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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TROVE BRANDS, LLC

Petitioner

v.

CAMELBAK PRODUCTS, LLC

Patent Owner

IPR2025-00140

Patent 11,851,250

**DECLARATION OF GLENN E. VALLEE, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,851,250**

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1. I, Glenn Vallee, Ph.D., am making this declaration at the request of Trove Brands (“Petitioner”) in support of its Petition for *Inter Partes* Review (“IPR”) of U.S. Patent No. 11,851,250 (“the ’250 patent”). I understand that this declaration will be submitted as Exhibit 1002 to the IPR petition.

2. I am being compensated at my customary hourly rate for my work in this matter, and I am being reimbursed at cost for my reasonable expenses. My compensation does not depend in any way on the outcome of this proceeding. I have no financial interest in any of the parties to this proceeding.

3. In conducting the analysis and forming the opinions set forth in this Declaration, I considered, in addition to my knowledge and expertise in the relevant field, the following materials, which I understand will be submitted as Exhibits to the IPR petition:

Exhibit No.	Description
1001	U.S. Patent No. 11,851,250 (“the ’250 patent”)
1004	Certified English Translation of Japanese Patent Publication No. 2002-211613 (“Nakajima”)
1006	Certified English Translation of International Publication No. WO 2004/063042 (“Ribarits”)
1007	U.S. Patent No. 4,485,963 (“Panicci”)
1008	U.S. Patent No. 6,523,711 (“Hughes”)
1009	Excerpts of the File History of the ’250 Patent

Trove Brands v. CamelBak Products
IPR Petition – U.S. Patent 11,851,250

Exhibit No.	Description
1011	CamelBak Infringement Contentions for the '250 patent dated December 21, 2023, in <i>Trove Brands, LLC v. CamelBak Products, LLC, et al.</i> , No. 5:23-cv-04267-PCP (N.D. Cal. Feb. 14, 2024)
1012	Order Setting Case Schedule in <i>Trove Brands, LLC v. CamelBak Products, LLC, et al.</i> , No. 5:23-cv-04267-PCP (N.D. Cal. Feb. 14, 2024)

I. BACKGROUND

A. Professional Background

4. I am employed by Western New England University as an Associate Professor and Chair of Mechanical Engineering. My background is in the areas of mechanical engineering, design, product development, and quality assurance. I have a Ph.D. in Mechanical Engineering from the University of Rhode Island and my Ph.D. dissertation research focused on the use of elastomeric materials in pneumatic nailers. I teach courses in Mechanical Design, Kinematics, Vibrations, Mechanics of Materials, and a Product Development and Innovation (PDI) course where students design consumer products having commercial potential. Six utility patents have been filed for student inventions developed in the course. I have also served as the faculty advisor to over 100 capstone senior design projects, many of which deal with fluid flow and methods of sealing. In fact, I was retained by a local inventor to serve as an advisor to a project involving the development of a novel two-part beverage bottle. Many other capstone projects dealt with fluid containment and methods of sealing, such as the design of a bicycle driven water purification system, the development of a deflation proof air mattress, the design of a recoil reduction device for pneumatic nailers, the development of a drive piston retaining device in pneumatic nailers, and the development of a biodiesel fuel generation system.

5. I also teach undergraduate engineers how to design products used to contain fluids which require methods of sealing, and I teach laboratory courses where students utilize a variety of electrical transducers and data acquisition systems. I also serve as a consultant in the areas of mechanical engineering design, product development, numerical stress analysis, and mechanical testing, as well as serving as a technical expert in product liability litigation. I am a member of the American Society of Mechanical Engineers (ASME member no. 1259837), and I am a licensed Professional Engineer (RI Lic. No. 6765).

