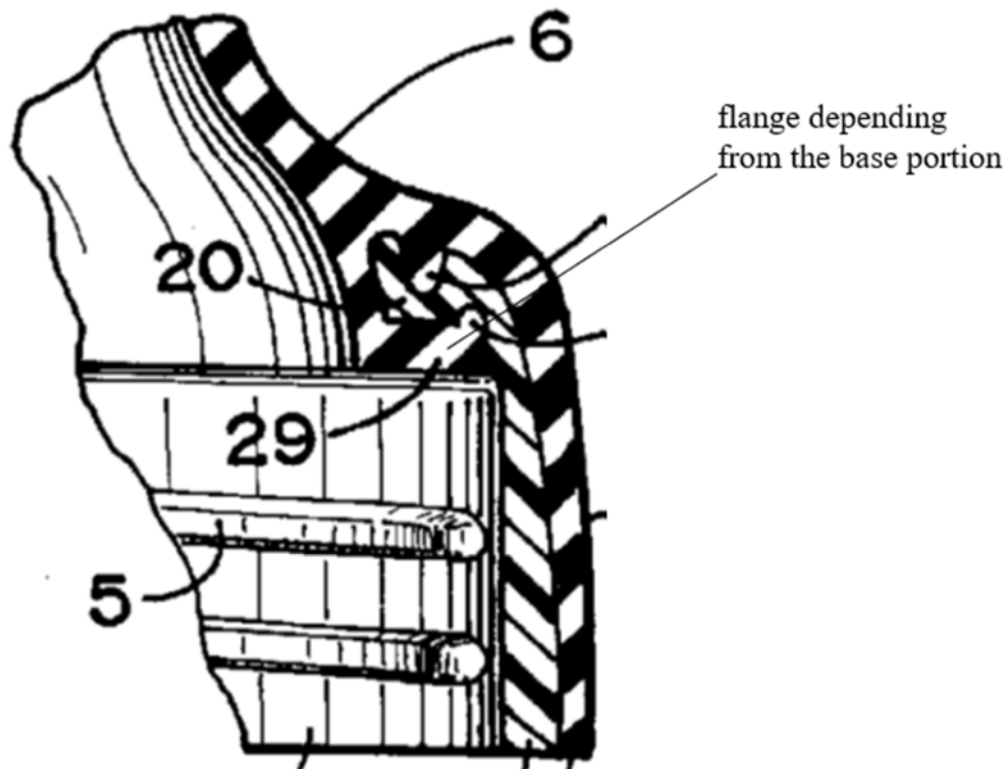
FIG. A
Combined device of Meyers - Sepehr

For example, the areola portion of the nipple in the combined device of *Meyers-Sepehr* illustrated in Fig. A above possesses a different surface area characteristic and functionality than either the base portion or teat portion. In particular, the teat portion includes a variable wall thickness on the inner surface of the teat wall, which the areola portion lacks; whereas the base portion includes a one-way air inlet valve extending through the surface of the base portion, which the areola portion lacks. The variable wall thickness in the teat portion functions to change the bending parameters of the silicone teat portion. Ex.[1005], ¶¶434,435,507. The one-way air inlet valve extending through the base portion functions to permit the one-way flow of air into the nipple. Accordingly, the areola portion under Petitioner's construction includes a different characteristic and functionality than the rest of the nipple.

Furthermore, a POSA would understand the areola portion of the nipple in to have a different characteristic and functionality than the rest of the nipple. Ex.[1005], ¶197. For example, a POSA would understand the function of the areola portion in *Meyers* is to provide a surface area that simulates the breast to allow the baby's lips to rest on the nipple, whereas the function of the teat portion is to provide a region for the infant to bite. Ex.[1005], ¶¶159-166, 193-197.

(h) **14[G]: a flange depending from the base portion,**

Meyers discloses a *sealing flange* that extends from the nipple. Ex.[1006], 4:6-8, Fig.7 at29. As illustrated in Figure 9 below, the flange extends specifically from the base portion of the nipple.



(i) **14[H]: a one-way air inlet valve (i) extending through said base,**

As explained in § VIII.A.1 above, a POSA would have been motivated to modify *Meyers* based on the teachings of *Sepehr*, such that the one-way air vent

extends through the base just outside the collar. As modified, the *Meyer-Sepehr* combination practices this element.

For example, *Meyers* teaches an air vent in the base portion of the nipple. Specifically, *Meyers* teaches a “vent 35 may be provided on the interior of the nipple/collar 1 to permit air to be sucked back into the nurser after dispensing.” Ex.[1006],4:22-24, Fig.13at35. This vent is a one-way air inlet valve and *Meyers* teaches that it is located extending through the base portion of the nipple. Ex.[1005], ¶203.

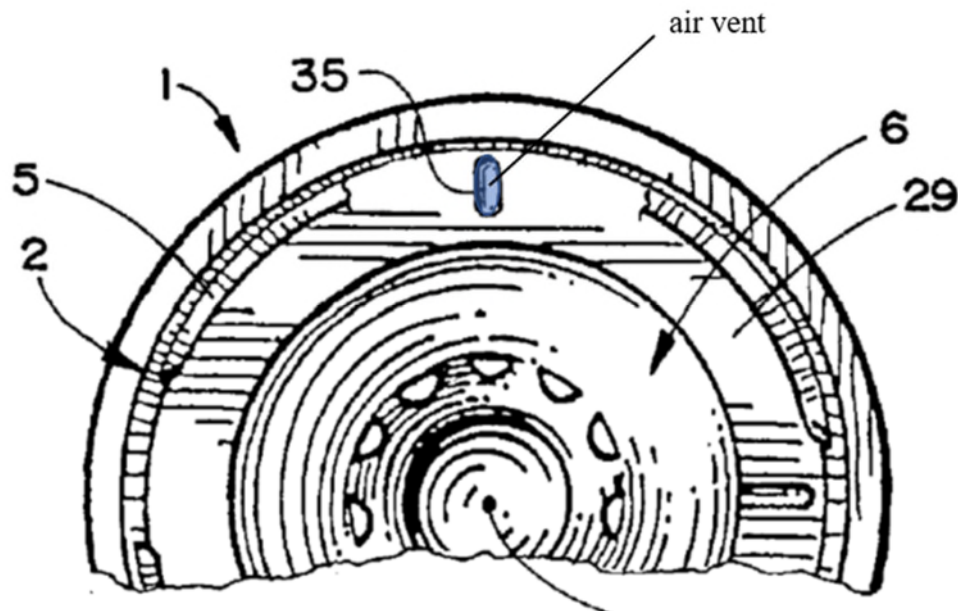


FIG. 13 of Meyers

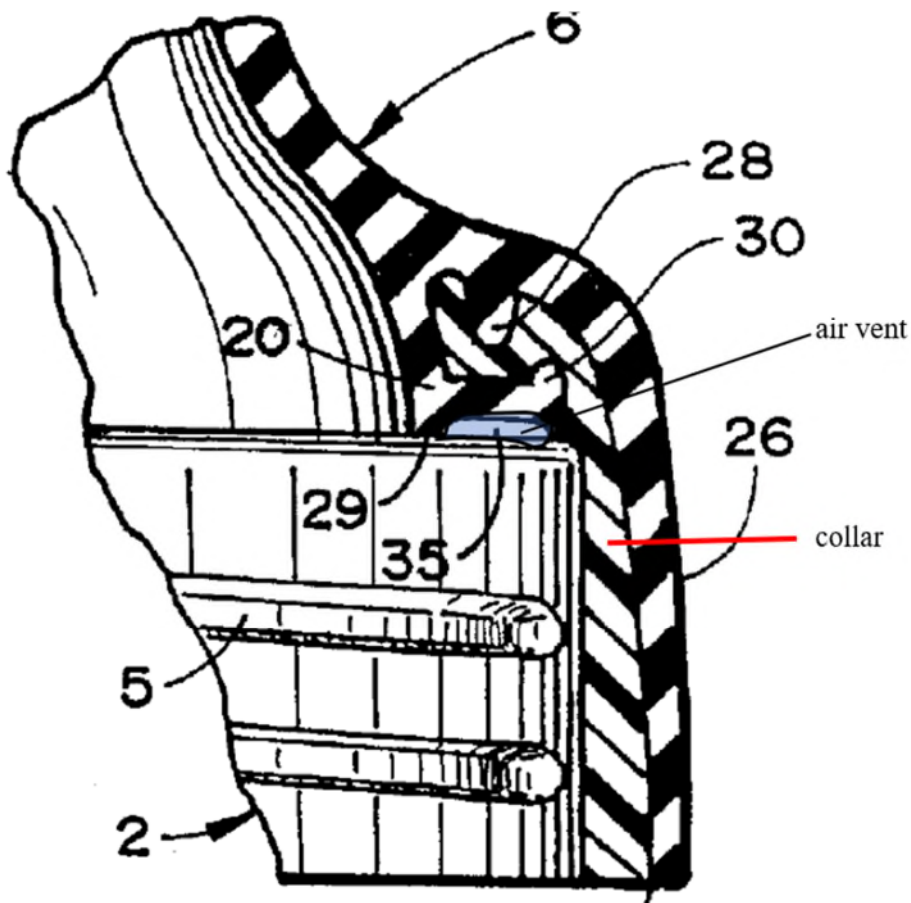


FIG. 14 of Meyers

As discussed above in § VIII.A.1, *Sepehr* teaches the placement of “automatic valve 2 produced as an integral part of teat 1” above the collar as shown in Figure 3 of *Sepehr*, to “to allow the air to enter the bottle when a vacuum is formed.” Ex.[1008], Abstract, 3:8-14, Figs.1-4, Claims 3-7.

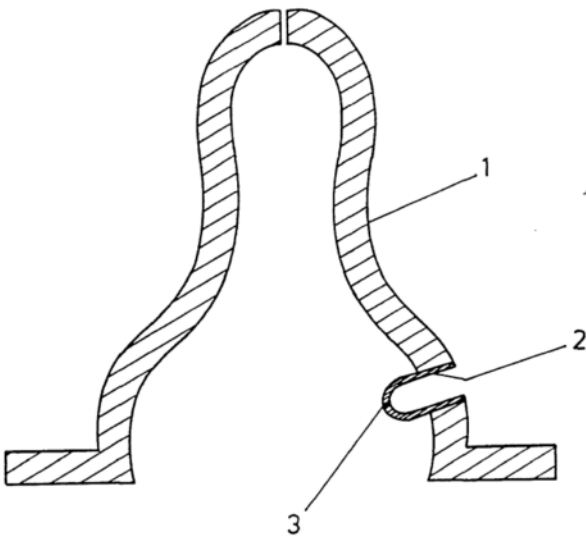


FIG. 1 of Sepehr

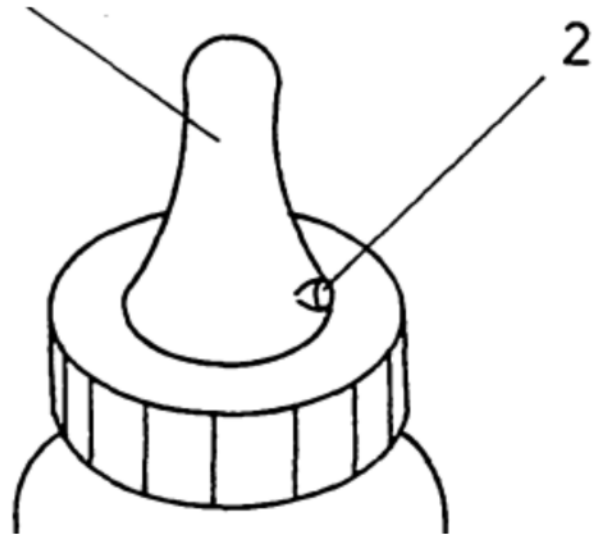


FIG. 3 of Sepehr

Applying these teachings to Meyers, as discussed above (see § VIII.A.1), results in a nipple/vessel combination including “a one-way air inlet valve (i) extending through said base,” as shown in the annotated Figs. B below illustrating the modified nipple. Ex.[1005], ¶¶159-161,202-206.

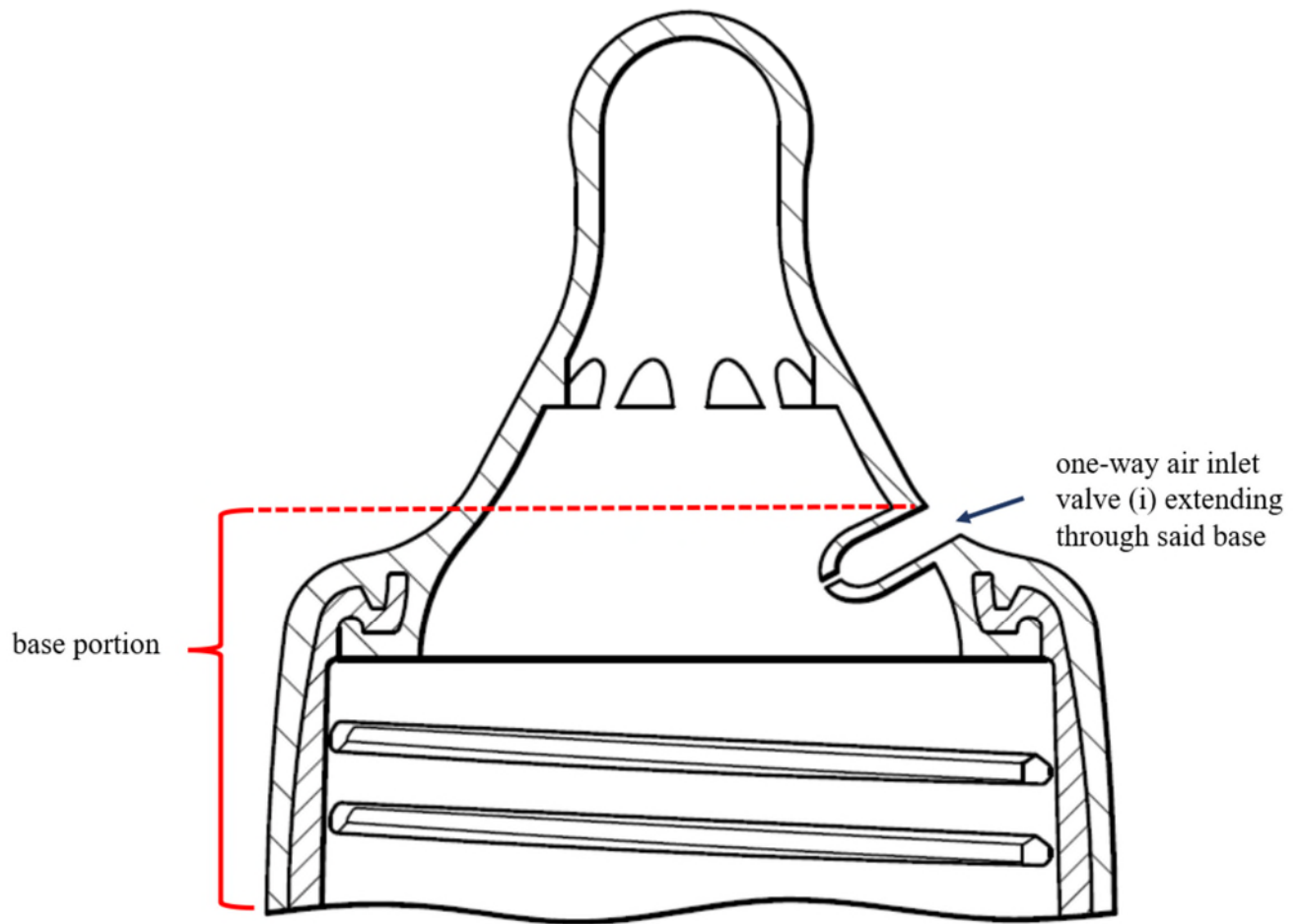


FIG. B
Combined device of Meyers - Sepehr

- (j) **14[I]: (ii) projecting downwardly from the base portion,**

As discussed in the prior limitation, the combination of *Meyers* and *Sepehr* would result in the air inlet projecting downwardly from the base portion, as shown in the annotated Figs. C and D below illustrating the modified nipple. Ex.[1005], ¶¶159-161,207-209.

