UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Zak Designs, Inc.

Petitioner,
v.

CamelBak Products, LLC

Patent Owner.

IPR2022-00803
U.S. Patent 9,782,028

DECLARATION OF OTTMAR HANS BRANDAU

TABLE OF CONTENTS

I, Ottmar Hans Brandau, declare as follows:

I. INTRODUCTION

1. I have been asked to submit this declaration on behalf of Zak Designs, Inc., who is the Petitioner in an *Inter Partes* review before the United States Patent and Trademark Office involving U.S. Patent 9,782,028 ("the '028 Patent," EX1001). Specifically, I have been retained as an independent expert consultant by Petitioner to provide my opinions on the technology claimed in, and the patentability or unpatentability of claims 1, 2, 5-10, 14, 16, and 21 ("challenged claims") of the '028 Patent. Although I am being compensated at my usual rate of $350 per hour for the time I spend on this matter, no part of my compensation depends on the outcome of this proceeding, and I have no financial interest in any of the parties. I have no regular affiliation with either party in this case, with the exception of having been retained by Zak Designs, Inc. as an independent consultant in this matter and a related matter.

2. I have personal knowledge of the facts and matters in this declaration and believe them to be true.

II. BACKGROUND AND QUALIFICATIONS

3. From 1976 to 1978, I completed a Tool and Die Maker apprenticeship at Hugo Reinz GmbH in Berlin. From 1979 to 1983, I worked for Bekum Maschinenfabriken GmbH, also in Berlin, as a service engineer. Bekum is a

manufacturer of extrusion blow molding machines and has been among the leading players in the extrusion blow molding industry since it was incorporated in 1958. My role at Bekum involved working on-site and with clients. The majority of my work related to new machine installations though it also involved some trouble-shooting.

4. Having worked in the industry for a number of years, I became keen to improve my theoretical knowledge of engineering. From 1983 to 1986, I therefore attended the State Technical College in Berlin where I studied engineering. In 1986, I graduated with an Honors Degree in Mechanical Engineering.

5. From 1986 to 1987, I worked for Rober Industrieroboter GmbH as a project engineer. In this role I led a design team for various industrial packaging and robot applications. This role involved designing custom-built robots (including software programming) and installing them with clients. From 1988 to 1991, I worked for Husky Injection Molding Systems Ltd. ("Husky") as a process engineer. At Husky, I was predominantly involved in the development of the Integrated Two Stage Stretch Blow Molding program ("ITS"). Being involved in the ITS program allowed me to gain deep knowledge of injection and stretch blow molding of PET, the material used in most plastic water and soft drinks bottles. I also gained knowledge of the various closures used to seal bottles. In the context of this program I was also involved in machine development, product development and process

design. In particular, I was part of the team that developed new blow molded containers which involved extensive product development. I left Husky on good terms in 1991 to pursue a career with Magic North America.

6. From 1991 to 1997, I was Technical Manager and Vice President Operations of Magic North America Inc., a company that imported extrusion blow molding machines and single stage stretch blow molding machines from Italy. I fulfilled a number of roles at Magic North America Inc. Initially, I was involved in the organization of servicing the machines and then later became involved in running the company. This was a wide ranging role which included writing machine specifications, overseeing machine developments and interfacing with clients.

7. Since 1997, I have worked as an independent consultant in the blow molding and injection molding industry. This involves advising clients on all areas of the injection and blow molding process from container design and product development to productivity improvements, plant installation and troubleshooting. In my role as a consultant, I work for machine manufacturers, converters (companies that manufacture bottles and then sell them on for filling) and brand-owners (who sometimes manufacture and mostly fill their own bottles). My role as consultant involves training of personnel, troubleshooting, plant audits, quality audits, and design of preforms, closures, and bottles. In July of 2019 I became president of PET All Manufacturing Inc, an importer and distributor of blow molding machinery.

8. In view of the lack of published literature in the blow molding field and my significant experience of working in the industry in Europe and North America, in the early 2000's I wrote the 'Stretch Blow Molding Handbook. The first edition was published in 2003 and was the first comprehensive guide to stretch blow molding. The second edition of the 'Stretch Blow Molding Handbook' was published in 2011 and the third edition in 2014. In 2005, I also wrote a book called 'Bottles, Preforms, Closures–A PET Design Guide'. This book details design parameters for the 3 plastic parts mentioned in the title. The second edition of this book was published in 2012. I have also published a number of journal articles on the topic of blow molding and injection molding in relevant industry magazines.

9. A full description of my background and technical qualifications, as well as a list of publications that I have authored in the last 10 years, is provided in my *curriculum vitae*, which I understanded has been submitted as EX1004 in this proceeding.

III. MATERIALS CONSIDERED

11. In forming my opinions expressed in this declaration, I have considered, among other things, the following documents. I understand the documents have been given the following exhibit numbers in this proceeding:

Exhibit	Description
EX1001	U.S. Patent No. 9,782,028 ("the '028 patent")
EX1002	File history of U.S. Patent No. 9,782,028

Exhibit	Description
EX1005	International Patent Application Publication No. WO 2007/148441 to Yamashita et al.
EX1006	English Translation of Yamashita and Certification of Accurate Translation ("Yamashita")
EX1007	U.S. Patent 5,791,510 to Paczonay ("Paczonay")
EX1008	European Patent Application No. EP 1 095 599 to Dall'Agnese, *et al*. ("Dall'Agnese")
EX1009	U.S. Patent 5,897,013 to Manganiello, *et al*. ("Manganiello")
EX1010	U.S. Patent 3,307,752 ("Anderson")
EX1011	U.S. Patent Application Publication No. 2007/0039959 to Choi, *et al*. ("Choi")
EX1012	Excerpts of Merriam-Webster's Collegiate Dictionary, Tenth Edition

10. In forming my opinions, I have also relied on my education and experience.

IV. RELEVANT LEGAL STANDARDS

11. I am not an attorney. My analysis and opinions are based on my background and expertise in this technical field, as well as the instructions I have been given by counsel for the legal standards relating to patentability.

12. I have been informed by counsel for Petitioner that the following legal principles may apply to analysis of patentability based on 35 U.S.C. §§ 102 for anticipation and 103 for obviousness. I have also been informed that, in an *inter partes* review proceeding such as this one, a patent claim is unpatentable if it is shown by a preponderance of the evidence that the claim would have been

anticipated by a prior art patent or publication, or obvious by one or more properly combined prior art patents or publications.

A. Level of Ordinary Skill in the Art

13. I have been instructed to consider patentability of the Challenged Claims through the lens of a person of ordinary skill in the art ("POSITA") at the time of the claimed priority date of the'028 Patent—January 21, 2009. I am familiar with the level of ordinary skill in the subject matter of the '028 Patent in 2009.

14. Based on my review of the technology, and drawing on my own experience in the field, my analysis below assumes that a POSITA would have had a degree in engineering or equivalent coursework, and a year or more of experience in designing, prototyping, and/or manufacturing containers produced from thermoplastic resins, including injection molding and/or blow molding such containers from preforms. Less work experience may be compensated by a higher level of education, and vice versa.

15. Based on my qualifications discussed above, I qualified at least as a POSITA of the '040 Patent by January 21, 2009.

16. My analysis below considers how a POSITA would have understood the references listed above with respect to the challenged claims of the '028 patent.

B. Anticipation

17. I have been informed a patent claim is unpatentable as anticipated under 35 U.S.C. § 102 if every limitation of the claimed invention is found in a single prior art reference--either expressly or required through inherency--as arranged in the claim.

C. Obviousness

18. I have been informed that, even if a single prior art reference does not disclose each and every element of a patent claim, the patent claim is still unpatentable as obvious under 35 U.S.C. § 103. It is my understanding that a claimed invention is unpatentable as obvious over a combination of prior art references if the differences between the claimed invention and the prior art are such that a POSITA would have found the subject matter as a whole obvious.

19. I understand that obviousness is determined by evaluating: (1) the scope and content of the prior art, (2) the differences between the prior art and the claim, (3) the level of ordinary skill in the art, and (4) any secondary considerations of non-obviousness. To establish obviousness based on a combination of the elements disclosed in the prior art, it is my understanding that a challenger must provide a clear articulation of the reason(s) why the claimed invention would have been obvious. I understand this articulation may, but does not necessarily, require record evidence of an explicit teaching, suggestion, or motivation to combine the prior art

in the way recited in a patent claim. Rather, prior art may be combined based on an express teaching, suggestion, or motivation from the prior art itself, or from a reasoned explanation of an expert witness or some other rationale.

20. For example, it is my understanding that this articulation can come from a number of rationales, which include but are not limited to (1) combining prior art elements according to known methods to yield predictable results; (2) simple substitution of one known element for another to obtain predictable results; (3) use of known technique to improve similar devices, methods, or products in the same way; (4) applying a known technique to a known device, method, or product ready for improvement to yield predictable results; (5) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, e.g., the combination is "obvious to try"; (6) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and (7) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed limitation.

21. I further understand that these rationales may be found explicitly or implicitly: (1) in the prior art; (2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest

or importance in the field; or (3) from the nature of the problem to be solved. Additionally, I understand that the legal determination of the motivation to combine references allows recourse to logic, judgment, and common sense. In order to resist the temptation to read into prior art the teachings of the invention in issue, however, it should be apparent that the expert is not conflating "common sense" and what appears obvious in hindsight. I understand that if the teachings of a prior art would lead a POSITA to make a modification that would render another prior art device inoperable, then such a modification may not be obvious. I also understand that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there may be no suggestion or motivation to make the proposed modification.

22. I understand that it may be improper to combine references where the references teach away from their combination. I understand that a reference may be said to teach away when a POSITA, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. In general, a reference teaches away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the patentee. I understand that a reference teaches away, for example, if (1) the combination would produce a seemingly inoperative device, or (2) the references

leave the impression that the product would not have the property sought by the patentee. I also understand, however, that a reference does not teach away if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed.

D. Claim Construction

23. Counsel has instructed me that, in this proceeding, the words of a claim are to be given their plain and ordinary meaning, which the meaning understood by a person of ordinary skill in the art after reading the entire patent. This analysis focuses on how the patentee used the claim term in the claims, specification, and prosecution history. Dictionaries or extrinsic sources may assist in determining the plain and ordinary meaning, but extrinsic evidence cannot override a meaning that is unambiguous from the intrinsic evidence.

24. I have also been informed by counsel that an element in a claim may be expressed as a means or step for performing a specified function, without reciting the specific structure, material, or acts that perform that function. I understand that practitioners refer to such terms as "means-plus-function" or "step-plus-function" terms. I have been instructed that, in these cases, the claim term is understood to cover the corresponding structure, material, or acts that the specification identifies as performing that function.

V. DRINK CONTAINERS

25. With the advent of plastic bottles it became quickly apparent that the previously used aluminum closures proved unsatisfactory for these bottles. They are therefore hardly used anymore. Instead, plastic caps made from HDPE (high density polyethylene) or PP (polypropylene) have been implemented and sometimes standardized as PCO (plastic caps only) for example in the carbonated beverage industry. Plastic closures, besides offering superior functionality, also offer greater design freedom compared to their aluminum counter parts. Flip-top caps in a variety of designs are a good example and so are the most sophisticated caps under review in this proceeding.

26. The assembly of various injection molded parts into a single unit allow users increased comfort in drinking while sealing the bottle contents. The drink containers featured in the cited patents have neck openings in the 50 to 65 mm range. This is measured at the outer edge of the threads. The large opening compared to a typical water bottle allows producers to manufacture sophisticated closures with various injection molded parts that are assembled into one unit. This type of multi-use drink container was well established before the priority date of the ’028 Patent, and the industry had made good use of the available space on top of the container. The various mechanisms to switch between a stowed and open position, the various mouthpieces, and straw positions were known to ordinarily skilled artisans before

the priority date of the ’028 Patent, and the motivation to combine different elements from different containers to take advantage of desirable features was apparent.

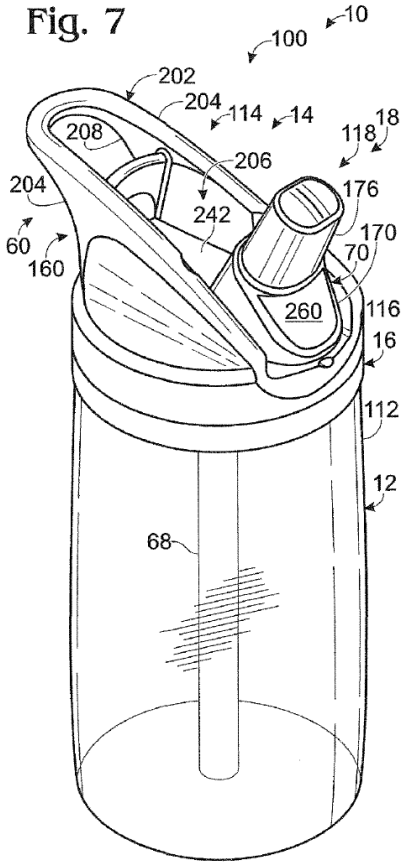
VI. THE ’028 PATENT

A. Overview

27. The ’028 patent describes and claims a drink container having: (1) a unitary mouthpiece extending through the base of the cap and having an anchor portion retaining the mouthpiece assembly in the base; (2) a stowed configuration that crimps a tube of the mouthpiece assembly so liquid cannot flow; (3) a dispensing configuration in which the tube is uncrimped and liquid may flow; and (4) a user release mechanism releasing the mouthpiece from the stowed configuration to the dispensing configuration. EX1001, Abstract, claim 1. As demonstrated in the Grounds, such drink containers were known long before the ’028 patent’s claimed priority date of January 21, 2009. *Id*., 1.

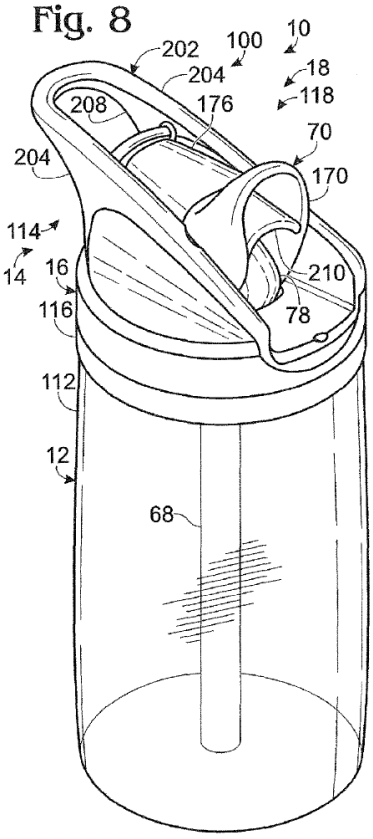
28. Figures 7, 8 (below) respectively show drink container 10 in the drinking configuration and the stowed configuration. EX1001, 2:16-22. It has liquid container 12 and cap assembly 14 with base 16 and mouthpiece assembly 18. *Id.*, 2:40-3:10, 4:5-10, FIGS. 7, 8. The mouthpiece assembly extends through through-passage 34 in the base, allowing a user to drink from outlet 42. *Id.*, 4:39-45, FIG. 11 (below). The mouthpiece assembly has "anchor portion, 86 … adapted to prevent, or at least restrict, passing of the anchor portion through the through-passage of the base of the cap assembly." *Id.*, 9:29-38; *see id.*, 9:39-58.

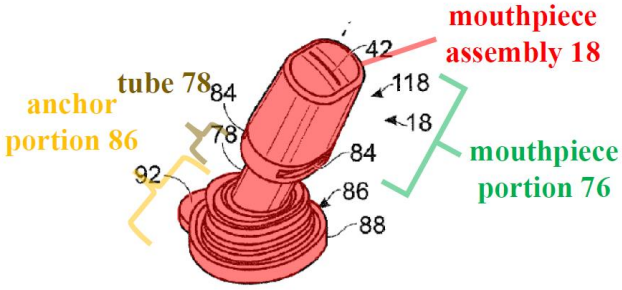
Fig. 7



29. The mouthpiece assembly has mouthpiece portion 76 from which the user drinks, *id.*, 8:28-34, and "[t]ube 78 … for drink liquid to flow from the internal compartment of the liquid container to mouthpiece portion 76." *Id.*, 9:17-19, 9:20-28. "[C]onstructed as a unitary assembly of a resiliently deformable material," *id.*, 10:56-59, the mouthpiece assembly pivots between the drinking (FIG. 7) and stowed (FIG. 8) configurations to open/close the container. *Id.*, 5:25-28, 5:38-51, 11:4-14.

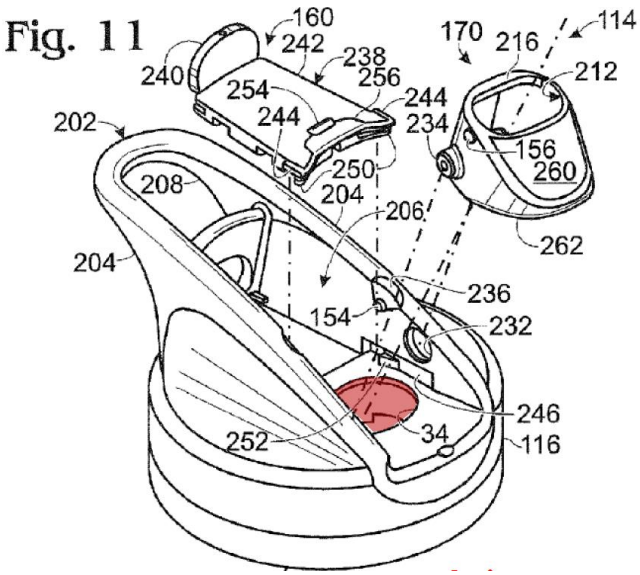
Fig. 8





'028 Patent, FIG. 11*[1]

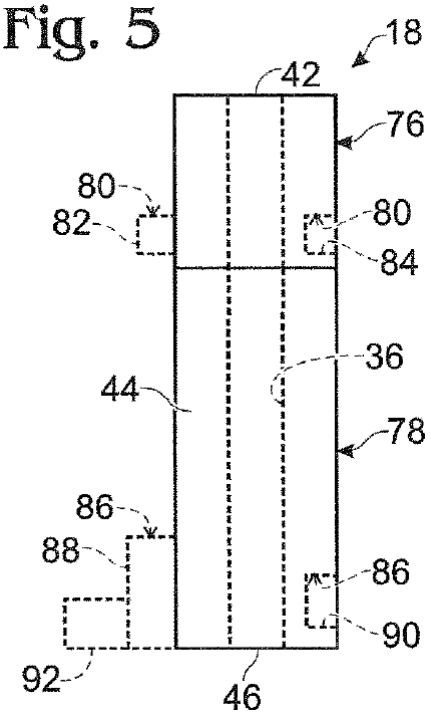
Fig. 11



[1] I identify figures modified by annotations/colorization with "*".

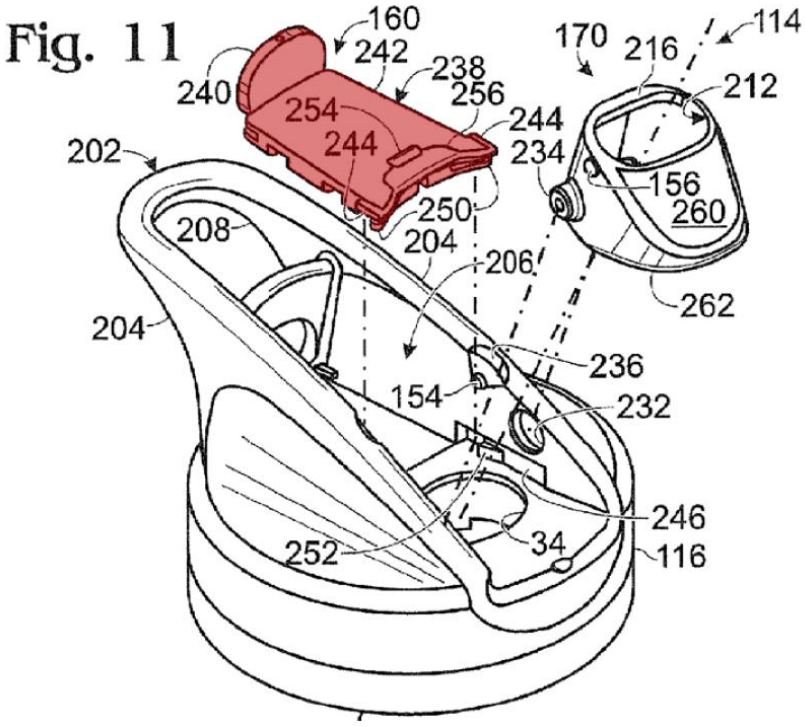
30. In the stowed configuration (FIG. 8, above), a crimping region 44 (FIG. 5, right) of the tube at the base of the cap "crimp[s] [the tube] … to prevent, or at least restrict, the flow of drink liquid through the liquid passage when the mouthpiece assembly is in the stowed configuration." *Id*., 9:17-23; *see id*., 5:33-65, 7:6-8:8, 9:24-28. The mouthpiece assembly has an "internal bias created by the material from which at least a portion of the mouthpiece assembly is constructed" toward the dispensing configuration. *Id*., 5:52-65; *see id*., 6:37-39. In the dispensing configuration (FIG. 7), the mouthpiece assembly is uncrimped so liquid may flow through the liquid passage within the mouthpiece assembly. *Id*., 12:1-13.

Fig. 5



31. User release mechanism 160 in the cap is "adapted to permit the reconfiguring of the mouthpiece assembly from the stowed configuration to the dispensing configuration." *Id*., 12:50-54, FIG. 11 (right). The user release mechanism

Fig. 11



"includes a sliding member 238" with "a user engagement pad 240 and an actuator [in the form of] generally planar portion 242. *Id*., 12:54-58. "Sliding member 238 is configured to slide relative to the base of the cap assembly upon user actuation of the user release mechanism (i.e., upon user engagement and translation of the user engagement pad)." *Id*., 12:61-65.

32. Translating sliding member 238 toward tube 78 disengages two catch structures from one another, allowing the mouthpiece assembly to move from the stowed to the dispensing configuration. *Id*., 12:61-13:33. To close the container, the user pivots the mouthpiece assembly to the stowed configuration, crimping the tube and reengaging the catch structures to hold the mouthpiece in position. *Id*., 5:66-6:9,

11:61-67, 12:38-44. The container may have a bite-actuated mouthpiece that opens the outlet 42 (FIG. 11) when the mouthpiece deforms under bite pressure and closes absent bite pressure when the mouthpiece resumes its natural shape. *Id*., 10:27-43, FIG. 11.

B. Prosecution History

33. I understand the ’028 patent issued from Application No. 13/479,962 filed May 24, 2021, which is a continuation of Application No. 12/357,114 filed January 21, 2009. EX1001, 1.

34. The ’028 patent prosecution focused on establishing that Choi (EX1011) does not disclose the claimed anchor portion. In the first action, I understand the examiner rejected claims as obvious over Choi (and other references), identifying Choi’s mount 182 as the claimed anchor portion of the mouthpiece assembly. EX1002, 393-404; EX1011, FIG. 9 (reproduced right). The applicant argued Choi’s mount 182 wasn’t a mouthpiece anchor “sized to restrict passage of the anchor through a through-passage defined by the base of the associated cap assembly, as recited in [the] independent

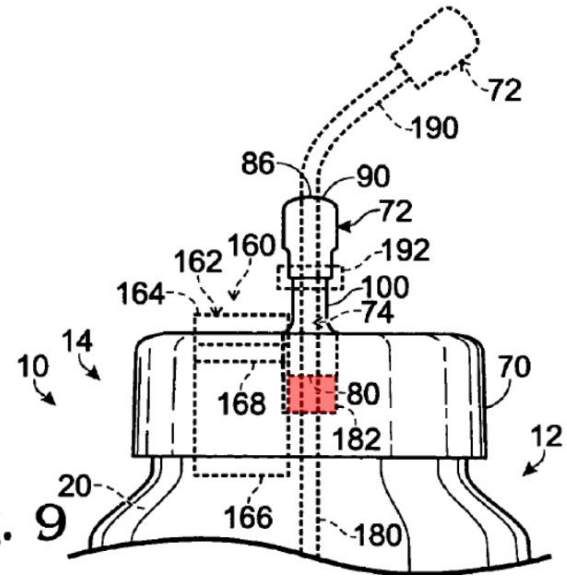


Fig. 9

claims[.]" EX1002, 378. The Examiner disagreed and made the rejection final. *Id*., 345-356. The Examiner asserted Choi's mount 182 "has the size capable of performing the recited function" of restricting passage the through passage of the cap assembly. *Id*., 357.

35. I understand the applicant appealed the rejection, *id*., 246-294, and the Board reversed the examiner finding "[t]he 'sized to restrict' language … is not a statement of intended use." *Id*., 203. Rather, the Board stated that "this language positively limits the structure of the claims to a structure in which an anchor portion has a size that functionally acts to restrict, or limit, passage of the anchor portion through the claimed through-passage." *Id*. Additionally, the Board found Choi "does not describe its size, shape, structure, or function, including whether it restricts passage through the through-passage[.]" *Id*., 204. I agree with the Board that nothing in Choi's figures or description demonstrates mount 182 functions as an anchor that restricts straw 190 from passing through the opening in cap 70.

36. In my opinion, Yamashita (EX1006) addresses Choi's deficiency. As I discuss in Ground 1 below, Yamashita's straw 20 has an anchor portion defining ring-shaped recess 21 that mates with and grips through-passage 32a on cap base 32, holding the straw in place. Section VIII.A.10. Thus, in my opinion, unlike Choi's mount 182, Yamashita's anchor actually restricts passage of the cap's through-passage. In my opinion, Manganiello (EX1009, Ground 5), also overcomes Choi's

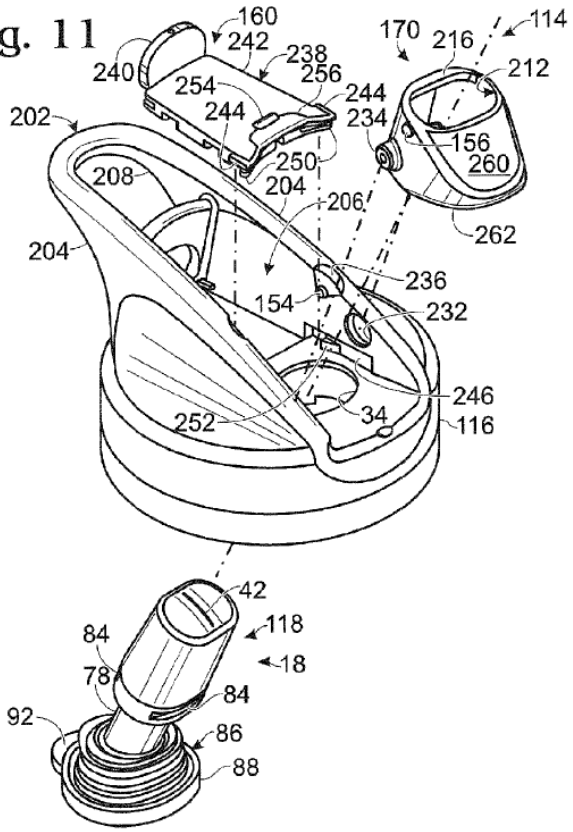
deficiency because its mouthpiece assembly has an anchor portion (shoulder 18 with finger 22) that prevents passage through the cap. *See* EX1009, 2:52-56.

VII. CLAIM CONSTRUCTION

A. "mouthpiece assembly" (Claims 1, 21)

37. In my opinion, this term may be construed to mean a mouthpiece part separate from the cap. The word "assembly" after "mouthpiece" suggests a distinct part within a larger structure—the cap assembly in which it is installed. *See* EX1012 ("the fitting together of manufactured parts into a complete machine, structure, or unit of a machine"). It my opinion that the '028 Patent specification is consistent with this understanding. Figure 11 (right) shows mouthpiece assembly 18 as a distinct part that installs on cap assembly 14 by insertion through through-passage 34. And, in the text, the specification describes the mouthpiece assembly as removably installed through the through-hole and anchored by anchor portion 86. EX1001, 4:63-5:15, 4:39-45.