6. As set forth in more detail in my curriculum vitae (Appendix A), I have substantial expertise in the areas of mechanical engineering, consumer product design and development, quality assurance, mechanical testing, and the design of a wide variety of products utilizing fluid flow and sealing components. Prior to joining Western New England University, I served as the Director of Engineering and Quality Assurance, Worldwide for the Remington Products Company, L.L.C., in Bridgeport, CT, from 1997 until 2002. Remington Products Company is a major manufacturer of consumer products, including electric shavers, beard trimmers, and hair dryers. My responsibilities included directing the activities of Design and Product Engineering, Quality Assurance, and Manufacturing departments in the U.S., U.K., and Asia, responsible for the design and development of international

consumer products, and for focusing new product engineering toward continuously improving customer satisfaction through improved product design, performance, and quality.

7. Prior to my employment at Remington Products, I served as the Manager of the Engineering Laboratories at the Stanley Bostitch Company, now a division of Stanley/Black & Decker. Stanley Bostitch is a leading manufacturer of pneumatic nailers and staplers, a variety of hand tools such as hammer tackers and staplers, and a number of other office products. I was employed by Stanley Bostitch from 1985 until 1997, serving first as a Technician, then Test Engineer, then Product Design/Development Engineer, and was promoted to Manager of the Engineering Laboratories in 1995. During my employment at Stanley Bostitch, I acquired extensive experience in the design and testing of a variety of mechanical, pneumatic and electromechanical products, including pneumatic fastening tools, electric trackers and staplers, and electric pencil sharpeners. My work as a Technician and then Test Engineer allowed me to acquire experience in conducting and developing test methodologies for all products. My work as a Product Design/Development Engineer involved designing and developing products from conception through manufacture and quality control, most of which required the design of fluid containment systems and methods of sealing. As the Manager of the Engineering

Laboratories, I managed the largest of the Engineering Laboratories in Stanley Works and supervised 18 employees. This position required that I coordinate testing and allocate resources to meet stringent scheduling requirements of the Product Development, Manufacturing, and Marketing departments.

8. I am an inventor on nine patents, some of which involve fluid flow and methods of sealing in products such as pneumatic nailers and a bicycle driven water purification device. Other patented devices are related to hand tools, electrical and surgical devices. I have reviewed many patents as I worked with patent attorneys to file the patent applications discussed above. I have given deposition testimony eight times and I have testified in court four times, each such instance related to product liability litigation where I testified as a technical expert. I have also given deposition testimony in cases involving a Petition for Inter Partes Review (“IPR”) for patents related to hole saws, accessories for mobile phones, hoverboards, and cases involving patent infringement and/or non-infringement related to products requiring the containment of fluids such as pneumatic and gas spring-powered nailers, e-cigarettes, and air mattresses with embedded air pumps. Other products for which I was retained as a technical expert include beveling miter saws, and a number of consumer products, including spring-loaded desktop staplers and toy car and track systems.

9. Appendix A to this declaration is a copy of my curriculum vitae, which further expands on my qualifications and expertise and includes a list of my publications and prior testimony.

B. Relevant Legal Standards

10. I have been asked to provide my opinion as to whether certain claims of the '250 patent were anticipated by the prior art and/or would have been obvious to a person of ordinary skill in the art at the time of the claimed invention—which I will refer to as a “person of skill in the art” or “one skilled in the art” throughout this declaration—in view of the prior art.

11. I am an engineer, a scientist, and an academic by training and profession. My opinions in this declaration come from applying my technical education, knowledge, training, and experience to evaluate certain prior art with respect to the '250 patent.

12. While I have experience acting as an expert in patent proceedings, I am not a lawyer or expert in patent law. Therefore, Trove Brands' attorneys from Knobbe, Martens, Olson & Bear, LLP advised me as to the legal principles to be applied in this case. The following paragraphs express my understanding of how I must apply these principles in forming my opinions.

1. Claim Construction

13. I understand that, in assessing the patentability of a patent claim, the language of the claim generally should be given its plain and ordinary meaning as would be understood by a person having ordinary skill in the art at the time of the patented invention consistent with the patent specification and prosecution history.