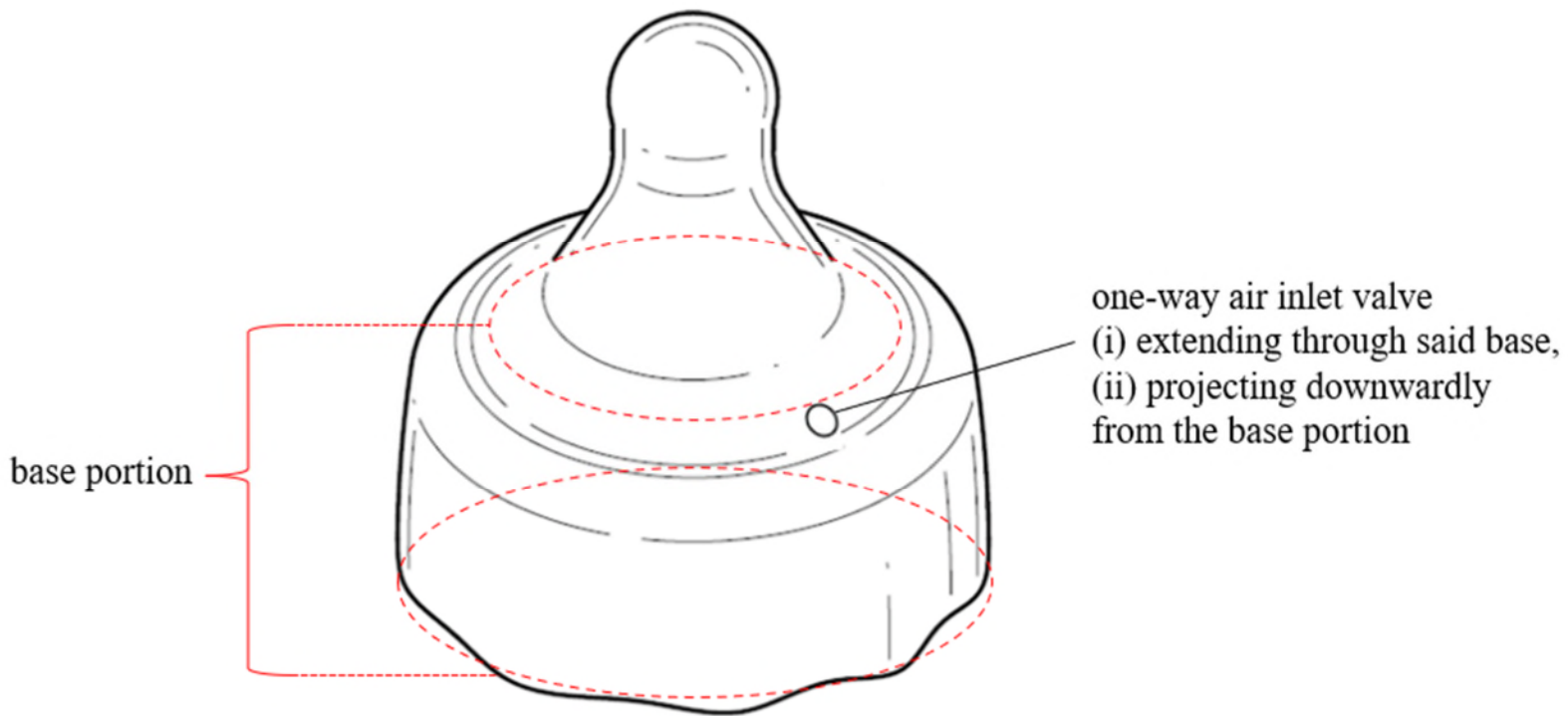


FIG. C
Combined device of Meyers - Sepehr

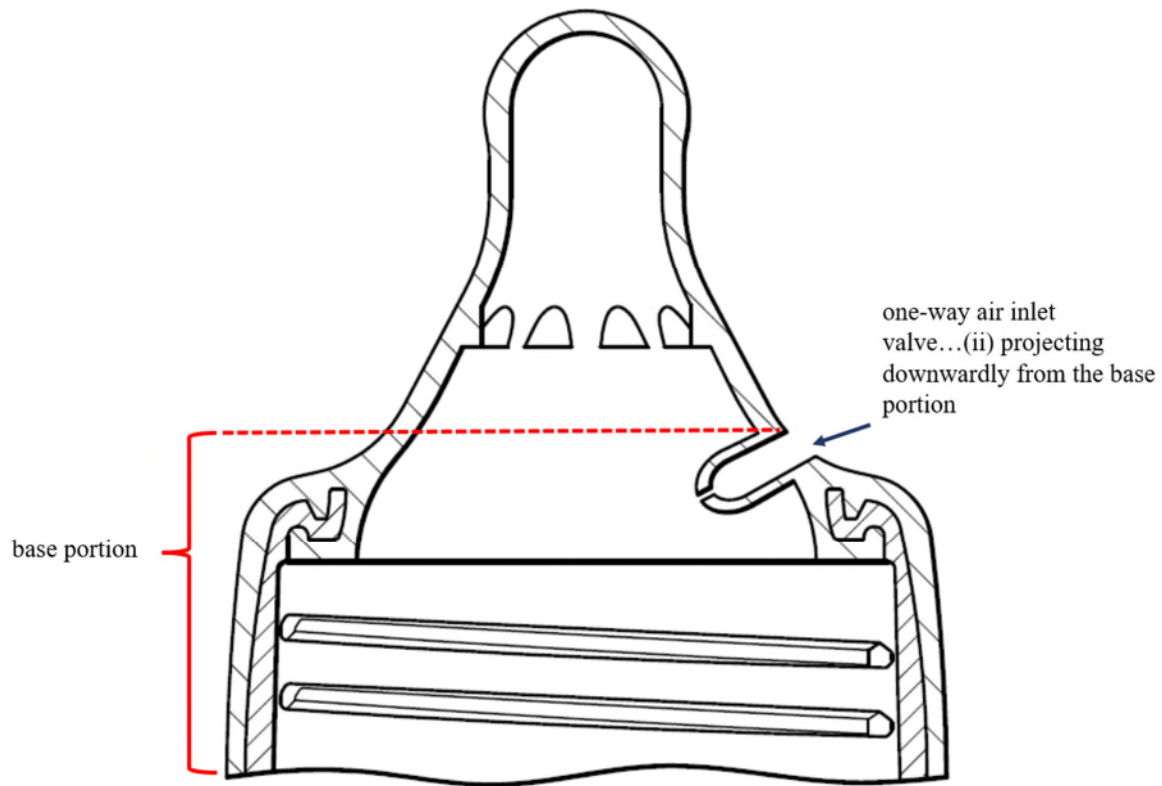


FIG. D

(k) **14[J]: (iii) having a length that does not extend past the collar's lower rim, and;**

Meyers discloses one-way air inlet valve that does not extend past the collar's lower rim. As shown in the modified drawings reflecting the combined device of *Meyers-Sepeher* above, the valve satisfies this limitation. Ex.[1005], ¶¶210-212. Further, *Meyers* teaches that the “Vent 35 can also assume different shapes, and be positioned at various locations.” Ex.[1006],4:34-35. A POSA would be motivated to make a vent that has a length that does not extend past the collar's lower rim. Ex.[1005],¶¶210-211. As shown in the modified drawings of Figs. C-D reflecting the *Meyers-Sepeher* combination, the vent satisfies this limitation. Ex.[1005],¶¶210-212.

(l) **14[K]: (iv) disposed at least partially inwardly from the collar; the flange being arranged to seal with the vessel,**

Meyers teaches the vent is disposed at least partially inwardly from the collar. Specifically, *Meyers* teaches that the air vent is in the form of an “aperture adjacent to the interior side of the collar.” Ex.[1006],3:24-28. Figure 14 of *Meyers* depicts the vent on the interior of the collar. As previously explained, when combined with *Sepehr*, the inlet valve is placed partially inwardly from the collar. Ex.[1007],Fig.3at2. As shown in the modified drawings of Figs. C-D reflecting the *Meyers-Sepeher* combination, the vent satisfies this limitation.

- (m) **14[L]: the nipple being secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange; and**

Meyers discloses that the nipple is secured to the collar by sealingly capturing an inner edge of the collar (shown in yellow) between the base portion and the flange as shown in *Meyers*' Figure 9 annotated below. Specifically, *Meyers* teaches the "nipple material is received into upper groove 19 and arcuate channel 23, so as to physically capture the nipple 6 on the collar 2 to ensure a secure interconnection therebetween[.]" Ex.[1006], 3:61-65, Fig.5,9,14.

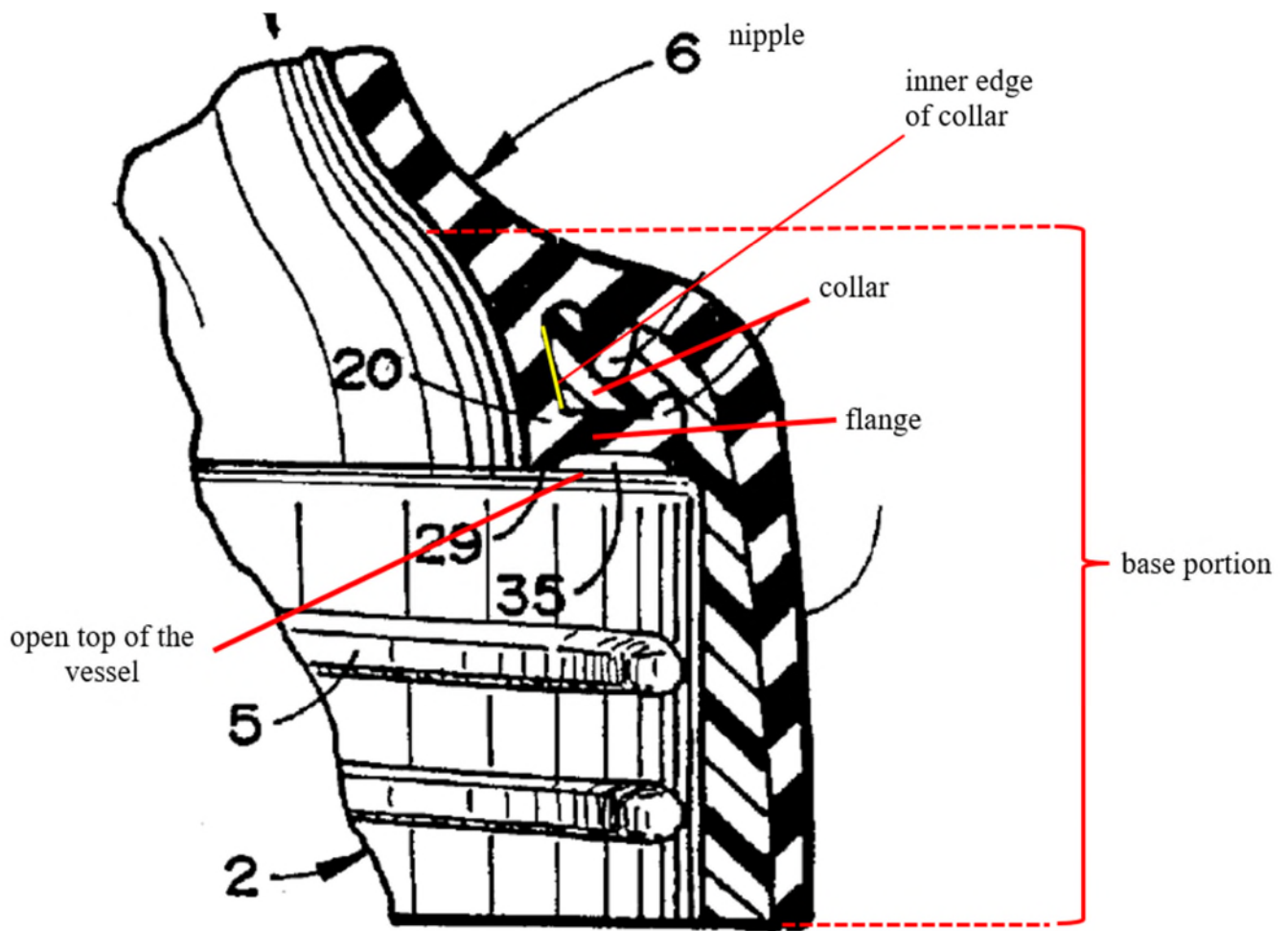


FIG. 9 of Meyers

This remains true in the combination shown in Fig. E.

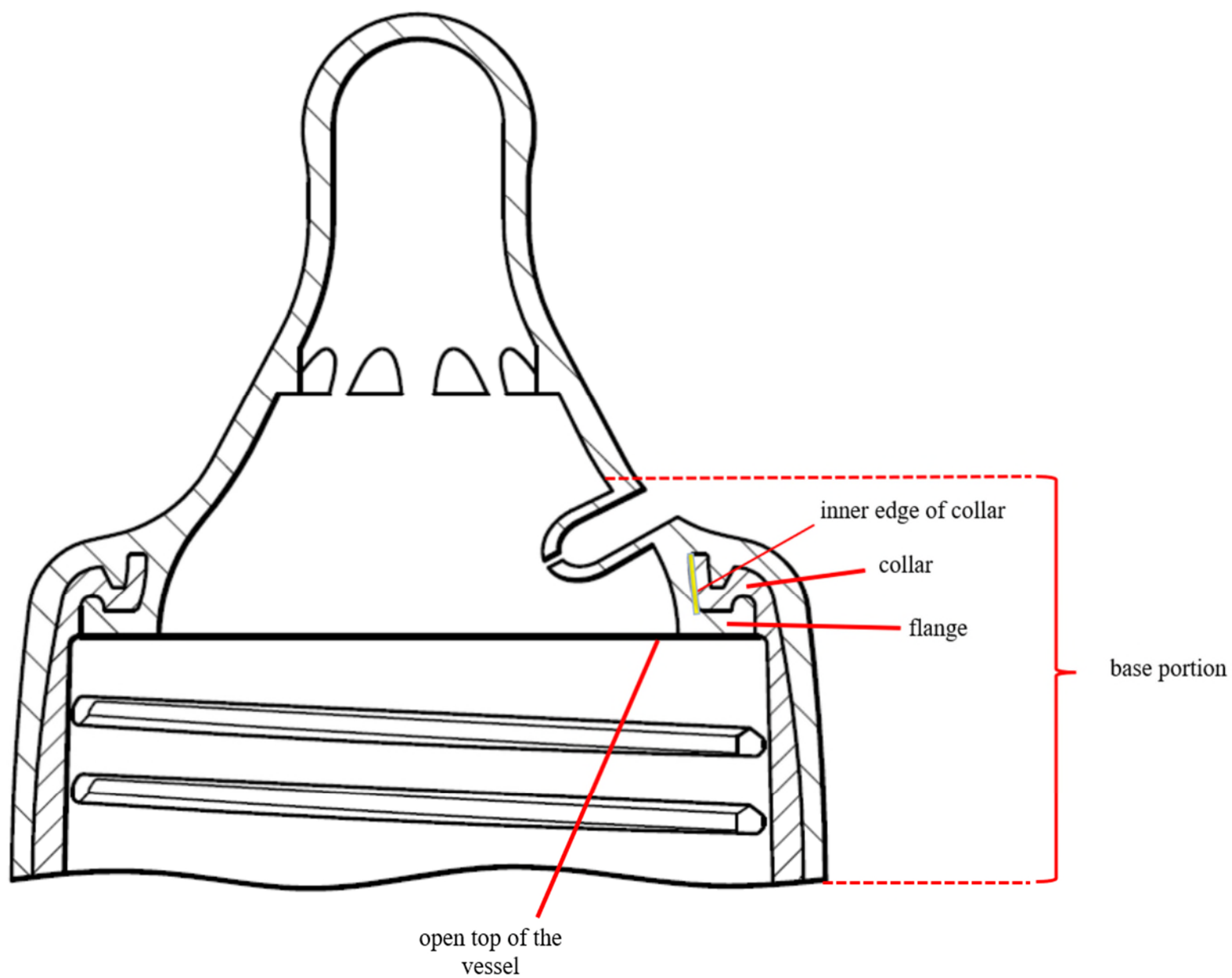


FIG. E
Combined device of Meyers - Sepehr

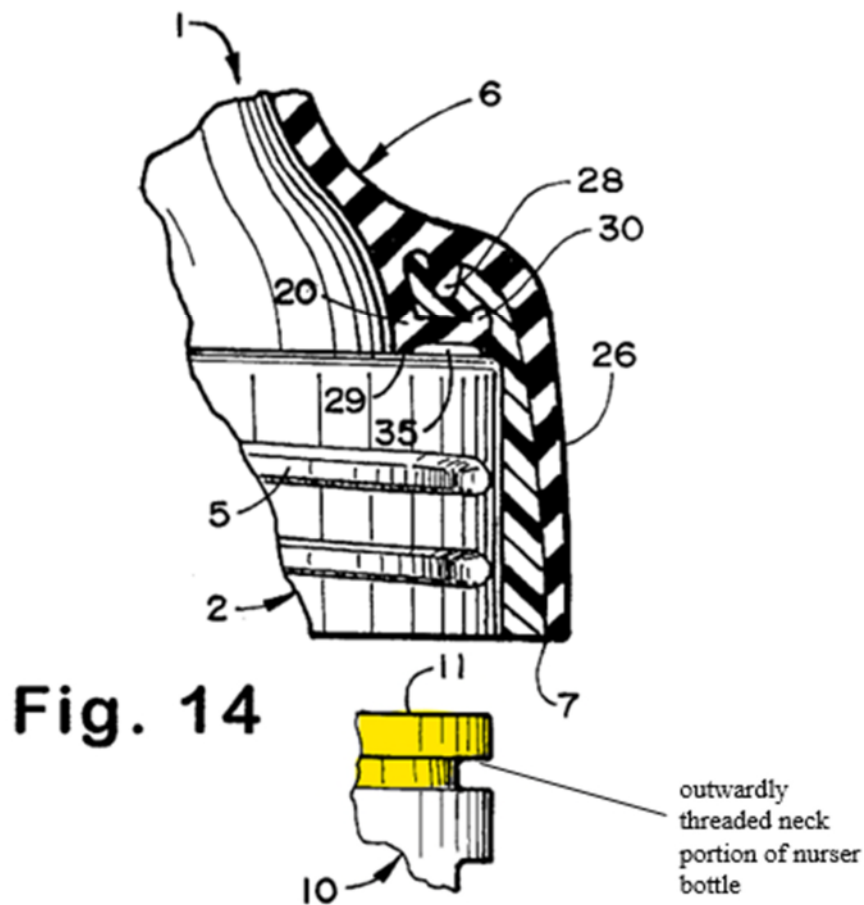
- (n) **14[M]: the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel.**

Meyers discloses that the nipple is secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel. Specifically, *Meyers* teaches the nipple and collar are secured to one another as shown in annotated Figure 9 of *Meyers* above. Ex.[1006], 5:7-8, *supra* 14[L]. Figures 9 and 14 demonstrates that the flange of the nipple is secured between the collar and the open top of the vessel. This would remain true in the combination shown in Fig. E.

3. Claim 16

- (a) **The feeding bottle of claim 14 wherein the open top of the vessel comprises an outwardly threaded vessel neck.**

Meyers discloses that the open top of the vessel comprises an outwardly threaded vessel neck. Specifically, *Meyers* discloses the nipple can be “detachably mounted on the neck of a nurser bottle by a separate, internally threaded collar.” Ex.[1006],1:7-11. A POSA would understand that if the collar is internally threaded, then the outer neck portion of the nurser bottle must be externally threaded. Ex.[1005],¶226. Further, Figure 14 illustrates the thread (shaded in yellow) on the outer portion of the neck of a nursing bottle.