Fig. 11



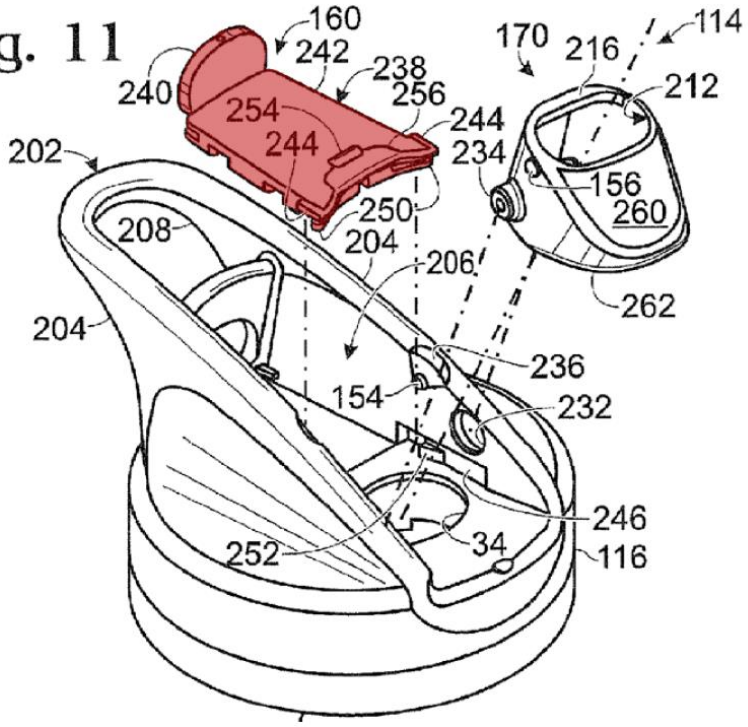
B. "a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration" (Claim 1)

38. Counsel has instructed me to interpret this claim term as both a means-plus-function term and not as a means-plus-function term. If it is a means-plus-function term, I should identify the structure that the '028 patent specification identifies as performing the claimed function of the user release mechanism recited in claim 1 ("automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration").

39. In my opinion, the specification identifies sliding member 238 with user engagement pad 240 and actuator 242 as the structure performing the claimed

function of the user release mechanism. EX1001, 12:54-67, FIG. 11 (right). The actuator has the form of "generally planar portion 242." *Id*., 12:54-57. The user engagement pad provides an area for the user to engage (e.g., with the thumb) and translate sliding member 238 to open the container. *Id*., 12:61-65. The translation disengages catch structures, releasing the mouthpiece assembly to move to the dispensing configuration. *Id*., 1, 13:15-19; *see id*., 6:20-52, 8:9-17, 12:25-49, FIGS 1-4.

Fig. 11



40. If this term is not a means-plus-function term, it is my opinion that this term may be understood to mean "a user release mechanism having a mechanical relationship with the first and/or second catch structure, such that actuation of the mechanism disengages the first catch structure from the second catch structure, or vice versa, and thereby releases the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration."

41. In my opinion, the ’028 patent claims and specification support this construction. For example, the language of claim 1 itself requires a mechanical relationship between the user release mechanism and the first and/or second catch structures because, without it, actuation of the user release mechanism would not release the mouthpiece assembly as claimed. In my opinion, the dependent claims also support this construction by reciting various mechanical relationships allowing actuation of the user release mechanism to release the mouthpiece assembly. *See, e.g.*, EX1001, claims 2 (“the user release mechanism is mechanically coupled to the first catch structure”), 3 and 4. The specification supports this construction by explaining that the user release mechanism’s ability to disengage the first and second catch structures upon actuation stems from its “mechanical relationship with” the first or second catch structure. *See* EX1001, 6:39-46.

C. “a user release mechanism adapted to automatically release the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly” (Claim 21)

42. I understand that this phrase is similar to the previous phrase but lacks the first/second catch structures and recites the function more broadly. If it is a means-plus-function term, the specification identifies the same structure as performing the recited function (“automatically release the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly”) as for the previous claim element.

43. If the phrase is not a means-plus-function term, it is my opinion this term may be construed to mean "a user release mechanism having a mechanical relationship with the cap assembly such that actuation of the mechanism releases the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly."

D. "the mouthpiece portion and the tube are constructed as a unitary assembly of the resiliently deformable material" (Claim 1)

"the mouthpiece portion, the tube, and the anchor portion are constructed as a unitary assembly of the resiliently deformable material" (Claim 9)

44. In my opinion, these phrases may be construed respectively to mean that "the mouthpiece portion and the tube are integrally formed from the resiliently deformable material" and that "the mouthpiece portion, the tube, and the anchor portion are integrally formed from the resiliently deformable material." The claim language itself suggests this construction because "unitary" means "having the character of a unit: undivided, whole."[2] EX1012. So, in my opinion, these phrases respectively require their respective portions to be constructed as an undivided, whole unit of the resiliently deformable material---i.e., integrally formed from the resiliently deformable material.

[2] In my declaration, emphasis is added unless I specify otherwise.

45. In my opinion, the specification of the ’028 patent describes the unitary nature of the mouthpiece assembly in this way. Figures 5 and 6 show the entire mouthpiece assembly 18—including the mouthpiece portion 76, tube 78, and anchor portion 86—as a distinct part. EX1001, FIGS. 5, 6; 10:56-65, 15:52-54, 16:21-24, 16:28-30, 17:16-19 (the mouthpiece assembly and its sub-portions comprise a “unitary assembly”).

46. Additionally, I note that, during prosecution, the examiner and applicant mutually described the sub-portions of the mouthpiece assembly as “integral” when discussing this claim language. *See*, *e.g.*, EX1002, 380 (“the mount 182 of Choi simply is not integral to a mouthpiece assembly and is provided solely for the purpose of mounting a separate straw within the liquid container”), 260-262, 377, 394-396, 400, 402.

VIII. SUMMARY OF GROUNDS OF INVALIDITY

47. After analyzing the ’028 patent, prosecution history, and prior art, it is my opinion that challenged claims 1, 2, 5-10, 14, 16, and 21 are rendered unpatentable as follows:

Ground	Claims	Description
1-2	1, 2, 5-9, 21	Yamashita (EX1005) anticipates and/or renders obvious
3	1, 2, 5-9, 21	Yamashita in view of Paczonay (EX1007) renders obvious

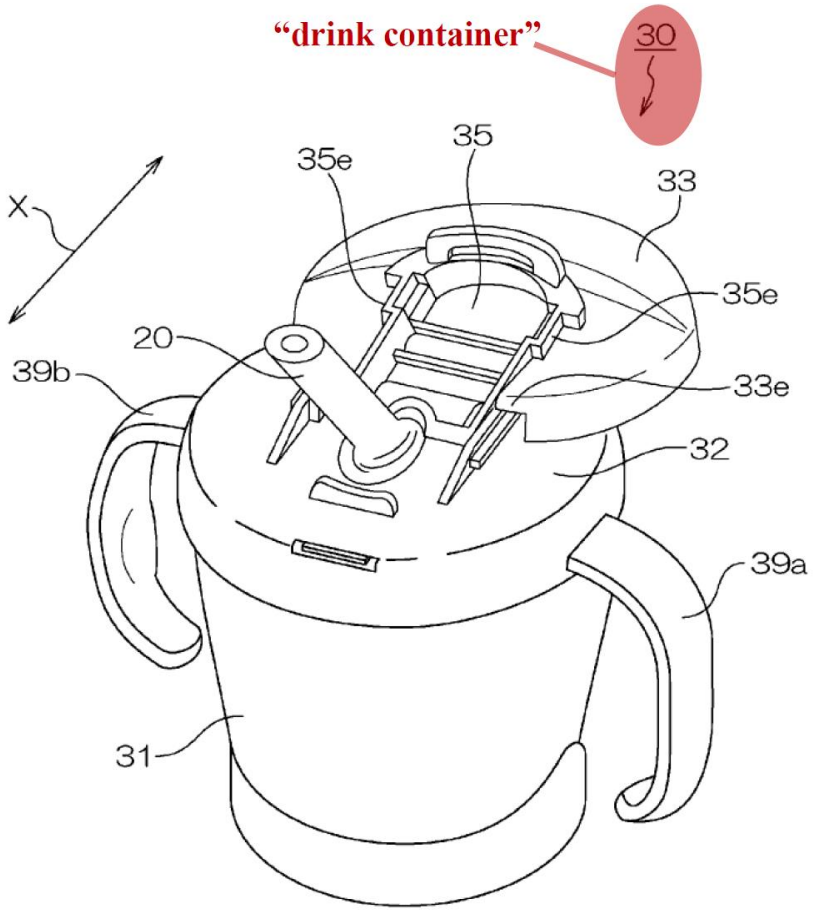
Ground	Claims	Description
4-5	1, 2, 5-9, 21	Yamashita in view of Dall'Agnese (EX1008) renders obvious; and Yamashita/Paczonay in view of Dall'Agnese renders obvious
6-8	16	Yamashita and Manganiello (EX1009) renders obvious; Yamashita/Paczonay in view of Manganiello renders obvious; and Yamashita/Paczonay/Dall'Agnese in view of Manganiello renders obvious
9	1, 2, 5, 8-10, 14, 16, 21	Manganiello in view of Dall'Agnese renders obvious
10	1, 2, 5, 8-10, 14, 16, 21	Manganiello/Dall'Agnese in view of Paczonay renders obvious
11-12	6	Manganiello/Dall'Agnese in view of Anderson (EX1010) renders obvious; and Manganiello/Dall'Agnese/Paczonay in view of Anderson renders obvious
13-14	7	Manganiello/Dall'Agnese in view Yamashita renders obvious; and Manganiello/Dall'Agnese/Paczonay in view of Yamashita renders obvious

IX. GROUNDS 1-2: YAMASHITA ANTICIPATES AND/OR RENDERS OBVIOUS CLAIMS 1, 2, 5-9, AND 21

A. Independent Claim 1

1. [1.pre] "*A drink container, comprising:*"

48. In my opinion Yamashita discloses a drink container--**beverage container 30**:



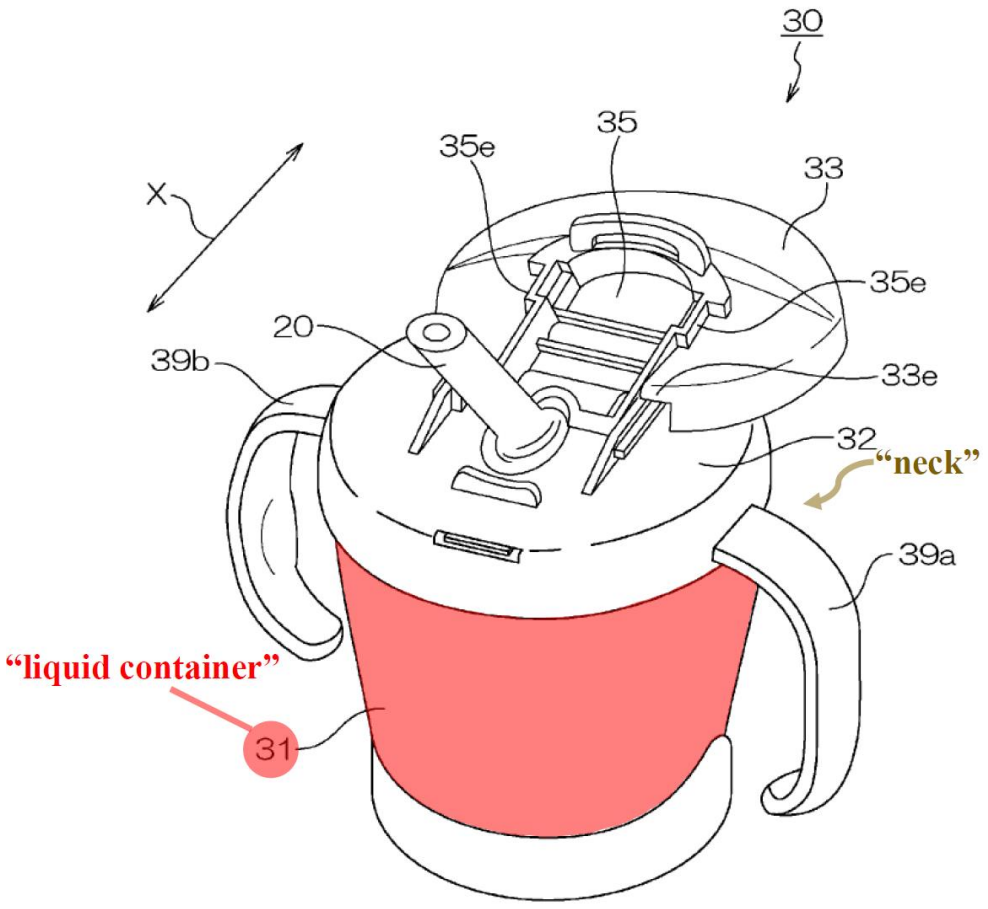
Yamashita, FIG. 6*

"[T]he beverage container 30 has a container main body 31 for containing a beverage, such as milk, and a base member 32" that "cover[s] an opening provided

in the upper part of the container main body 31." EX1006, ¶[0055]. Using straw 20, "the user can drink the milk contained in the container main body 31." *Id*.

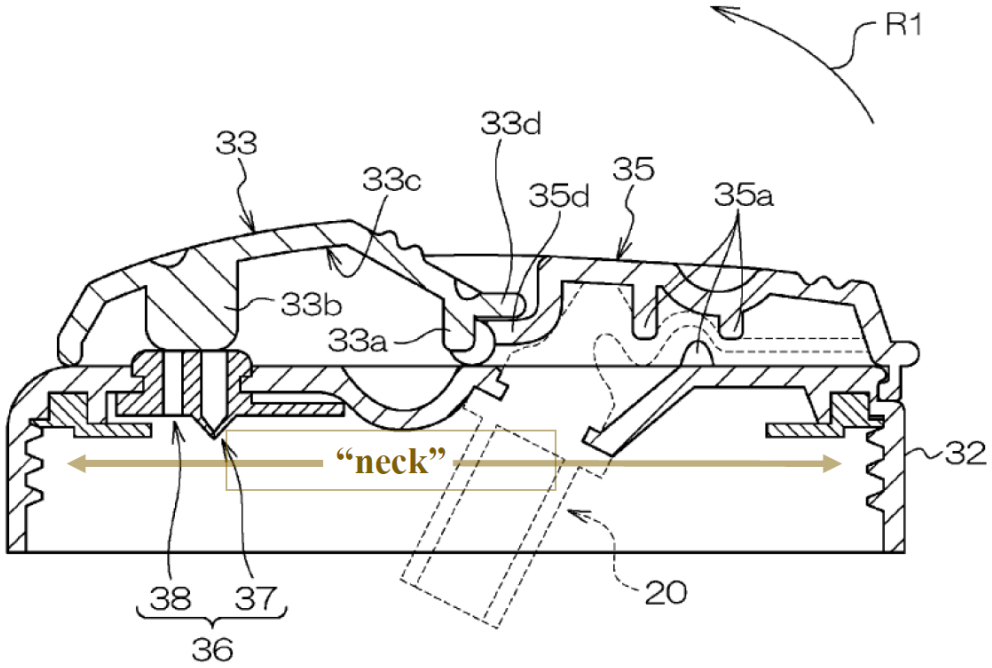
2. [1.1] "*a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid; and*"

49. In my opinion, Yamashita's "beverage container 30 has a container **main body 31** for containing a beverage," EX1006, ¶[0055], which discloses the claimed liquid container:



Yamashita, FIG. 6*

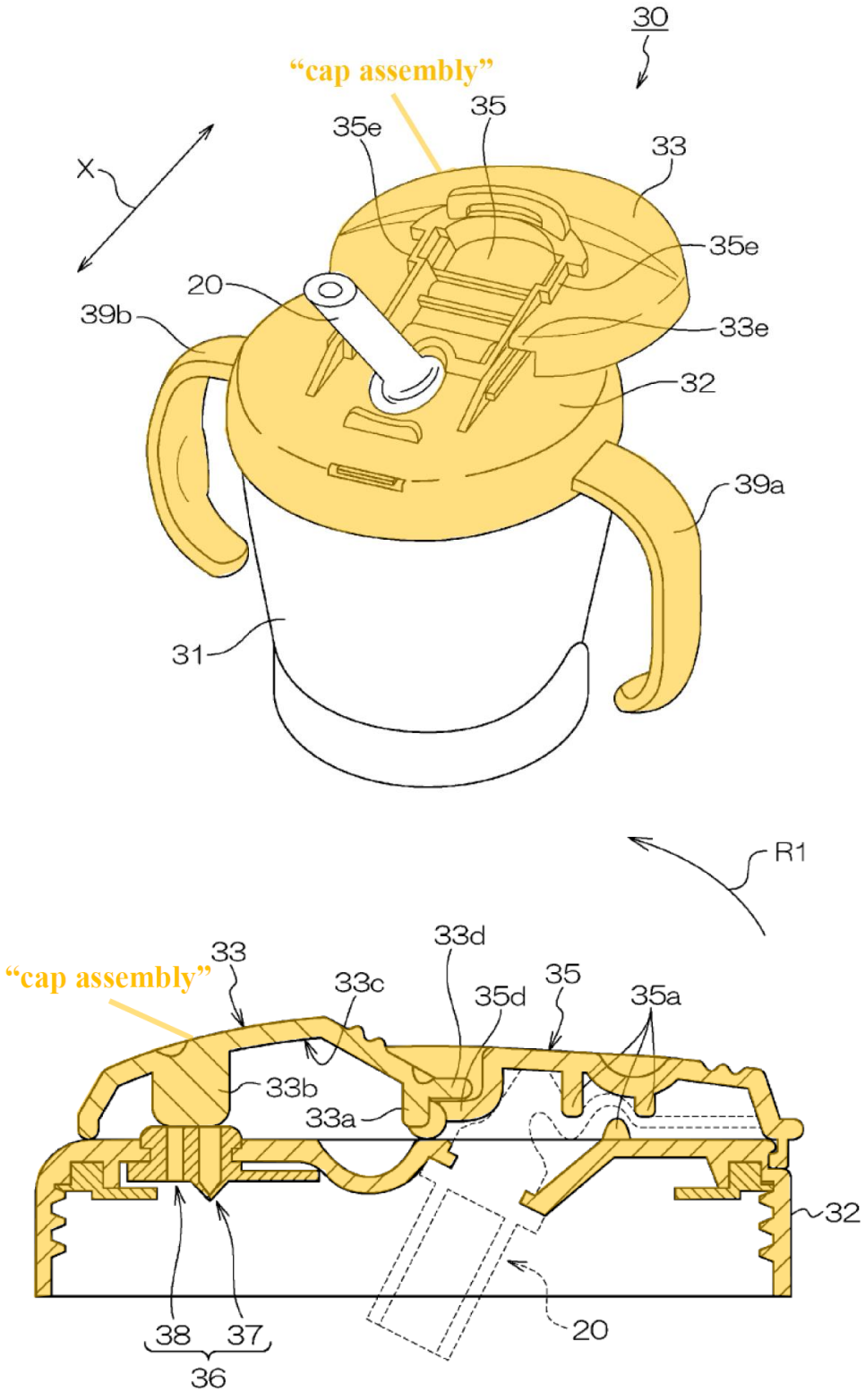
Thus, in my opinion, the main body 31 is sized to hold a volume of potable drink liquid, as claimed. And as shown in Figure 6 above and Figure 7 below, the main body 31 has a **neck** region, with "base member 32 … disposed to cover an opening provided in the upper part of the container main body 31" at the neck region. EX1006, ¶[0055].



Yamashita, FIG. 7*

3. "[1.2] "*a cap assembly removably coupled to the liquid container, the cap assembly comprising: a base removably coupled to the neck of the liquid container and including a through-passage;*"

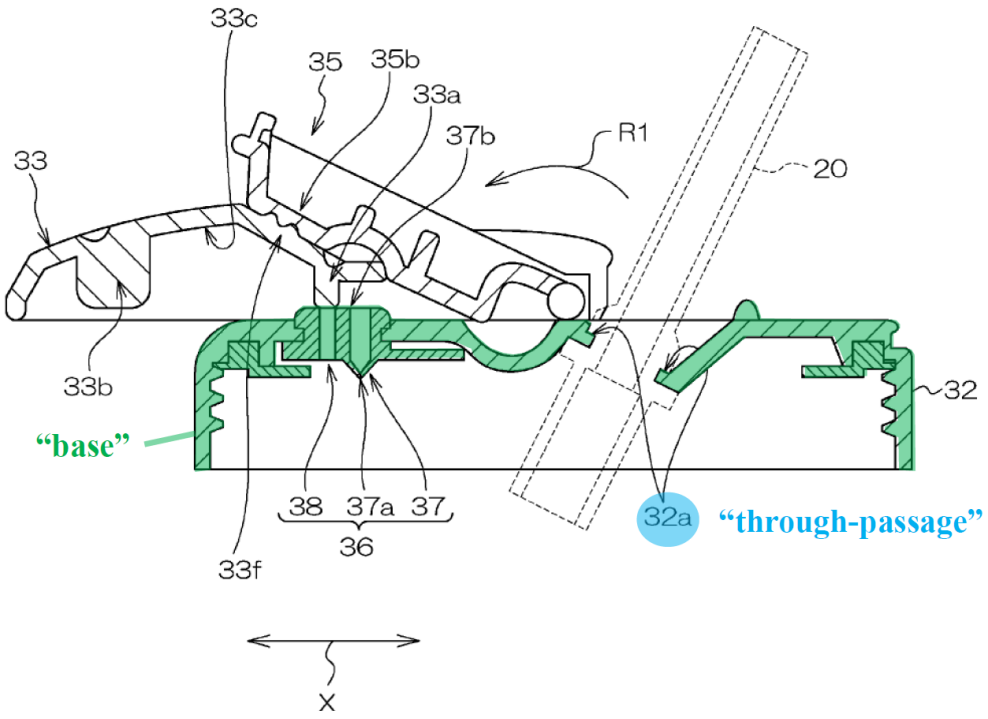
50. In my opinion, the combination of Yamashita's **base member 32, slider 33, and/or hood 35** discloses the claimed cap assembly:



Yamashita, FIGS. 6, 7*

In my opinion, **base member 32**, disclosing the claimed base, "cover[s] an opening provided in the upper part of the container main body 31." EX1006, ¶[0055], FIG. 9 (below). As shown in the Figures, Yamashita's threaded base member 32 removably couples to the neck of the main body 31 (liquid container), as claimed.

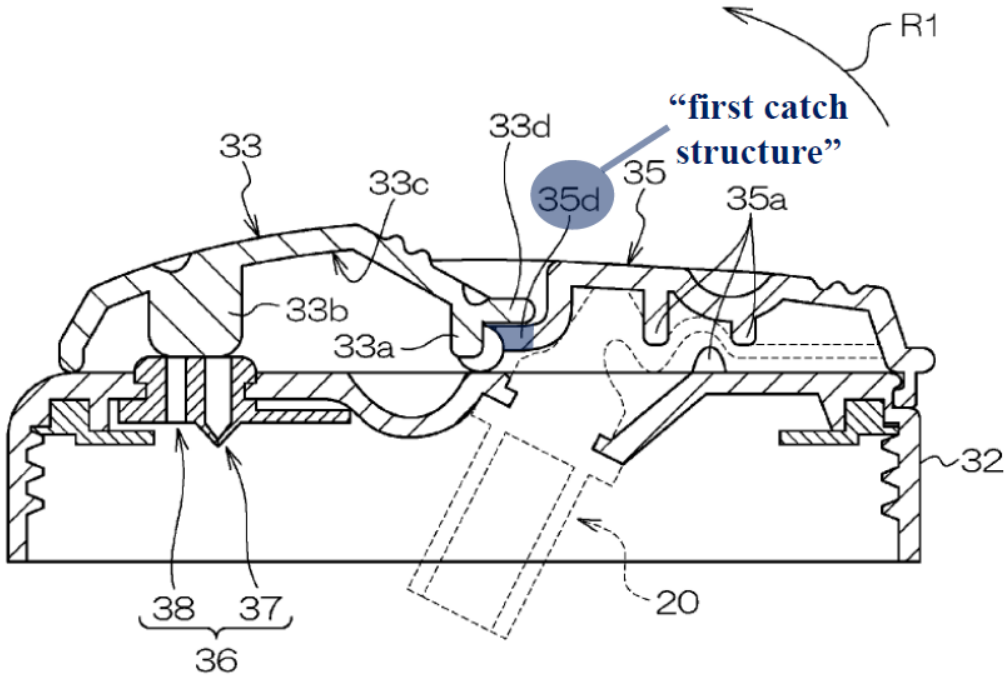
51. "[B]ase member 32 has … a straw hole 32a to which the straw 20 is fitted" that's "sealed by mounting the straw 20 into the straw hole 32a so that the milk contained in the container main body 31 does not leak from the straw hole 32a." EX1006, ¶[0056]; *see id.*, ¶[0034]. In my opinion, **straw hole 32a** discloses the claimed through-passage of **base 32** (base):



Yamashita, FIG. 9*

4. [1.3] "*a first catch structure;*"

In my opinion, **base end abutting part 35d** discloses the claimed first catch structure[3]:



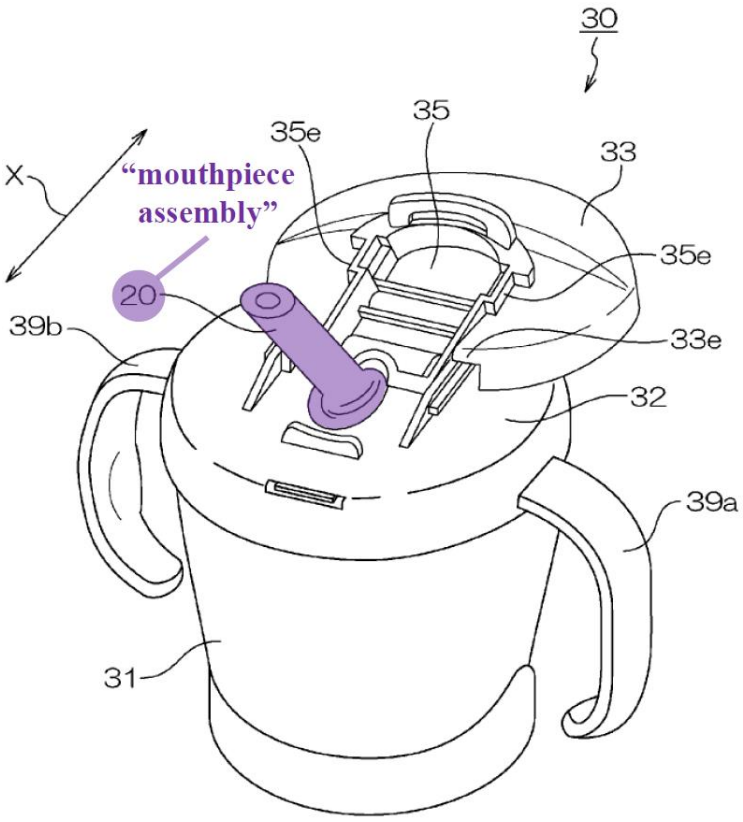
Yamashita, FIG. 7*

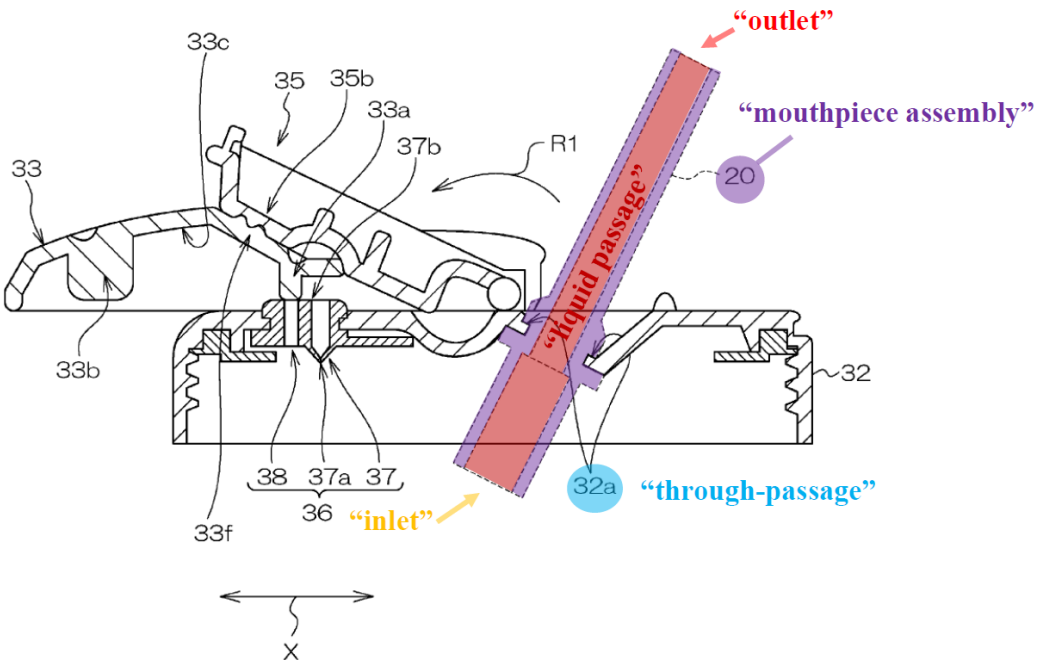
"[T]he hood 35 has a base end abutting part 35d at its base[] end side, and this base end abutting part 35d is brought into abutment against a base[] end side hood stopper 33d provided in the slider 33" to close the container. EX1006, ¶[0058].