2. Anticipation

14. I understand that a claim is “anticipated” by an item of prior art if the prior art describes, either expressly or inherently, each and every limitation of the claim.

15. I understand that the description of the invention in the anticipating prior art must be recognizable to one skilled in the art at the time of the invention, such that the prior art described the invention in such terms that one skilled in the art could make and use the claimed invention.

16. I understand that the prior art inherently teaches a limitation if that limitation necessarily flows from the disclosure of the prior art. I understand that the fact that a certain result or characteristic *may be* present in the prior art is not sufficient to establish inherency. If the result or characteristic is necessarily present based upon the explicit disclosure in the prior art, it is inherent in the prior art and is therefore disclosed.

3. Obviousness

17. I understand that a claim is “obvious” if the subject matter of the claim as a whole would have been obvious to one skilled in the art at the time of the claimed invention. I understand that a determination of obviousness takes into account the scope and content of the prior art, the differences between the claimed subject matter and the prior art, and the level of ordinary skill in the art at the time of the invention. I understand that an obviousness analysis also considers whether there are additional factors that would indicate that the invention would not have been obvious. Such factors include whether the invention satisfied a long-felt need in the industry; whether the invention produced any unexpected results; whether the invention was met with skepticism by those in the relevant field; whether the prior art taught away from the invention; whether the invention was a commercial success; and whether the invention was praised or copied by others.

18. I understand that, in determining the scope and content of the prior art, a reference is considered analogous (i.e., appropriate) prior art if: (1) it falls within the field of the inventor’s endeavor; or (2) it is reasonably pertinent to the particular problem the inventor was involved with. I have been informed that a reference is reasonably pertinent if it logically would have commended itself to an inventor’s attention in considering the problem—put another way, if one skilled in the art would

reasonably have consulted those references and applied their teachings in seeking a solution to the problem that the inventor was attempting to solve. I understand that, if a reference relates to the same problem as the claimed invention, that supports use of the reference as prior art in an obviousness analysis.

19. I understand that, to assess the differences between prior art and the claimed subject matter, the claimed invention is to be considered as a whole, such that one skilled in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the elements from the prior art and combined them in the claimed manner.

20. I understand that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter, including:

- combining prior art elements according to known methods to yield predictable results;
- simple substitution of one known element for another to obtain predictable results;
- a predictable use of prior art elements according to their established functions;
- applying a known technique to a known device (method or product) ready for improvement to yield predictable results;

- choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and
- some teaching, suggestion, or motivation in the prior art that would have led one skilled in the art to modify the prior art reference or to combine the prior art reference teachings to arrive at the claimed invention.

21. I understand that the obviousness analysis is performed from the perspective of one skilled in the art at the time of the patented invention. To avoid using impermissible hindsight in my analysis, I have not used the claims of the patent as a road map for obviousness.

C. Person Having Ordinary Skill in the Art

22. I understand that when interpreting the claims of the '250 patent and evaluating the prior art, I must do so based on the perspective of a person having ordinary skill in the art at the relevant priority date of the '250 patent. I have been asked to assume that the priority date for claims 1, 2, and 4-6 is April 11, 2005. I have been informed that all of the references relied upon in this declaration qualify as prior art under either priority date.

23. I understand that the person of skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. I understand it is a person of ordinary creativity and is not an automaton.

24. I understand that, in determining the level of ordinary skill in the art, several factors are considered, including: the type of problems encountered in the art; prior art solutions to those problems; the rapidity with which innovations are made; the sophistication of the technology; and the educational level of active workers in the field. I understand that one skilled in the art must be capable of understanding the scientific and engineering principles applicable to the pertinent art.

25. The '250 patent describes the use of well-known technologies for designing reusable, portable drink containers. Based on my review of the '250 patent, it is my opinion that one skilled in the art would have had an undergraduate degree in mechanical engineering or equivalent coursework, as well as one or more years of experience in designing, prototyping, and/or manufacturing fluid containers or similar products. More work experience may substitute for less education, and vice versa.