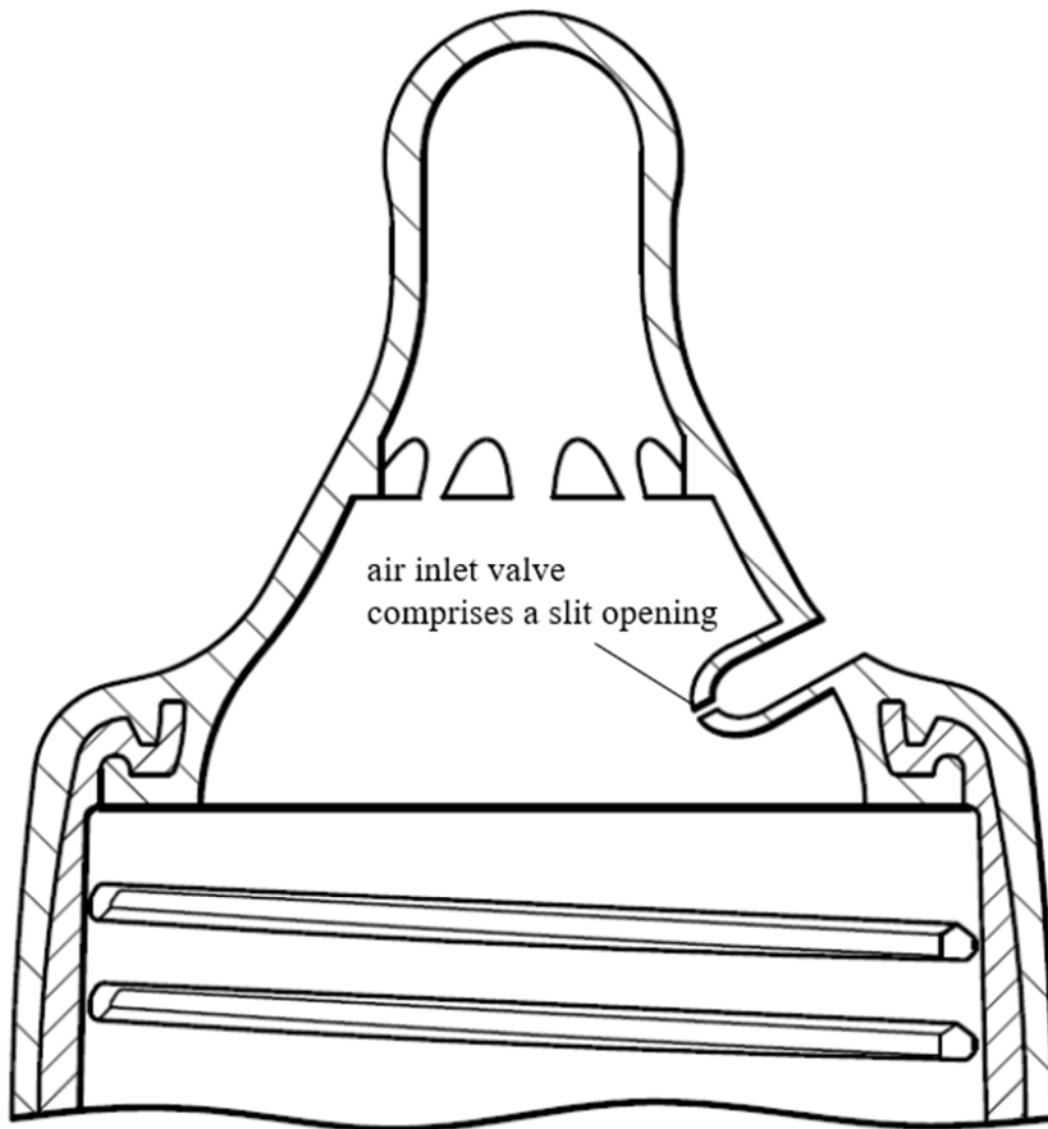


4. Claim 17

- (a) **The feeding bottle of claim 14 wherein the air inlet valve comprises a slit opening.**

Meyers discloses an air vent. Meyers teaches that the vent is “a channel-shaped aperture extending radially outwardly.” Ex.[1006],4:22-29,4:34-35 (“Vent 35 can also assume different shapes.”). A POSA would be motivated to make the vent an air inlet valve comprising a slit opening. Ex.[1005],¶¶228-229. This would

remain true in the combination. See modified nipple below having slit opening. See also Ex.[1008],2:12-15, Fig.1 at3.



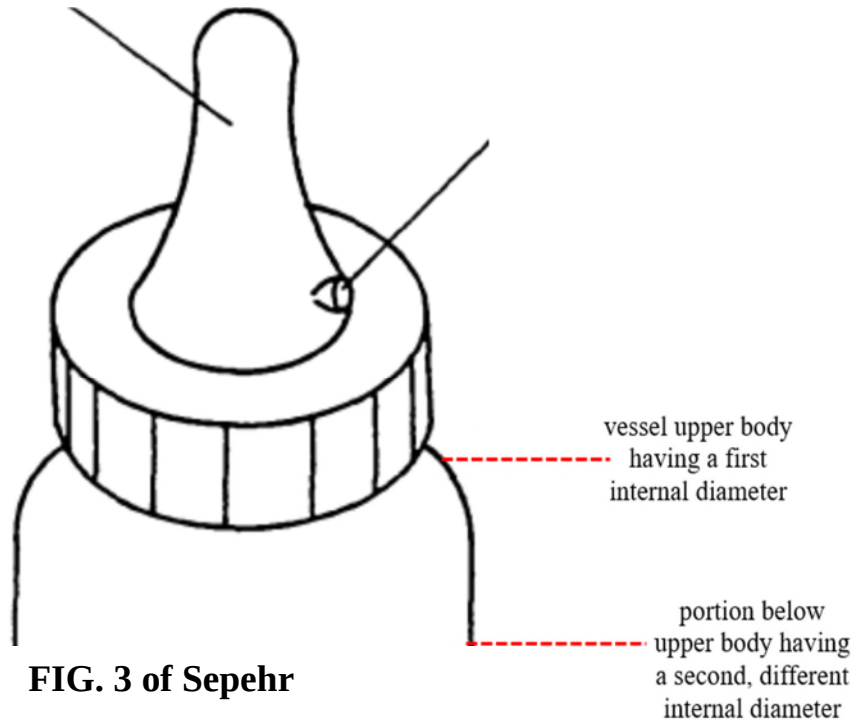
Combined device of Meyers - Sepehr

5. **Claim 19**

- (a) **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.**

Meyers discloses a nurser bottle having a “neck portion 11,” where the neck of a bottle is understood by a POSA to be a smaller diameter portion of a bottle. Ex.[1006],4:9; Ex.[1005], ¶233. Further, *Meyers* discloses “conventional bottles, reusable and/or disposable nursers, and other similar drinking vessels, including children's training cups and the like” as well as “similar infant and children liquid container designs.” Ex.[1006],3:13-22, Fig.14. A POSA would understand that bottles assume different configurations and sizes, such that it would be obvious for the bottle of the combined device in view of *Meyers* and *Sepehr* to have two portions of different diameters. Ex.[1005], ¶233,243.

This remains true in the combination. For example, *Sepehr* in Figs. 3-4 teaches a vessel having an upper body and a portion below having a second, different (e.g., wider) internal diameter. Ex.[1007], Fig.3,4.

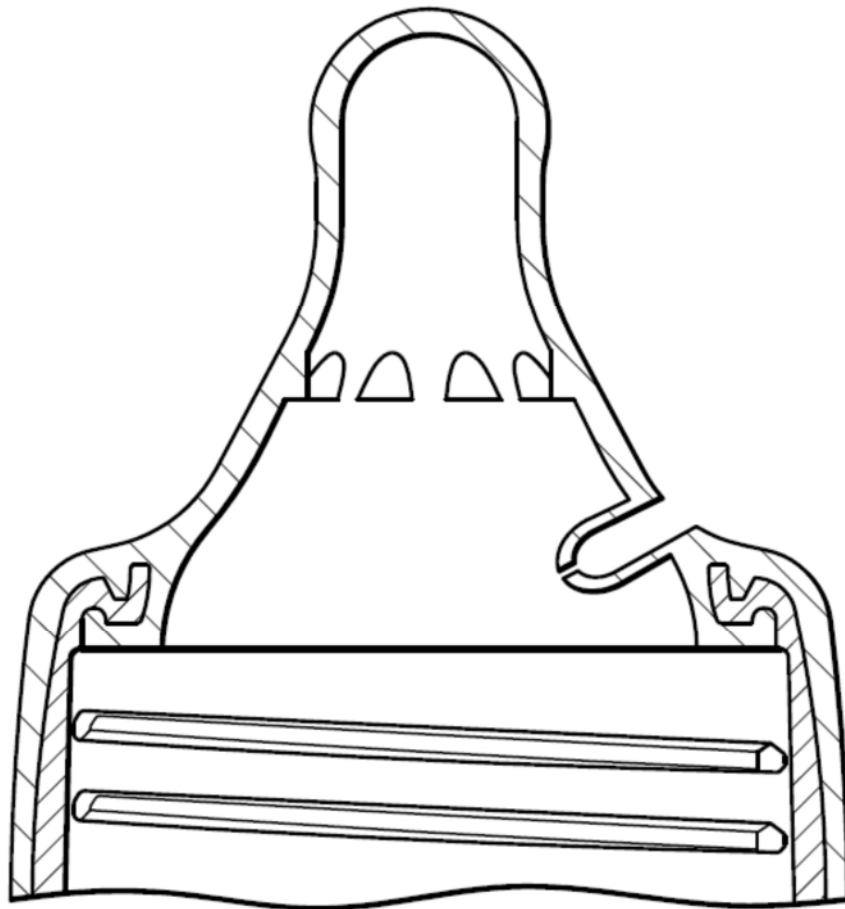


B. *Ground 2: Meyers, Sepehr, and Ishimaru renders Claims 14, 16, 17, and 19 Obvious*

Meyers in view of *Sepehr* discloses or renders obvious Claims 14, 16, 17, and 19 of the '930 Patent under Patent Owner's proposed constructions. §VIII.A. Additionally, the *Meyers-Sepehr-Ishimaru* combination renders these elements obvious under both Petitioner's and Patent Owner's proposed constructions. Ex[1003], ¶280-409. The Ground 1 analysis is incorporated in the *Meyers-Sepehr-Ishimaru* combination of Ground 2.

1. Motivations to Combine

As explained above in §VIII.A.1, after considering the disclosures of both *Meyers* and *Sepehr*, a POSA at the time of the priority date of the 930 Patent would have combined one or more of these features for the reasons stated above and would have been motivated to design a nipple and collar similar to the following:



Combined device of Meyers - Sepehr

Ishimaru discloses “an artificial nipple which is more similar to the mother’s nipple... provided with an elongate portion 122, which is more easily extensible than other portions.” Ex.[1008], Abstract, Fig. 1. “[T]hin walled portions 122, 122 and 122, which are elongation portions with a thin wall, are formed in a groove-like pattern... and the inner surface 123 of the artificial nipple becomes smooth, forming a wave shape as shown in Fig. 1.” *Id.*,[0041]. Thin walled portions can also be formed in “a spiral shape.” *Id.*,[0060]. Nipple 100 is mounted on a feeding bottle, and the nipple is delivered to the infant who sucks the milk up using a peristaltic like motion. *Id.*,[0043]-[0044], Fig. 5. Further, “there is a base portion 112 with a nipple side vent hole” *Id.*,[0037].

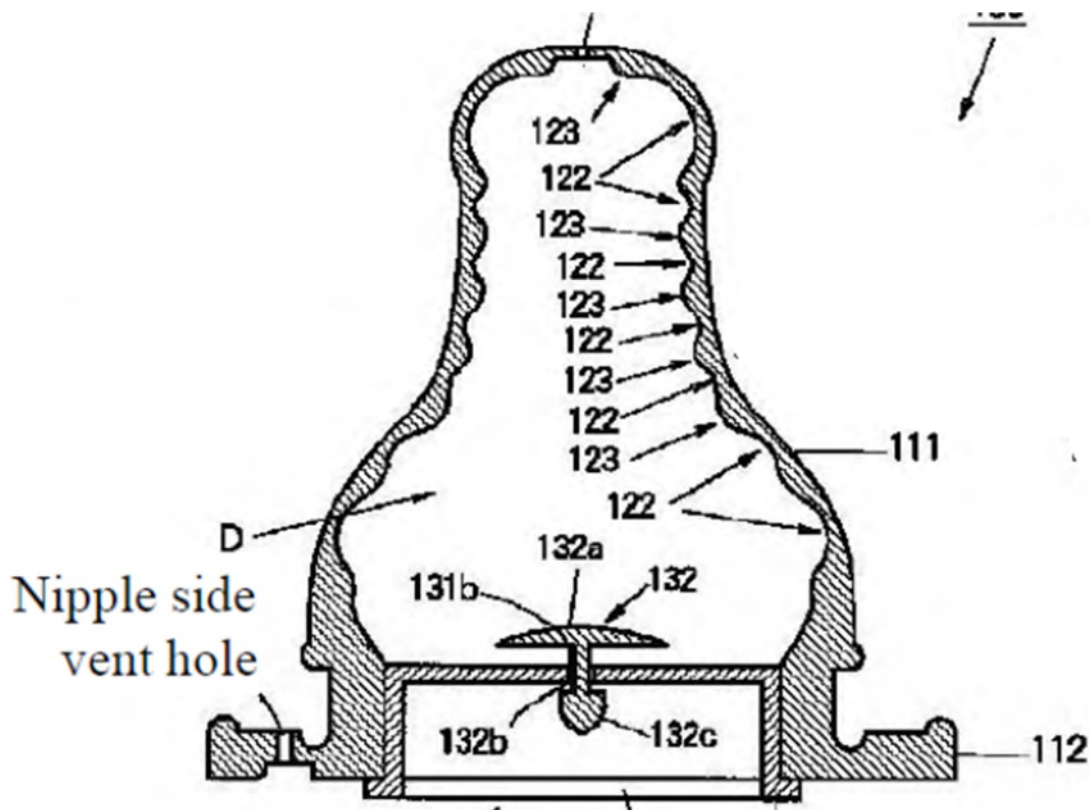


FIG. 1 of Ishimaru

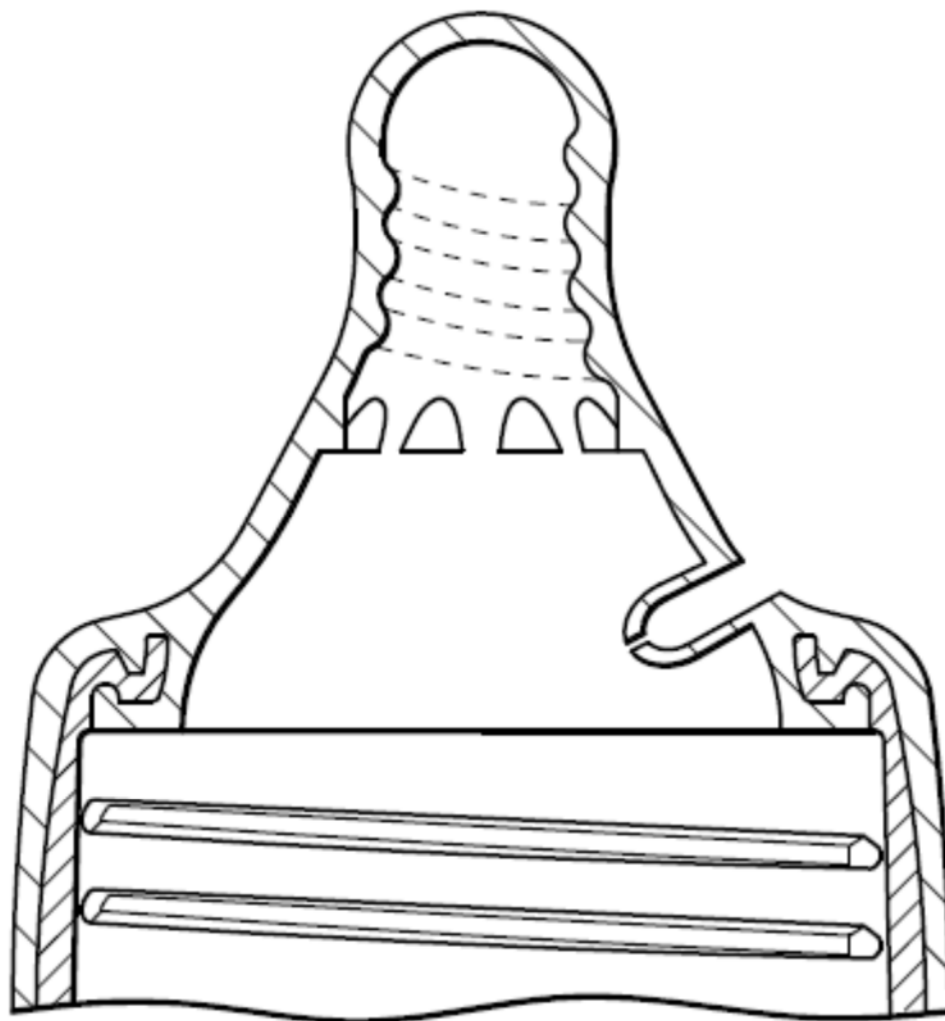
A POSA would have considered *Meyers*, *Sepehr*, and *Ishimaru* in the same field of endeavor as they all relate to nursing bottles and nipples that attach thereto. Ex[1005], ¶¶238-45; Ex[1006]1:1-12; Ex[1007]1:3-7; Ex[1008] at[0001]-[0006]. A POSA would be motivated to modify or combine the nipples of *Meyers*, *Sepehr*, and *Ishimaru* because they all teach analogous solutions for, and describe the benefits of, nipples with air vents and collars to provide a durable, hygienic design that relieves negative pressure in the nipple, and permits easy cleaning. Ex[1005], ¶¶238-24; Ex[1006],4:28-35; Ex[1007],Abs., 2:4-11; Ex[1008], [0019], [0048].

A POSA would be further motivated and find it obvious to modify the nipple design of *Meyers* and *Sepehr* with the thin-walled elongation portions 122 and wave shaped inner surface 123 forming a groove-like spiral pattern in the teat portion 120 as taught by *Ishimaru* in order to mimic the motion of a human teat during suckling. Ex[1008],[0043]-[0046],[0048].

A POSA would be further motivated and find it obvious, to the extent not disclosed by *Meyers*, to modify the nipple design of *Meyers* as taught by *Sepehr* and *Ishimaru* in order to further improve reliability of the nipple to equalize the pressure. Ex[1005], ¶¶238-45; Ex[1006],4:28-35; Ex[1007],1:9-16, 2:4-11, Fig.3; Ex[1008],Abstract,[0007],[0019],[0048].

A POSA would anticipate success in incorporating that variable thickness to the *Meyers-Sepehr* combination and would have expected the benefits taught in *Ishimaru* to also apply that combination. Ex[1005], ¶¶238-45.