[3] It is my opinion that the base end side hood stopper 33d, which abuts the base end abutting part 35d in the stowed configuration, discloses the claimed second catch structure recited in element [1.10] discussed below.

5. [1.4] "*a mouthpiece assembly extending through the through-passage of the base and defining a liquid passage through which drink liquid from the liquid container may selectively flow, and further defining an inlet through which drink liquid in the internal compartment may enter the liquid passage and an outlet through which drink liquid from the internal compartment of the liquid container is selectively dispensed*,"

52. In my opinion, Yamashita's **straw 20** discloses the claimed mouthpiece assembly. EX1006, ¶[0055] ("The straw 20 through which the user can drink the milk … is disposed in the base member 32."), FIG. 6 (right). Straw 20 extends through **straw hole 32a** (through-passage) and defines a **liquid passage** having an **outlet** at its drinking end and an **inlet** at the opposite end, within the main body 31 of the beverage container, as shown in Figure 9 below. EX1006, ¶[0056].





Yamashita, FIG. 9*

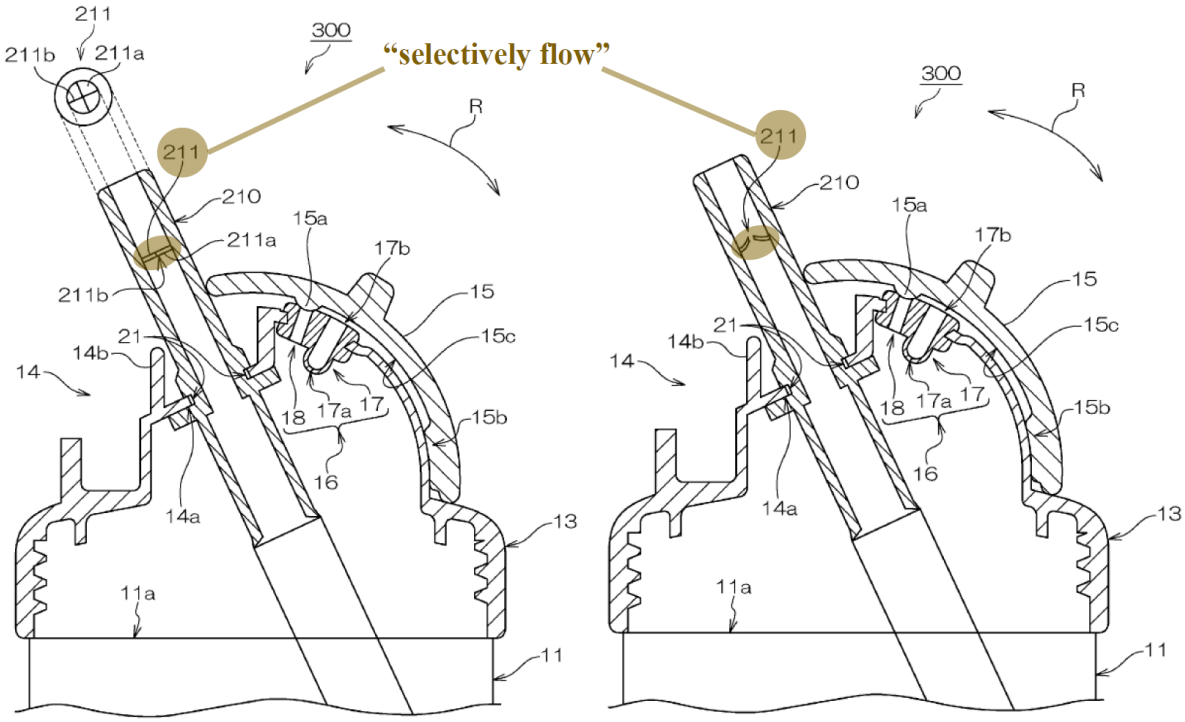
53. As I explained above, the claimed mouthpiece assembly means a mouthpiece part separate from the cap assembly. Section VII.A. In my opinion, Yamashita's straw 20 satisfies this construction. First, straw 20 is a mouthpiece because the user drinks from it. EX1006, ¶[0055]. Additionally, Yamashita shows the straw in the Figures as a part separate from the base member 32 and also describes the straw as a separate part inserted through, and fitted to, straw hole 32. EX1006, ¶¶[0056] ("the base member 32 has formed thereon a straw hole 32a to which the straw 20 is fitted"), [0034] (describing "ring-like fitting concave part 21 … formed on the straw 20" to attach the straw to the straw hole), FIGS. 6-9.

54. In my opinion, Yamashita discloses drink liquid "selectively flows" through the liquid passage of straw 20 to "selectively dispense" from main body 31, as claimed. First, the Yamashita user can selectively dispense the fluid from the main body and selectively cause the fluid to flow through the straw simply by deciding when to drink from the container.

55. In my opinion, Yamashita also discloses two features allowing fluid to selectively flow through straw 20 and selectively dispense from main body 31. First, using slider 33, the user selectively converts the beverage container between: (1) a "portable state" (Figure 7) where "straw 20 is covered by the hood 35 and bent by a straw sealing convex part 35a" so liquid cannot flow through the liquid passage, EX1006, ¶[0058]; and (2) a "drinking state" (Figure 9) where "slider 33 is further moved to the left and disposed to the position for opening the hood 35," and "straw 20 is recovered so that the user can drink the milk through the straw 20," *id.*, ¶[0060].

56. Second, in my opinion, the Figure 16-18 embodiment of Yamashita, shown below, has a bite-actuated open/close valve 211 inside its straw. "[O]pen/close valve 211 is formed on the inside of a straw 210" and "deforms when the user deforms the straw 210 with a hand or mouth or when the user suctions the straw 210." EX1006, ¶[0077]. When not deformed (Figure 16), "the milk is blocked by the open/close valve 211 and thus prevented from leaking out." *Id.*, ¶[0078].

When deformed (Figure 17), "the milk contained in the container main body 11 flows from the straw 210 to the outside by opening the slit 211b." *Id.*, ¶[0077].



Yamashita, FIGS. 16, 17*

57. In my opinion, Yamashita suggests, or at least renders obvious, using straw 210 open/close valve 211 in the Figure 6 embodiment relied upon in this Ground. Yamashita provides teaching, suggestion, or motivation to make this combination. For example, Yamashita explains "[a]ny combination of the embodiments may be possible," EX1006, ¶[0080], suggesting using valved straw 210 of Figures 16-18 with the Figure 6 container. Yamashita also teaches valved straw 210 advantageously prevents leakage "even when the user accidentally overturns the beverage container 300 in the drinking state shown in FIG. 16."

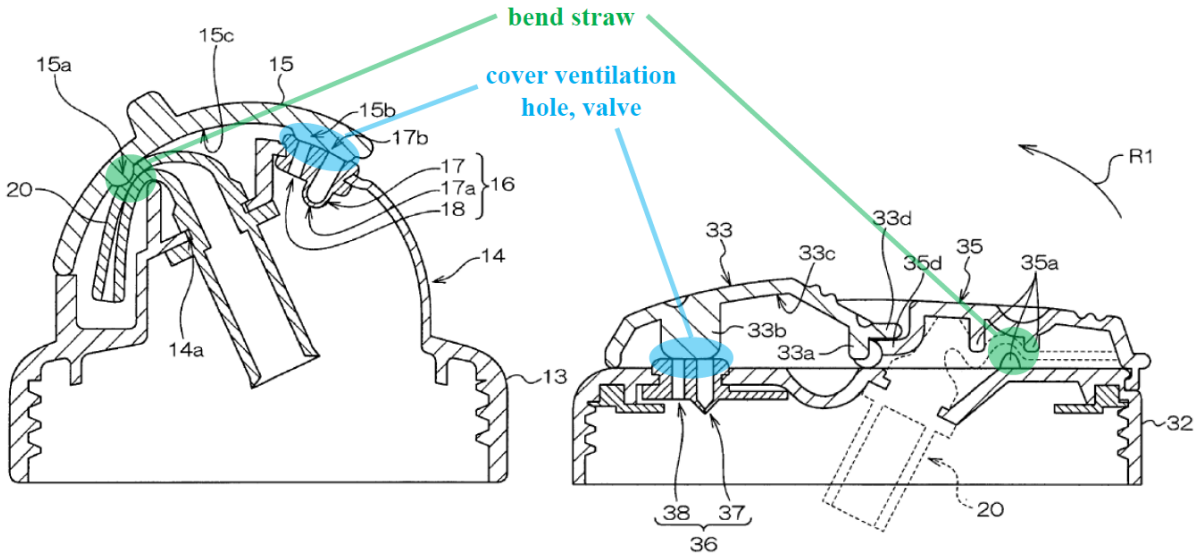
EX1006, ¶[0078]. In my opinion, POSITA would have had motivation to use valved straw 210 with the Figure 6 container to prevent accidental leakage if the container is knocked over in the drinking state.

58. In my opinion, adding Yamashita's valved straw to the Figure 6 container merely involves using a known technique (Figure 16 valved straw) to improve a similar device (Figure 6 container with regular straw) in the same way and/or applying a known technique to a known device ready for improvement to yield predictable results. Although the Figure 6 and Figure 16 containers look somewhat different, a POSITA would have seen that they function similarly.

59. For example, both containers have a mechanism to bend the straw and cover a ventilation hole and valve to seal the container in the portable state. In the Figure 6 container, "straw 20 is covered by the hood 35 and bent by a straw sealing convex part 35a," while "the portable sealing convex part 33b of the slider 33 … cover[s] both the ventilation hole 38 and … valve 37" to prevent the container from leaking when tilted. EX1006, ¶[0058].

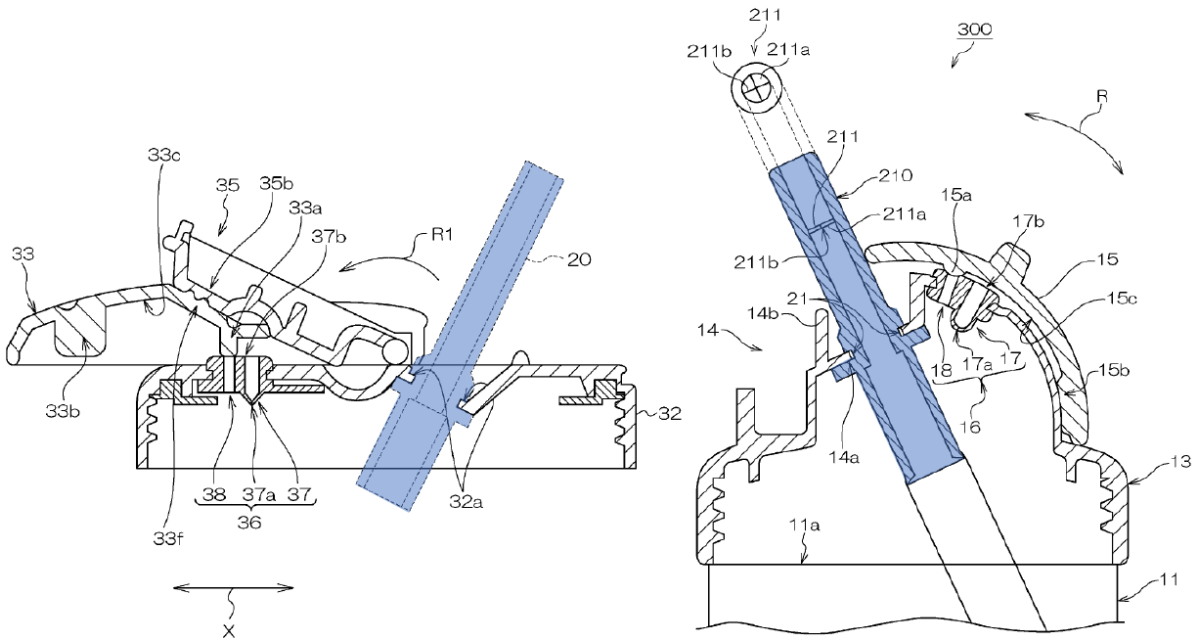
60. Similarly, the Figure 16 container—identical to the Figure 5 container except for its valved straw 210---has hood 15 with sealing convex parts 15a, 15b that respectively bend the straw and cover ventilation hole 18 and valve 17 to seal the container in the portable state. *Id.*, ¶¶[0040], [0043]-[0044], [0049], [0052], [0053],

[0076]. And, in the drinking state, both containers release the straw and uncover the ventilation valve while still covering the ventilation hole. *Compare id.*, ¶[0040]-[0041], [0044]-[0047], [0052]-[0053] *with id.*, ¶¶[0056], [0058]-[0062].



Yamashita, FIGS. 5, 7*

61. Except for the open/close valve 211, the two straws appear identical and install on their respective containers in the same way. *Compare* EX1006, FIG. 9 with *id.*, FIG. 16. For example, highlighted below, both straws have the same size/shape and ring-like concave part 21 for mounting to the base 32, 13 within their respective straw holes 32a, 14a:



Yamashita, FIGS. 9, 16*

On the Figure 6 container, Yamashita explains "base member 32 has … a straw hole 32a to which the straw 20 is fitted," and "the straw hole 32a is sealed by mounting the straw 20 into the straw hole 32a" to prevent leakage. EX1006, ¶[0056]. Similarly, the Figure 16 container has "a ring-like fitting concave part 21 … on the straw 20 … , so that when the straw 20 is inserted … the ring-like fitting concave part 21 is fitted to the straw hole 14a, whereby the straw 20 is fixed." *Id*., ¶[0034].

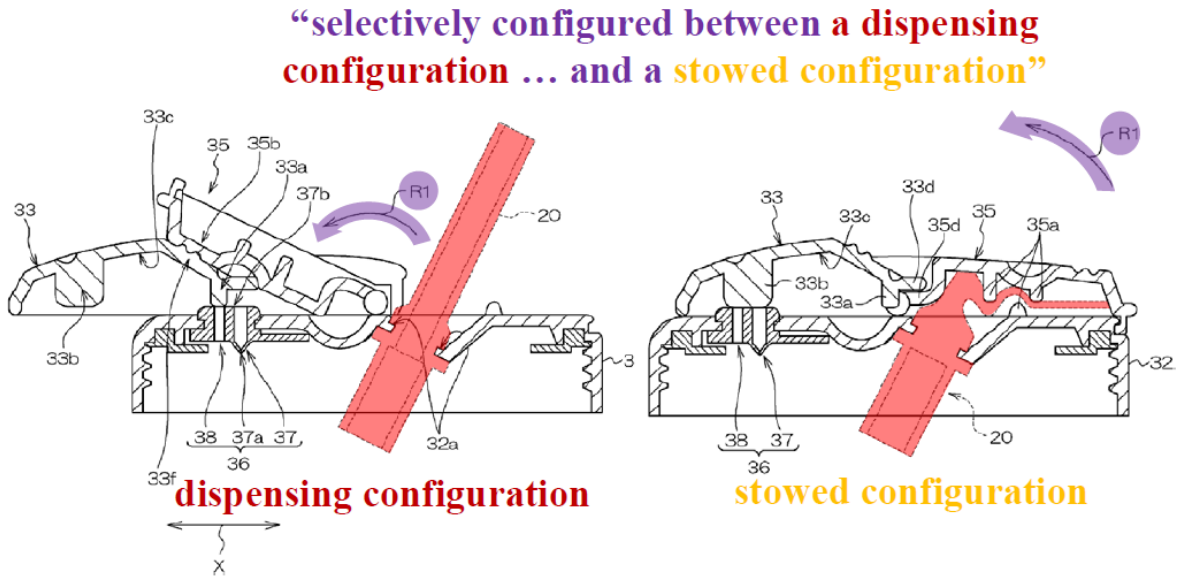
62. In my opinion, both containers also have similar mechanisms to convert the container between the portable and drinking states. The Figure 6 container has slider 33 that slides to the right to close hood 35 and seal the container in the portable state and that slides left to release the hood and uncover the straw in the drinking state. *See* EX1006, ¶¶[0055]-[0062]. Similarly, hood 15 of the Figure 16 container

slidingly rotates in one direction to cover the straw and seal the container in the portable state and in the other direction to expose the straw in the drinking state. *Id*., ¶¶[0037]-[0049].

63. In my opinion, a POSITA would have recognized that valved straw 210 of Figure 16 would improve the similar Figure 6 container as it improves the Figure 16 container—preventing leakage "even when the user accidentally overturns the beverage container 300 in the drinking state shown in FIG. 16." EX1006, ¶[0078]. And Yamashita's Figure 6 container stands ready for improvement by adding the Figure 16 container's valved straw 210 because the former container lacks a valved straw and thus would leak if accidentally knocked over in the drinking state. The combination would yield predictable results because the two straws have the same shape and fit to their respective bases in the same way, and a POSITA would expect the valved straw to work the same way when added to the Figure 6 container. *Id*.

6. [1.5] "*wherein the mouthpiece assembly is configured to be selectively configured between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment at least into the liquid passage, and a stowed configuration, in which the liquid passage restricts the flow of drink liquid through the liquid passage,*"

64. In my opinion, Yamashita's **straw 20** (mouthpiece assembly) is **selectively configured** between a **drinking state** (dispensing configuration) and a **portable state** (stowed configuration):



Yamashita, FIGS. 7, 9

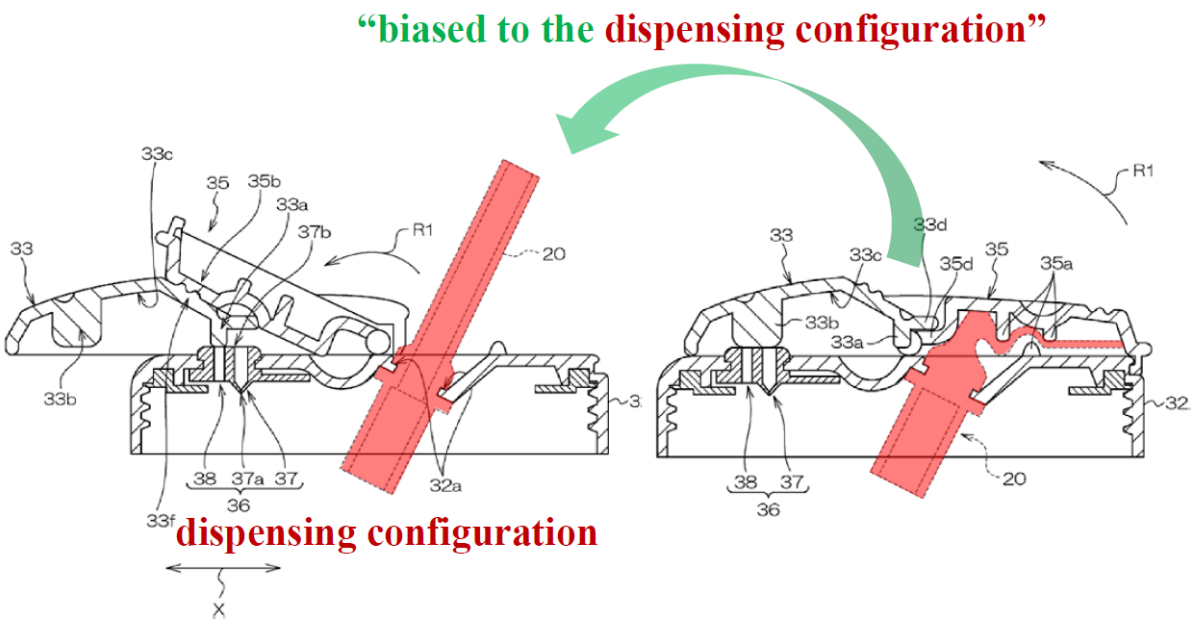
To convert the container to the drinking state, the user " [moves] the slider 33 … to the left in the direction of the arrow X," causing "the hood stopper 33d [to] separate[] from the hood 35" and "the portable sealing convex part 33b [to] move[] to the left in the drawing," uncovering the ventilation valve 37 and covering the ventilation hole 38. EX1006, ¶[0059]. Then, "hood 35 is rotated in the direction of the arrow R1 to open it after the slider 33 is further moved to the left and disposed to the position for opening the hood 35," and "straw 20 is recovered so that the user can drink the milk through the straw 20." *Id.*, ¶[0060]. In the drinking state, "the liquid passage permits drink liquid to flow from the internal compartment at least into the liquid passage," as claimed. EX1001, 19:18-20; EX1006, ¶¶[0060]-[0061].

Additionally, released and recovered from under hood 15, the straw is no longer crimped shut and the user may drink from its outlet. EX1006, ¶¶[0060]-[0061].

65. To convert the container to the portable state, the user moves slider 33 to the right, bringing "the based end abutting part 35d and the leading end abutting part 35e of the hood 35 … into abutment against the base end side hood stopper 33d and the leading end side hood stopper 33e." EX1006, ¶[0058]. As the slider continues, the hood 35 rotates and "presse[s] against the base member 32" so "hood 35 is prevented from being opened accidentally in the portable state (in the direction of the arrow R1 in FIG. 7)." *Id*. The slider covers ventilation hole 38 and valve 37, and the hood bends the straw over the base and crimps it shut between protrusions 35a on the hood and base. EX1006, ¶[0058]. Thus, in the portable state (stowed configuration) of Yamashita's container, it is my opinion that "the liquid passage restricts the flow of drink liquid through the liquid passage," as claimed. EX1001, 19:20-22.

7. [1.6] "*wherein the mouthpiece assembly is biased to the dispensing configuration, and wherein the mouthpiece assembly comprises: a mouthpiece portion that includes the outlet;*"

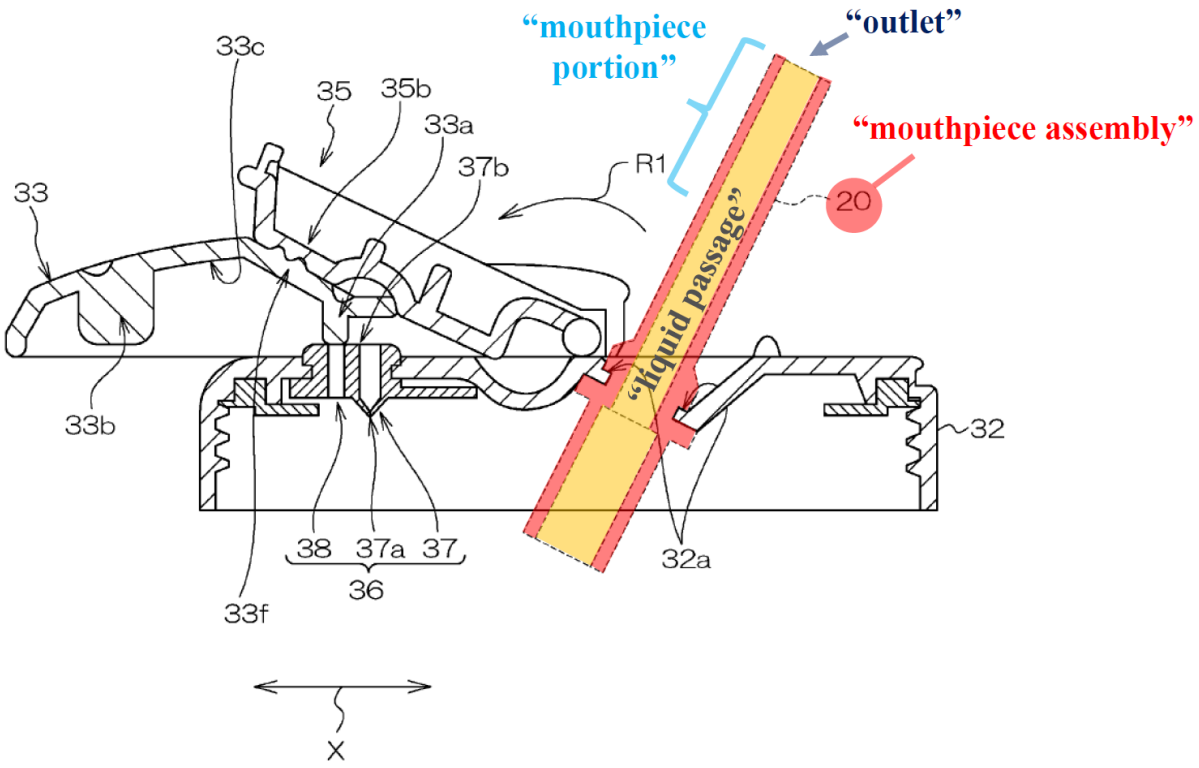
66. In my opinion, Yamashita's **straw 20** (mouthpiece assembly) of Yamashita is **biased** to the **drinking state** (dispensing configuration):



Yamashita, FIGS. 7, 9*

67. In my experience, the straw made from a "resilient" material has a natural bias to stand upright in the drinking state (dispensing configuration) as shown in Figure 9 above because it is the material's natural state. In the stowed state of Figure 7, the straw is bent against this natural bias. EX1006, ¶[0058] ("the straw 20 is covered by the hood 35 and bent by a straw sealing convex part 35a formed in a projecting manner on the hood 35"). When the straw is released in the drinking state, the straw's bias returns it to the upright state. EX1006, ¶[0060] (the hood releases the straw and "straw 20 is recovered so that the user can drink the milk through the straw 20").

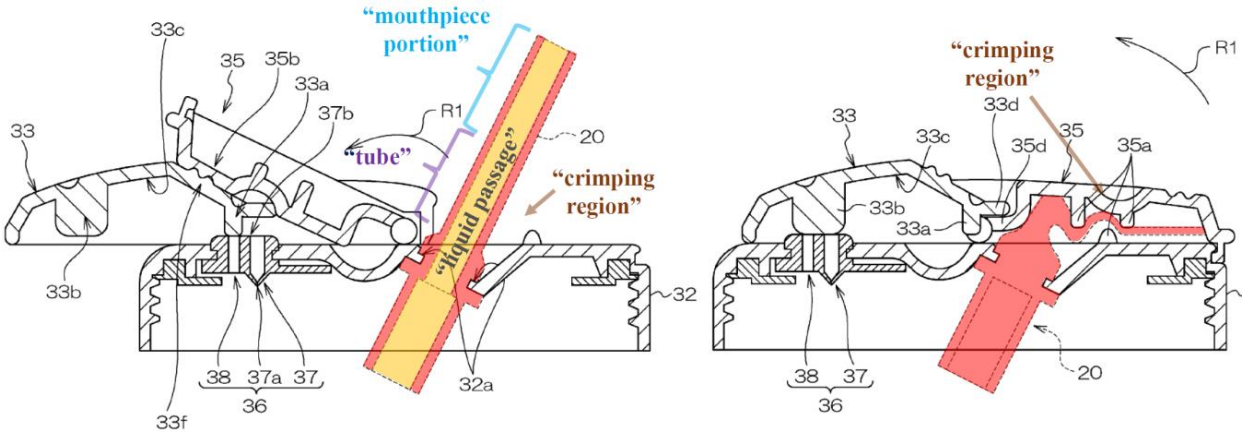
68. Additionally, Yamashita's **straw** (mouthpiece assembly) comprises a **mouthpiece portion** that includes the **outlet**:



Yamashita, FIG. 9*

8. [1.7] "*a tube that defines at least a portion of the liquid passage for drink liquid to flow from the internal compartment to the mouthpiece portion, wherein the tube includes a crimping region constructed of a resiliently deformable material and is adapted to restrict the flow of drink liquid through the liquid passage when the mouthpiece assembly is in the stowed configuration and*"

69. In my opinion, the **tube** of Yamashita's **straw 20** (mouthpiece assembly) includes a **crimping region** that restricts the flow of drink liquid through the liquid passage when straw 20 (mouthpiece assembly) is in the portable state (stowed configuration):



Yamashita, FIGS. 7, 9*

As shown in the Figures above, hood 35 and base 32 have convex projections 35a that crimp and seal the straw when the hood is closed in the portable state. EX1006, ¶[0058]. The crimping region of the straw, identified above, restricts the flow of liquid through the liquid passage, as claimed. *Id*.