26. It is my opinion that the above definition of one skilled in the art is not necessary to reach the same opinions I have in this declaration. I believe that under any reasonable definition for one skilled in the art, the claims would be anticipated and/or obvious from the perspective of one skilled in the art at the time of the alleged invention.

27. I have based my opinions on the qualifications of one of skill in the art on my review of the '250 patent, the relevant prior art, and my experience. In the early 2000s, I was familiar with design principles common in the mechanical arts. I frequently worked with and supervised engineering students and junior engineers who had the requisite knowledge and experience to make and use the articles described in the '250 patent. Based on my experience and knowledge, I believe that people of the above-defined level of education and skill would have the capability to interpret and understand the invention claimed in the '250 patent and the scientific and engineering principles applicable to the pertinent art.

II. THE '250 PATENT

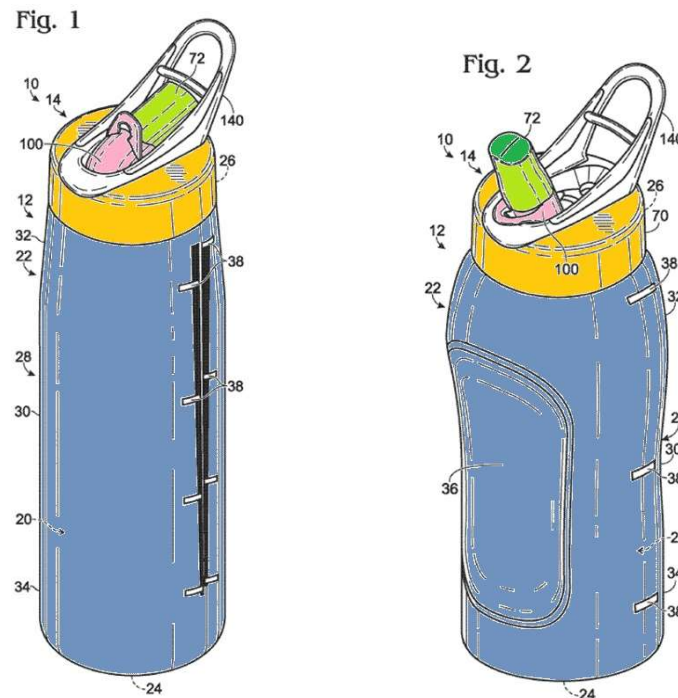
A. Overview of the '250 patent

28. The '250 patent is titled, “Drink [B]ottles,” and discloses “drink containers with cap assemblies” that include “drink spout[s]” that are “pivotally coupled to a base of the cap assembly and includes a mouthpiece.” Ex. 1001, Abstract. Below I provide a brief summary of the specification, figures, and claims of the '250 patent.

1. Specification and Figures

29. Exemplary embodiments of the drink containers and cap assemblies disclosed in the '250 patent are shown in Figures 1 and 2, which I have reproduced

below with coloring added¹:



Ex. 1001, Figs. 1, 2. Figure 1 shows the cap assembly wherein the mouthpiece is pivoted to a closed configuration. Figure 2, by contrast, shows the cap assembly wherein the mouthpiece is pivoted to an open configuration. According to the '250 patent:

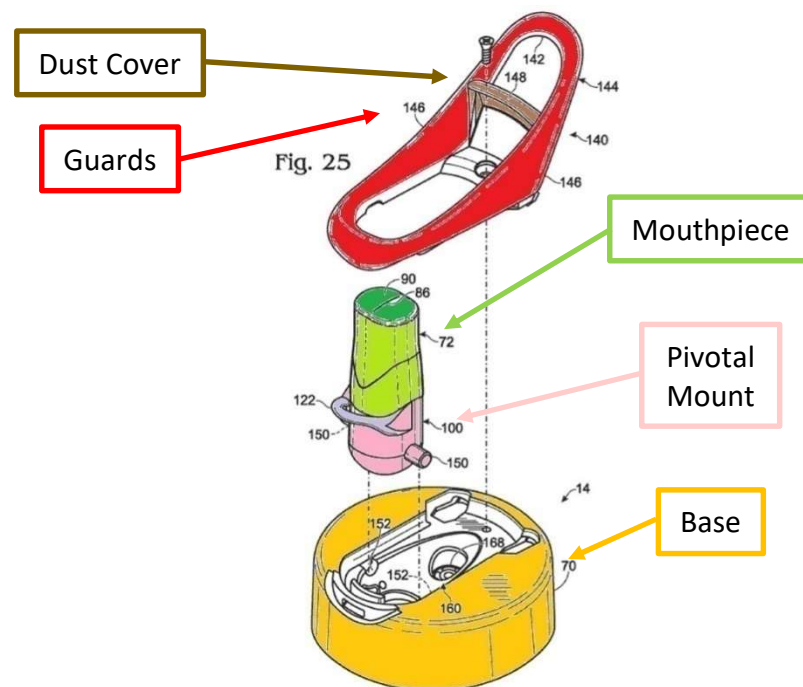
In FIG. 2, the cap assembly is shown with the mount in a dispensing configuration in which the mouthpiece is oriented in a suitable position from which a user may draw drink fluid from the drink bottle through mouthpiece 72 In FIG. 1, the illustrative example of a cap assembly 14 is shown with the mount in a stowed configuration, in which the mouthpiece is positioned closer to the base of the cap than in the dispensing configuration, with the stowed configuration typically

¹ Throughout this declaration, I have added coloring and annotations to otherwise black and white patent figures to improve clarity and understanding.

corresponding to an orientation in which the mouthpiece is not suitably positioned for a user to bite upon the mouthpiece to configure the mouthpiece to a dispensing configuration.

Ex. 1001, 3:14–27.

30. Figure 25 shows an exploded isometric view of the exemplary cap assembly shown in Figures 1 and 2:



Ex. 1001, Fig. 25. Figure 25 depicts “a suitable pivotal mounting mechanism for mount 100,” which pivots along an axis defined by “lateral projections 150 that are received into sockets 152” located in the “base 70” of the cap assembly. Ex. 1001, 16:50–54. According to the ’250 patent:

The projections are rotatable within the sockets, and thereby function as rotatable supports, or axles, upon which the mount and any attached

mouthpiece may be pivotally moved relative to the base of the cap assembly, such as between stowed and dispensing configurations

Ex. 1001, 16:54–60.

31. Although the patent figures, including Figure 25, depict “suitable configurations for bite-actuated, self-sealing mouthpieces 72” for use with the disclosed drink containers (Ex. 1001, 9:27–30), the specification identifies several prior art patents that provide further “illustrative examples of suitable bite-actuated mouthpieces” that may be used, including U.S. Patent Nos. 6,070,767 and 6,032,831. As discussed in more detail below, U.S. Patent Nos. 6,070,767 is among the prior art references that I rely on to support my opinions that the ’250 patent is obvious over the prior art.

32. As shown above, Figure 25 also depicts an embodiment of the cap assembly that includes a pair of lateral guards and a dust cover to protect the mouthpiece when in the stowed configuration. As the ’250 patent explains:

In the illustrated example, handle 140 provides a pair of lateral guards 146 that extend on opposing sides of the mouthpiece, as well as a dispensing face guard, or cover, 148 that is adapted to protect the dispensing face of the bite-actuated mouthpiece when the mouthpiece is in its stowed configuration. For example, guard 148 may provide a form of dust cover that protects the dispensing face, and thus the slit or other opening formed therein, from being contacted by dirt, grime, and other substances when the mouthpiece is in the stowed configuration.

Ex. 1001, 17:1-11.