After considering the disclosures of *Meyers*, *Sepehr*, and *Ishimaru*, a POSA at the time of the priority date of the 930 Patent would have combined one or more of these features for the reasons stated above and would have been motivated to design a nipple and collar similar to the following:



Combined device of Meyers – Sepehr - Ishimaru

2. Claim 14

The limitations of Claim 14 are disclosed or rendered obvious by *Meyers-Sepehr*. See supra §VIII.A. To the extent that *Meyers-Sepehr* is found to not disclose or render obvious aspects of 14[D] according to Petitioner’s construction, the *Meyers-Sepehr-Ishimaru* combination further renders element 14[D] obvious under Petitioner’s construction.

(a) 14[D]: a nipple having: a teat portion having a variable wall thickness including an aperture,

Ishimaru discloses “a nipple having: a teat portion having a variable wall thickness including an aperture” under Patent Owner’s proposed construction (plain meaning) and Petitioner’s proposed construction.

Ishimaru discloses a nipple having a teat portion with an aperture. Specifically, *Ishimaru* discloses a “teat” with a “teat opening” at the tip of the teat portion by which liquid is sucked out by a child. Ex.[1009],¶0037.

Under Petitioner’s construction of “teat portion”, the teat portion is “the entire part projecting generally perpendicular to the mouth of the vessel, disposed above the areola portion, which extends into a baby’s mouth for feeding.” Ex.[1018],12. *Ishimaru* meets that construction because the teat projects perpendicularly upward relative to the mouth of the bottle, and is located above the areola portion as shown in annotated Figure 1 of *Ishimaru* according to Petitioner’s construction (FIG. 1-PET) below. Ex.[1008],Fig.1. The vessel of *Ishimaru* is

located below the nipple and attached to the nipple (“infant 20 drinks the milk, etc. in the feeding bottle connected to the artificial nipple.” *Id.*,[0003]), and thus the teat portion projects perpendicularly upward relative to the mouth of the vessel. Further, the nipple of *Ishimaru* is for a “feeding bottle.” *Id.*,[0008]. A POSA would understand that the teat portion of a nipple “extends into a baby’s mouth for feeding,” as required by Petitioner’s construction. Ex.[1005], ¶311.

Under Petitioner’s construction of “variable wall thickness”, a teat portion with a variable wall thickness is “a teat portion having a helical groove.” Ex.[1018],19. *Ishimaru* discloses this limitation. *Ishimaru*’s teat portion as shown in annotated Fig. 1-PET below includes a variable wall thickness which is grooved and may be spiraled. Ex.[1008], Figs.1-2, [0041], [0046]. Specifically, *Ishimaru* discloses an artificial nipple with thin-walled portions 122 which are “elongation portions with a thin wall, are formed in a groove-like pattern[.]” Ex.[1009], [0041]-[0042]. Further, *Ishimaru* discloses “it is also fine to form the thin-walled portion [122] in a spiral shape.” *Id.*,at[0060]. Annotated Figure 1 of *Ishimaru* illustrates the helical groove of the teat portion. A POSA would have been motivated to combine the teat portion having a helical groove as disclosed by *Ishimaru* into the nipple combination of *Meyers-Sepehr*. Ex[1005],¶¶238-45, 254-56.

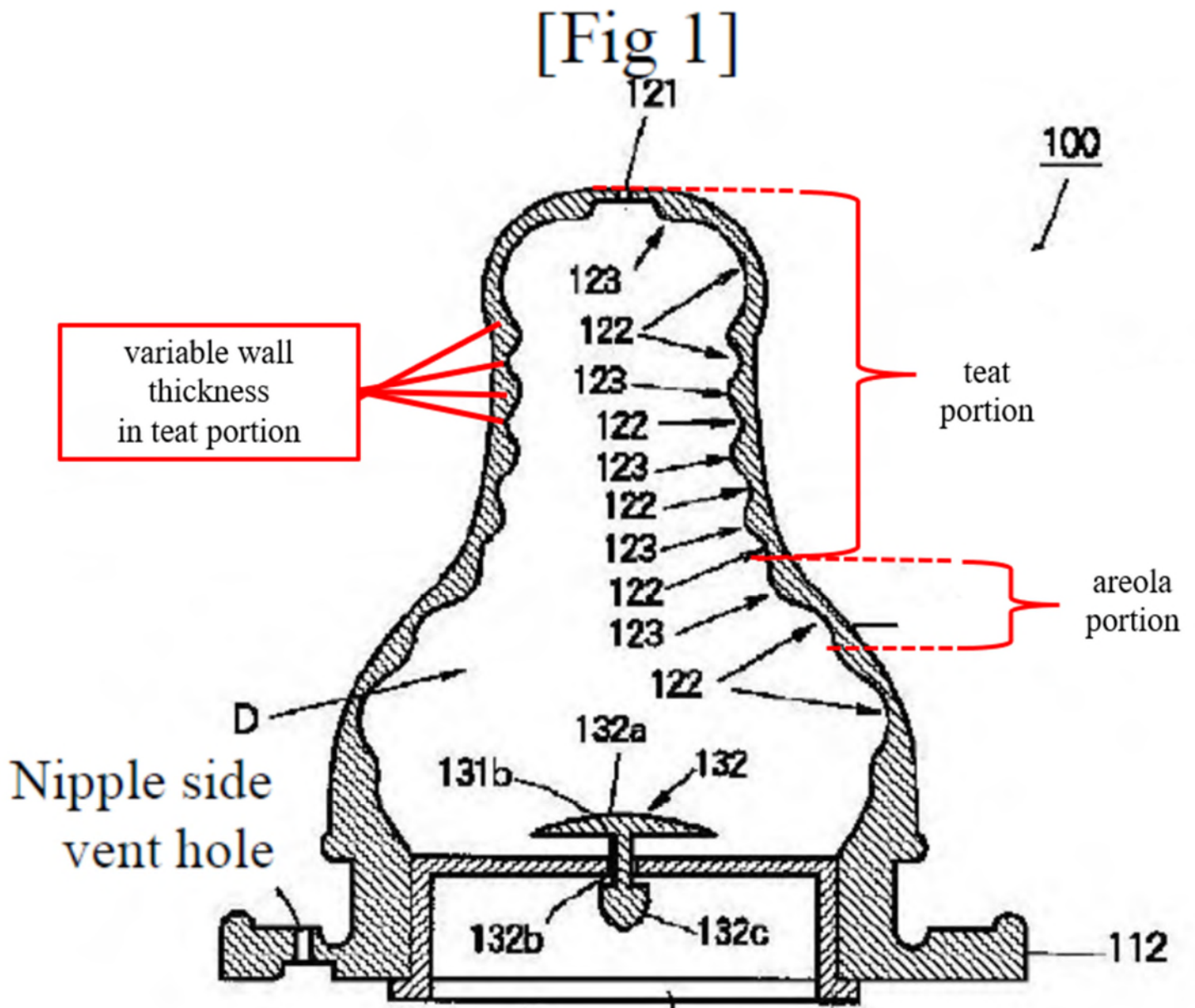


FIG. 1 of Ishimaru (Fig. 1-PET)
Petitioner's Construction

C. *Ground 3: Kurkjian, Sepehr, and Ishimaru renders Claims 14, 16, 17, and 19 Obvious*

The *Kurkjian-Sepehr-Ishimaru* combination renders all elements of claims 14, 16, 17, and 19 obvious under both Petitioner's and Patent Owner's proposed constructions. Ex[1005], ¶280-409. Two different embodiments of *Kurkjian* (Fig. 1 and Fig. 7) serve as a base embodiment that render the claim obvious, as explained below.

1. Motivations to Combine

A POSA would have considered *Kurkjian*, *Sepehr*, and *Ishimaru* in the same field of endeavor as they all relate to nursing bottles and nipples that attach thereto. Ex[1005], ¶¶410-419; Ex[1009]1: 1:1-8; Ex[1007]1:3-7; Ex[1008] at[0001]-[0006]. A POSA would be motivated to modify or combine one more of the nipple embodiments of *Kurkjian*, with *Sepehr* and *Ishimaru* because they all teach analogous solutions for, and describe the benefits of, nipples with air vents and collars to provide a durable design that maintains constant pressure in the nipple. Ex[1005], ¶¶262-269; Ex[1009], 2:35-49, 2:54-3:10; Ex[1007], Abs., 2:4-11; Ex[1008], [0019], [0048]. *Kurkjian* further discloses that one or more elements of its various embodiments can be combined: "It should be understood that certain detail changes in the mechanical construction, combination and arrangement of parts may be employed without departing from the spirit of the invention, so long as such changes fall within the scope of the appended claims." Ex[1009], 3:70-4:5.

Kurkjian discloses a “flexible nipple having a vented flexible flange” Ex[1007],1:10-11. The nipple comprises a “body portion constituting a neck 13 . . . and preferably annular flange 14.” *Id.*,1:48-53. The flange includes a “single venting aperture 15.” *Id.* “It should be understood that as a vacuum is built up in the bottle through the baby sucking upon the nipple or body portion 13 thereof...and allow air to pass under the shoulder 16 and between the body portion 13 of the nipple and the edge of the aperture 18, under the under face of the flange 20 of the cap 17, and through the vent opening 15 into the bottle.” *Id.*,2:54-3:10.

In a modification shown in Figure 7, nipple is similar to that shown in Figure 6, wherein the “outer face of the cap 24 preferably conforms to the contour of the nipple 23 and constitutes a continuation thereof to provide a streamline type connection between the nipple 23 and the bottle 28.” *Id.*,3:42-47. The other difference between Figure 1 and Figure 7 being that the cap 24a of Figure 7 is adhered with lugs 33 for clamping to the bottle neck 32. *Id.*,3:58-62.

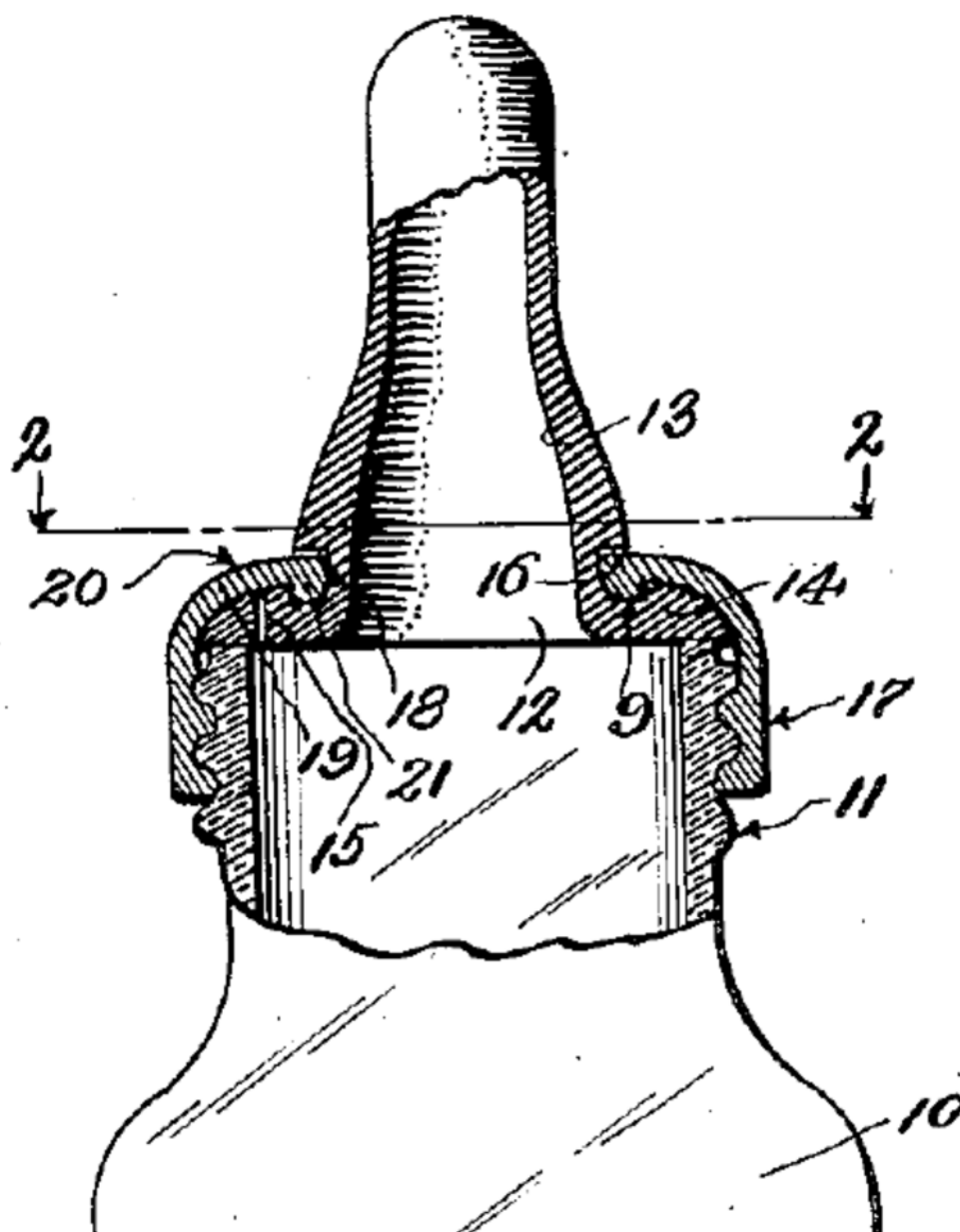


FIG. 1 of Kurkjian

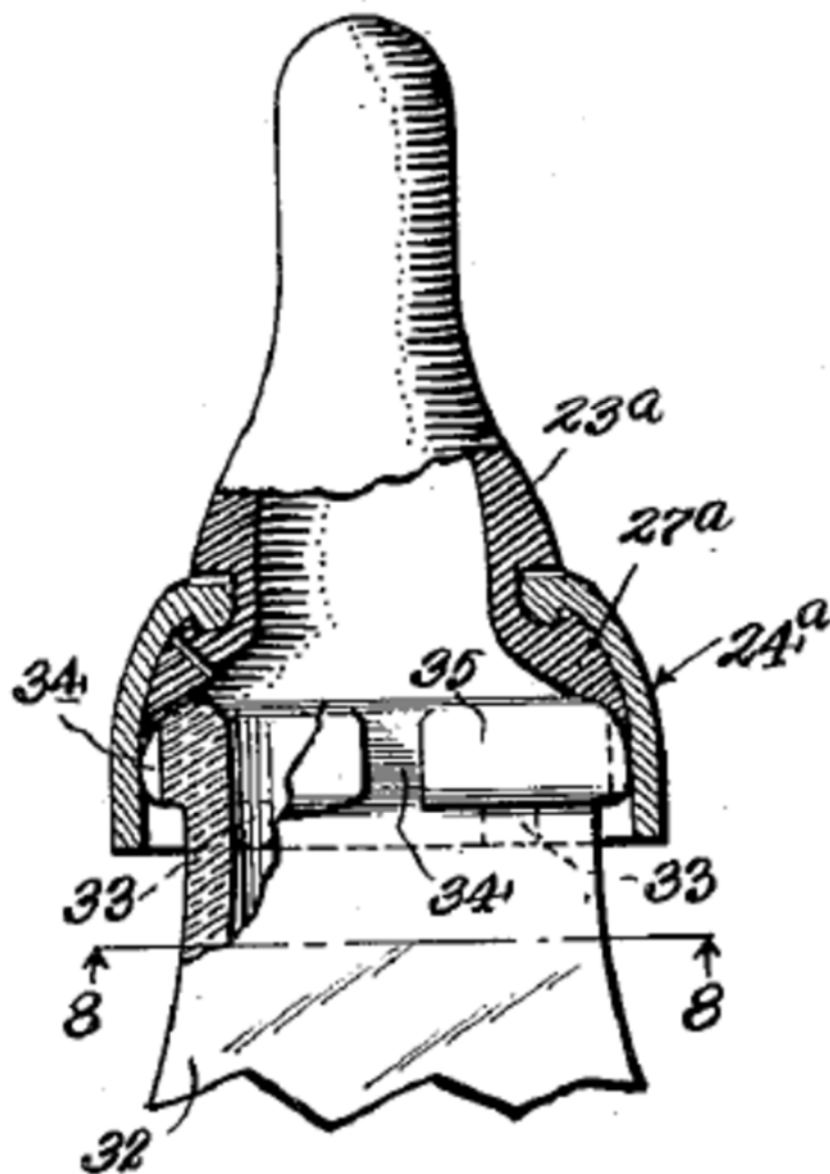


FIG. 7 of Kurkjian

Sepehr is directed to a nipple having a valve 2 with a slit 3 at the end of the valve to allow air to enter when a vacuum is formed due to sucking. *Id.*,3:15-19. The valve 2 is located on the base of the nipple as shown in Fig. 1 of *Sepehr*. For example, the valve 2 is located at the base of the nipple 1 directly above the collar as shown in Fig. 3 of *Sepehr*.

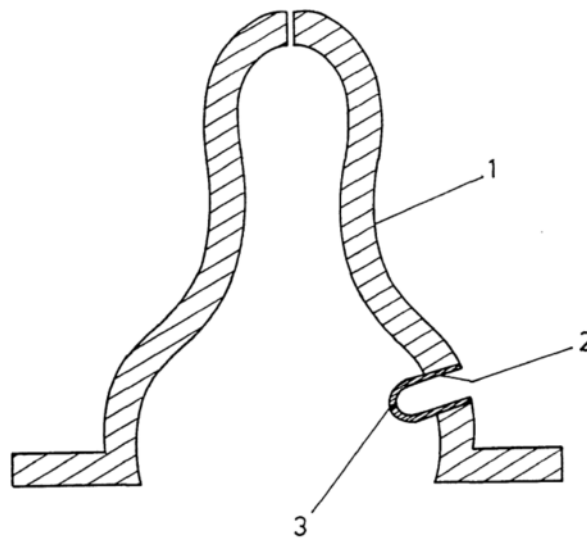


FIG. 1 of Sepehr

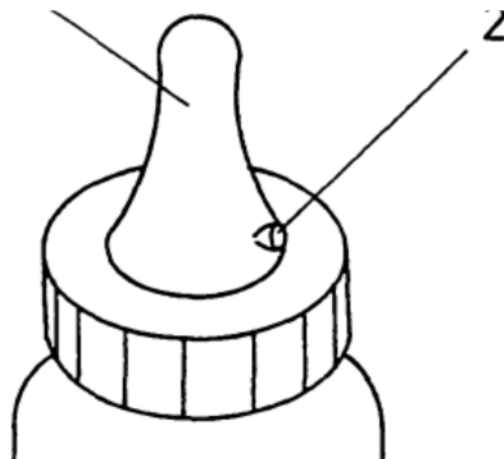


FIG. 3 of Sepehr

Specifically, a POSA reviewing *Sepehr* would be motivated to move the location of the vent from the flange 14, to above the collar as taught in *Sepehr* to improve *Kurkjian*'s air flow. Ex[1005],¶285. The one-way air vent communicating directly with the external environment in *Sepehr* is more effective at pulling air into the bottle, as compared to an air vent through the flange covered by the collar pulling in air through the threads as in *Kurkjian*. Ex[1005],¶285.