70. In my opinion, Yamashita's straw, including the crimping region, is "constructed of a resiliently deformable material," as claimed. Although Yamashita does not expressly identify the material of straw 20, Yamashita shows its deformability and resilience by contrasting Figure 7—showing the straw bent and deformed in the portable state—and Figure 9—showing the straw released to its drinking position in the container's drinking state. Yamashita also explains that the straw is "bent" with the container in the portable state and "released" to a "release state" with the container in the drinking state. *See* EX1006, ¶¶[0058], [0042]. Without storing potential energy by its elasticity when bent, straw 20 could not

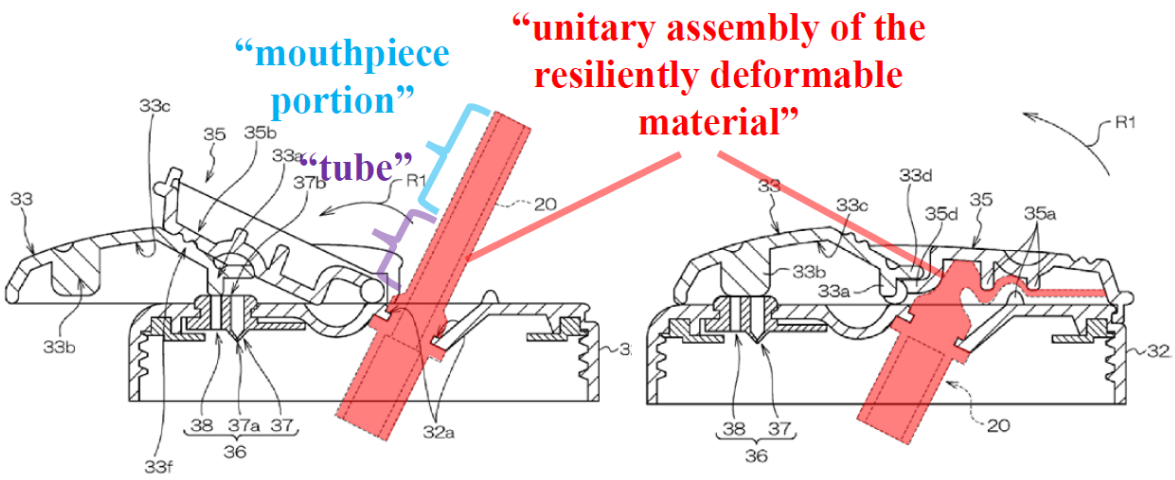
release to its upright state when the container is opened as Yamashita describes and shows. Thus, a POSITA would understand that Yamashita discloses that the tube is made from a resiliently deformable material, as claimed.

71. If it is argued Yamashita does not expressly disclose that straw 20 is made from a resilient, deformable material, it is my opinion that POSITA would have found it obvious to do so. It was well known long before the '028 patent to use materials like silicone, thermoplastic elastomer (TPE), or soft polyvinyl chloride (soft PVC) for the straws of such drink containers. Otherwise, the container would not work as Yamashita describes. The straw would not bend into a crimped state when the container is closed and released into its upright drinking state, as Yamashita teaches, unless made from a resilient, deformable material. Yamashita teaches parts of its containers are made from "flexible material," and a POSITA would have found it suggested or obvious and been motivated to make the straw from such a flexible material too. EX1006, ¶[0035].

9. [1.8] "*wherein the mouthpiece portion and the tube are constructed as a unitary assembly of the resiliently deformable material;*"

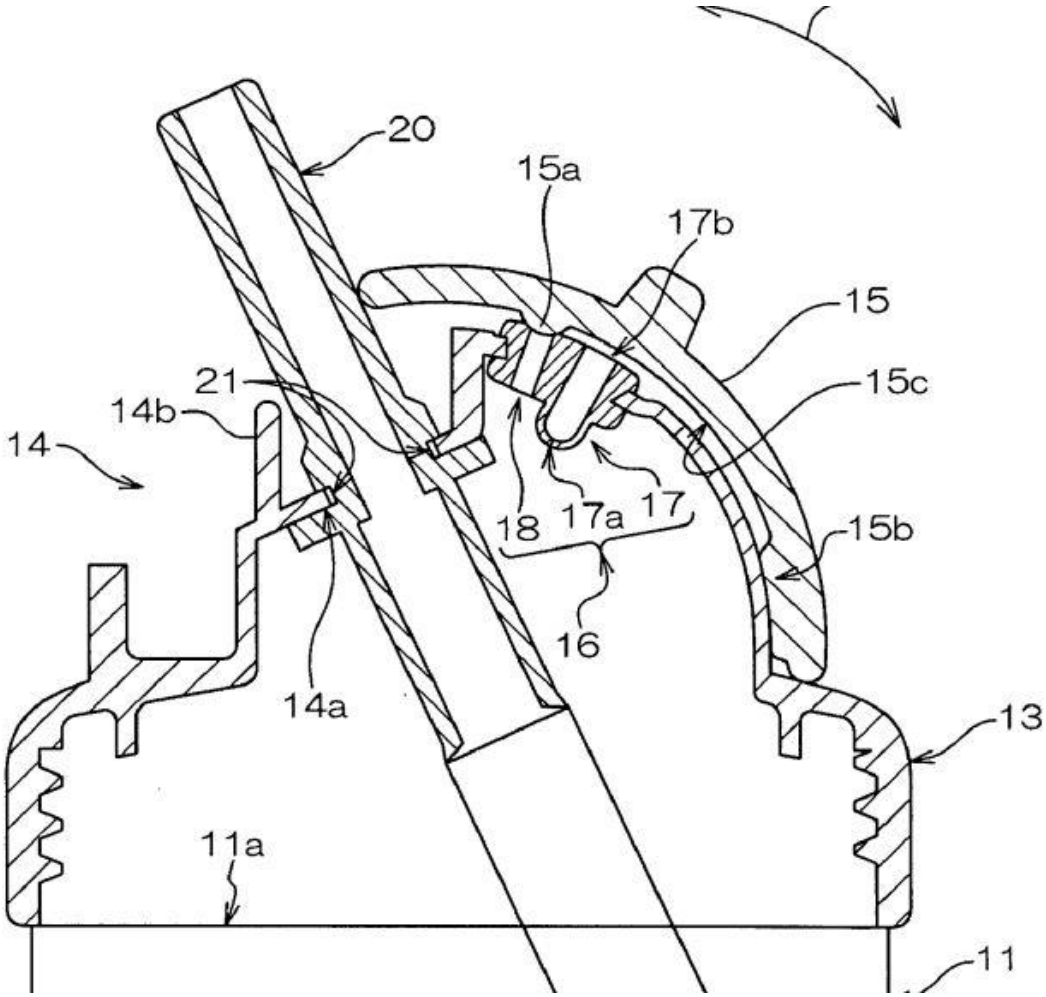
72. As I explained, this element may be construed to require that the mouthpiece portion and the tube are integrally formed from the resiliently deformable material. Section VII.D. In my opinion, Yamashita shows its straw 20

as single, integrally-formed component having both the mouthpiece portion from which the user drinks and the tube portion crimped in the portable state:



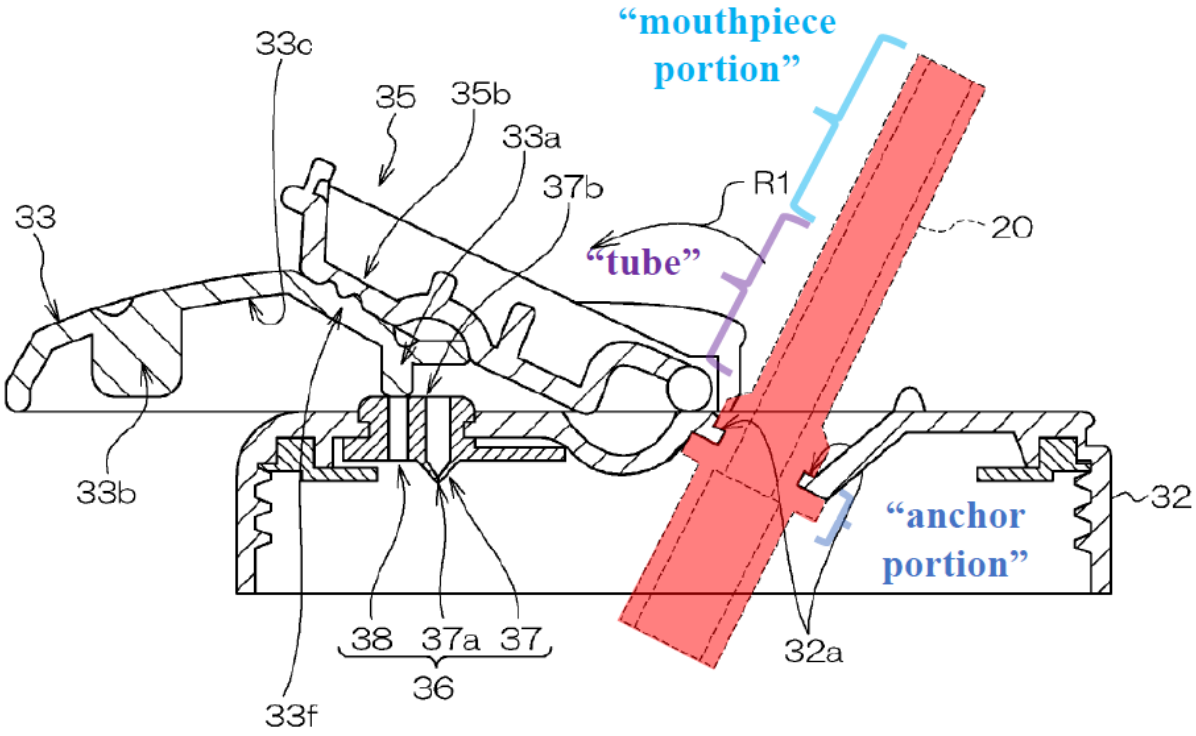
Yamashita, FIGS. 7, 9*

Yamashita also describes straw 20 as a single piece installed on the container by fitting the straw to straw hole 32a. *See* EX1006, ¶[0056]. This can also be seen, for example, by the hash structure and direction through the entire, unitary structure of the identical straw in Figure 2 of Yamashita below. That is, the uniform hashing through the entire straw suggests a single, integral part. Other parts of the container delineated by different hash structures, such as the base 13, suggest additional integral parts separate from the straw. Thus, in my opinion, the entire straw, including the mouthpiece portion and tube, is integrally formed as a unitary assembly of the resiliently deformable material:



10. [1.9] "*an anchor portion extending from the tube distal the mouthpiece portion, wherein the anchor portion is sized to restrict passage of the anchor portion through the through-passage of the base of the cap assembly; and*"

73. In my opinion, Yamashita's straw 20 has an **anchor portion** (bottom flange toward base of the straw) sized to restrict passage of the anchor portion through **straw hole 32a** (through-passage) of base 32 (base cap assembly), as claimed:



Yamashita, FIG. 9*

The straw has a ring-shaped recess, between two protruding flanges, that mates with the edge of the straw hole 32a to secure the straw to base 32. Yamashita does not label the ring-shaped recess in Figure 9 but describes it in the Figure 2 embodiment, which has an identical straw 20: "a ring-like fitting concave part 21 is formed on the straw 20 as shown in FIG. 2, so that when the straw 20 is inserted thereto from the container main body 11 side the ring-like fitting concave part 21 is fitted to the straw hole 14a, whereby the straw 20 is fixed." EX1006, ¶[0034].

74. In my opinion, the bottom flange, defined by the recess 21, discloses the claimed anchor portion because it holds the straw in place on the base 32 and is

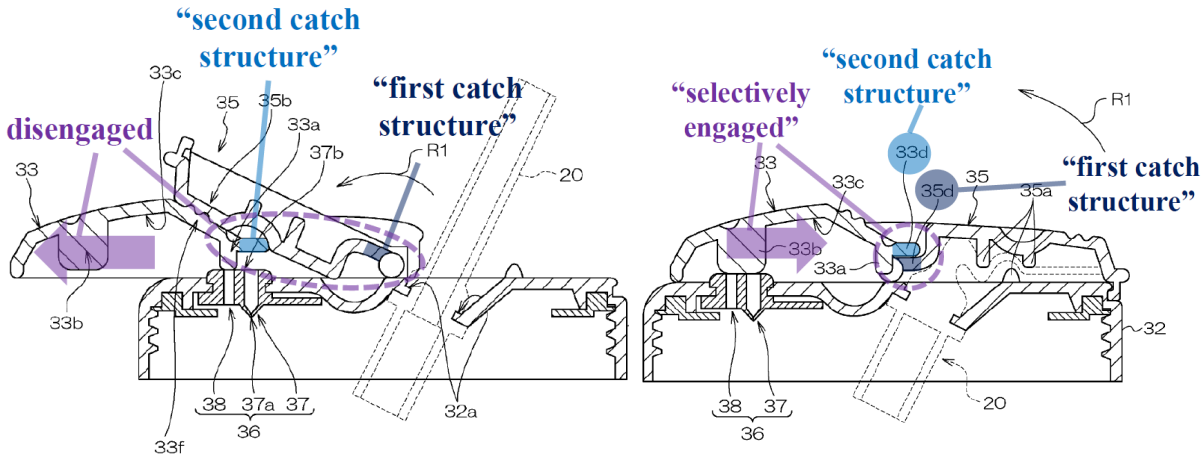
sized to restrict, and does restrict, the straw to pass through the base via straw hole 32a. As seen in Figure 9 of Yamashita above, the top flange of the straw has a smaller diameter than the bottom flange of the straw. Additionally, the top flange has a taper toward the drinking end of the straw allowing to insert the straw into the straw hole from the underside of the base and fit the straw's recess to the straw hole. Once fitted to the straw hole, the bottom flange of the straw restricts the straw from passing through the straw hole in the direction of the drinking end of the straw (i.e., from inside to outside the container, or generally upward and to the right in Figure 9). Due to the bottom flange's large diameter relative to the diameter of the straw hole and lack of taper, it is my opinion that the straw is not meant to be removed from the base by pulling the straw from its drinking end. This may cause damage, such as ripping or tearing, to the straw as the bottom flange is forced through the straw hole. Rather, it is my opinion that the straw is intended to be removed by pulling the straw from its base in the direction into the container (i.e., generally downward and to the left in Figure 9) because the straw's bottom flange has a diameter only slightly larger than that of the straw hole, allowing removal of the straw without damage if pulled from the bottom.

75. As seen in Figure 9 above, the anchor portion of straw 20 "extend[s] from the tube distal the mouthpiece portion," as claimed. The region of the straw

having the ring-like recess anchoring the straw to base 32 sits further from the drinking end of the straw than from the inlet end within the container.

11. [1.10] "*a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration; and*"

In my opinion, Yamashita's **hood stopper 33d** discloses the claimed second catch structure. When slider 33 is moved to the right, **hood stopper 33d** (second catch structure) selectively engages with **abutting part 35d** (first catch structure) of hood 35 to retain straw 20 (mouthpiece assembly) in the stowed configuration:



Yamashita, FIGS. 9, 7*

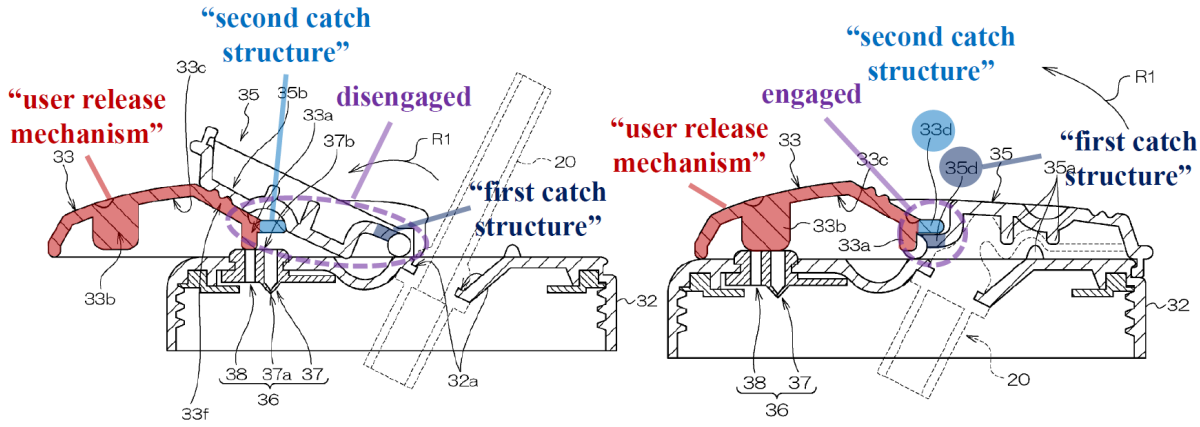
As shown in Figure 9 of Yamashita above, the user moves slider 33 to the left to disengage hood stopper 33d (second catch structure) from abutting part 35d (first catch structure) to configure the container in the drinking state. EX1006, ¶¶[0059], [0060]. Specifically, "hood 35 is rotated in the direction of the arrow R1 to open it after the slider 33 is further moved to the left and disposed to the position for opening

the hood 35," and then "straw 20 is recovered so that the user can drink the milk through the straw 20." EX1006, ¶[0060].

76. To close the container, as shown in Figure 7 above, the user moves slider 33 to the right, selectively engaging hood stopper 33d (second catch structure) with abutting part 35d (first catch structure) to close hood 35 and retain straw 20 (mouthpiece assembly) in the stowed configuration. EX1006, ¶[0058]. In the closed/portable state of Figure 7, the hood covers and retains the straw (mouthpiece assembly) in the stowed configuration, as claimed. EX1006, ¶[0058].

12. [1.11] "*a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration.*"

77. In my opinion, Yamashita's **slider 33** discloses the claimed user release mechanism:



Yamashita, FIGS. 9, 7*

78. If the phrase isn't means-plus-function language, I believe it refers to a user release mechanism having a mechanical relationship with the first and/or second catch structure, such that actuation of the mechanism disengages the first catch structure from the second catch structure, or vice versa, and thereby releases the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration. Section VII.B. In my opinion, Yamashita's slider meets this construction.

79. In my opinion, slider 33 (release mechanism) has a mechanical relationship with abutting part 35d (first catch structure) and hood stopper 33d (second catch structure). Specifically, the hood stopper is a protrusion on the front edge of the slider itself, so the slider has a mechanical relationship with the hood stopper because the hood stopper moves when the user moves the slider. The slider also has a mechanical relationship with the abutting part because "when the slider 33 moves to the left … , the hood stopper 33d separates from the hood 35" and disengages from the abutting part 35d of the hood. EX1006, ¶[0059].

80. And when the slider moves to the right, "base end abutting part 35d is brought into abutment against … hood stopper 33d provided in the slider 33." *Id*, ¶[0058]. Thus, I my opinion, the slider has a mechanical relationship with the hood stopper and/or abutting part (first catch structure) such that actuation of the slider

disengages the abutting part from the hood stopper (second catch structure), or vice versa, as required by the construction.

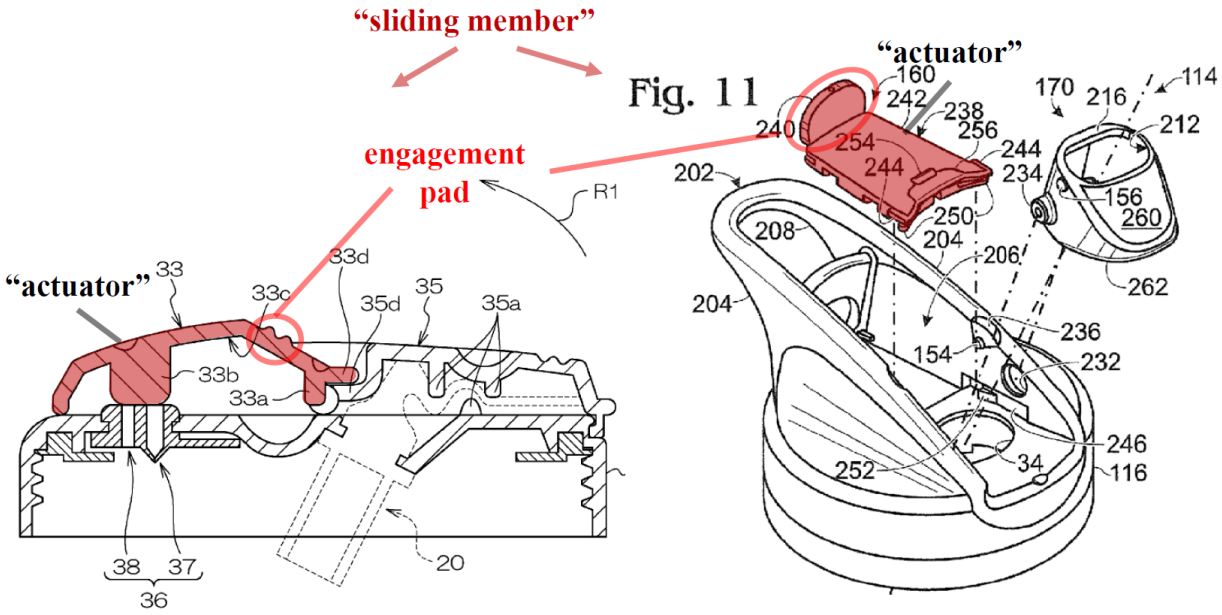
81. Yamashita discloses disengagement of hood stopper 33d and abutting part 35d "thereby release[s] the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration," as claimed. As shown in Yamashita Figure 9 above, straw 20 (mouthpiece assembly) naturally stands upright and uncrimped in the drinking state (dispensing configuration). *See* EX1006, ¶[0060]. In the portable state (stowed configuration), hood 35 bends the straw from its natural state, folding the straw over base 32 and crimping it between protrusions 35a. *See* EX1006, ¶[0057], FIG. 7. To transition from the stowed state to the drinking state, "slider 33 is further moved to the left and disposed to the position for opening the hood 35, [and] the straw 20 is recovered so that the user can drink the milk through the straw 20." EX1006, ¶[0060]; *see id*., ¶[0042] (in the drinking state "the straw 20 is released and recovered").

82. Thus, Yamashita teaches that (1) straw 20 naturally stands upright/uncrimped in the drinking state, (2) converting from the drinking state to the stowed state bends and crimps the straw against this natural state, and (3) converting from the stowed state to the drinking state releases the straw to the upright configuration from its bent/crimped configuration in the portable state. Thus, in my opinion, actuation of the slider "release[s] the mouthpiece assembly to move via its

bias from the stowed configuration to the dispensing configuration," as claimed. If the straw had no such bias it could not transition between the upright/uncrimped form in the drinking state and the bent/crimped form in the portable state, as Yamashita describes. Nor could the straw be "released" from the bent/crimped state to the upright/uncrimped state; rather, the straw would remain bent/crimped even with the container in the drinking state. Thus, the function of the entire Yamashita container assembly depends on the resiliency and bias of the straw toward the upright position.

83. In my opinion, Yamashita's slider 33 also discloses the user release mechanism under the means-plus-function interpretation. *See* Section VII.B. The recited function is "automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration." *Id*. And the corresponding structure comprises a sliding member having a user engagement pad and actuator, and equivalents thereof. *Id*. Thus, for the reasons I discussed previously for the non-means-plus-function construction, Yamashita's slider 33 performs the recited function.

84. As shown in the comparison below, it is my opinion that Yamashita's slider 33 contains the corresponding '028 patent structure:



Yamashita, FIG. 7* **'028 Patent, FIG. 11***

- **Sliding Member**

85. In the '028 Patent, "user release mechanism 160 of drink bottle 100 includes a **sliding member 238**." EX1001, 12:54-56, FIG. 11. "Sliding member 238 is configured to slide relative to the base of the cap assembly upon user actuation of the user release mechanism 160." *Id.*, 12:61-65. Likewise, Yamashita's container has a corresponding "**slider 33** … configured to move on the base member 32 along a surface of the base member 32." EX1006, ¶[0055].

- **User Engagement Pad**

86. The '028 patent's **Engagement pad 240** provides an area for the user to engage (e.g., with the thumb) and translate sliding member 238 to open/close the container. EX1001, 12:61-65. Likewise, Yamashit's slider 33 has an **engagement**

pad with bumps/ribs allowing the user to grip and move the slider. *See, e.g.*, EX1006, ¶¶[0059]-[0062].

- **Actuator**

87. Sliding member 238 of the '028 patent has "**an actuator**, such as … a **generally planar portion 242**." EX1001, 12:57-58, FIG. 11 (above). Yamashita's slider 33 also has a **generally planar portion** disclosing the '028 patent's actuator.

B. Claim 2

1. [2.1] "*The drink container of claim 1, wherein the user release mechanism is mechanically coupled to the first catch structure.*"

88. Yamashita's hood stopper 33d (second catch structure), as a part of slider 33, moves when the slider moves. EX1006, ¶[0058], FIG. 7. Thus, in my opinion, the slider (user release mechanism) mechanically couples to abutting part 35d (first catch structure) when the slider moves to the right and "abutting part 35d is brought into abutment against … hood stopper 33d provided in the slider 33" when closing the container. *Id*.

89. Additionally, although I identified abutting part 35d and hood stopper 33d respectively as the first and second catch structures above for claim 1, in my opinion, reading them instead as the second and first catch structures, respectively, also satisfies the claim language. In my opinion, element [1.10] is met because moving the slider left/right selectively engages abutting part 35d (now the second

catch structure) with hood stopper 33d (now the first catch structure) This reading also meets element [2.1] because hood stopper 33d is part of, and thus mechanically coupled to, the slider (user release mechanism).

C. Claim 5

1. [5.1] "*The drink container of claim 1, wherein the crimping region at least partially biases the mouthpiece assembly to the dispensing configuration.*"

90. As I explained for elements [1.6] and [1.11], Yamashita's resilient straw 20 naturally stands upright in the drinking configuration (dispensing configuration), and hood 35 bends and crimps the straw against this natural basis in the portable configuration. Sections IX.A.7, 12. It is my opinion that, in this deformed state, the crimping region of the straw exerts a force against the hood, toward its natural upright position. *Id*. As outlined above, Yamashita clearly teaches to use the resiliency of the straw structure to allow it to spring back to the dispensing position from the crimped, stowed position.

D. Claim 6

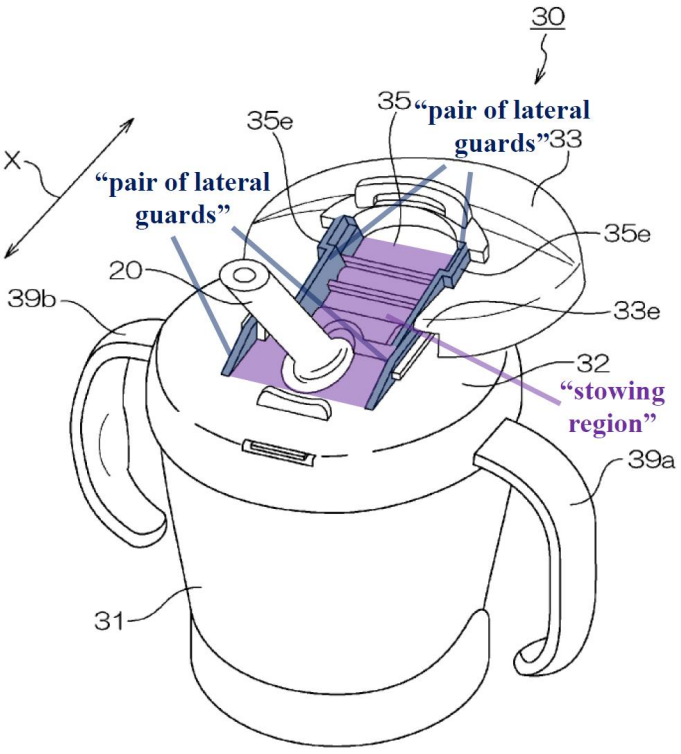
1. [6.1] "*The drink container of claim 1, wherein the cap assembly further includes a handle that projects away from the base of the cap assembly and*"

91. Yamashita's cap assembly includes "two handles 39a, 39b … disposed on each side of the base member 32 so as to project along the container main body 31." EX1006, ¶[0055], FIG. 6. As shown in the Figure, the handles 39a, b project

away from the base 32 horizontally and downwardly. *Id*., FIG. 6. In my opinion, this satisfies the claim language.

E. [6.2] "a pair of lateral guards that at least partially define a stowing region that receives at least a portion of the mouthpiece assembly between the pair of lateral guards when the mouthpiece assembly is in the stowed configuration."

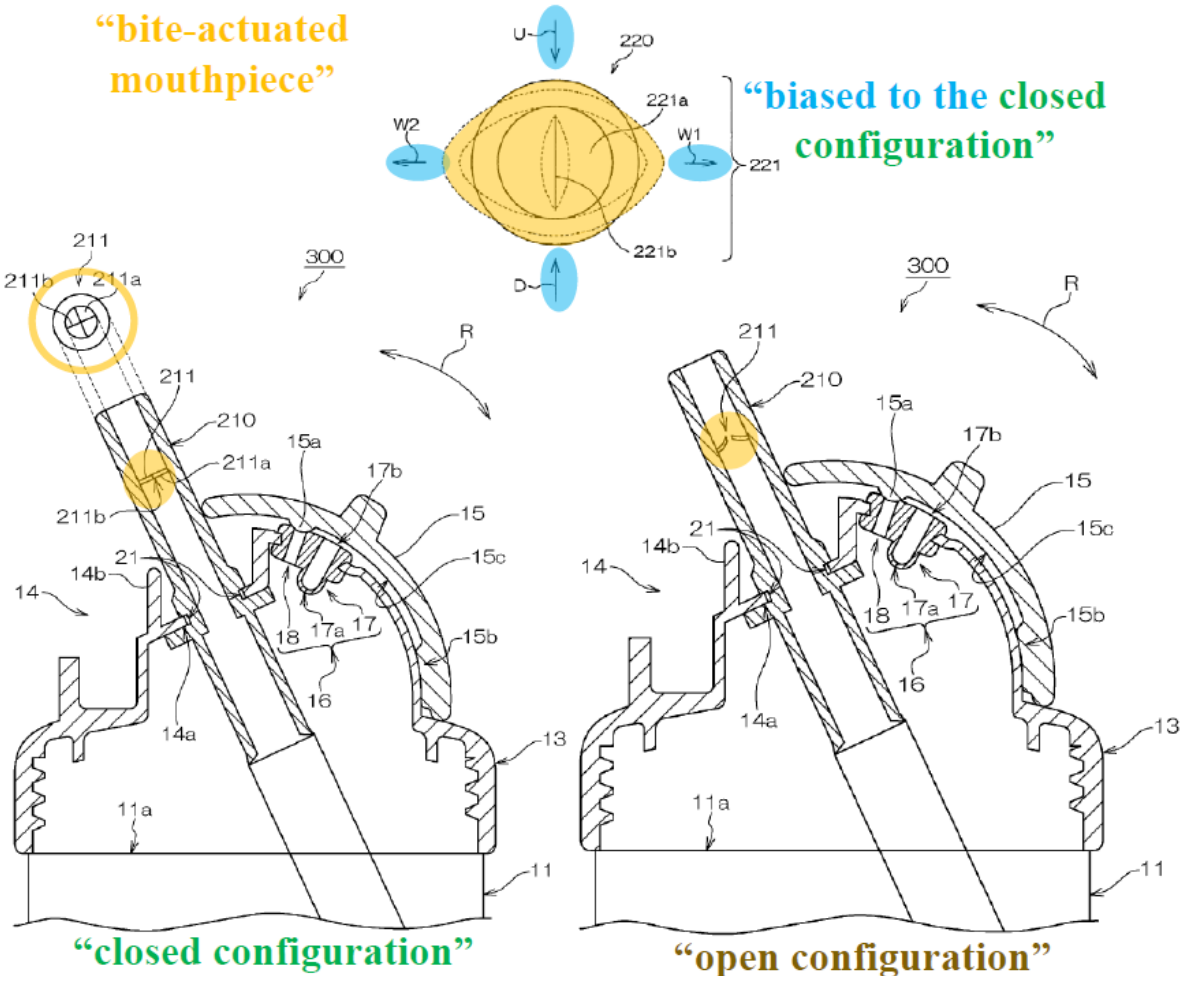
92. In my opinion, Yamashita's hood 35 and base 32 each includes a **pair of lateral guards** defining a **stowing region** between the lateral guards for straw 20 (mouthpiece assembly) when the hood is closed in the portable state (stowed configuration). EX1006, ¶[0058], FIG. 6 (right). The guards prevent the straw to move sideways, and thus keeps the straw generally aligned in a direction parallel to the hood 35, as the slider moves forward and the hood covers the straw.



F. Claim 7

1. [7.1] "*The drink container of claim 1, wherein the mouthpiece portion includes a bite-actuated mouthpiece and the outlet is a sealable outlet, wherein the bite-actuated mouthpiece is selectively configured between an open configuration, in which the sealable outlet is open and permits drink liquid to flow therethrough, and a closed configuration, in which the sealable outlet restricts drink liquid from flowing therethrough, wherein the bite-actuated mouthpiece is biased to the closed configuration, and further wherein the bite-actuated mouthpiece is selectively configured from the closed configuration to the open configuration responsive to a user biting upon opposed sidewalls of the bite-actuated mouthpiece*."

93. Yamashita's Figure 6 container does not have the claimed bite-actuated mouthpiece. As explained above for element [1.4], however, Yamashita's Figure 16 container has a bite-actuated straw with open/close valve 211 that opens when the user selectively applies bite pressure and closes absent bite pressure. EX1006, ¶[0077]-[0079], FIGS. 16-18. Thus, in my opinion, the combination of Yamashita's Figure 7-9 and Figure 16-18 containers, discussed above for element [1.4], renders obvious the bite-actuated mouthpiece of element [7.1] (Section IX.A.5):



Yamashita, FIGS. 16-18*

G. Claim 8

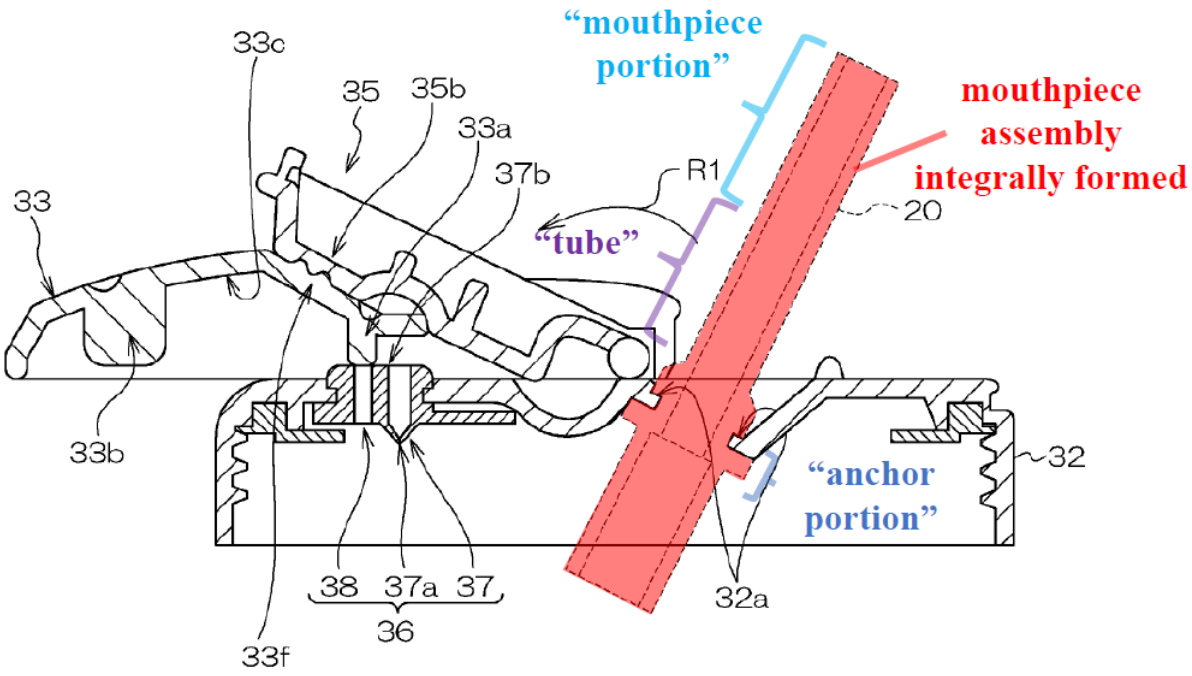
1. [8.1] "*The drink container of claim 1, wherein the mouthpiece portion permits a user to draw drink liquid from the drink container when the mouthpiece assembly is in the dispensing configuration.*"

94. In my opinion, Yamashita discloses this element. *See, e.g.*., EX1006, ¶[0060] (In the drinking state shown in "FIG. 9 … , the straw 20 is recovered so that the user can drink the milk through the straw 20.").

H. Claim 9

1. [9.1] "*The drink container of claim 1, wherein the mouthpiece portion, the tube, and the anchor portion are constructed as a unitary assembly of the resiliently deformable material.*"

95. As discussed I explained, this phrase may be construed to mean that the mouthpiece portion, the tube, and the anchor portion are integrally formed from the resiliently deformable material. Section VII.D. It is my opinion that straw 20 (mouthpiece assembly) satisfies this construction because Yamashita shows the straw as an integral component with the mouthpiece portion, the tube, and the anchor portion:



Yamashita, FIG. 9*

Yamashita also describes the straw as an integral component fitted to straw hole 32a in base 32 during installation. EX1006, ¶[0056].

I. Independent Claim 21

96. In my opinion, Yamashita discloses or suggests the elements of claim 21 for reasons I discuss above for claims 1 and 9. In the table below I map the elements of claim 21 to corresponding elements of claims 1 and 9 addressed above and the sections in which those elements are discussed:

Element	Section Above
[21.pre] "*A drink container, comprising*:"	VIII.A.1 ([1.pre])
[21.1] "*a liquid container; and*"	VIII.A.2 ([1.1])
[21.2] "*a cap assembly removably coupled to the liquid container, the cap assembly comprising: a base that defines a through-passage;*"	VIII.A.3 ([1.2])
[21.3] "*a mouthpiece assembly that extends through the through-passage of the base and defines a liquid passage*,"	VIII.A.5 ([1.4])
[21.4] "*wherein the mouthpiece assembly has a dispensing configuration and a stowed configuration*,"	VIII.A.6 ([1.5])
[21.5] "*wherein the mouthpiece assembly is biased to the dispensing configuration, and wherein the mouthpiece assembly includes: a resilient mouthpiece portion that permits a user to draw drink liquid from the drink container when the mouthpiece assembly is in the dispensing configuration;*"	VIII.A.7 ([1.6])

Element	Section Above
[21.6] "*a resilient tube connected to the mouthpiece portion and including a crimping region that is adapted to restrict flow of drink liquid through the mouthpiece assembly when the mouthpiece assembly is in the stowed configuration; and*"	VIII.A.8 ([1.7])
[21.7] "*a resilient anchor portion extending from the resilient tube opposite the resilient mouthpiece portion, wherein the anchor portion is sized to restrict passage of the resilient anchor portion through the through-passage and thus restrict removal of the mouthpiece assembly via a top side of the cap assembly, and*"	VIII.A.10 ([1.9])
[21.8] "*wherein the resilient mouthpiece portion, the resilient tube, and the resilient anchor portion are constructed as a unitary assembly; and*"	VIII.A.10 ([1.9]); VIII.1 ([9.1])

1. [21.9] "*a user release mechanism adapted to automatically release the mouthpiece assembly from the stowed configuration to the dispensing configuration via the bias of the mouthpiece assembly.*"

97. I understand that element [21.9] is similar to element [1.11] but broader for lacking reference to the first and second catch structures. If it is mean-plus-function language, it should be construed like element [1.11]. Section VII.C. Otherwise, it may be construed to mean a user release mechanism having a mechanical relationship with the cap assembly, such that actuation of the mechanism releases the mouthpiece assembly from the stowed configuration to the dispensing

configuration via the bias of the mouthpiece assembly. *Id*. In either case, it is my opinion that Yamashita discloses element [21.1] for the same reasons as element [1.11]. Section IX.A.12.

X. GROUND 3: YAMASHITA AND PACZONAY RENDES OBVIOUS CLAIMS 1, 2, 5-9, AND 21

98. Element [1.6] recites the mouthpiece assembly comprises "a mouthpiece portion." In my opinion, the claim language does not preclude the mouthpiece portion on the drinking-end portion of Yamashita's straw 20, as I explain above. Section IX.A.5. If it is argued that claim 1 requires a more substantial mouthpiece portion, however, it is my opinion that Paczonay renders it obvious.

A. Paczonay Discloses "wherein the mouthpiece assembly comprises: a mouthpiece portion that includes the outlet"

99. Paczonay describes a bite-actuated mouthpiece apparatus for "delivering water or other liquids to the mouth of an individual, for example a cyclist." EX1007, 1:8-10; *see id.*, 3:58-4:26, FIGS. 2A-2D (FIGS. 2A, 2B, 2D on the right). Paczonay explains prior

Fig. 2A

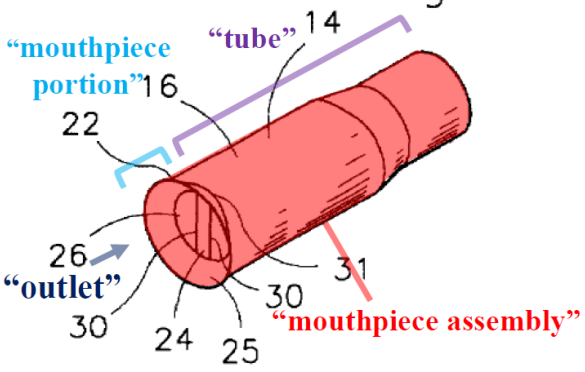
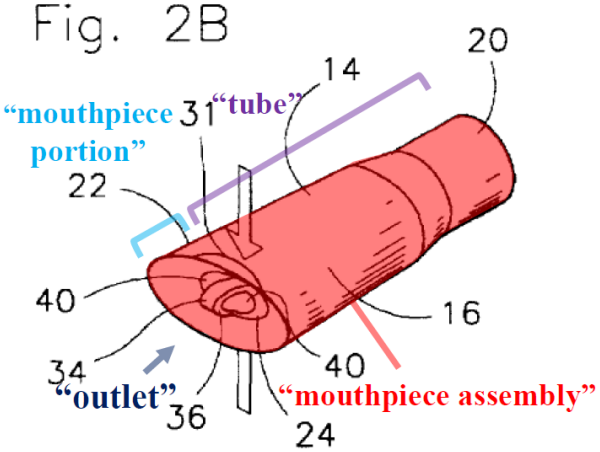
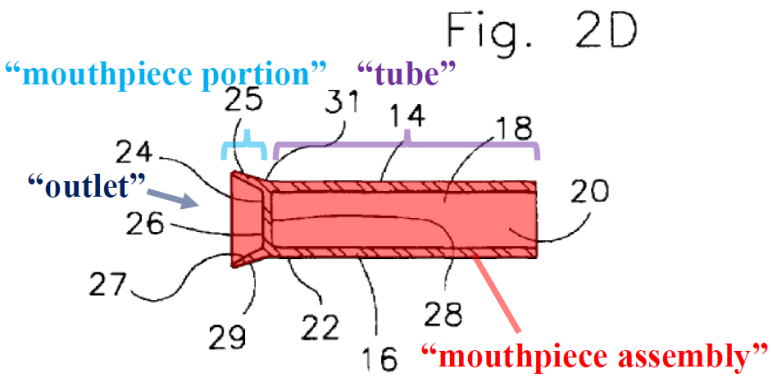


Fig. 2B



mouthpieces have "no structure at the biting end of the valve to help keep it in the mouth of the user. Thus, this valve can easily fall out of the mouth of the user." *Id.*, 1:37-39.



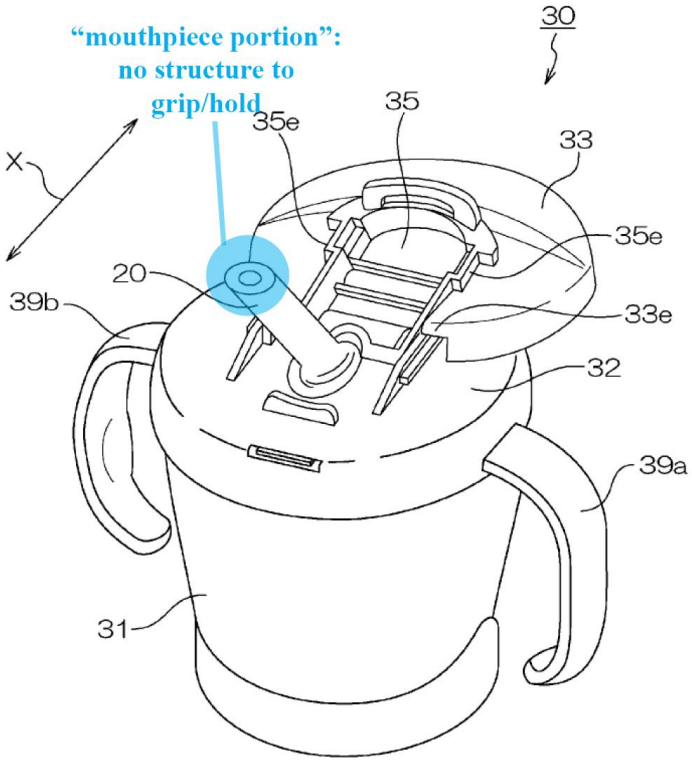
100. Paczonay's mouthpiece apparatus 14 addresses this issue with flared mouth retention member 25 "[i]ntegrally molded to the fluid outlet end of body portion 16 and extending outwardly away from closure 24." *Id.*, 3:23-24, FIGS. 2A-2D. As highlighted in Paczonay's Figures 2A, 2B, and 2D above, Paczonay's **apparatus 14** discloses the claimed mouthpiece assembly, with **flared mouth retention member 25** disclosing the claimed mouthpiece portion. The apparatus has **hollow body portion 16** (tube) "defining an interior 18 for accommodating fluid received from the liquid delivery tube" and **fluid outlet end 22** (outlet) having **flared mouth retention member 25** (mouthpiece portion). EX1007, 3:12-35. Thus, in my opinion, Paczonay discloses element [1.6].

B. Rationale to Combine Paczonay with Yamashita

101. In my opinion, a POSITA would have found it obvious to add Paczonay's flared mouth retention member 25 (mouthpiece portion) to Yamashita's tube 20 (mouthpiece assembly). The references provide teaching, suggestion, or

motivation for this combination. Paczonay aims to improve containers with bite-actuated mouthpieces that have "no structure at the biting end of the valve to help keep it in the mouth of the user" and thus "can easily fall out of the mouth of the user." EX1007, 1:37-39. In my opinion, the Yamashita combination discussed above is such a drink container.

102. Like Paczonay's mouthpiece apparatus 14 Paczonay, the Yamashita combination has bite-actuated straw 20. *Compare* EX1007, 3:58-4:26, FIGS. 2A-2D *with* EX1006, ¶¶[0077]-[0078]. And like the mouthpieces Paczonay seeks to improve, Yamashita's bite-actuated straw lacks structure at its drinking end to help the user grip and hold the straw in the mouth. *See* EX1006, FIG. 6 (above)



103. In my opinion, a POSITA would have observed that Yamashita's straw, like the deficient bite-actuated straws addressed by Paczonay, has no feature at its biting end to help the user hold it in the user's mouth. EX1007, 1:37-39. In

Paczonay's solution, "external flared wall 29 [of mouth retention member 25] intersects with the outer wall of hollow body portion 16, making a convenient concentric ridge for the teeth or lips of an individual." *Id.*, 3:51-54. Thus, in my opinion, a POSITA would have wanted to modify Yamashita's straw to include Paczonay's flared mouth retention member 25 to make it easier for users to grip and hold when actuating the valve and drinking from the container.

104. In my opinion, Paczonay gives reasons for the combination besides making the mouthpiece easier to hold in the mouth. For example, mouth retention member 25 provides additional structural support biasing the mouthpiece toward its undeformed/closed state when the user isn't actively drinking: "[F]lared member 25 acts to apply a compressive hoop stress on the closure 24, thus forcing any slits in closure 24 to remain closed when no external deforming forces are applied to bite valve apparatus 14." EX1007, 3:54-58. Added to Yamashita's straw, it is my opinion that Paczonay's flared member 25 would add further bias to close the open/close valve 211 when the user isn't drinking.

105. In my opinion, a POSITA would appreciate the material of Yamashita's straw deteriorates and loses resiliency from repeated bite forces applied to the straw over time as the container is used. Eventually, the straw loses its structural integrity and can no longer hold the valve closed, even absent bite or suction pressure. Adding flared member 25 from Paczonay, however, would extend the useful life of

Yamashita's straw by adding structural support further biasing the straw to its uncompressed/closed state. Thus, in my opinion, Yamashita's bite-actuated straw would work properly for longer with Paczonay's flared mouthpiece portion than without it.

106. Paczonay also teaches flared member 50 makes the mouthpiece easier to manufacture. "This construction allows the bite valve apparatus to be easily ejected from an injection mold" and the shape of the flared member means mouthpiece "will not shear at the intersection 31 between the member 25 and the hollow body portion 16" when removed from the mold. EX1007, 3:36-49. Thus, In my opinion, a POSITA would have been motivated to combine Paczonay with Yamashita to improve the manufacturing process and increase yield.

107. In my opinion, adding Paczonay's flared member to the mouthpiece portion of Yamashita's straw merely involves using a known technique (adding a flare to the end of a bite-actuated straw) to improve a similar device (Yamashita's bite-actuated straw without a flare) in the same way and/or applying a known technique to a known device ready for improvement to yield predictable results. Paczonay demonstrates adding a flared member to the end of a bite-activated straw was known to: (1) aid the user to retain the straw in the mouth; (2) improve the resilience of the straw to return to its closed state absent bite pressure; and (3) improve the manufacturing process and increase yield.

108. In my opinion, Paczonay's mouthpiece is similar to Yamashita's because both include a bite-bite-actuated valve inside the straw that opens when the straw deforms under bite pressure and closes when the straw returns to its undeformed state absent bite pressure. *Compare* EX1006, ¶¶[0077]-[0078], FIGS. 16-18 *with* EX1007, 3:58-4:26, FIGS. 2A-2D. And both mouthpieces are made from a resilient material and integrally formed with their respective tubes that receive fluid from within the container. *Compare* EX1006, ¶¶[0058], [0035] *with* EX1007, 3:8-35, 4:3-8, FIGS. 2A-2D. Thus, in my opinion, when added to Yamashita's straw, Paczonay's flared mouthpiece portion would improve Yamashita's straw as it improves the conventional mouthpieces Paczonay criticizes. And since Yamashita's straw lacks any special structure to help the user retain the straw in the mouth, Yamashita's straw stands ready for improvement by adding Paczonay's flared mouthpiece portion.

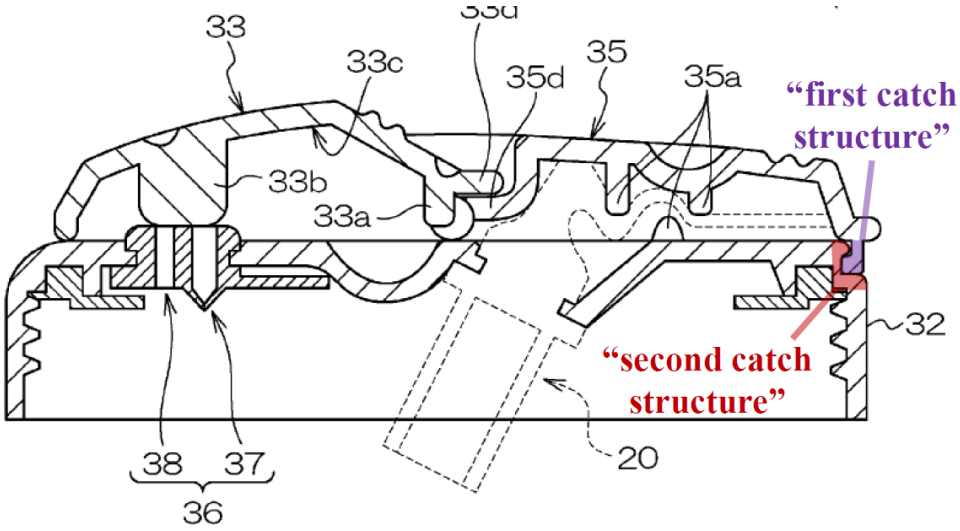
109. I note that the Yamashita-Paczonay combination addresses additional elements of the claims. For example, Paczonay bolsters Yamashita against arguments that Yamashita's mouthpiece assembly is not "constructed of a resiliently deformable material" [1.8], is not "biased to the dispensing configuration" [1.7], or does not "move via its bias" [1.12]. *See, e.g.*, EX1007, 3:8-35, 4:3-8, FIGS. 2A-2D (describing Paczonay's resilient, deformable mouthpiece).

110. And, as discussed, Paczonay teaches the mouthpiece is integrally formed, including flared member 25 (mouthpiece portion). *Id*.. Thus, in my opinion, with the flared member of Paczonay added to Yamashita, the modified straw is a single component integrally forming the mouthpiece, tube, and anchor portions from a resiliently deformable material. Section VII.D. Thus, in my opinion, the combination with Paczonay further suggests or renders obvious elements [1.8] and [9.1].

XI. GROUNDS 4-5: YAMASHITA AND YAMASHITA/PACZONAY IN VIEW OF DALL'AGNESE RENDER OBVIOUS CLAIMS 1, 2, 5-9, AND 21

111. Viewing element [1.11] very narrowly, it may argued that Yamashita's slider 33 (user release mechanism) does not sufficiently "automatically" disengage the first and second catch structures upon actuation. Similarly, for element [21.10], it may be contended Yamashita's slider does not sufficiently "automatically" release the mouthpiece assembly. In my opinion, however, Dall'Agnese renders these elements obvious even under a narrow reading.

112. In these Grounds, it is my opinion that the following Yamashita features correspond to the claimed first [1.3] and second [1.10] catch structures, instead of abutting part 35d and hood stopper 33d identified above:

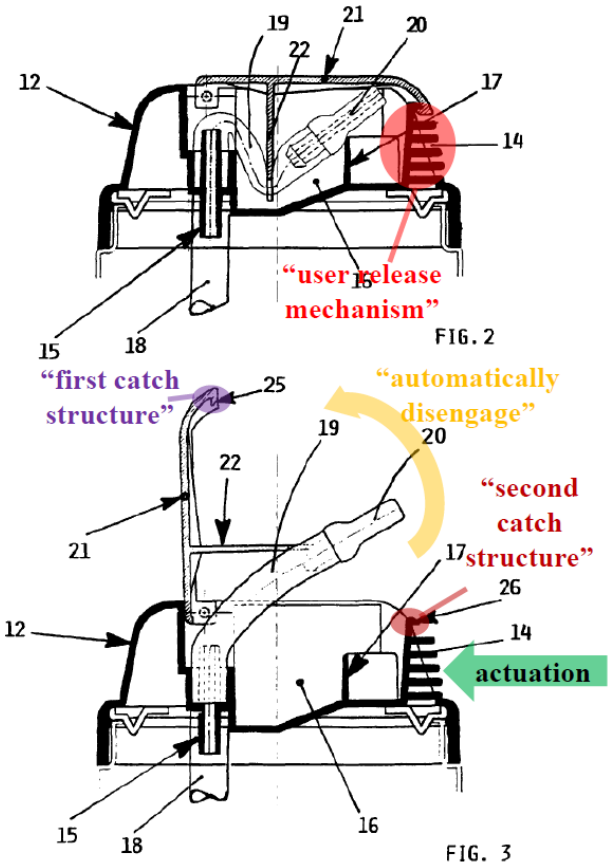


Yamashita, FIG. 7*

Specifically, in my opinion, the **recess/protrusion** on the hood 35 disclose the first catch structure. And the corresponding **protrusion/recess** of the base 32 with which the recess/protrusion on the hood mate, when the container is in the portable state, disclose the second catch structure. In my opinion, if it's argued Yamashita does not disclose a user release mechanism adapted to automatically disengage these two catch structures and open the container upon actuation (which I believe would be incorrect), it is my opinion that Dall'Agnese renders it obvious.

A. Dall'Agnese Discloses Element [1.11]

113. Dall'Agnese describes a beverage "container[] whose cap is provided with a closing or plugging device that is actuatable in a snap-like manner so as to offer the user a spout for sucking the beverage contained inside the container." EX1008, ¶[0003]. Dall'Agnese's container has cap 12 screwed onto body 11, and "cap 12 is provided with a snap-acting closing device 13, which is adapted to be actuated by means of an elastic tab 14." *Id*. ¶[0007], FIGS. 2, 3 (above). In my opinion, **Elastic tab 14** discloses the claimed user release mechanism.



114. Closing device 13 of Dall'Agnese has **first tooth 25** (first catch structure) that engages a corresponding **second tooth 26** (second catch structure). EX1008, ¶[0011]. "[B]y pressing the cover 21 against the tab 14 the teeth 25 and 26 are caused to get engaged, by making use of the elasticity of the tab 14, in such a manner as to cause the device to snap back into its closed position" and close the container. *Id*., ¶[0012], FIG. 3. And, to open the container, "a pressure exerted on

the tab [14] will cause the same to flex, thereby automatically releasing the teeth 25 and 26. The elasticity of the tubing 19 causes the cover 21 to open, in such a manner as to enable the spout 20 to be presented to the user." *Id*., ¶[0011]. Thus, it is my opinion that Dall'Agnese's elastic tab 14 (user release mechanism) is adapted to automatically disengage teeth 25, 26 (first and second catch structures) upon actuation and release tube 19 and spout 20 (mouthpiece assembly) to move via the tube's bias from the stowed configuration to the dispensing configuration, as claimed. In my opinion, tab 14 provides a mechanical relationship between the two teeth (first and second catch structures) to disengage the teeth and release the mouthpiece, consistent with the non-means-plus-function construction for this element. *See* Section VII.C.