A POSA reviewing *Sepehr* would be motivated to move the location of the vent above the collar as taught in *Sepehr* to improve *Kurkjian*'s vent to further improve the reliability of the nipple to equalize the pressure by improving the flow of air and avoid debris that may be trapped in the collar region that would impede the reliability of the valve to maintain constant pressure in the nipple. Ex[1003],¶¶282-92.

Ishimaru discloses “an artificial nipple which is more similar to the mother’s nipple... provided with an elongate portion 122, which is more easily extensible than other portions.” Ex.[1008], Abstract, Fig. 1. “[T]hin walled portions 122, 122 and 122, which are elongation portions with a thin wall, are formed in a groove-like pattern... and the inner surface 123 of the artificial nipple becomes smooth, forming a wave shape as shown in Fig. 1.” *Id.*,[0041]. Thin walled portions can also be formed in “a spiral shape.” *Id.*,[0060]. Nipple 100 is mounted on a feeding bottle, and the nipple is delivered to the infant who sucks the milk up using a peristaltic like motion. *Id.*,[0043]-[0044], Fig. 5. Further, “there is a base portion 112 with a nipple side vent hole” *Id.*,[0037].

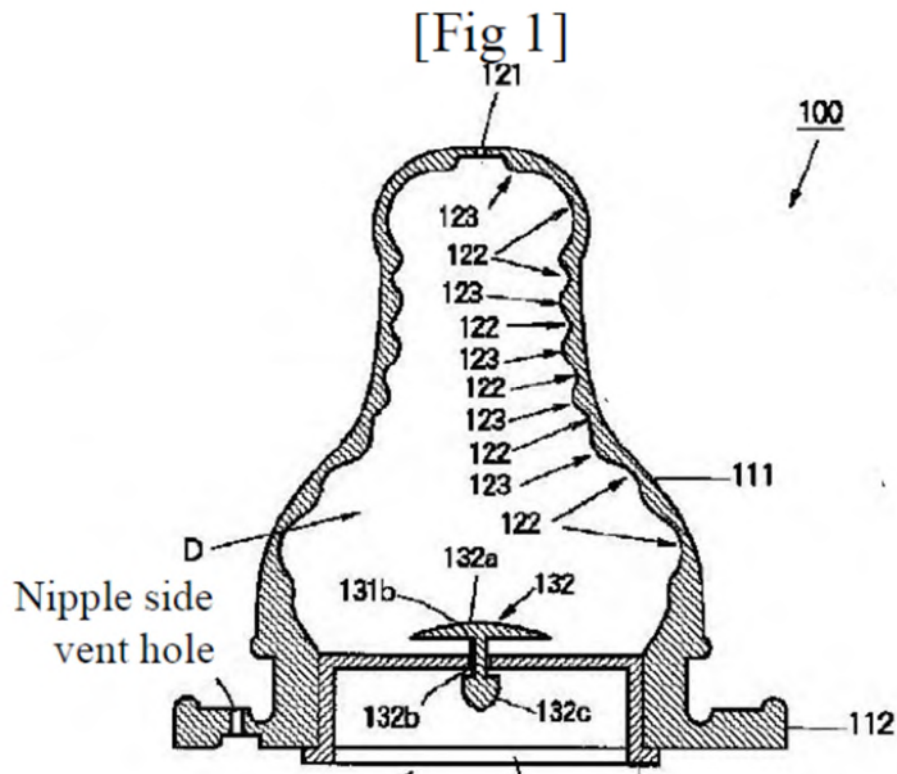


FIG. 1 of Ishimaru

A POSA would be motivated and find it obvious, to the extent not disclosed by *Kurkjian*, to modify one or more embodiments of *Kurkjian* as taught by *Sepehr* and *Ishimaru* in order to further improve reliability of the nipple to equalize the pressure. Ex[1005],¶284-285; Ex[1009],1:1-8, 2:35-49; Ex[1007],1:9-16, 2:4-11, Fig. 3; Ex[1008],Abstract,[0007],[0019],[0048]. All of *Kurkjian*, *Sepehr*, and *Ishimaru* identify the need to equalize the pressure in the bottle to prevent, for example, nipple collapse and colic. Ex[1005],¶285; Ex[1009],1:1-8, Ex[1007],1:9-16, 2:4-11; Ex[1008],[0004].

A POSA would be further motivated and find it obvious, to the extent not disclosed by *Kurkjian*, to modify one or more embodiments of *Kurkjian* as taught by *Sepehr* and *Ishimaru* in order to further improve reliability of the nipple to equalize the pressure. Ex[1003],¶¶282-92; Ex[1009],1:1-8, 2:35-49; Ex[1007],1:9-16, 2:4-11, Fig.3; Ex[1008],Abstract,[0007],[0019],[0048]. All of *Kurkjian*, *Sepehr*, and *Ishimaru* identify the need to equalize the pressure in the bottle to prevent, for example, nipple collapse and colic. Ex[1003],¶¶282-92; Ex[1009],1:1-8, Ex[1007],1:9-16, 2:4-11; Ex[1008],[0004].

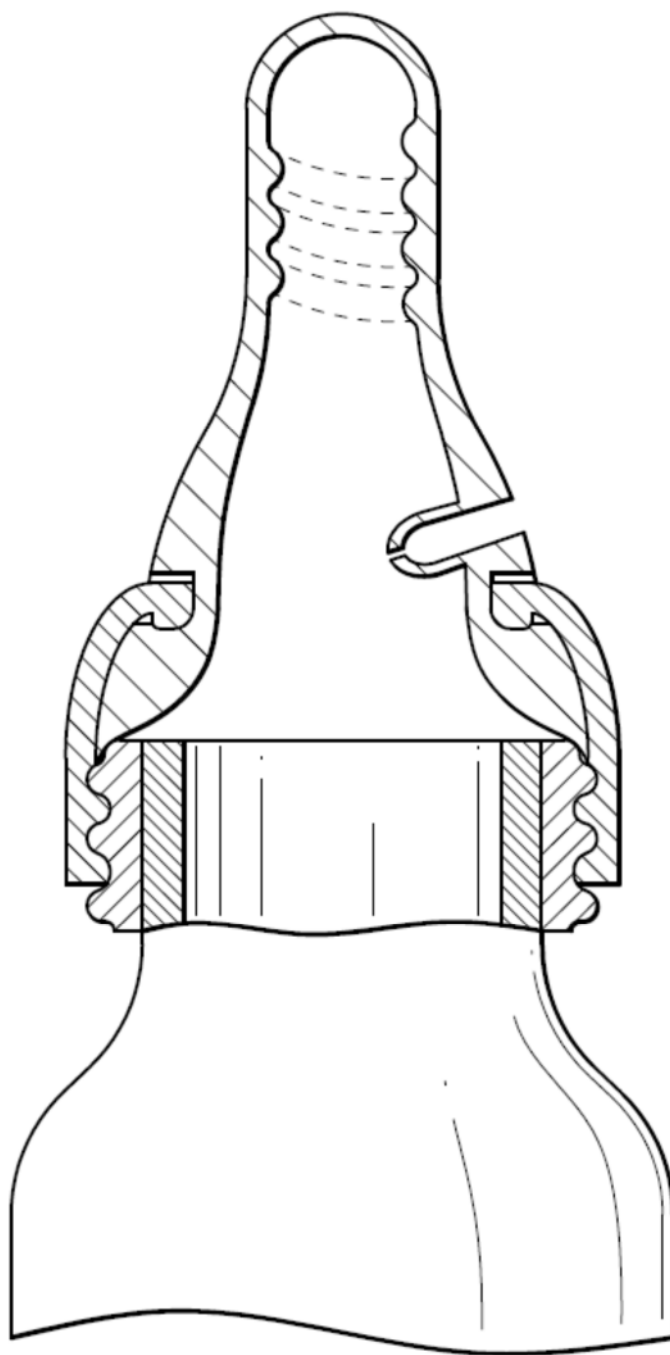
A POSA reviewing *Ishimaru* would be motivated to incorporate the variable thickness teat as taught in *Ishimaru* to improve *Kurkjian*'s nipple to further improve the flow and reliability of the nipple to further prevent collapse of the nipple when

the pressure in the nipple changes. Ex[1005],¶¶282-92; Ex[1008],[0041]-[0042],[0046], [0048].

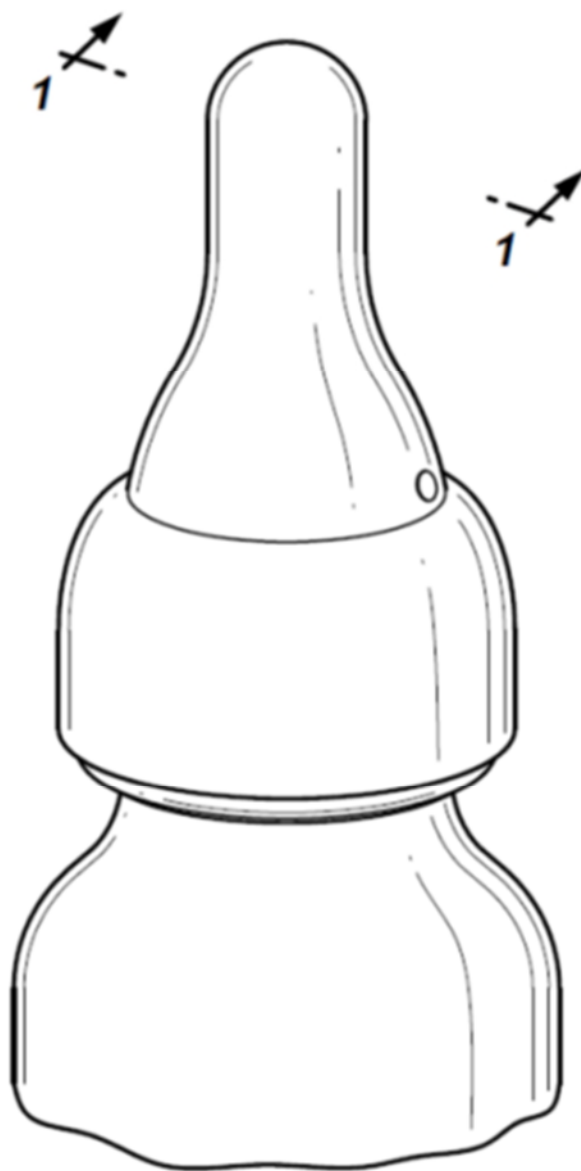
The example combinations and modifications described represent a known, finite number of identified predictable solutions to solve the problem of designing a nipple that equalizes the pressure in the bottle to prevent, for example, nipple collapse and colic. Ex[1009],1:1-8; Ex[1007],1:9-16, 2:4-11, 2:20-26, 3:21-24, Ex[1008],[0007],[0019],[0048].

A POSA reading *Kurkjian*, *Sepehr*, and *Ishimaru* would be motivated to combine and substitute these familiar elements according to known methods to yield predictable results. Ex[1005],¶¶282-86, 292. A POSA would expect that modifying *Kurkjian*'s nipple in view of *Sepehr* and *Ishimaru* would provide a more reliable solution to equalize the pressure in the bottle. Ex[1005],¶283. Moreover, a POSA would have had a reasonable expectation of success in combining these nipples because each nipple would work as in their respective disclosures, and the references demonstrate that a POSA could have combined the disclosed features with reasonable expectation of success in doing so. *Id.*

After considering the disclosures of both *Kurkjian*, *Ishimaru* and *Sepehr*, a POSA at the time of the priority date of the 930 Patent would have combined one or more of these features for the reasons stated above and would have been motivated to design a nipple and collar similar to the following:



Combined device of Kurkjian – Sepehr - Ishimaru



Combined device of Kurkjian – Sepehr - Ishimaru

2. Claim 14

(a) 14[PRE]: A feeding bottle comprising:

Kurkjian teaches a feeding bottle for infants. Specifically, *Kurkjian* teaches a “nipple to be secured to the mouth of a bottle by means of a retaining cap[.]” Ex.[1009],1:1-8; see also e.g., Claims 1-4 (“a bottle having an open outer end”). *Kurkjian*’s figures further illustrate a feeding bottle. See *id.*, Fig.1 at10(“bottle”), Fig.6 at28, Fig.7 at32.

(b) 14[A]: a vessel having an open top,

Kurkjian teaches a vessel having an open top. Specifically, *Kurkjian* teaches that a nipple “is adapted to fit over the open outer end of the bottle[.]” Ex.[1009],1:46-50; see also Claims 1-4 (“a bottle having an open outer end”); 1:42-45 (the nursing bottle which is preferably of the wide-mouth type”).

(c) 14[B]: a collar having an upper rim and a lower rim comprising: an internally threaded inner surface,

Kurkjian teaches that a “retaining cap 17” is removably fitted over the outer or open end of the bottle.” Ex.[1009],2:14-35, Fig. 1. The cap includes “an inwardly extending annular flange 19” which “is preferably curved upon its outer face 20 from the body portion 13 of the nipple toward the outer periphery of the cap 17 to provide a convex outer face upon the outer end of the cap 17.” *Id.* As illustrated in annotated Figure 1 of *Kurkjian* below, this retaining cap 17 includes an upper rim and a lower rim which include different slopes and characteristics.

Kurkjian's retaining cap 17 "is provided with screw-threads for interfitting with the threads 11 [of the bottle]." *Id.* As illustrated in annotated Figure 1, the inner surface of the retaining cap 17 is "internally threaded" (shaded in yellow) to permit connection with the feeding vessel.

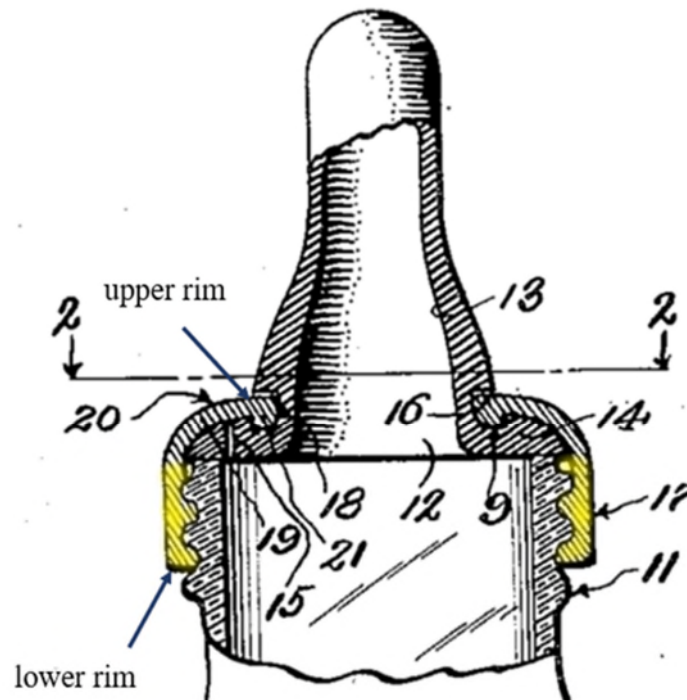


**FIG. 1 of Kurkjian
(First embodiment)**

Additionally, a second embodiment of *Kurkjian* referencing Figures 7-8 teaches the cap is secured to the bottle using lugs 33 or "any suitable or desired manner to the neck, or to the bottle 32," for example the internal threads of the cap depicted in Fig. 1." Ex.[1009],3:54-63. The second embodiment of *Kurkjian* teaches that a "securing cap 24" that "consists of a conical body of a thimble-like structure"

as shown in annotated Figure 7 or *Kurkjian* reproduced below. Ex.[1009],3:33-37. Fig. 6 at 24, Figs. 7-8 at 24a. The securing cap 24 includes an inwardly extending annular flange which “is preferably curved upon its outer face 20 from the body portion 13 of the nipple.” *Id.* “The outer face of the cap 24 preferably conforms to the contour of the nipple 23 and constitutes a continuation thereof to provide a streamline type connection between the nipple and the bottle 28.” Ex.[1009],3:42-47. As illustrated in Figure 7 below, this retaining cap includes an upper rim and a lower rim which include different slopes and characteristics.

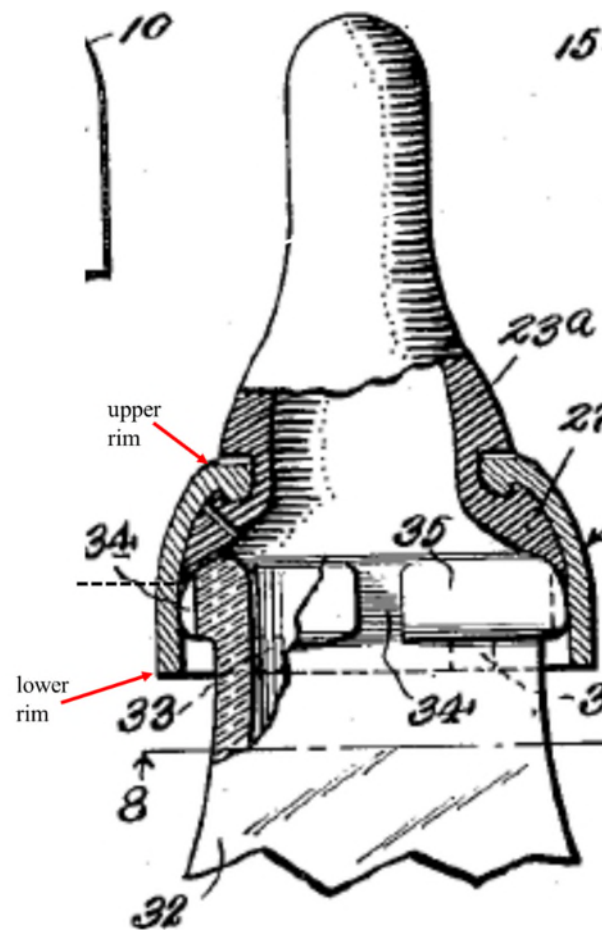


**FIG. 7 of Kurkjian
(Second embodiment)**

A POSA would be motivated to incorporate the internal thread design of *Kurkjian's* Figure 1 with the cap depicted in *Kurkjian's* Figure 7 resulting in the combination as illustrated below in Fig. F representing the combination of the two embodiments. Ex[1005], ¶¶299-303. This would be nothing more than an obvious design choice with the threads serving the same function as they do in Figure 1.