B. Rationale to Combine Dall'Agnese With Yamashita/Paczonay

115. In my opinion, a POSITA would have found it obvious to modify Yamashita's base 32 and hood 35 to incorporate Dall'Agnese's elastic tab 14. The references provide teaching, suggestion, or motivation for this combination. For example, although Yamashita's figures show the recess/protrusion on hood 35 (first catch structure) and the protrusion/recess of base 32 (second catch structure), Yamashita does not discuss them in text. But their functioning would have been clear to a POSITA studying the other teachings in Yamashita and from the general context. *See, e.g.,* EX1006, ¶[0059]. The user might apply pressure to the hood with

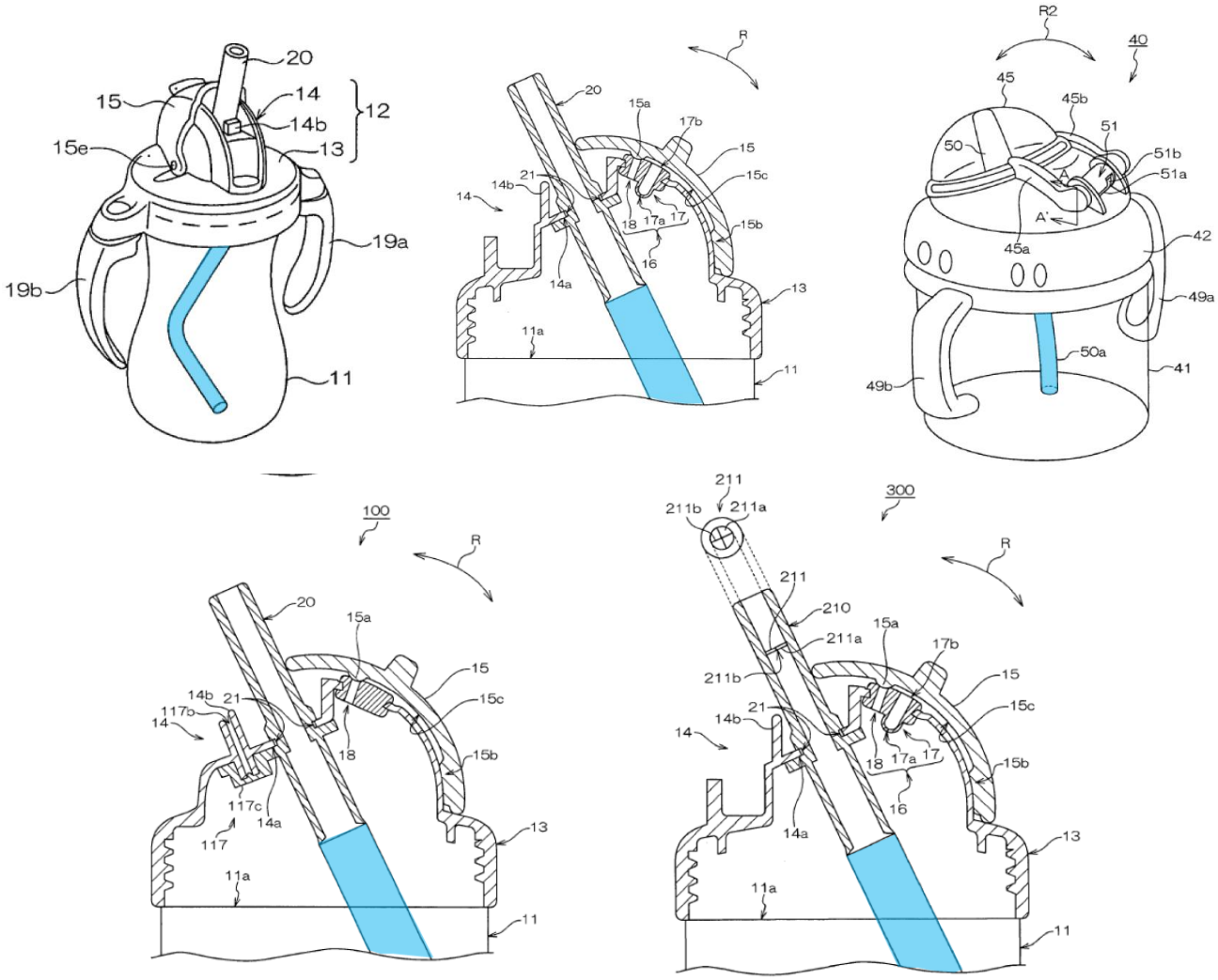
the thumb to disengage these catch structures and pop the hood open after moving slider 33 to the left. While this may work, it is my opinion that a POSITA would have looked to other references for more convenient mechanisms to disengage the two catch structures to open the hood of Yamashita. And Dall'Agnese provides a suitable solution.

116. In my opinion, adding Dall'Agnese's elastic tab 14 to Yamashita merely involves using a known technique to improve a similar device in the same way, or applying a known technique to a known device ready for improvement with predictable results. Dall'Agnese shows it was known to use an elastic tab to selectively release a lid stowing the mouthpiece of a drink container. The containers of Yamashita and Dall'Agnese both have a cover (Yamashita's hood 35, Dall'Agnese's closing device 13) to stow and crimp the mouthpiece within the cap so the container does not leak when closed. Thus, adding Dall'Agnese's tab to Yamashita would improve Yamashita as it improves Dall'Agnese—more convenient opening of the hood without a spring-based push-button. *See* EX1008, ¶¶[0004], [0013]. Yamashita's container stands ready for improvement by adding Dall'Agnese's tab because both containers use similar lid mechanisms to crimp and stow the mouthpiece. Thus, in my opinion, a POSITA would have had a reasonable expectation of success in making the combination.

XII. GROUNDS 6-8: YAMASHITA, YAMASHITA/PACZONAY, AND YAMASHITA/PACZONAY/DALL'AGNESE, IN VIEW OF MANGANIELLO, RENDER OBVIOUS CLAIM 16

A. [16.1] "The drink container of claim 1, wherein the drink container includes a straw with a first end that extends into the liquid container and

117. In my opinion, the Yamashita Figures 1, 10, and 16 containers have a straw with a first end that extends into the liquid container, as claimed. *See, e.g.*, EX1006, ¶[[0063] ("a straw 50a [is] disposed in the base member 42").



Yamashita, FIGS. 1, 2, 10, 12, 16*

118. Yamashita does not expressly show or describe the internal straw of the Figure 6 container, but in my opinion it would have been obvious that the container needs it so the user can drink the beverage from main body 31 as Yamashita describes. Thus, in my opinion, a POSITA would have found it obvious to include the straw in the Figure 6 embodiment.

B. [16.2] "a second end that extends into the liquid passage and is retained therein by [a] friction-fit arrangement."[4]

119. In my opinion, because Yamashita is more concerned with preventing leakage and allowing the user to drink easily from the container even with a negative internal pressure, EX1006, abstract, how the internal straws connect to the liquid passages of their respective mouthpieces falls outside Yamashita's scope. In my opinion, however, Manganiello discloses a straw assembly for a similar drinking cup in which the second end of the straw connects to the liquid passage of the mouthpiece by friction fit, as claimed. I believe it would have been obvious to a POSITA to use Manganiello's straw-connection technique in Yamashita.

[4] "The friction-fit arrangement" lacks antecedent basis. Without conceding that claim 16 is not indefinite, Petitioner interprets the claims as though it has antecedent basis.

1. Manganiello discloses element [16.2]

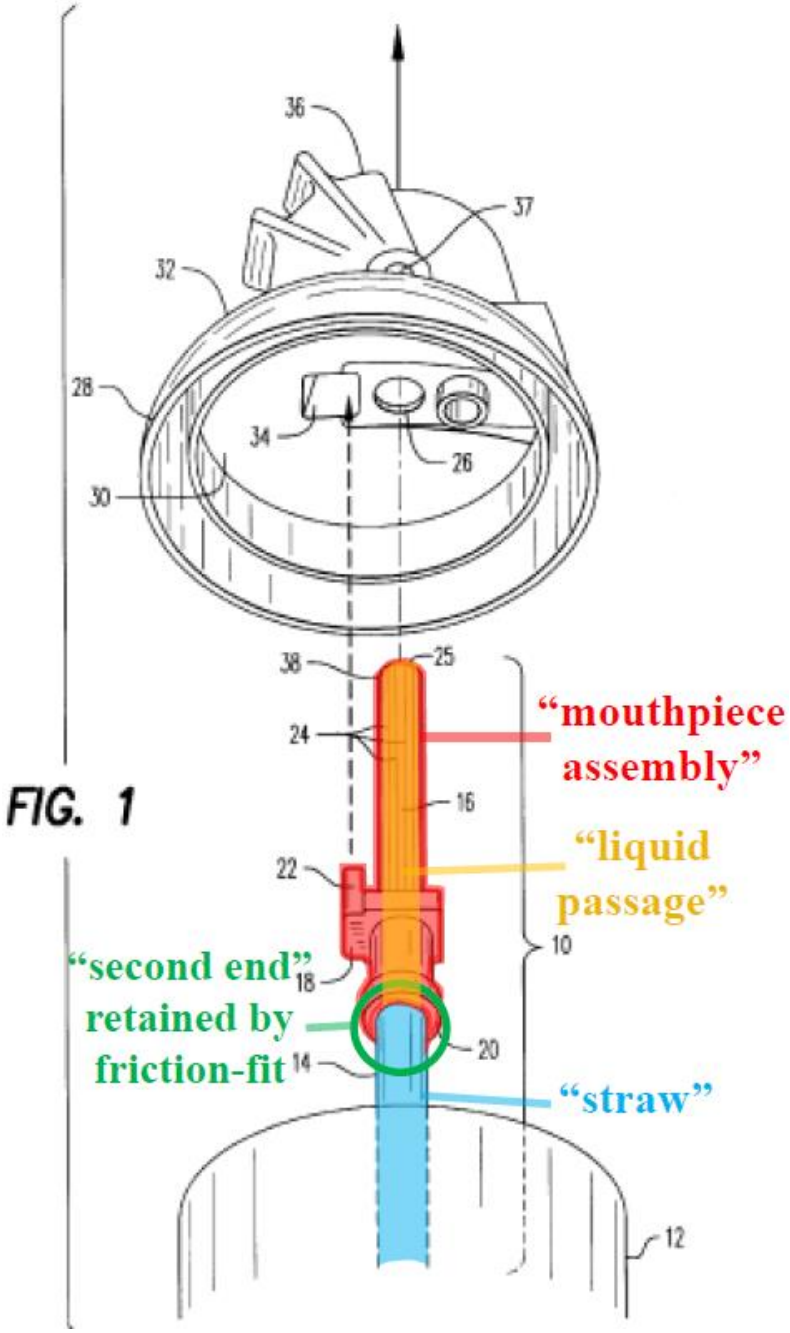


FIG. 1

120. Manganiello describes reusable straw assembly 10 for leak-proof cup 12. EX1009, Abstract, 2:32-46, FIG. 1 (above). The assembly has lower segment 14 with one end extending into the cup and the other connecting to first end 20 of upper

segment 16. *Id*., FIG. 1. The upper segment has drinking end 38 that inserts through opening 26 in cup lid 28. *Id*., 2:32-3:4, FIG. 1.

121. In my opinion, as highlighted above, **upper segment 16** discloses the claimed mouthpiece assembly and the **lower segment 14** discloses claim 16's straw. "The lower segment 14 is adapted to fit within the first end 20 of upper segment 16 to form a unitary straw assembly." EX1009, 3:31-32. Manganiello does not expressly teach friction holds the straw within upper segment 16, but it is my opinion that this would be necessary given Manganiello does not describe another mechanism (e.g., adhesive) that retains the straw. Thus, based on Manganiello's description and Figure 1, it is my opinion that a POSITA would understand Manganiello to disclose, suggest, or render obvious that the **second end** of lower segment 14 is retained by **friction-fit** within the **liquid passage** at first end 20 of upper segment 16.

2. Rationale to Combine Manganiello With Yamashita/Paczonay/Dall'Agnese

122. In my opinion, a POSITA would have found it obvious to configure Yamashita's container such that the second end of the internal straw extends into the liquid passage and is retained by a friction-fit arrangement, as disclosed by Manganiello. The references provide teaching, suggestion, or motivation supports for the combination. For example, Yamashita does not explain the peripheral matter of how the internal straw connects to the mouthpiece portion. But Figures 1 and 10 of Yamashita clearly display a straw extending into the liquid.

FIG.1

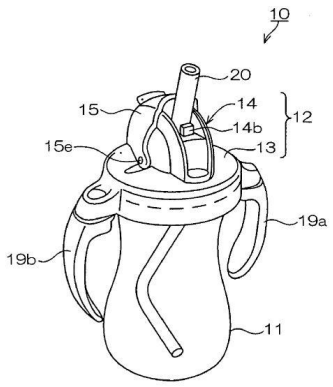
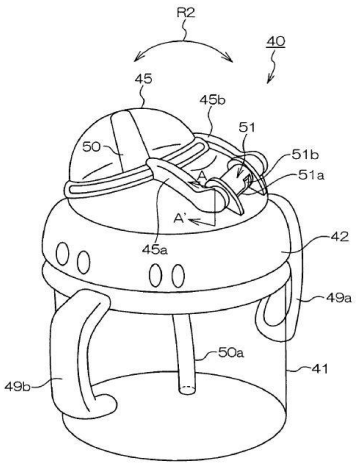


FIG.10



123. To implement a working Yamashita container, it is my opinion that a POSITA would have looked to other references for details on how to do so. Manganiello provides an example where the internal straw inserts into the liquid passage at the base of the mouthpiece portion and is held by friction. In my opinion

that POSITA would have found it obvious to use Manganiello's technique in Yamashita.

124. In my opinion, implementing Manganiello's technique in Yamashita merely involves using a known technique (fitting the straw in the base of the mouthpiece) to improve a similar device (Yamashita's container) in the same way and/or applying a known technique to a known device ready for improvement with predictable results. Manganiello demonstrates it was known to insert the end of an internal straw of a container into an opening in the mouthpiece base so friction retains the straw. In Yamashita, this configuration would operate as it does in Manganiello. And to the extent Yamashita does not teach how the internal straw mates with the mouthpiece, Yamashita stands ready for improvement by Manganiello's technique. Thus, in my opinion, a POSITA would have made the combination through routine skill in the art with predictable results.

XIII. GROUND 9: MANGANIELLO AND DALL'AGNESE RENDERS OBVIOUS CLAIMS 1, 2, 5, 8-10, 14, 16, AND 21

A. Independent Claim 1

1. Element [1.pre]

125. In my opinion, Manganiello discloses a drink container—the **cup assembly** including **leak-proof cup 12, straw 10, and cup lid 28**. EX1009, 2:33-51, 1:66-2:11, 5:4-18, FIG. 1 (right).

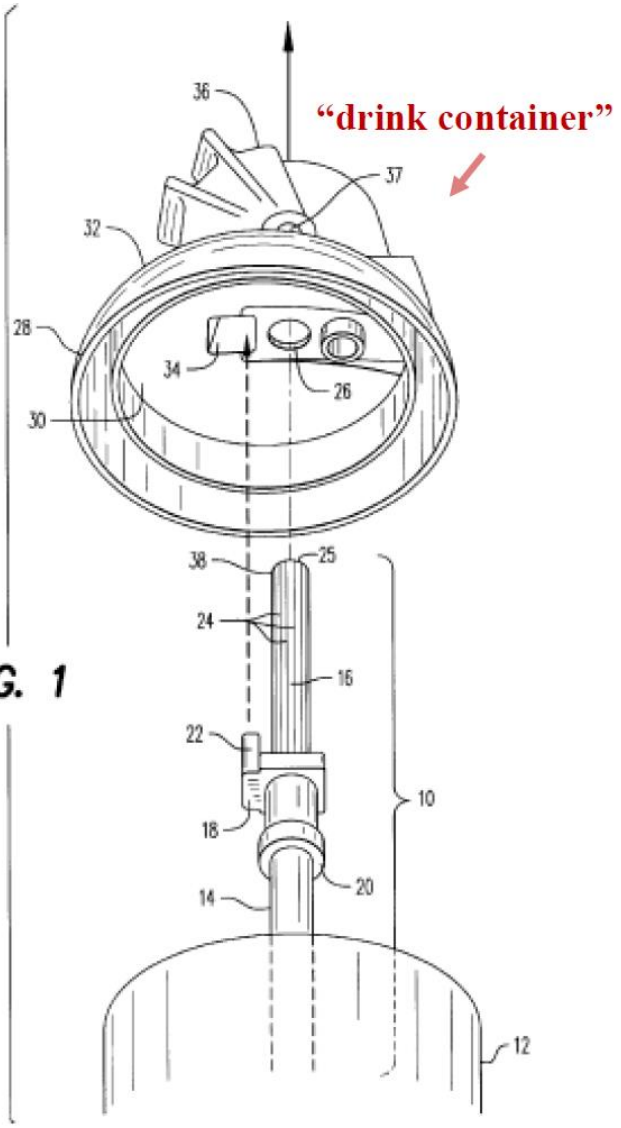


FIG. 1

2. Element [1.1]

126. In my opinion Manganiello's **leak-proof cup 12** discloses the claimed liquid container. EX1009, 2:26-51, FIG. 1 (right). At the top of leak-proof cup 12, a **neck** region provides an opening to an internal compartment sized to hold a volume of potable drink liquid. EX1009, 2:26-64.

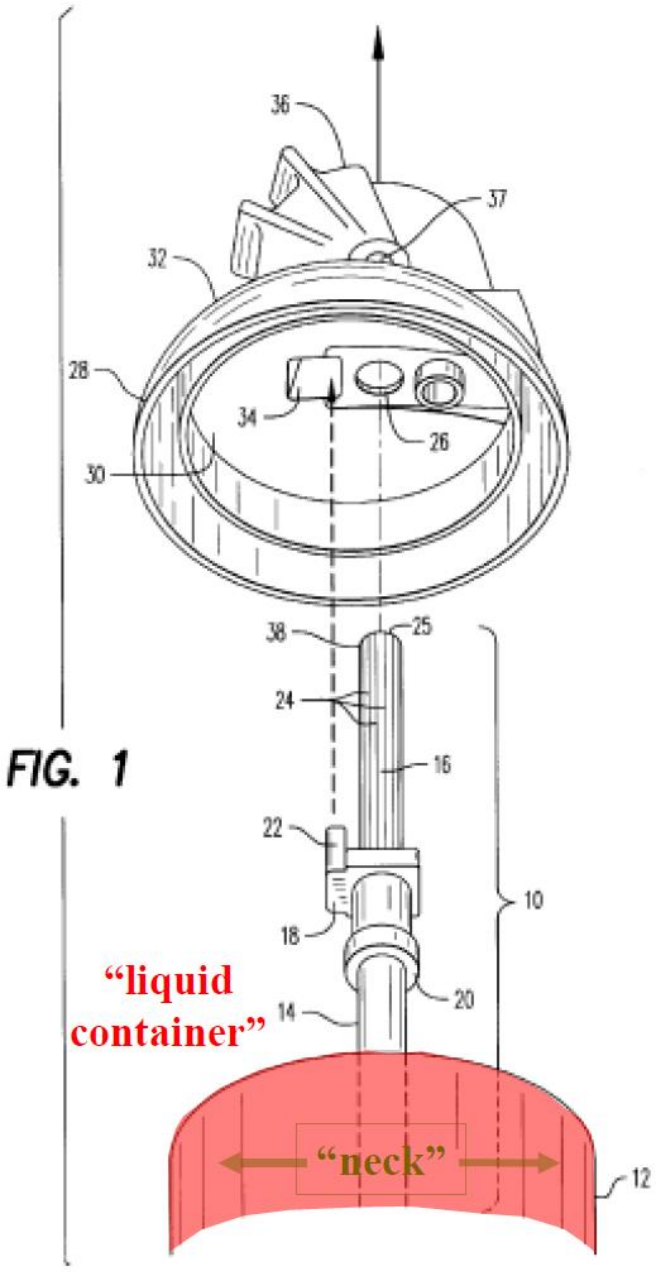


FIG. 1

3. Element [1.2]

127. In my opinion, Manganiello's **cup lid 38** discloses the claimed cap assembly. EX1009, 2:47-53, FIG. 1 (right). At its **base**, the cup "lid [is] removably mounted on the cup [and] ha[s] an aperture therethrough," and "a flexible straw element [is] adapted to be inserted through the aperture from the underside of the lid." EX1009, 1:66-2:3. In my opinion, **opening/aperture 26** discloses the claimed through-passage. EX1009, 2:46-64.

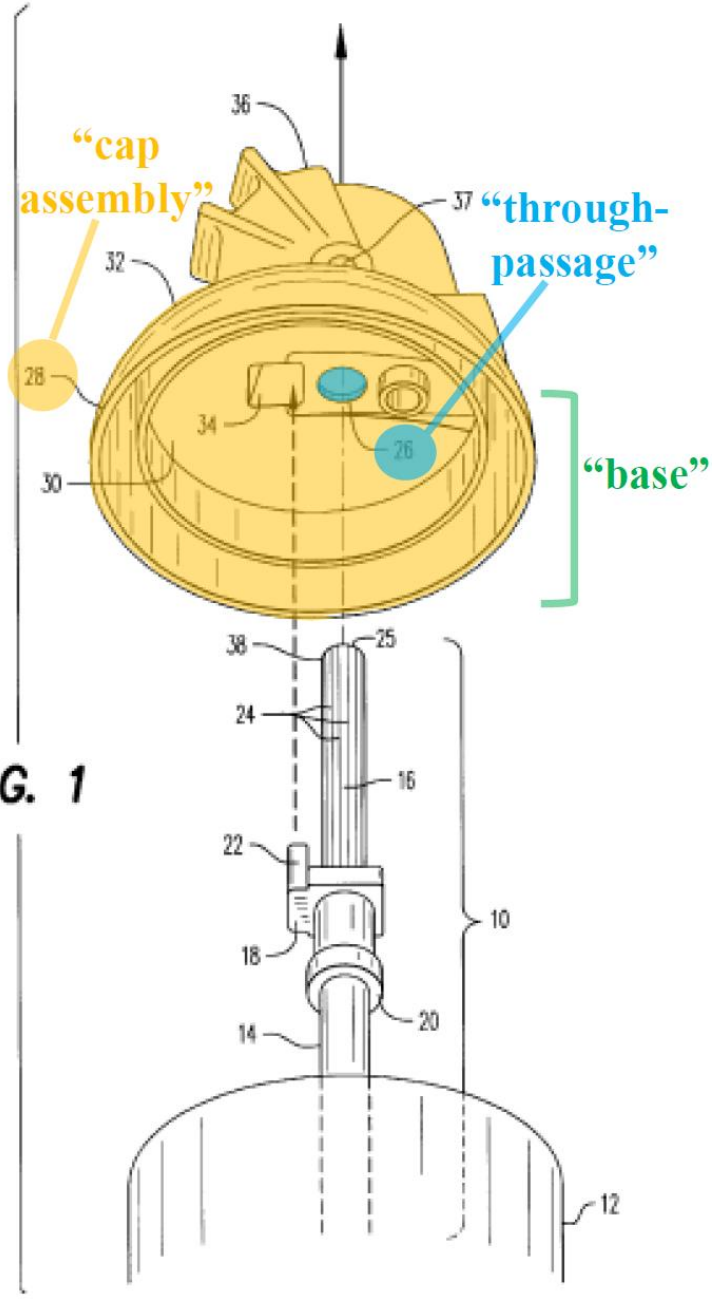


FIG. 1

4. Element [1.3]

a. Dall'Agnese discloses element [1.3]

128. Manganiello does not expressly disclose this element. But, as I explained above, **first tooth 25** on Dall'Agnese's closing device 13 discloses the claimed first catch structure. Section XI.A; *see* EX1008, ¶[0011], FIG. 3.

a. Rationale to combine Dall'Agnese with Manganiello for element [1.3]

129. *See* Section XIII.A.12 below.

5. Element [1.4]

130. In my opinion, Manganiello's **straw 10** discloses the claimed mouthpiece assembly because it is a mouthpiece part separate from the cap assembly. Section VII.A. Manganiello's straw 10 is a mouthpiece part separate from cup lid 38. EX1009, 2:35-38 ("The straw 10 is … a two-piece straw adapted to be inserted in a leak-proof cup 12" and "includes an elongated lower segment 14 and

an elongated, but shorter, upper segment 16."), FIG. 1 (right). Upper segment 16 of the straw is installed by insertion through **opening 26** (through-passage) on inner surface 30 of cup lid 28. EX1009, 2:52-53, 3:2-4.

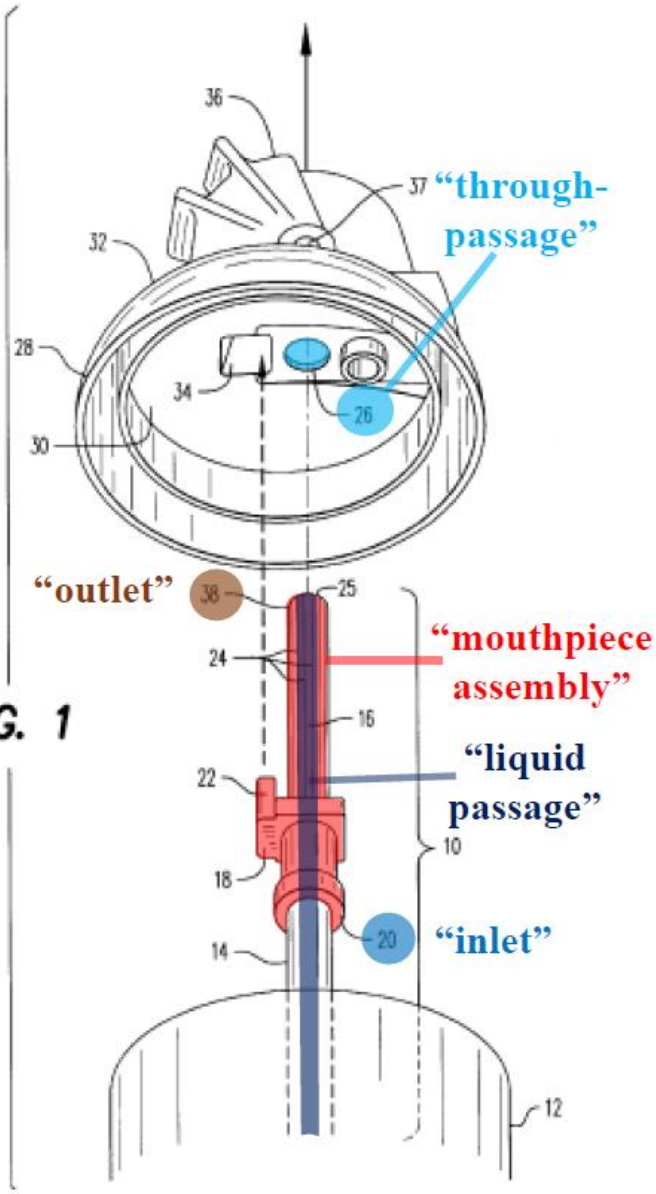


FIG. 1

131. The straw defines a **liquid passage**, **first end 20** (inlet) through which liquid in the cup enters the straw, and **drinking end 38** (outlet) through which the user drinks. EX1009, 2:35-39, FIG. 1. In my opinion, liquid selectively dispenses from the cup and selectively flows through the liquid passage of the straw, as claimed, by: (1) the user's selectively drinking/not drinking from the straw; and (2) the user's selectively opening/closing sealing cap 36 to open/close the straw. *Id.*, 2:16-22, 2:59-3:4, 3:14-19, FIGS. 3A, 3B.

6. Element [1.5]

132. In my opinion, Manganiello's **straw 10** (mouthpiece assembly) is **selectively configured** between an **open state** (dispensing configuration) and a **sealed state** (stowed configuration):

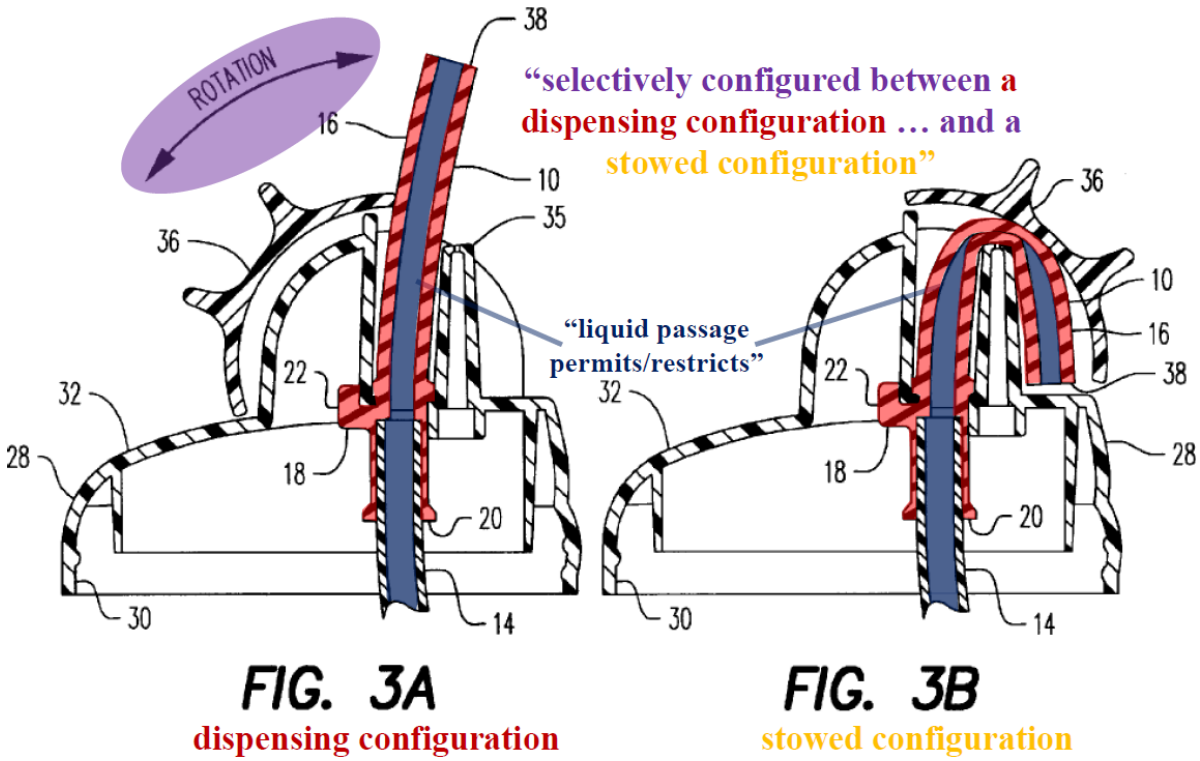


FIG. 3A
dispensing configuration

FIG. 3B
stowed configuration

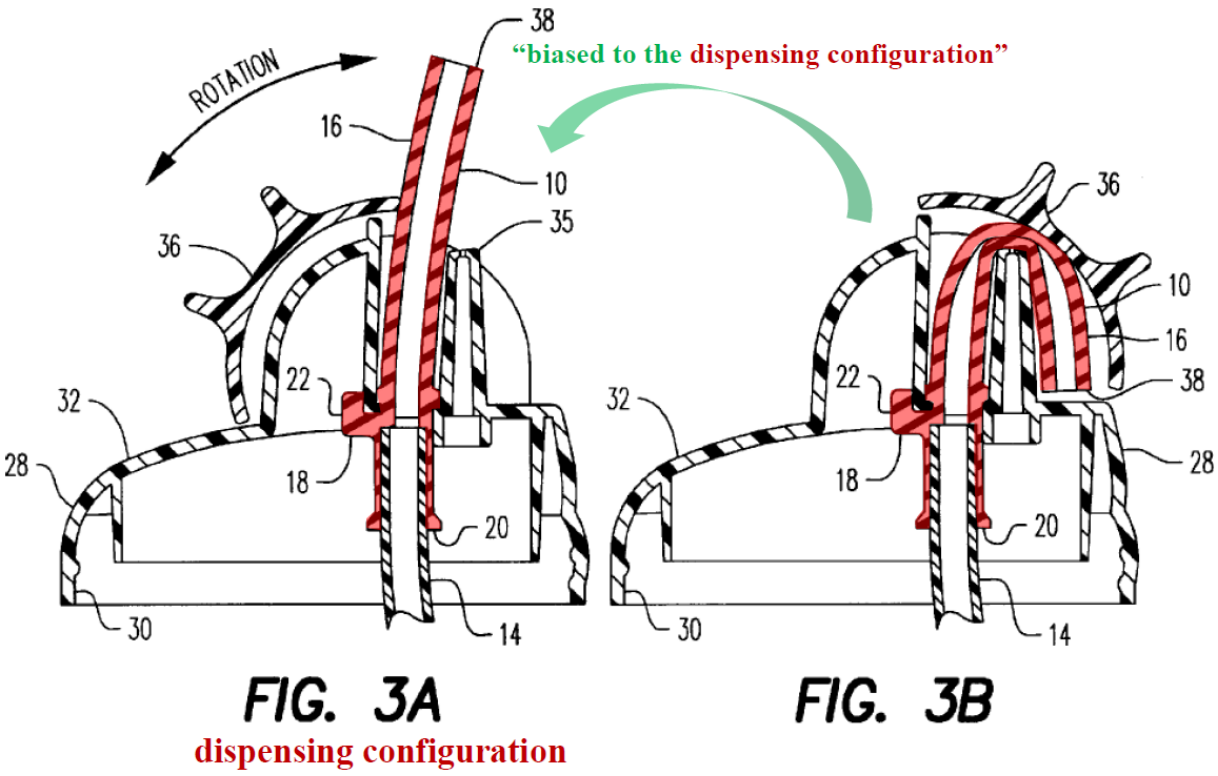
Manganiello, FIGS. 3A, 3B*

In the open state (Figure 3A), the **liquid passage** of the straw permits liquid to flow from the cup into the liquid passage because the passage is open to its full natural diameter. EX1009, 2:10-11, 2:19-20, 5:16-18. In the sealed state (Figure 3B), sealing cap 36 folds the straw over sealing post 35, compressing and closing the liquid passage to form "a leakproof seal." EX1009, 3:14-30, FIG. 3B; *see id.*, 2:21-22,

2:57-3:4. In the sealed state, the crimped straw restricts the flow of liquid therethrough.

7. Element [1.6]

133. In my opinion, Manganiello's **straw 10** (mouthpiece assembly) is **biased** to the **open state** (dispensing configuration):



Manganiello, FIGS. 3A, 3B*

Manganiello teaches "upper segment 16 is formed of a flexible, strong, elastomeric material such as surgical grade silicone, TPE or PVC. This allows it to be soft to drink from and easy to clean, while also enabling it to be bent and sealed repeatedly with minimal force and without cracking or ripping." EX1009, 3:35-41; *see id.*, 3:5-

7. Due to its resilience and flexibility, the upper segment has a natural bias to stand upright in the open state, as seen in Figures 3A, 3B of Manganiello above. Thus, in my opinion, when the sealing cap rotates counterclockwise and releases the upper segment of the straw, this bias causes the upper segment to move from the closed/bent state to the upright drinking state.

134. Additionally, Manganiello's **straw** comprises a **mouthpiece portion** including the **outlet**. I highlight and identify these features in Figure 3A of Manganiello below:

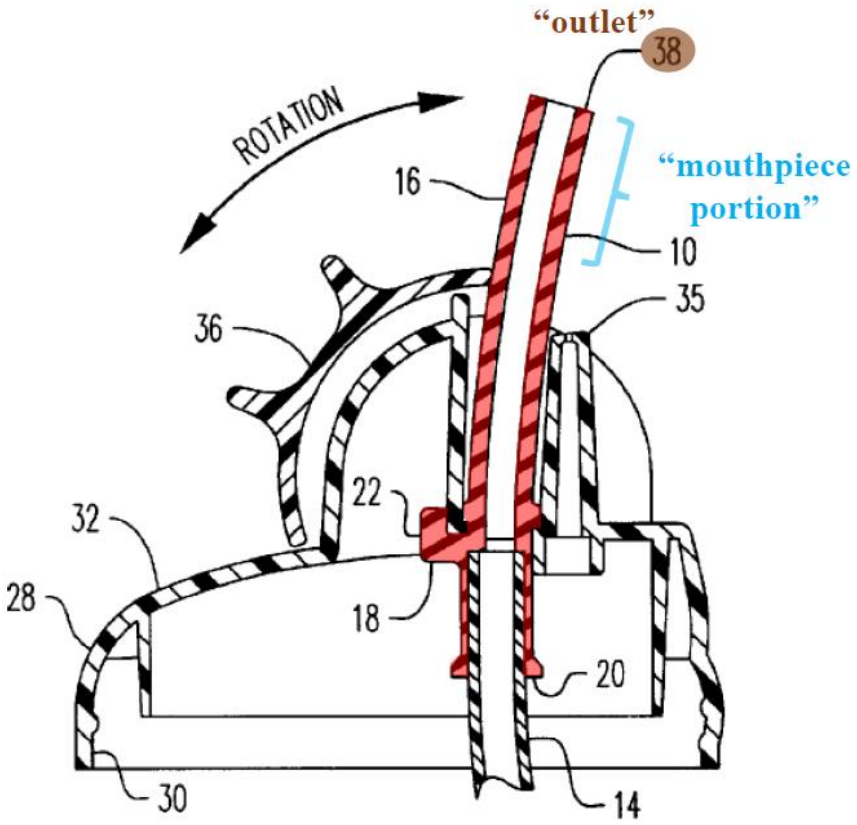


FIG. 3A

Manganiello, FIG. 3A*

8. Element [1.7]

135. In my opinion, the **tube** of Manganiello's **straw 10** (mouthpiece assembly) defines a **crimping region** that restricts the flow of through the **liquid passage** when the straw is in the **closed state** (stowed configuration):

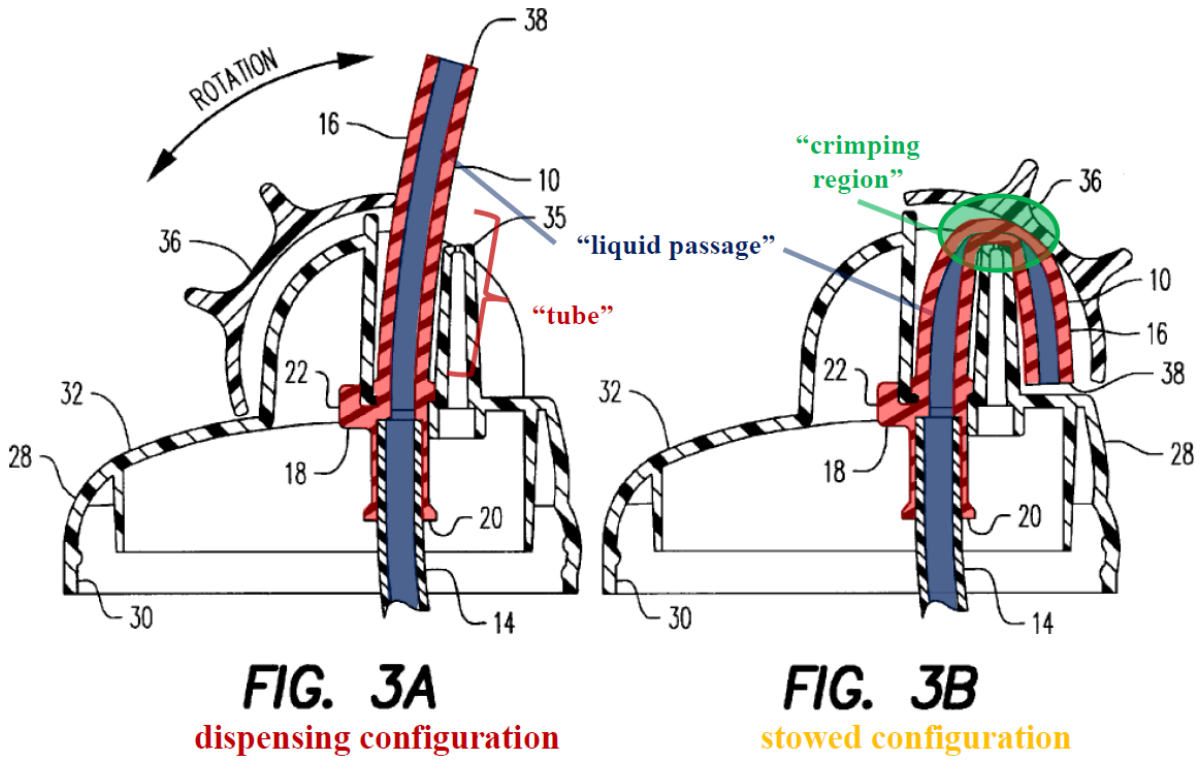


FIG. 3A
dispensing configuration

FIG. 3B
stowed configuration

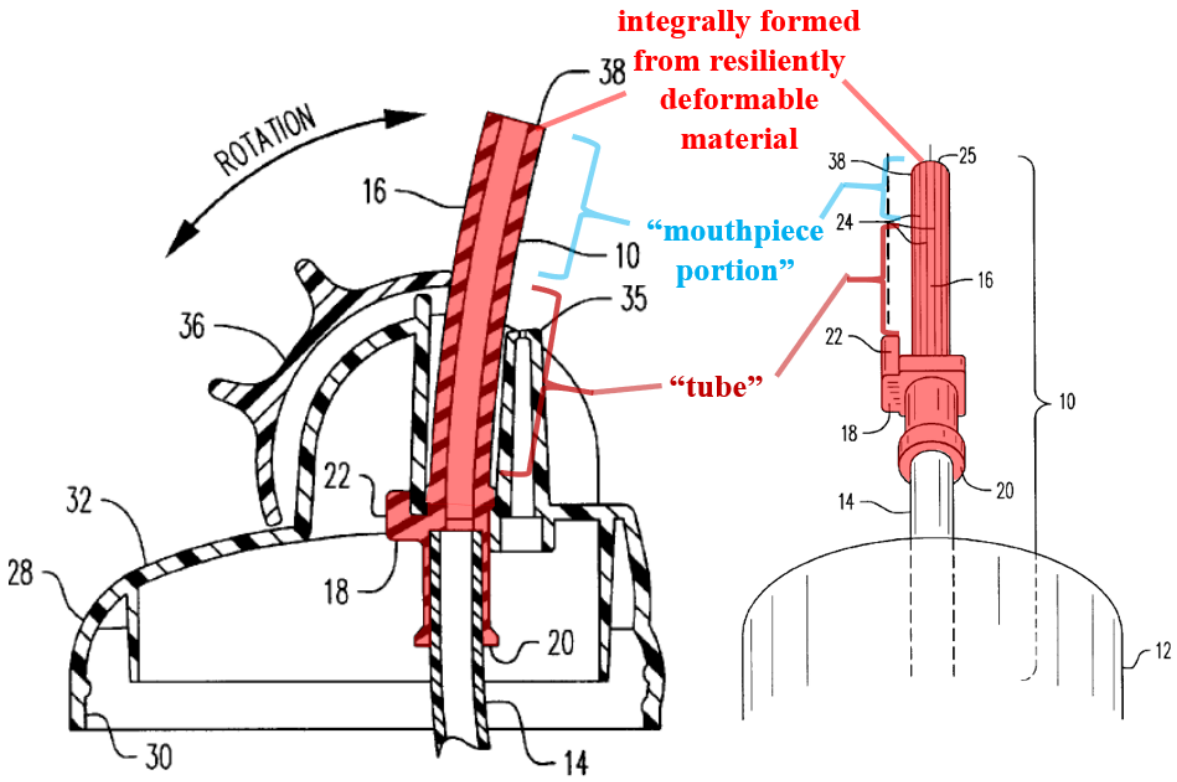
Manganiello, FIGS. 3A, 3B*

In the closed state (Figure 3B), sealing cap 36 folds and crimps upper segment 16 of the straw over sealing post 35, closing the liquid passage to form "a leakproof seal." EX1009, 3:14-30, FIG. 3B; *see id.*, 2:21-22, 2:57-3:4. In my opinion, the region of the straw folded/crimped over the sealing post, highlighted above in green, discloses

the claimed crimping region. This region is constructed of a resiliently deformable material, as claimed. EX1009, 3:35-41.

9. Element [1.8]

136. **Upper segment 16** of Manganiello's straw 10 has both the **mouthpiece portion** and **tube**. I highlight and identify these features in Figure 1 and 3A of Manganiello below:



Manganiello, FIGS. 1, 3A*

137. Manganiello teaches its "two-piece straw 10 includes an elongated lower segment 14 and an elongated, but shorter, upper segment 16." EX1009, 2:34-38; *see id.*, 3:31-35, FIG. 1. In my opinion, this two-piece construction suggests

upper segment 16 is a single, distinct (i.e., integral) piece as described and shown in the Figures. The upper segment contains: (1) the mouthpiece portion (region at drinking end 38); (2) the tube (crimping region) and (3) shoulder 18 and finger 22 (anchor portion, discussed below). EX1009, 2:32-46, 2:52-60, FIG. 1. Because the upper segment is a single integral piece, it is my opinion that POSITA would understand portions (1)-(3) to be integrally formed from upper segment 16. And Manganiello teaches the entire upper segment—including these three portions—is integrally formed from a resiliently deformable material, like TPE or PVC. *Id*., 3:5-13, 3:35-41; *see id*., 1:14-17 ("integral straw assembly"). Thus, in my opinion, a POSITA would understand Manganiello's mouthpiece portion, tube, and the anchor portion (discussed below) are integrally formed from this resiliently deformable material.

10. Element [1.9]

138. In my opinion, Manganiello's straw 10 has **shoulder 18 with finger 22** corresponding to the claimed anchor portion. EX1009, 2:39-46, 2:52-56, FIG. 1 (right).

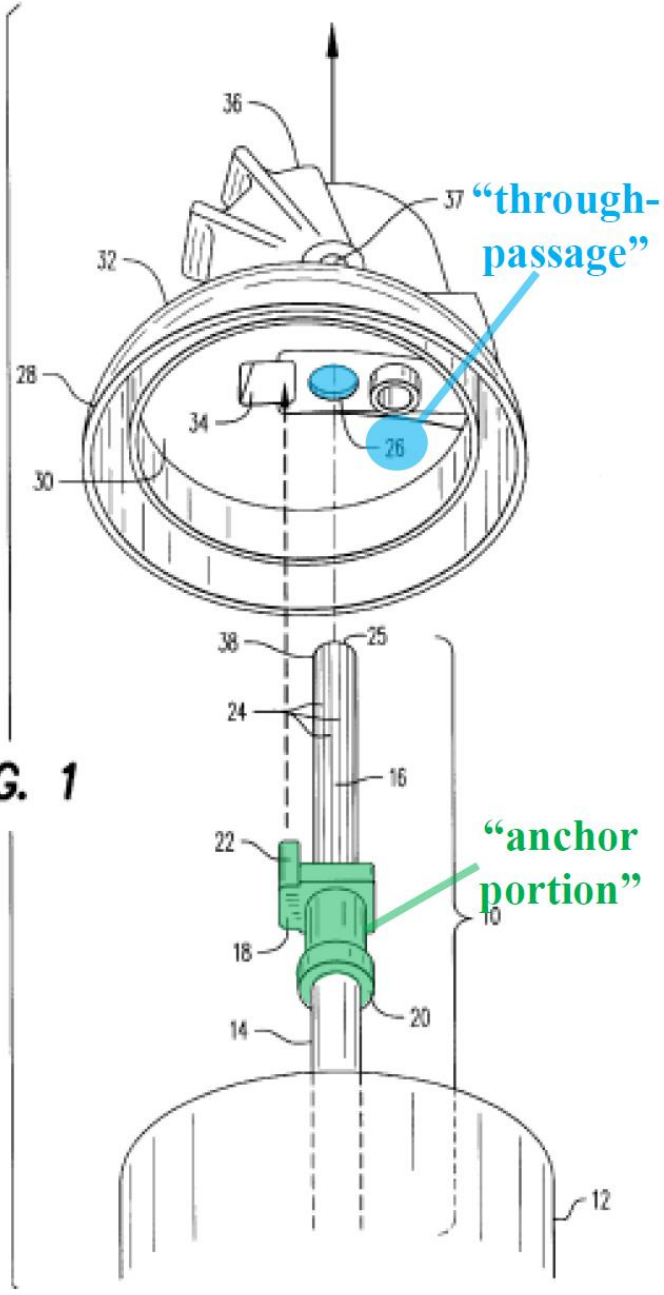


FIG. 1

139. In my opinion, the shoulder and finger are sized to restrict passage through **opening 26** (through-passage) of the base, and they actually perform the restricting function in practice: "shoulder 18 of upper segment 16 is designed to stop the upper segment's forward progress when an appropriate length is protruding from outer surface 32, and to prevent the straw from being pulled through the opening." EX1009, 2:52-56.

11. Element [1.10]

a. Dall'Agnese discloses element [1.10]

140. Manganiello does not expressly disclose this element but, in my opinion, Dall'Agnese's **second tooth 26** on elastic tab 14 discloses it. Section XI.A; *see* EX1008, ¶¶[0007], [0011], FIG. 3.

b. Rationale to combine Dall'Agnese with Manganiello for element [1.10]

141. *See* Section XII.A.12 below.

12. Element [1.11]

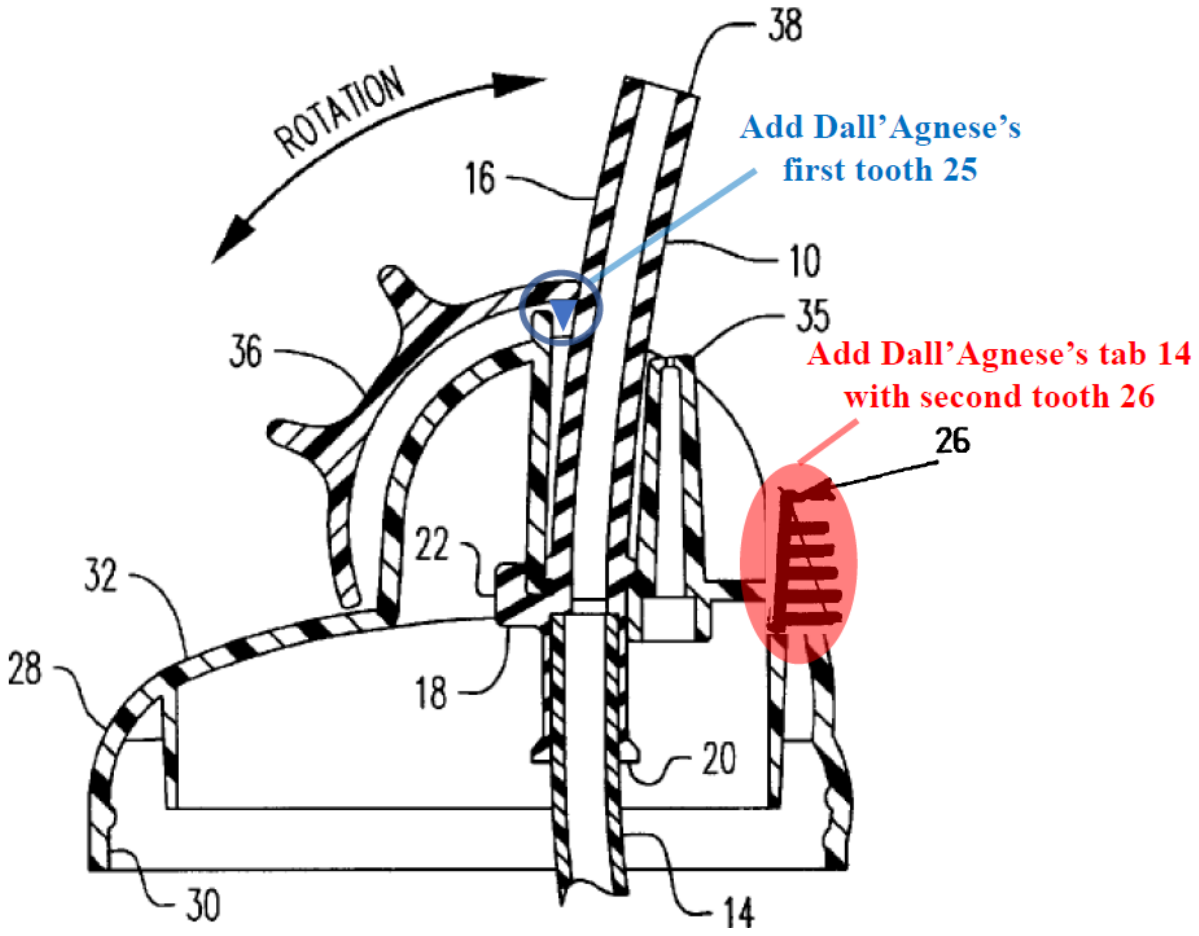
a. Dall'Agnese discloses element [1.11]

142. Manganiello does not expressly disclose element [1.11] but, in my opinion, Dall'Agnese's **elastic tab 14** discloses it. XI.A.

b. Rationale to combine Dall'Agnese with Manganiello for elements [1.3], [1.10], and [1.11]

143. In my opinion, a POSITA would have found it obvious to add Dall'Agnese's first tooth 25 ([1.3], first catch structure) and elastic tab 14 ([1.11], user release mechanism) with second tooth 26 ([1.10], second catch structure) to Manganiello's container, as I show on Figure 3A of Manganiello below. It is my opinion a POSITA would have made the combination such that Manganiello's cup lid 28 is modified to incorporate Dall'Agnese's elastic tab 14 with second tooth 26. Additionally, a POSITA would have modified Manganiello's sealing cap 36 to add

first tooth 25 on its interior surface, so first and second teeth 25, 26 engage when sealing cap 36 is closed. EX1008, ¶¶[0011]-[0012].



Manganiello-Dall'Agnese Combination*

144. In my opinion, reasons like those discussed above for the Yamashita/Dall'Agnese combination would have motivated a POSITA to make the combination. Section XI.B. Additionally, Manganiello describes no locking mechanism to hold sealing cap 36 closed. If Manganiello's container were dropped or bumped, the jolt might open the sealing cap, allowing the container to leak.

Adding Dall'Agnese's mechanism to Manganiello's container would help prevent such inadvertent openings and leaks because the user must exert pressure on tab 14 open the cover. EX1008, ¶[0011].

145. In my opinion, the combination merely involves using a known technique (Dall'Agnese's cover release tab) to improve a similar device (Manganiello's drinking container with cover) in the same way. Dall'Agnese shows it was known to use an elastic tab to selectively lock/unlock a lid stowing the mouthpiece of a container. Manganiello's and Dall'Agnese's containers both have a cover (Manganiello's sealing cap 36, Dall'Agnese's closing device 13) to stow and crimp the mouthpiece within the cap so the container does not leak when closed. *Compare* EX1009, 3:14-30, 2:21-22, 2:57-3:4, FIGS 3A, 3B) *with* EX1008, ¶[0010]. In my opinion, a POSITA would have recognized to add the first tooth of Dall'Agnese's lid to the interior surface of Manganiello's similar sealing cap and to add the elastic tab with second tooth on the base of Dall'Agnese's cap to Manganiello's' cap base.

146. In my opinion, the combination would improve Manganiello as it improves Dall'Agnese—locking the container closed and preventing inadvertent opening. Manganiello's container stands ready for improvement because it has a sealing cap and cap base to respectively accommodate Dall'Agnese's first tooth and

elastic tab. In my opinion, a POSITA would have readily combined Manganiello and Dall'Agnese with a reasonable expectation of success and had predictable results.

B. Claim 2

1. Element [2.1]

147. In my opinion, the Manganiello-Dall-Agnese combination renders this element obvious. In the combination, elastic tab 14 of Dall'Agnese added to Manganiello has second tooth 26 that mechanically couples to first tooth 25, now on the interior surface of Manganiello's sealing cap 36. EX1008, ¶¶[0011]-[0012], FIGS, 2, 3.

C. Claim 5

1. Element [5.1]

148. Upper segment 16 of Manganiello's straw 10, including the crimping region, is made from a resilient, elastic material. Sections XIII.A.8-10. The upper segment has a natural bias toward the upright/open configuration (dispensing configuration). Section XIII.A.7. And when bent and crimped against this natural basis in the closed state, the crimped region of the upper segment exerts a force on the sealing cap toward the open configuration. Section XIII.A.7.