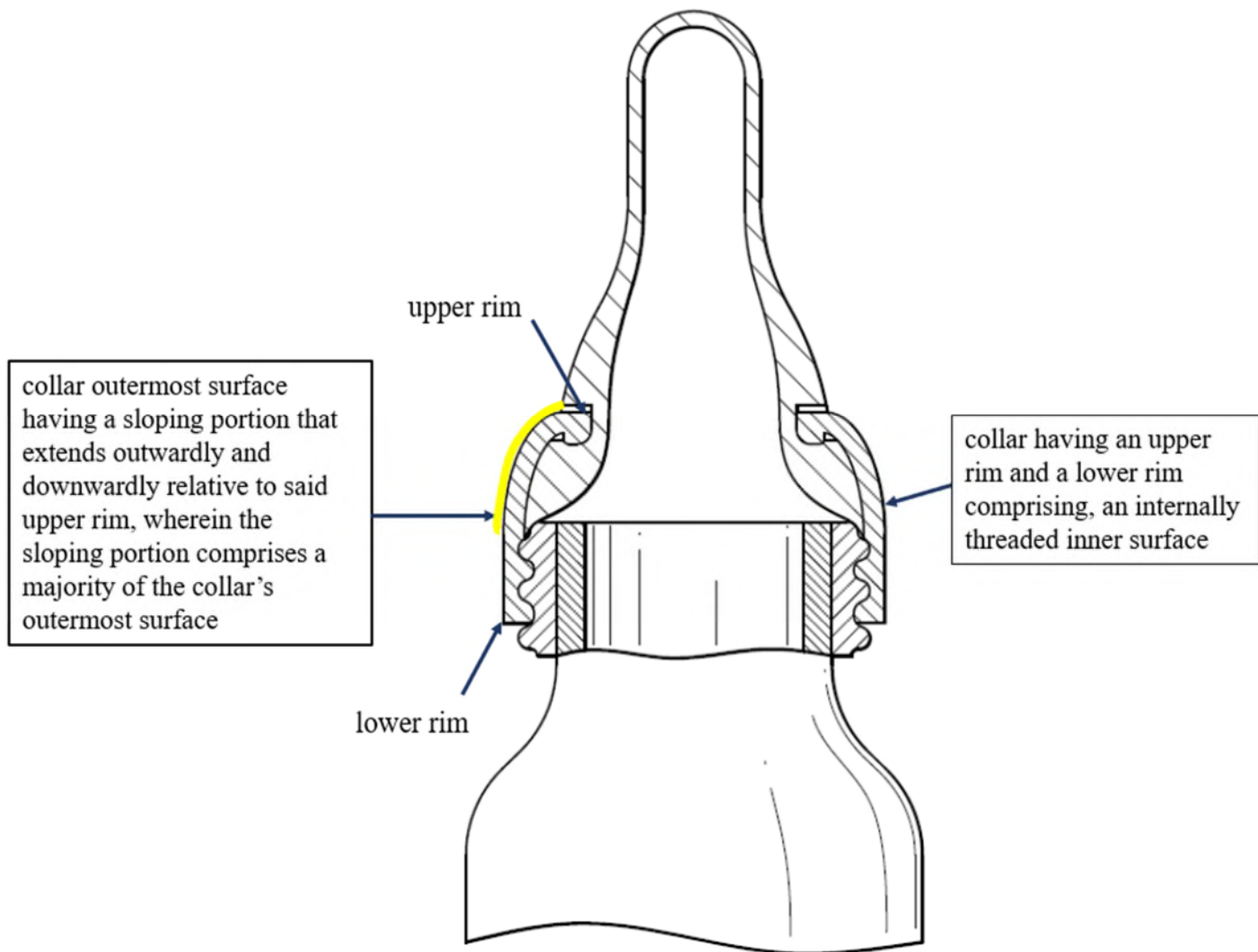


Fig. F
Combination of Kurkjian's First Embodiment and Second Embodiment

- (d) **14[C]: 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**

Kurkjian discloses a cap in the first embodiment that “is preferably curved upon its outer face 20 from the body portion 13 of the nipple.” Ex.[1009],2:14-35, Fig. 1. *Kurkjian*’s second embodiment teaches the cap “consists of a conical body of a thimble-like structure.” Ex.[1009],3:33-37. Fig. 6 at 24, Figs. 7-8 at 24a. “The outer face of the cap 24 preferably conforms to the contour of the nipple 23 and constitutes a continuation thereof to provide a streamline type connection between the nipple and the bottle 28.” Ex.[1009],3:42-47.

As illustrated in Figure F above depicting the combination of *Kurkjian*’s embodiments, the outermost surface of the collar comprises a sloping portion that extends outwardly and downwardly relative to the upper rim, and wherein said sloping portion comprises a majority of the collar’s outermost surface as shown in yellow.

(e) **14[D]: a nipple having: a teat portion having a variable wall thickness including an aperture,**

Kurkjian discloses “a nipple having: a teat portion” under Patent Owner’s proposed construction and Petitioner’s proposed construction. *Kurkjian* discloses “a teat portion having a variable wall thickness” under Patent Owner’s proposed construction. *Kurkjian* is silent as to “a teat portion having a variable wall thickness” under Petitioner’s proposed construction.

Under Patent Owner’s construction of “teat portion”, a teat portion is a “part projecting generally perpendicularly relative to the mouth of a vessel and disposed above the areola portion.” Ex.[1017],5. *Kurkjian* discloses a flexible nipple 12 that includes a body portion 13 and a venting aperture 15 in the flange 14. Ex.[1009],1:45-52. Under Patent Owner’s construction of “teat portion,” the teat portion of *Kurkjian* projects generally perpendicularly upward relative to the mouth of a vessel as illustrated in Fig. G showing the combined device according to Patent Owner’s construction. Ex.[1009],Fig.7; Ex.[1017],12. Also, a POSA would understand the *Kurkjian* teat portion is located above the areola portion as shown in Fig. G. Ex[1005], ¶308; Ex.[1009],Fig.5.

Under Patent Owner’s construction of “variable wall thickness”, a teat portion with a variable wall thickness is accorded its plain meaning. Ex.[1017],6. *Kurkjian* discloses this limitation. *Kurkjian*’s teat portion as shown in Fig. G below includes

a variable wall thickness which is a variability in thickness along the wall of the teat portion. As shown in Fig. G, the teat portion has different levels of wall thickness when comparing portions of the teat wall with other portions of the teat wall within the teat portion.

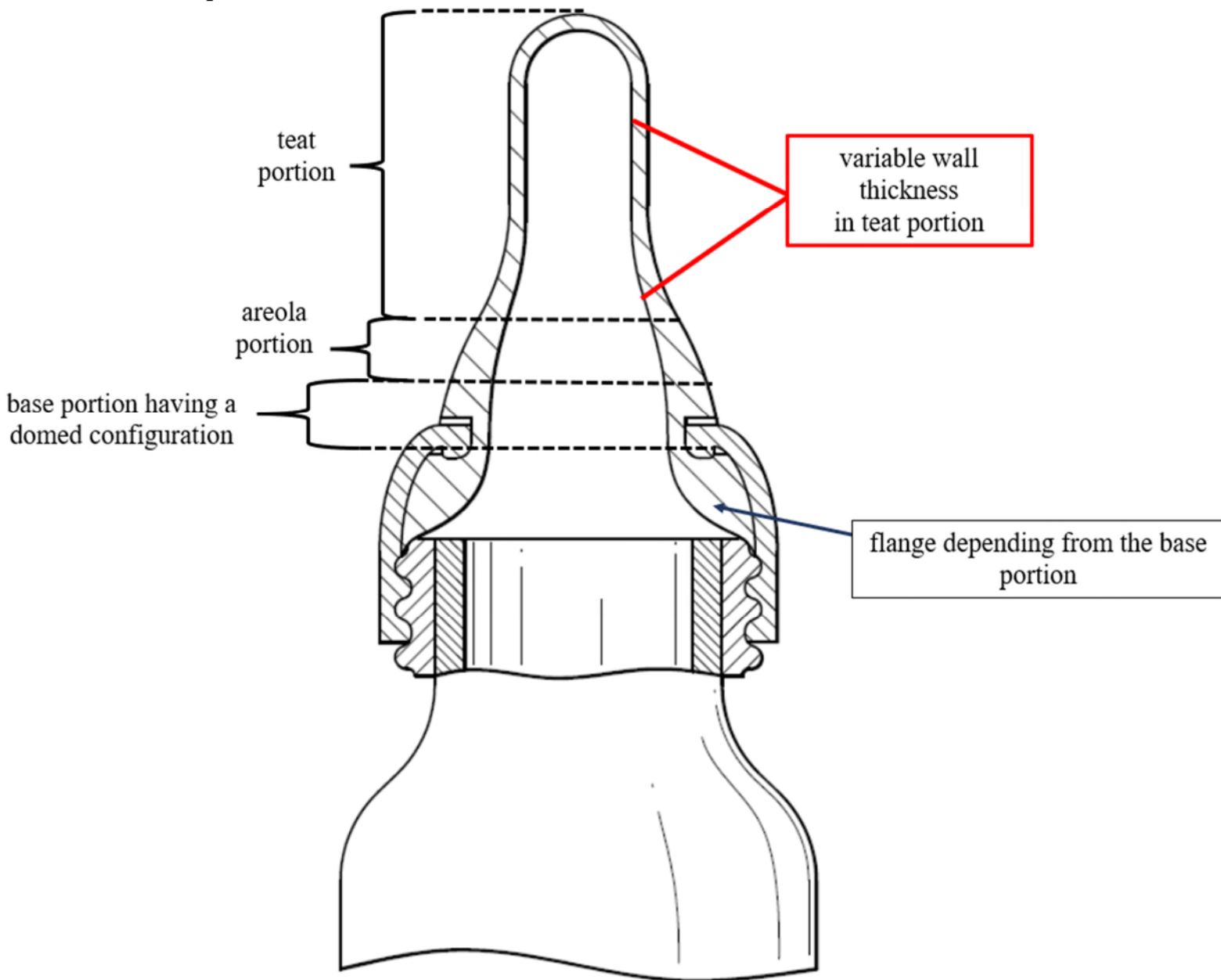


Fig. G
Patent Owner's Construction

Regarding the aperture, *Kurkjian* further discloses that the nipple is sucked on by a baby to consume the contents of the vessel and is a “nursing unit.”

Id.,2:20-28,2:54-3:10. A POSA would understand the nipple of *Kurkjian* to include an aperture to permit the desired sucking and consumption of contents or would find it obvious to include. Ex.[1005], ¶311.

Under Petitioner’s construction of “teat portion”, the teat portion is “the entire part projecting generally perpendicular to the mouth of the vessel, disposed above the areola portion, which extends into a baby’s mouth for feeding.” Ex.[1018],12. *Kurkjian* again meets that construction because the teat projects perpendicularly upward relative to the mouth of the vessel, and is located above the areola portion as shown in Fig. H according to Petitioner’s construction below. The bottle 10 of *Kurkjian* is located below the nipple and screwed to the collar, and thus the teat portion projects perpendicularly upward relative to the mouth of the vessel. Further, the nipple of *Kurkjian* is for a “nursing unit.” Ex.[1006],Title, 1:1-18. A POSA would understand that the teat portion of a nipple “extends into a baby’s mouth for feeding,” as required by Petitioner’s construction. Ex.[1005], ¶311.

Under Petitioner’s construction of “variable wall thickness”, a teat portion with a variable wall thickness is “a teat portion having a helical groove.” Ex.[1018],19.

Ishimaru discloses “a nipple having: a teat portion having a variable wall thickness including an aperture” under Petitioner’s proposed construction of “a helical groove”.

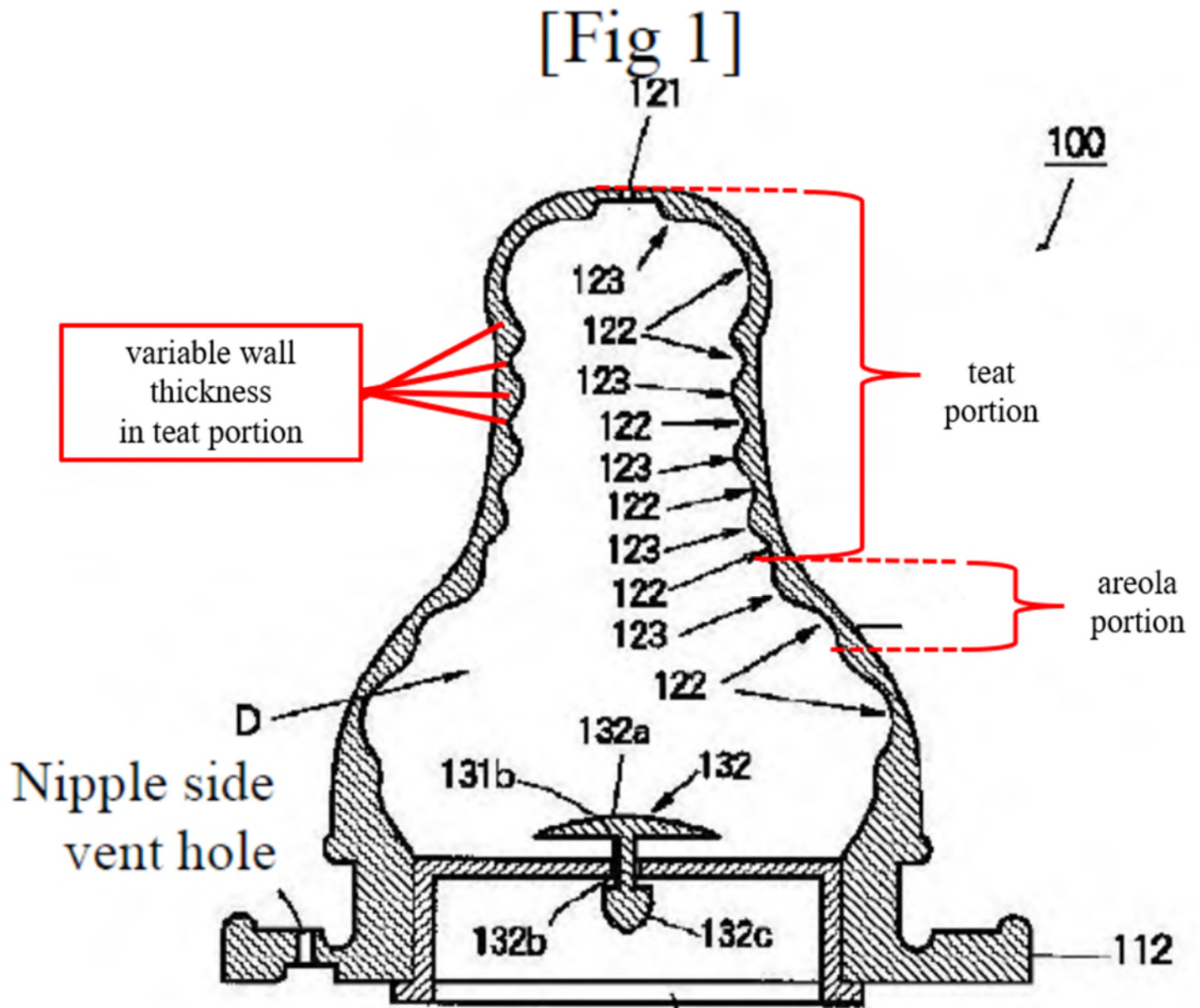


FIG. 1 of Ishimaru (Fig. 1-PET)
Petitioner’s Construction

As discussed above in § VIII.C.1, *Ishimaru* teaches a spiral grooved portion in the teat portion for the purposes of providing an elongation region. Ex.[1007],[0041]. A POSA would be further motivated and find it obvious to modify the nipple design of *Kurkjian* with the thin-walled elongation portions 122 and wave shaped inner surface 123 forming a groove-like spiral pattern in the teat portion 120 as taught by *Ishimaru* in order to mimic the motion of a human teat during suckling. Ex[1008],[0043]-[0046],[0048].

As explained in § VIII.C.1, a POSA reviewing *Ishimaru* would be motivated to incorporate the variable thickness teat as taught in *Ishimaru* to improve *Kurkjian*'s nipple to further increase the flow and reliability of the nipple, and to further prevent collapse of the nipple when the pressure in the nipple changes. Ex[1005],¶¶282-92; Ex[1008],[0041]-[0042],[0046], [0048].

Applying these teachings to *Kurkjian* results in a nipple/vessel combination including “a nipple having: a teat portion having a variable wall thickness including an aperture” under Petitioner’s proposed construction.

After considering the disclosures of both *Kurkjian* and *Ishimaru*, a POSA at the time of the priority date of the 930 Patent would have combined one or more of these features for the reasons stated above and would have been motivated to design a nipple and collar similar to Fig. H as shown below. Under Petitioner’s construction of “variable wall thickness”, Fig. H illustrates that a teat portion with a variable wall

thickness which is “a teat portion having a helical groove” according to Petitioner’s construction. Ex.[1018],19.

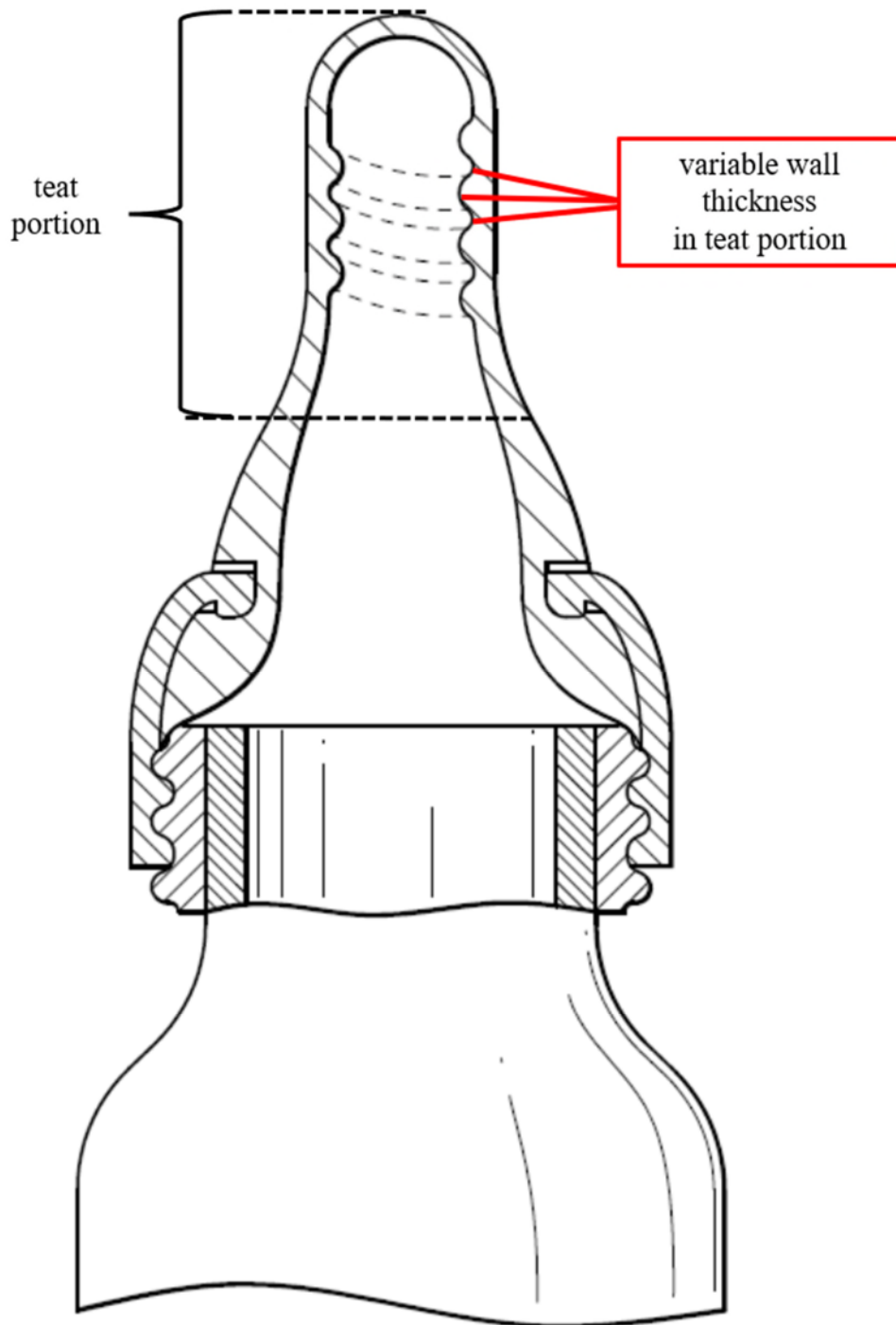


Fig. H
Kurkjian – Ishimaru
Petitioner’s Construction

(f) **14[E]: a base portion having a domed configuration,**

Kurkjian discloses “a base portion having a domed configuration” under Patent Owner’s proposed construction and Petitioner’s proposed construction.

Under Patent Owner’s construction of “base portion”, a base portion is the “part below the areola portion.” Ex.[1017],7. *Kurkjian* discloses a flexible nipple 12 that includes a body portion 13. Ex.[1009],1:45-52. Under Patent Owner’s construction of “base portion,” the base portion in *Kurkjian* is the part below the areola portion shown in Fig I illustrating the base portion of the combined device of *Kurkjian* and *Ishimaru*.

Under Patent Owner’s construction of “domed configuration,” a domed configuration is a “wide circular base with an arc-shaped cross-sectional profile.” Ex.[1017],8. *Kurkjian* discloses this limitation. *Kurkjian*’s domed configuration as shown in annotated Fig. I includes an arc-shaped cross-sectional profile as shown in the yellow line. In Fig. I, the base portion has a cross-sectional profile which is shaped like an arc. Regarding the “wide circular base,” the base portion is of nipple 12 is circular as viewed from the top or bottom. Ex.[1009],Figs.2,5,8.

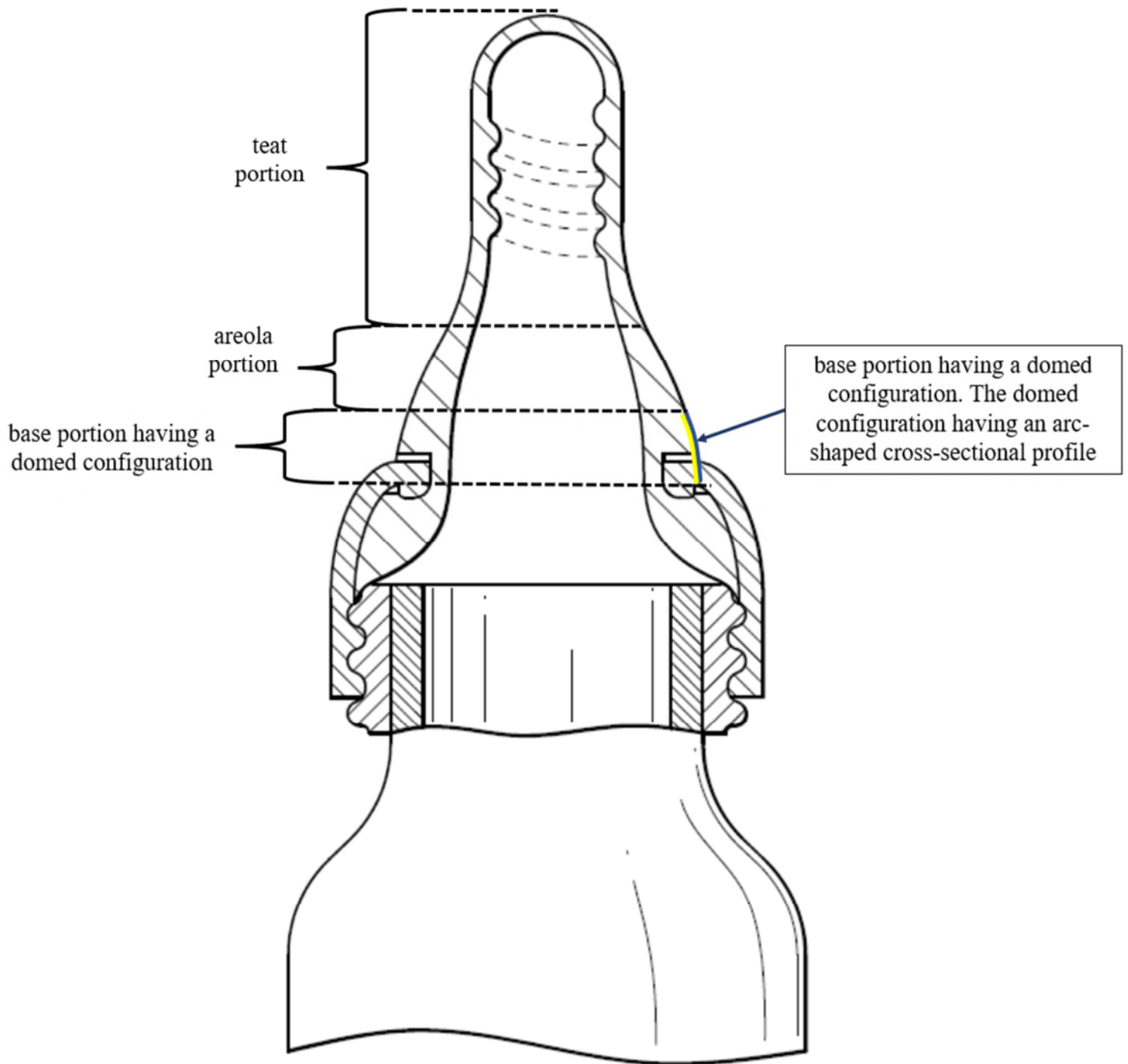


Fig. I
Kurkjian – Ishimaru
Patent Owner's Construction

Under Petitioner’s construction of “base portion”, a base portion is “the lowest portion of the nipple, beginning where the nipple meets the top rim of the vessel, that is mountable to the vessel.” Ex.[1018],7. Under Petitioner’s construction, starting from the top of the nipple, the base portion begins at the point above where the nipple first meets the top rim of the vessel. Under Petitioner’s construction of “base portion,” the base portion in *Kurkjian* is the lowest portion of the nipple, beginning at the point located where the nipple meets the top rim of the vessel, that is mountable to the vessel as illustrated in Fig. J below.

Under Petitioner’s construction of “domed configuration,” a domed configuration is “having a rounded shape in profile.” Ex.[1018],17. *Kurkjian* discloses this limitation. Ex.[1006],Figs.1,5,6,10,14. *Kurkjian*’s domed configuration as shown in Fig. J includes a rounded shape in profile as shown. In Fig. J, the base portion has a rounded shape when viewed in profile from the longitudinal axis or perspective view. Ex.[1009],Figs.2,5,8.

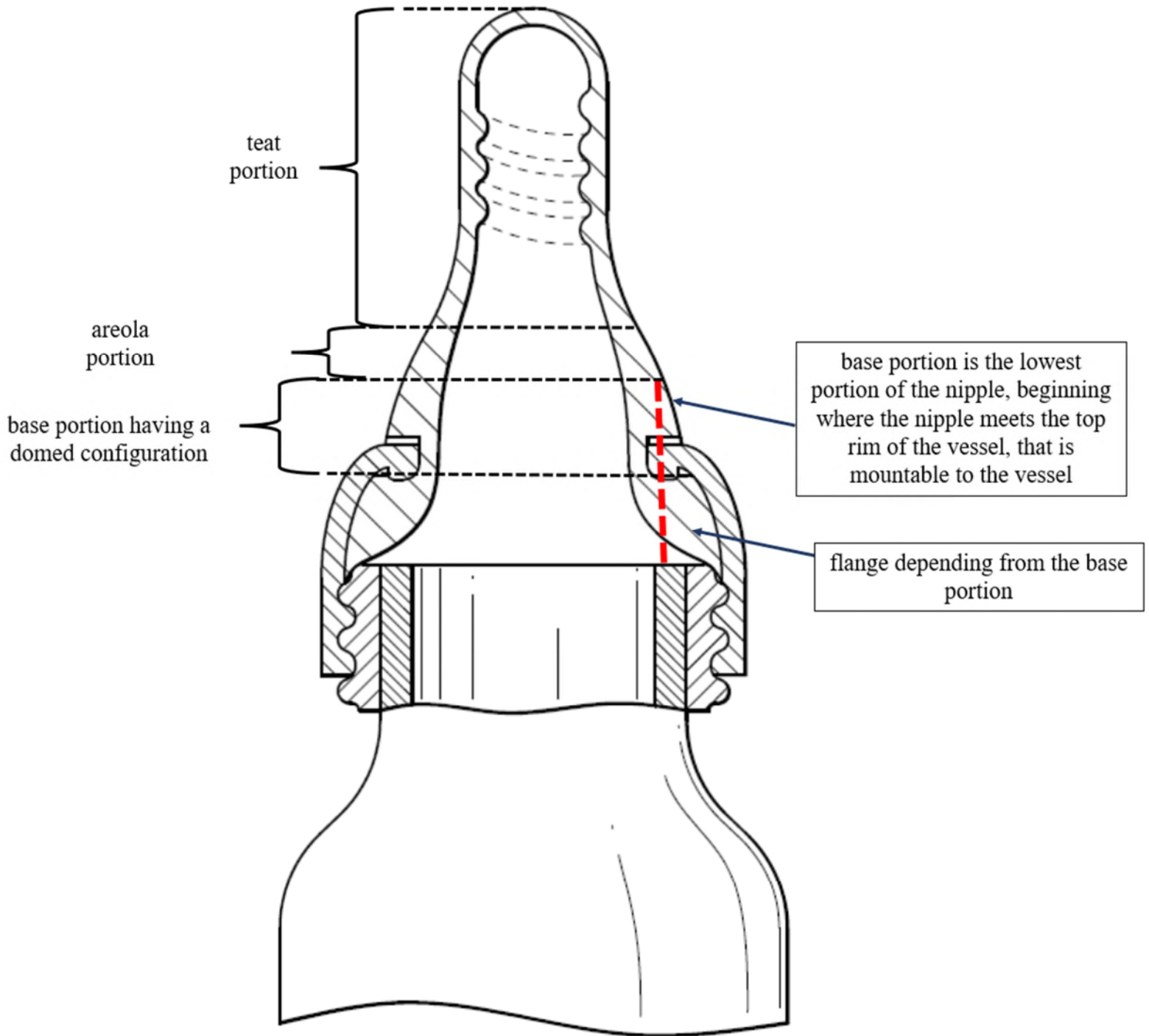


FIG. J
Kurkjian – Ishimaru
Petitioner's Construction

(g) **14[F]: an areola portion between the teat portion and the base portion,**

Kurkjian discloses “an areola portion between the teat portion and the base portion” under Patent Owner’s proposed construction and Petitioner’s proposed construction.

Under Patent Owner’s construction of “areola portion”, an areola portion is the “part extending beyond the bottom of the teat portion.” Ex.[1017],10. Under Patent Owner’s construction of “areola portion,” the areola portion in *Kurkjian* is the part extending beyond the bottom of the teat portion as illustrated in Fig. G and Fig. I above. Furthermore, a POSA would understand the nipple disclosed in *Kurkjian* comprises different portions, including an areola portion located between the teat and the base portion. Ex.[1005],¶¶196-197.

Under Petitioner’s construction of “areola portion”, an areola portion is “a surface area, that includes a different characteristic and functionality than the rest of the nipple, surrounding and extending beyond the bottom of the teat portion.” Ex.[1018],13. Under Petitioner’s construction of “areola portion”, the areola portion in *Kurkjian* is surrounding and extending beyond the bottom of the teat portion as shown in Fig. H according to Petitioner’s construction. Furthermore, in *Kurkjian* the areola portion is a surface area that includes a different characteristic and functionality than the rest of the nipple.

For example, the areola portion of the nipple in the combined device of *Kurkjian -Ishimaru-Sepehr* illustrated in Fig. K below possesses a different surface area characteristic and functionality than either the base portion or teat portion. In particular, the teat portion includes a variable wall thickness on the inner surface of the teat wall, which the areola portion lacks; whereas the base portion includes a downward depending flange which the areola portion lacks. The variable wall thickness in the teat portion functions to change the bending parameters of the silicone teat portion. Ex.[1005],¶¶434,435,507. The flange depending from the base portion functions to permit the nipple to mount to the bottle. Accordingly, the areola portion under Petitioner's construction includes a different characteristic and functionality than the rest of the nipple.

Furthermore, a POSA would understand the areola portion of the nipple in to have a different characteristic and functionality than the rest of the nipple. Ex.[1005],¶197. For example, a POSA would understand the function of the areola portion in *Kurkjian* is to provide a surface area that simulates the breast to allow the baby's lips to rest on the nipple, whereas the function of the teat portion is to provide a region for the infant to bite. Ex.[1005],¶¶282-289 391,393.

(h) **14[G]: a flange depending from the base portion,**

Kurkjian discloses a flange depending from the base portion of the nipple. Specifically, *Kurkjian* disclose an annular flange that is “integral with the body portion of the nipple.” Ex.[1009],1:45-54. Figure 1 further illustrates the flange depending from the base portion of the nipple. Ex.[1005],¶¶324-26.

This is also true in the combined device. Figure G illustrates the flange depending from the base portion according to Patent Owner’s construction, and Figure H illustrates the flange depending from the base portion according to Petitioner’s construction.

(i) **14[H]: a one-way air inlet valve (i) extending through said base,**

Kurkjian teaches a vent opening 15 which passes through the flange 14 to release of the vacuum built up in the vessel as the contents of the bottle are consumed. Ex.[1009],1:9-15, 2:53–3:28, 3:33–70, Fig.1, 6, 7, Claims1-4. The vent extends through *Kurkjian*’s flange to allow “air to pass under the shoulder and between the body portion of the nipple and the edge of the aperture.” *Id.*,3:6-10, Figs.1,6,7. *Ishimaru* similarly has a vent hole in the flange. Ex.[1008],Fig. 1.

As explained in § VIII.C.1 above, a POSA would have been motivated to modify *Kurkjian* and *Ishimaru* based on the teachings of *Sepehr*, such that the one-way air vent was relocated to extends through the base just outside the collar. As modified, the *Kurkjian -Ishimaru-Sepehr* combination practices this element.

As discussed in § VIII.C.1, *Sepehr* teaches the placement of “automatic valve 2 produced as an integral part of teat 1” above the collar as shown in Figure 3 of *Sepehr*, to “to allow the air to enter the bottle when a vacuum is formed.”
Ex.[1008],Abstract, 3:8-14, Figs.1-4, Claims 3-7.