D. Claim 8

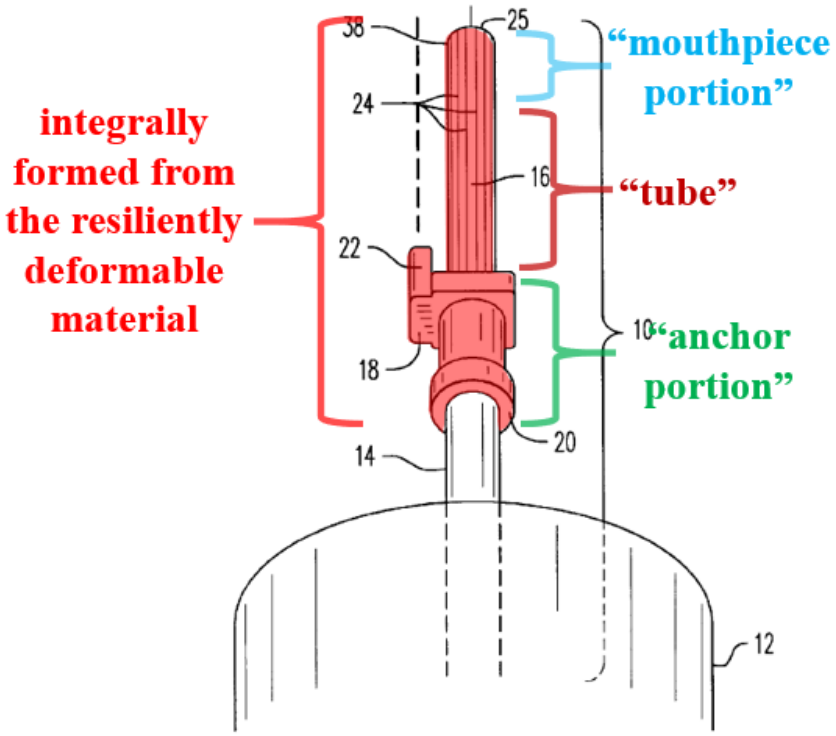
1. Element [8.1]

149. In my opinion, Manganiello discloses this element. *See* EX1009, 2:19-20, 2:38-40, 3:28-30, 3:38-40, 4:38-46, FIG. 3B (discussing drinking end 38).

E. Claim 9

1. Element [9.1]

150. As explained above and shown below, in my opinion, upper segment 16 of Manganiello's straw is constructed of the resiliently deformable material integrally forming: (1) the mouthpiece portion (region at drinking end 38); (2) the tube (crimping region) and (3) the anchor portion (shoulder 18 and finger 22). Section XII.A.9; EX1009, 1:14-17, 2:32-46, 2:52-60, 3:5-13, 3:35-42.



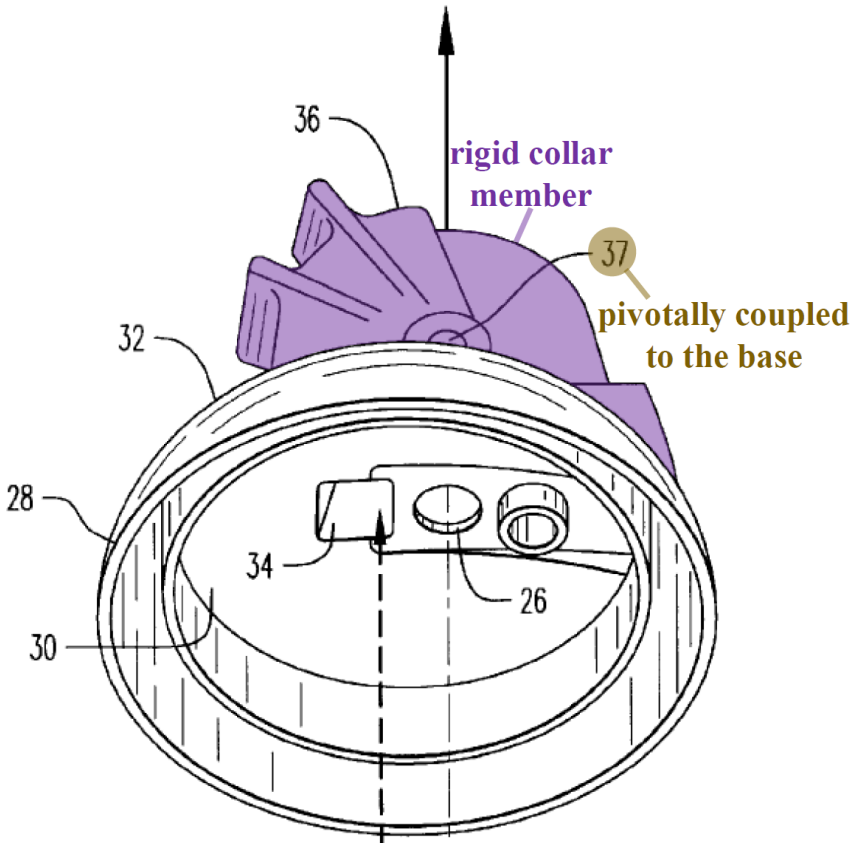
Manganiello, FIG. 1*

F. Claim 10

1. [10.1] "*The drink container of claim 1, wherein the mouthpiece assembly further includes a rigid collar member that is pivotally coupled to the base and which includes a crimping portion;*

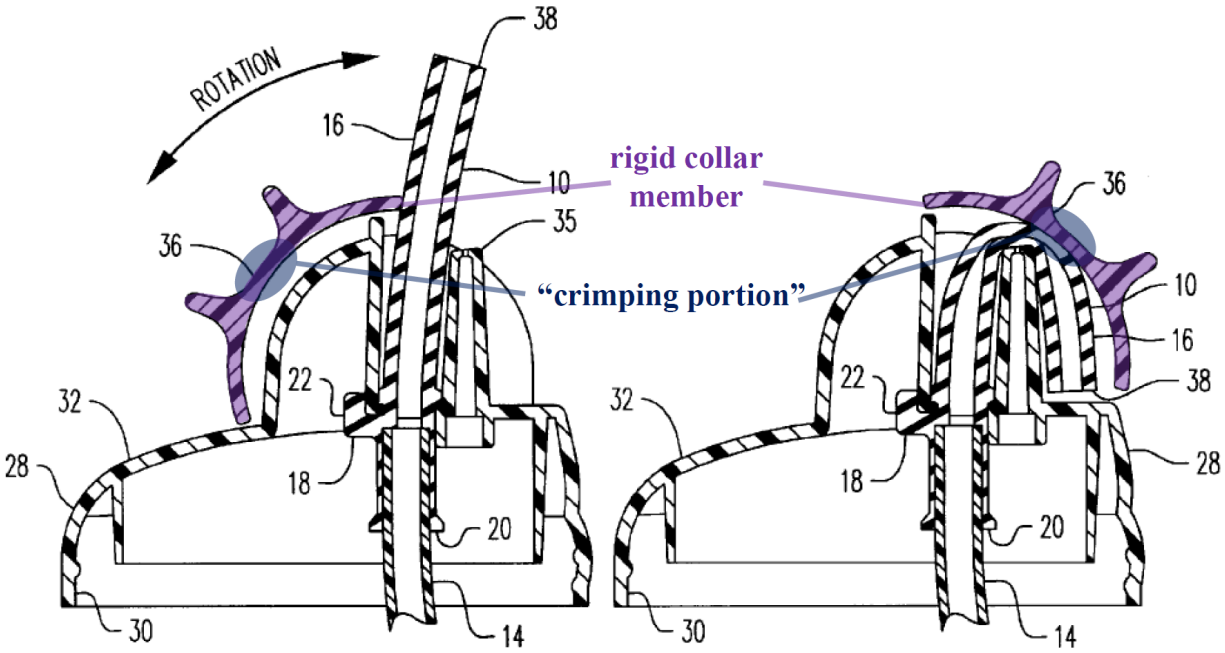
[10.2] "*wherein the crimping portion is adjacent the crimping region of the tube and external of the liquid passage, wherein the rigid collar member engages and crimps the crimping region to restrict the flow of drink liquid through the liquid passage when the mouthpiece assembly is in the stowed configuration.*"

151. In my opinion, regarding element [10.1], Manganiello's **sealing cap 36** discloses the claimed rigid collar member. Additionally, the sealing cap is pivotally coupled to the base by **pivots 37** (EX1009, 2:57-64):



Manganiello, FIG. 1*

152. In my opinion, sealing cap 36 includes a **crimping portion**—the portion of its interior surface that bends/crimps upper segment 16 over sealing post 35 (EX1009, 3:14-30):



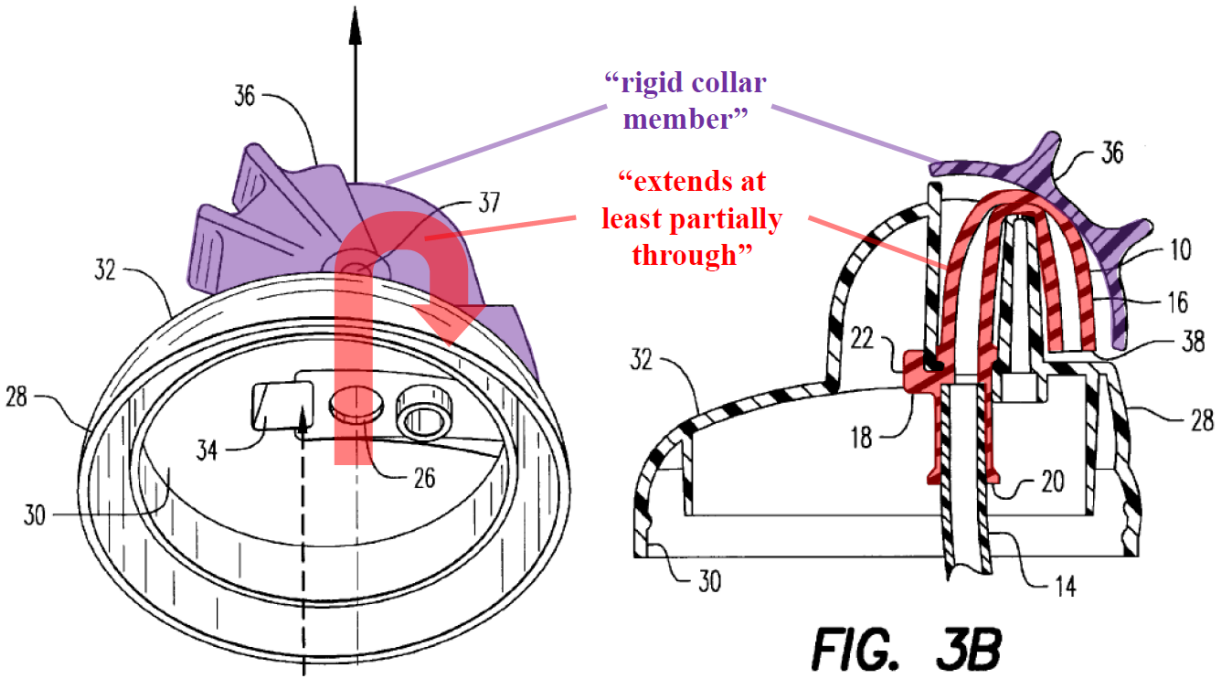
Manganiello, FIGS. 3A, 3B*

Regarding element [10.2], it is my opinion that the crimping portion of sealing cap 36 is adjacent the tube's crimping region and external of the liquid passage within the tube, as shown. Sealing cap 36 engages and crimps the crimping region to restrict flow through the liquid passage when straw 10 is stowed. *See* EX1009, 2:21-22, 2:57-3:4, 3:14-30, FIG. 3B.

2. [10.3] "*wherein the tube of the mouthpiece assembly extends at least partially through the rigid collar member;*

153. Manganiello teaches straw 10 has "[a] protruding length … sufficient ... to enable a child or other user to suck easily on the straw" so the "length [of the straw] can be enclosed by sealing cap 36." EX1009, 2:57-60; *see id.*, 1:29-33 ("a cap mounted on the lid and rotatable about a horizontal axis to fold, seal and enclose the

protruding top of the straw"). As shown below, in my opinion, the tube of straw 10 extends through opening 26 and then at least partially through sealing cap 38 so the sealing cap encloses and surrounds it. This allows the sealing cap to bend/crimp the straw over sealing post 35. EX1009, 2:21-22, 2:57-3:4, 3:14-30, FIG. 3B.



Manganiello, FIG. 1, 3B*

G. Claim 14

1. [10.1] "*The drink container of claim 10, wherein the rigid collar member includes a stop surface that does not engage the base of the cap assembly when the mouthpiece assembly is in the stowed configuration and that engages the base of the cap assembly when the mouthpiece assembly is in the dispensing configuration to define a dispensing position of the mouthpiece portion.*"

154. In my opinion, Manganiello's **sealing cap 36** (rigid collar member) has **a back end** (stop surface) that does **not engage** the **base** in the **stowed configuration** and **engages** the **base** in the **dispensing configuration**:

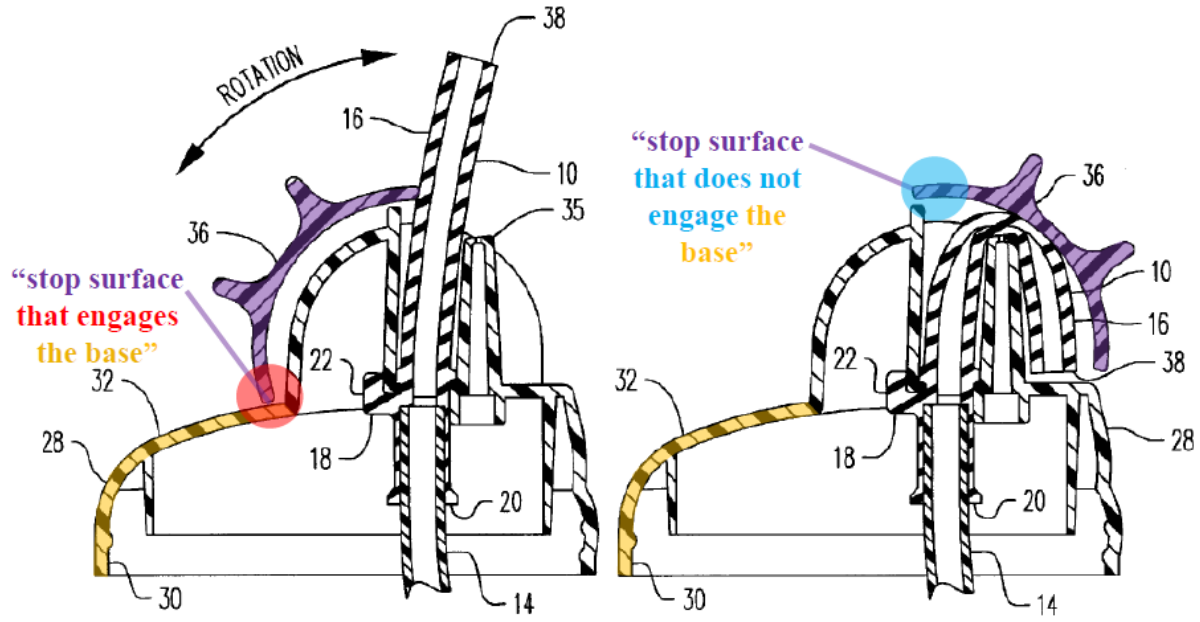


FIG. 3A
dispensing configuration

FIG. 3B
stowed configuration

155. Engage means to bring together. EX1012. Figure 3A of Manganiello above shows the back end of the sealing cap 36 brought together with the base when the container is open (dispensing configuration). And Figure 3B above shows the

cap's back end brought away from the base when closed (stowed configuration). *Id*. Claim 14 doesn't require the collar member to contact the base in the dispensing configuration. But, in my opinion, the extreme closeness between the cap's back end and the base would suggest to a POSITA that the cap's back end contacts the base when fully open. Indeed, would be almost impossible for the user to not pull the sealing cap all the way back until it hits the base when opening the container. And, moreover, in my opinion, it would have been obvious to have the cap's back end contact the base when the container is open to support the joint between the sealing cap and base and prevent wear of the joint. Without this contact, forces applied to the cap when the cap/base hinge joint is fully open would strain the joint, causing the material of the cap/base (e.g., plastic) to deteriorate over time and eventually fail. Having the cap contact the base when the joint is fully open however, would support the cap and alleviate stress on the joint, extending the life of the cap/base material.

H. Claim 16

1. Element [16.1]

156. In my opinion, lower segment 14 of Manganiello's straw 10 discloses this element. *See* EX1009, 2:34-38, 3:8-13, 3:31-51, FIG. 1.

2. Element [16.2]

157. *See* Section XI.B.1 above.

I. Independent Claim 21

158. In my opinion, Manganiello and Dall'Agnese render obvious the elements of claim 21 for reasons I discuss above for claims 1 and 9. In the table below I map the elements of claim 21 to corresponding elements of claims 1 and 9 addressed above and the sections in which those elements are discussed:

Element	Section Above
[21.pre]	XIII.A.1
[21.1]	XIII.A.2
[21.2]	XIII.A.3
[21.3]	XIII.A.5
[21.4]	XIII.A.6
[21.5]	XIII.A.7
[21.6]	XIII.A.8
[21.7]	XIII.A.10
[21.8]	XIII.A.10; XIII.E.1
[21.9]	XIII.A.12

XIV. GROUND 10: MANGANIELLO/DALL'AGNESE, IN VIEW OF PACZONAY, RENDERS OBVIOUS CLAIMS 1, 2, 5, 8-10, 14, 16, AND 21

159. To the extent it is argued that element [1.6] requires a more substantial mouthpiece portion than Manganiello's, in my opinion, it would have been obvious to add Paczonay's flared retention member 25 to the drinking end 38 of Manganiello's straw as discussed in Ground 2. Section X.

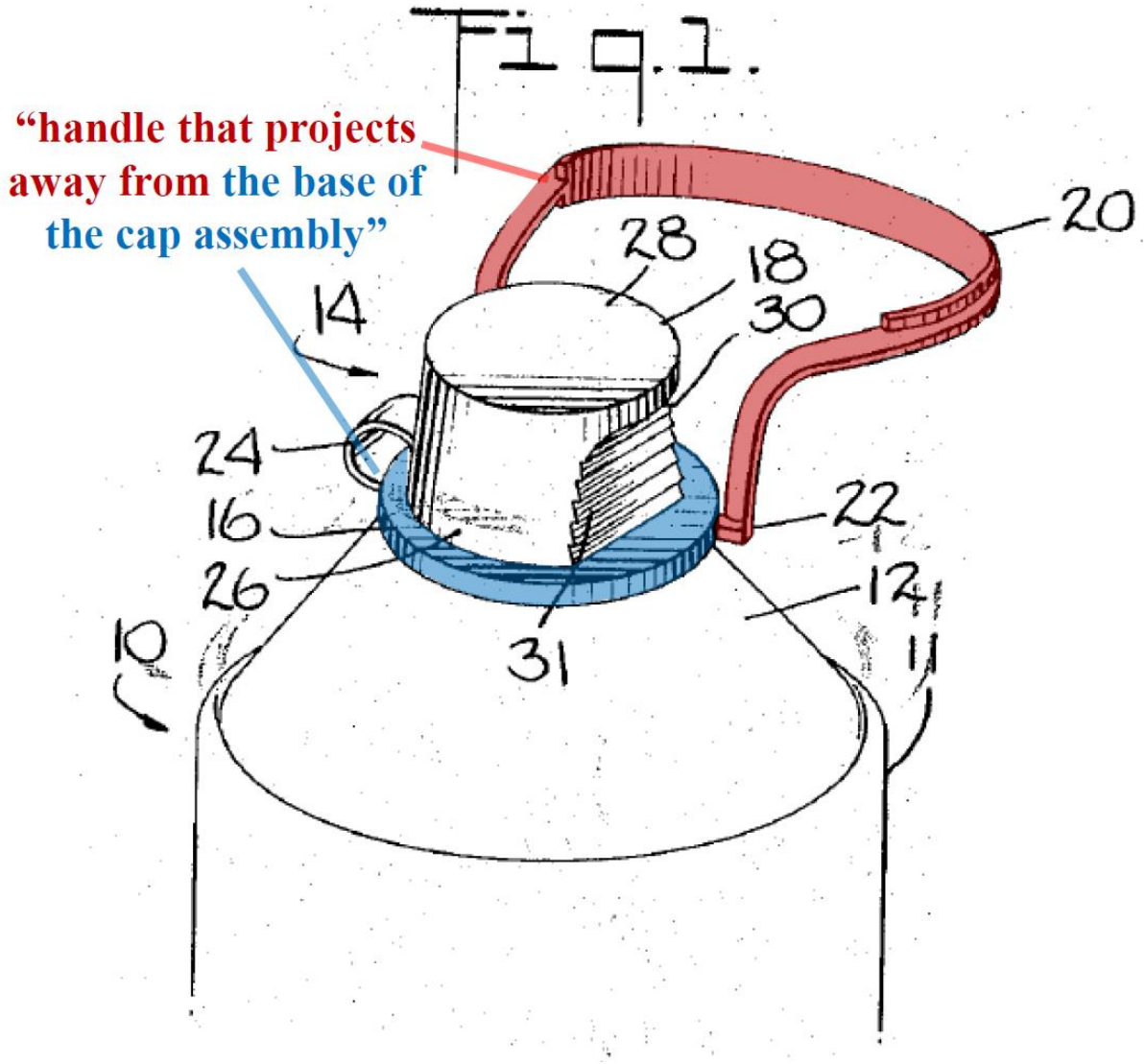
XV. GROUNDS 11-12: MANGANIELLO/DALL'AGNESE AND MANGANIELLO/DALL'AGNESE/PACZONY, IN VIEW OF ANDERSON, RENDER OBVIOUS CLAIM 6

A. Element [6.1]

160. Neither Manganiello nor Dall'Agnese discloses a handle as recited in element [6.1]. But, in my opinion, Anderson does, and it would have been obvious to add Anderson's handle to the Manganiello/Dall'Agnese container.

1. Anderson discloses element [6.1]

161. Anderson describes a handle for a liquid container molded as an integral part of a cap base. EX1010, 2:13-20. The handle "provid[es] a carrying means thus eliminating the need for a waist shaped or small necked container." *Id*. As depicted in FIG. 1 below, **base portion 16** (base of cap assembly) includes **handle 20** projecting away from base portion 16, as claimed. *Id*., 2:69-72 ("handle 20 is affixed to and may be integrally molded with the base portion 16"), 3:15-18, 5:35-41.



Anderson, FIG. 1*

2. Rationale to combine Anderson with Manganiello/Dall'Agnese for element [6.1]

162. In my opinion, a POSITA would have found it obvious to add Anderson's handle to the Manganiello/Dall'Agnese container. A handle obviously makes an object easier to carry, and neither Manganiello nor Dall'Agnese expressly

discloses its container has a handle. Thus, in my opinion, a POSITA generally would have wanted to add a handle for easy of carrying.

163. In my opinion, Anderson provides express teaching, suggestion, or motivation for adding Anderson's specific type of handle to Manganiello/Dall'Agnese:

- By "extend[ing] upwardly … for a short distance and then outwardly away from the overcap 18," the handle "enables the containers to [] be grasped quite readily … for carrying." EX1010, 3:15-23; *see id*., 4:73-5:2.
- This handle configuration "provide[s] full finger access without interference with movements of said overcap." *Id*., 5:35-41.

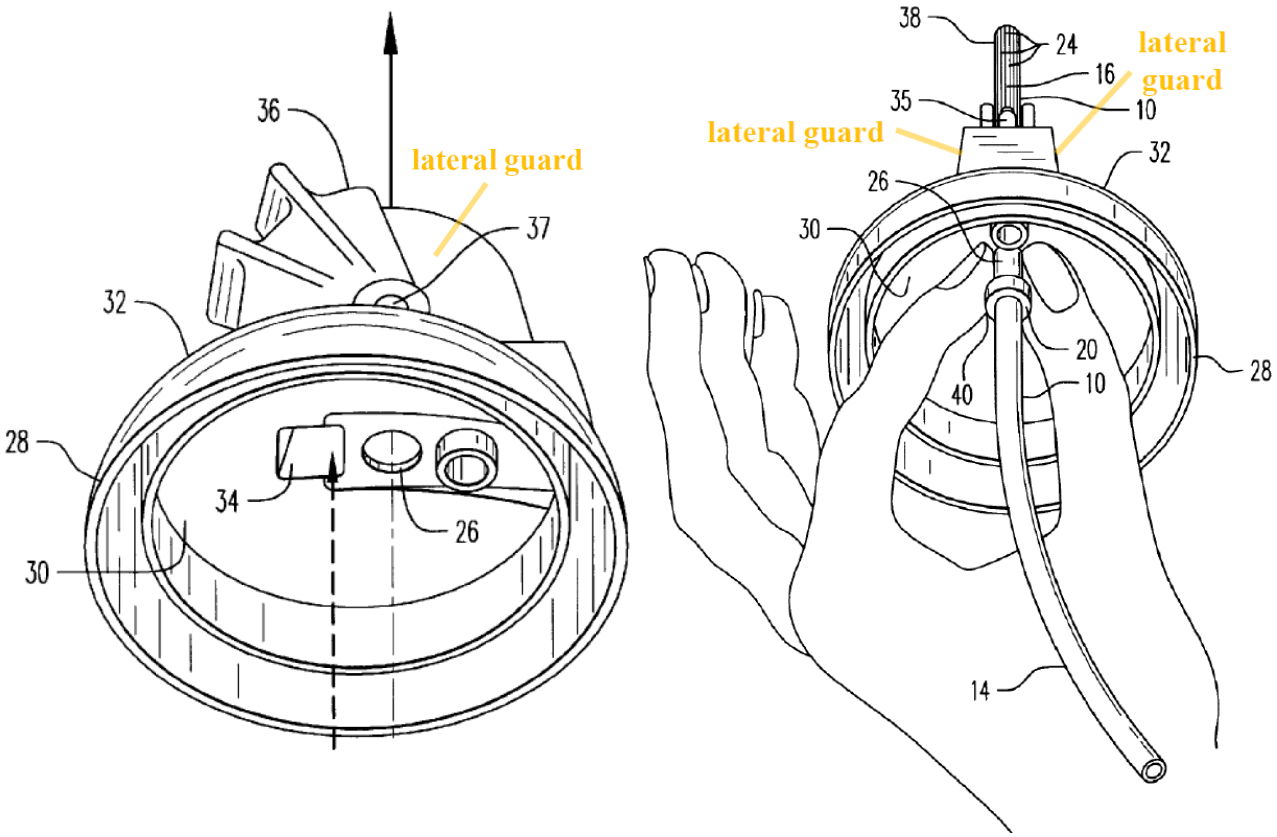
Thus, POSITA would have recognized Anderson's handle would make the container more readily grasped/carried without interfering with Manganiello's sealing cap or Dall'Agnese's added tab because the handle extends upward and away from the cap. In my opinion, it would have been obvious to add a handle to the Manganiello/Dall'Agnese container generally, and a POSITA would have wanted to use Anderson's type of handle specifically.

164. In my opinion, this combination merely involves using a known technique (Anderson's integral handle extending up and away from the base of the cap) to improve a similar device (Manganiello's container) in the same way and/or applying a known technique to a known device ready for improvement with

predictable results. Anderson demonstrates it was known that a handle projecting upward and away from the cap's base makes the container easier to grasp and carry. Adding Anderson's handle to the Manganiello/Dall'Agnese container would improve it as Anderson's handle benefits Anderson's container—making it easier to carry. *Id*. The Manganiello/Dall'Agnese container stands ready for improvement because it also has a base (cup lid 28) with which Anderson's handle may be made integral. EX1010, 1:3-4 (title), 2:5-20, 2:69-72, 5:8-12. By extending up and then horizontally away from the base, a POSITA would recognize that Anderson's added handle would provide room for the user to readily grasp and carry the container with full-finger access and without interfering with Manganiello's sealing cap 36 or Dall'Agnese's release tab. Thus, in my opinion, using routine skill, a POSITA would have made the combination with a reasonable expectation of success and predictable results.

B. Element [6.2]

165. In my opinion, Manganiello's sealing cap 26 (part of the claimed cap assembly) laterally encloses upper segment 16 of straw 10 when in the closed position. *See* EX1009, 3:14-30, 2:21-22, 2:57-3:4, FIGS. 1-3B. Specifically, the **sides** of sealing cap 36 that laterally enclose the straw when the cap is closed (stowed configuration) disclose the claimed lateral guards:



Manganiello, FIGS. 1, 2*

XVI. GROUNDS 13-14: MANGANIELLO/DALL'AGNESE AND MANGANIELLO/DALL'AGNESE/PACZONY, IN VIEW OF YAMASHITA, RENDER OBVIOUS CLAIM 7

166. Manganiello's straw lacks a bite-activated mouthpiece in element [7.1]. But, as discussed, it is my opinion that Yamashita discloses a straw with a bite-actuated mouthpiece satisfying element [7.1]. Section IX.F. Manganiello's straw is similar to Yamashita's embodiments lacking bite actuation. For reasons discussed in Ground 1, in my opinion, it would have been obvious to add to Manganiello's straw Yamashita's bite-actuated mouthpiece. Section IX.A.5.

XVII. CONCLUSION

Accordingly, for these reasons, it is my opinion that the challenged claims are unpatentable.

I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statement and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: April 19, 2022

Respectfully Submitted,

Ottmar Hans Brandau