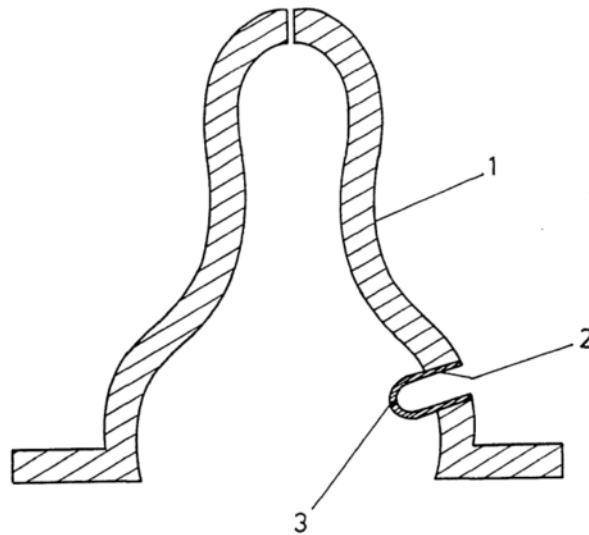


FIG. 1 of Sepehr

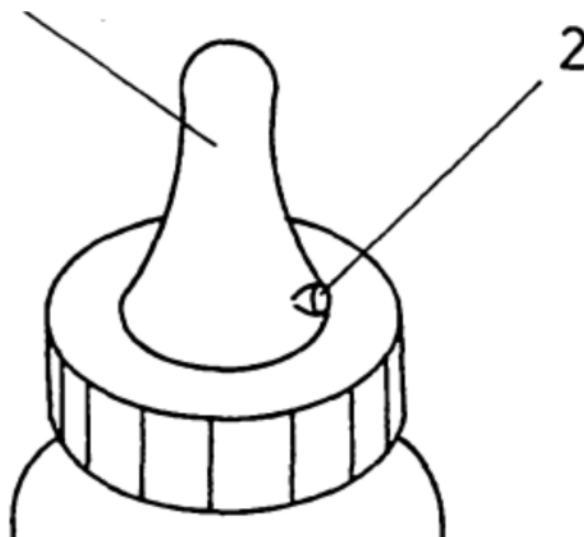


FIG. 3 of Sepehr

Specifically, a POSA reviewing *Sepehr* would be motivated to move the location of the vent from the flange 14 of *Kurkjian*, to above the collar as taught in *Sepehr* to improve the device's air flow. Ex[1005],¶285. The one-way air vent communicating directly with the external environment in *Sepehr* is more effective at pulling air into the bottle, as compared to an air vent through the flange covered by the collar which pulls air in through the threads as in *Kurkjian*. Ex[1005],¶285.

Applying *Sepehr*'s teachings to *Kurkjian* and *Ishimaru*, as discussed, results in a nipple/vessel combination including "a one-way air inlet valve (i) extending through said base," as shown in the annotated Fig. K below illustrating the modified nipple. Ex.[1005],¶¶327-330. As seen above when comparing the location of the base portion between Patent Owner's construction (Fig. I) and Petitioner's construction (Fig. J), the dashed lines denoting the limits of at least the base portion are drawn at the same location, e.g., slightly above the collar. Accordingly, the combined device of Fig. K represents a one-way air inlet valve through the base portion having a domed configuration according to both the Patent Owner's and Petitioner's constructions.

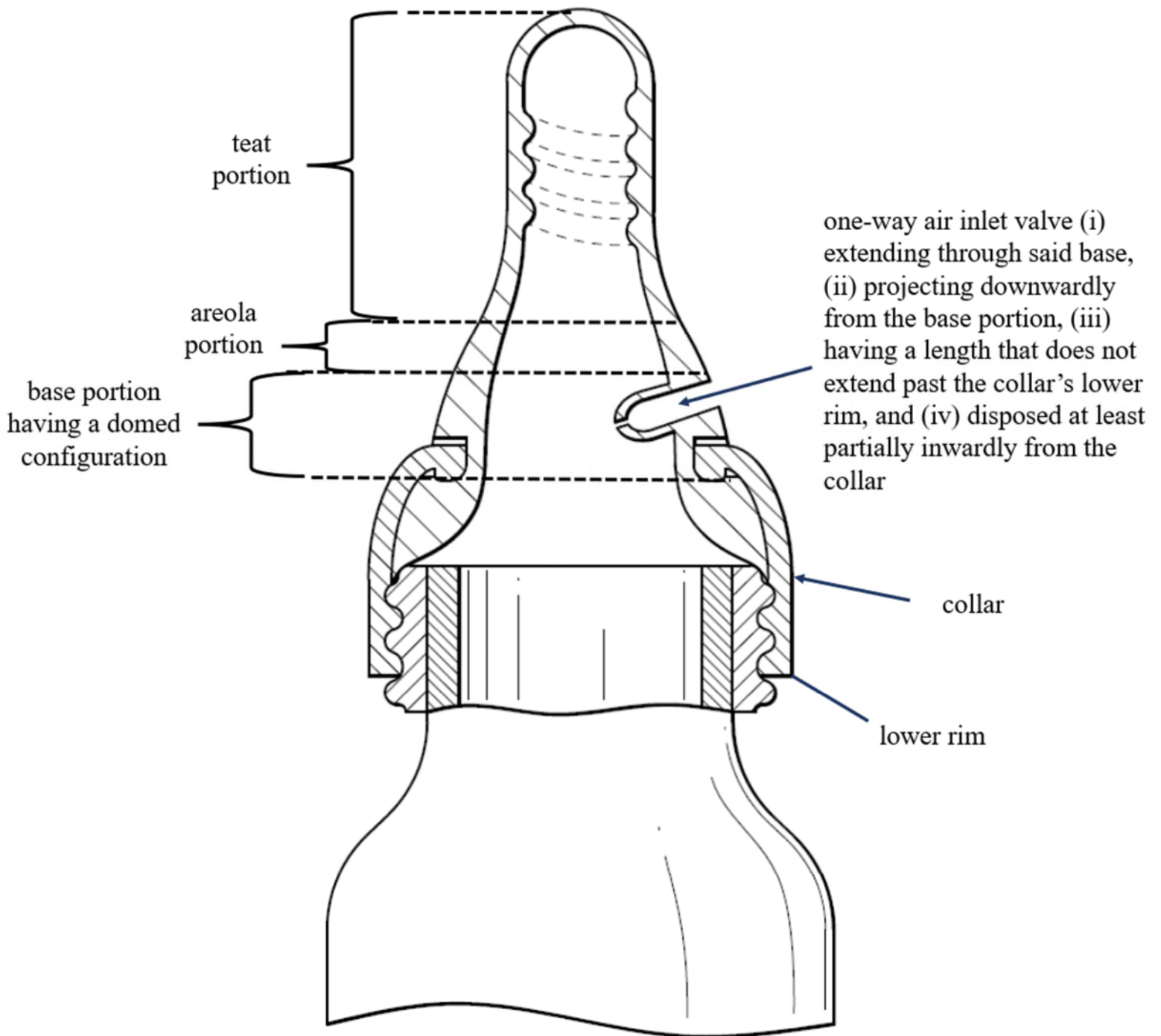


FIG. K
Kurkjian – Ishimaru - Sepehr

(j) **14[I]: (ii) projecting downwardly from the base portion,**

Sepehr discloses that its “one-way air inlet valve 2” is positioned downwardly through said base, as can be seen in, for example, *Sepehr*’s Fig.1 above. Ex[1007],Fig. 1, Abs.; Ex[1005],¶¶327-29. This remains true in the combination. As discussed in the prior limitation, the combination of *Kurkjian*, *Ishimaru* and *Sepehr* would result in the air inlet valve projecting downwardly from the base portion as shown in Fig. K above illustrating the modified nipple. Ex.[1005],¶330.

(k) **14[J]: (iii) having a length that does not extend past the collar's lower rim, and;**

Sepehr discloses one-way air inlet valve that does not extend past the collar’s lower rim. Ex.[1007],Fig. 1. This remains true in the combination. As shown in the modified drawing Fig. K above reflecting the combined device of *Kurkjian*, *Ishimaru* and *Sepehr*, the valve satisfies this limitation. Ex.[1007],Fig.1; Ex.[1005],¶332. A POSA would be motivated to make a valve that has a length that does not extend past the collar’s lower rim. Ex.[1005],¶332.

(l) **14[K]: (iv) disposed at least partially inwardly from the collar; the flange being arranged to seal with the vessel,**

Sepehr teaches the vent is disposed at least partially inwardly from the collar. Ex.[1007],Fig. 3. This remains true in the combination. As previously explained, when *Kurkjian* and *Ishimaru* are combined with *Sepehr*, the inlet valve is placed partially inwardly from the collar as shown in Fig. K above. Ex.[1007],Fig.3at2.

- (m) **14[L]: the nipple being secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange; and**

Kurkjian discloses that a nipple is secured to the collar by sealingly capturing an inner edge of the collar between the base portion and the flange. Specifically, *Kurkjian* teaches that a “flexible nipple” and a “retaining cap” wherein the “the flange 21a of the nipple 23a will be clamped between the upper edge of the cap and the upper edge of the bottle neck 32” (Ex.[1009],1:45-2:10), and “bead 21 [of the cap] is adapted to fit within the channel 9 of the flange 14 directly under the shoulder 16 of the body portion 13 of the nipple.” *Id.* at 2:14-18 (emphasis added), 3:33-70, Fig.1,3,6,7; Ex.[1005],¶¶337-39.

This remains true in the combination shown in Fig. L illustrating the combined device below.

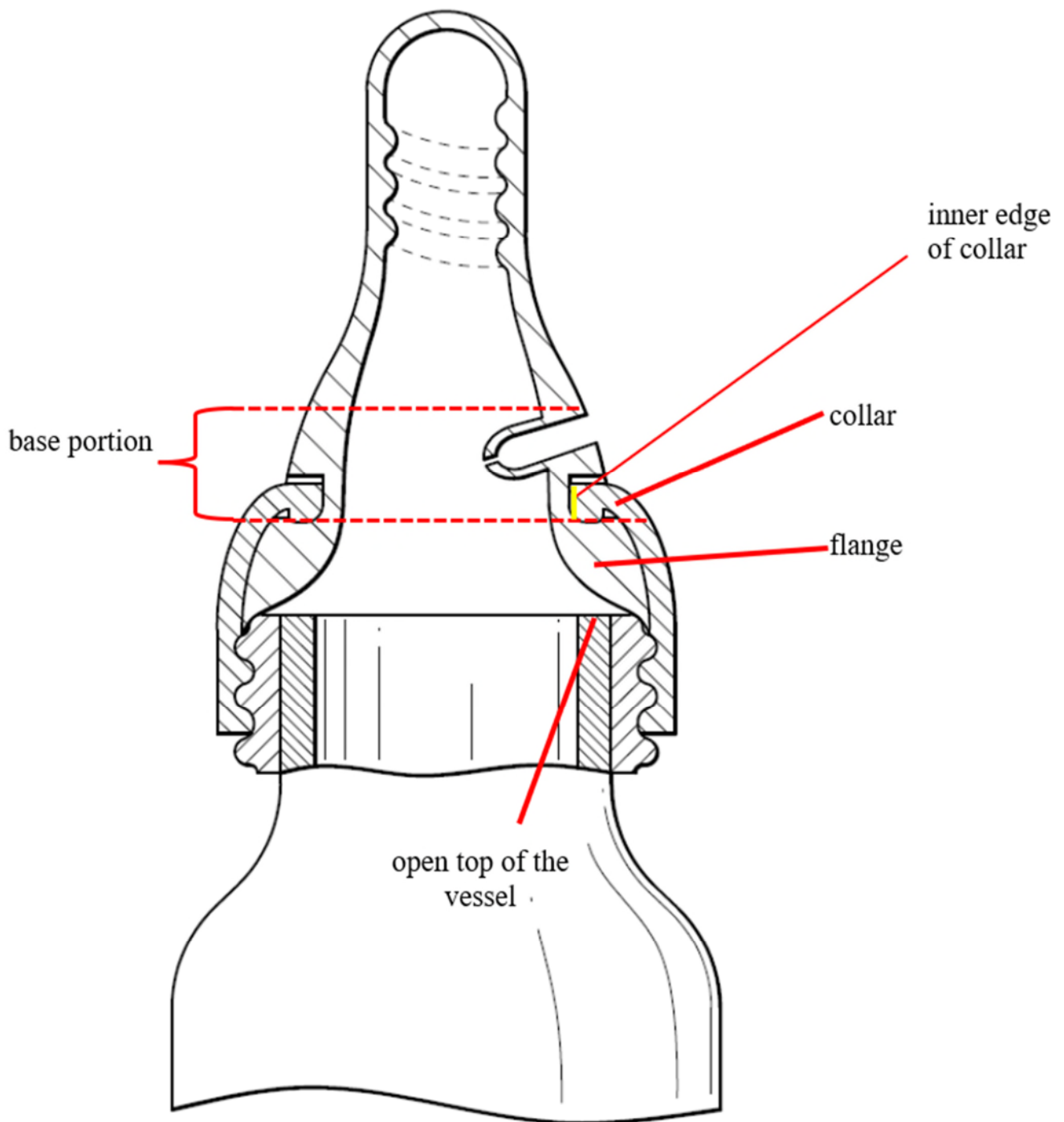


FIG. L
Kurkjian – Ishimaru - Sepehr

- (n) **14[M]: the nipple being secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel.**

Kurkjian discloses the nipple is secured to the vessel by capturing the flange of the nipple between the collar and the open top of the vessel. Specifically, Kurkjian discloses a flexible nipple that and a “laterally extending and preferably annular flange 14.” Ex.[1009],1:45-50. Further, Kurkjian teaches that the “outer edge of the flange 14 [of the nipple] is adapted to be firmly clamped between the flange 20 of the cap 17 and the extreme outer edge of the neck of the bottle[.]” Ex.[1009],2:28-45. Ex.[1005],¶¶340-42.

This remains true in the combination shown in Fig. L illustrating the combined device above.

3. Claim 16

- (a) **The feeding bottle of claim 14 wherein the open top of the vessel comprises an outwardly threaded vessel neck.**

Kurkjian discloses a feeding bottle wherein the open top of the vessel contains an outwardly threaded vessel neck. Specifically, Kurkjian teaches a “nursing bottle which is preferably of the wide-mouth type, having threads 11 formed near its open or outer end.” Ex.[1009],1:41-44, 1:11-15, 2:14-17, Figs.1,3. This remains true in the combination.

4. Claim 17

- (a) **The feeding bottle of claim 14 wherein the air inlet valve comprises a slit opening.**

As explained above, a POSA would have been motivated to incorporate the “one way air inlet valve” disclosed by *Sepehr* into the nipple of *Kurkjian* such that the valve extends through the base of the nipple, outside of the collar.

Ex.[1005], ¶¶327-29, 282-92. *Sepehr* teaches that its one-way air inlet “valve ... is composed of a concave elongate semi spherical shape with a *slit* at its dome.”

Ex.[1007], 2:13-18, 3:8-19 (“*slit* 3 across the valve”). Ex.[1005], ¶¶345-47, 282-92.

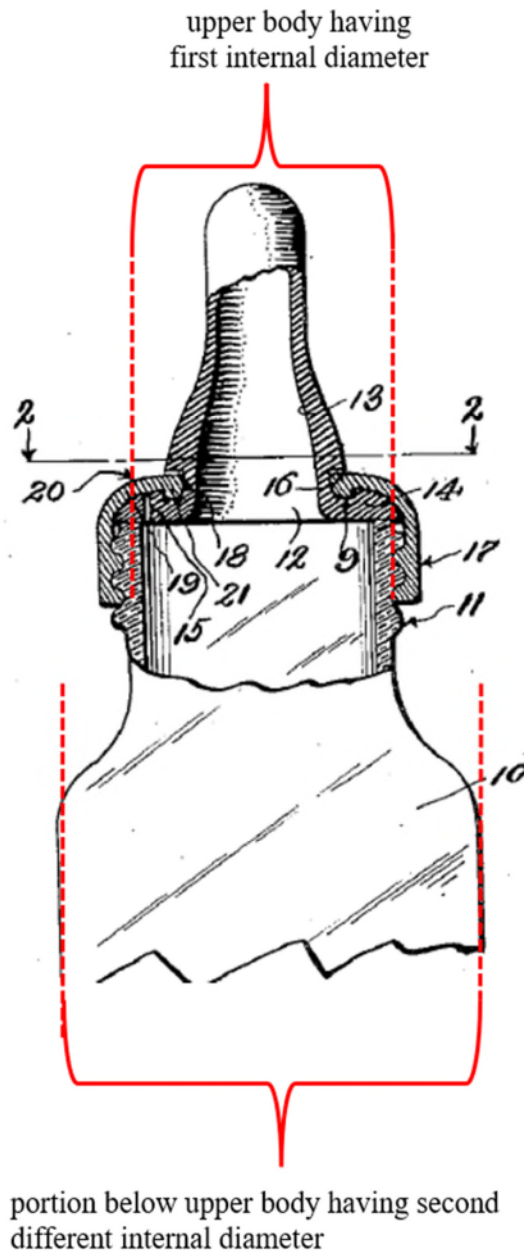
This remains true in the combination.

5. Claim 19

- (a) **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.**

Kurkjian discloses a feeding bottle where the upper body has a first internal diameter and a portion below the upper body has a second internal diameter. As shown and annotated below, Figure 1 of *Kurkjian* demonstrates the varying diameters of the bottle, and *Kurkjian* explains that its bottle 10” comprises a “neck” of “*preferably* of the wide-mouth type,” which a POSA would understand to indicate that the bottle has two different internal diameters relating to the upper body (neck) and lower body. Ex.[1009], 1:41-43, Fig.1; Ex.[1005], ¶¶348-50, 282-92.

This remains true in the combination shown in Fig. L illustrating the combined device above.



Kurkjian Fig. 1

IX. SECONDARY CONSIDERATIONS

Patent Owner has not identified any evidence of secondary considerations of non-obviousness tied to the claimed invention of the '930 Patent. Accordingly, there is no objective evidence of non-obviousness that might warrant a finding that claims 14-20 are patentable. Ex[1005], ¶342. Furthermore, even if Patent Owner were able to establish any secondary considerations and a proper nexus, any such secondary considerations would be insufficient to overcome the strong case of obviousness presented here. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

X. CONCLUSION

Petitioner respectfully request institution of *inter partes* review and cancelation of claims 14, 16, 17, and 19 of the '930 Patent as unpatentable.

Respectfully,

BAKER BOTTS L.L.P.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105, the undersigned certifies that on the 13 day of January 2023, the foregoing was provided via Priority Mail Express or by means at least as fast and reliable as Priority Mail Express, postage prepaid, to the Patent Owner and its known representatives by serving the correspondence address of record for the U.S. Patent No. 10,952,930 holder and the patent holder's counsel:

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Date: January 13, 2023

**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME
LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE
REQUIREMENTS**

1. This Petition complies with the type-volume limitation of 14,000 words, comprising 12,981 words, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman.

Respectfully submitted,

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Lead Attorney for Petitioner

Date: January 13, 2023

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