33. The ’250 patent also discloses various mechanisms that can serve as a

manual on/off valve in the disclosed cap assemblies. One such mechanism is shown in Figures 28 and 29, wherein “the on/off valve includes a flexible tube, or conduit 124” that “collapses or otherwise compresses or crimps” in the stowed configuration, “thereby preventing the flow of drink fluid from the fluid container, through the fluid conduit, and out of the mouthpiece, regardless of the configuration of the mouthpiece.” Ex. 1001, 18:14–24.

2. Claims

34. The '250 patent includes 18 claims. Of these, claims 1, 7, and 13 are independent claims. I understand that a claim that depends from another claim includes all the limitations of the claim from which it depends and the additional limitations of that dependent claim.

35. Independent claim 1 of the '250 patent, as amended during reexamination, is set forth below (with bracketed labels added for reference and the main elements of the drink container bolded):

Claim 1	
Preamble	A drink container, comprising:
1[a]	a fluid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid;
1[b]	a cap assembly removably coupled to the fluid container to cover the opening, wherein the cap assembly defines a fluid conduit

Claim 1	
	for drink fluid to flow from the fluid container and through the cap assembly to a user, wherein the fluid conduit includes an inlet through which drink fluid from the fluid container may enter the fluid conduit, and a dispensing outlet through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user, and further wherein the cap assembly comprises:
1[b][1]	a cap assembly base removably coupled to the neck of the fluid container, wherein the cap assembly base is configured to be selectively and repeatedly decoupled from and re-coupled to the neck of the fluid container;
1[b][2]	a pivotal mount coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base, the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a distal end of the pivotal mount;
1[b][3]	a mouthpiece coupled to the mount outlet of the pivotal mount for pivotal movement with the pivotal mount relative to the cap assembly base;
1[b][3][i]	wherein the mouthpiece defines a portion of the fluid conduit, including the dispensing outlet;
1[b][3][ii]	wherein the mouthpiece and the pivotal mount are configured to be selectively pivoted between a stowed position and a dispensing position,
1[b][3][iii]	wherein the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position,
1[b][3][iv]	and wherein the dispensing outlet is positioned further away from the cap assembly base when the mouthpiece and the pivotal mount are in the dispensing position than

Claim 1	
	when the mouthpiece and the pivotal mount are in the stowed position; and
1[b][4]	an on/off valve having a closed configuration, in which the on/off valve obstructs the fluid conduit to restrict drink fluid from flowing between the inlet and the dispensing outlet, and an open configuration, in which the on/off valve permits drink fluid to flow through the fluid conduit from the inlet to the dispensing outlet;
1[b][4][i]	wherein the on/off valve includes a flexible tube that defines a portion of the fluid conduit;
1[b][4][ii]	wherein when the on/off valve is in the closed configuration, the tube is crimped to obstruct the flow of drink fluid through the fluid conduit; and
1[b][4][iii]	wherein when the on/off valve is in the open configuration, the tube is not crimped and does not obstruct the flow of drink fluid through the fluid conduit.

36. Independent claim 7 contains all the limitations of claim 1 with the additional limitation “wherein the dust cover remains stationary when the mouthpiece and the pivotal mount are selectively pivoted between the stowed position and the dispensing position.” Ex. 1001, 20:55–58. Claim 13 is identical to claim 7 except all limitations involving a “dust cover” instead refer to a “dispensing guard.” Ex. 1001, 22:9–15.

B. Priority Date

37. For the purposes of this analysis, I have been asked to assume that the

priority date for claims 1, 3-5, 11, 13, and 19 is April 11, 2005, and the priority date for claims 9 and 12 is December 20, 2005. I note that these priority dates are consistent with the priority dates identified by CamelBak in its Infringement Contentions in co-pending district court litigation. Ex. 1011 at 3. For the remaining claims discussed herein, I have assumed a priority date of April 11, 2005.

C. Claim Construction

38. Unless otherwise noted, I have given claim terms their plain and ordinary meaning.

39. I understand that CamelBak—who I may also refer to herein as the “Patent Owner”—has asserted the claims I am analyzing in a patent infringement lawsuit in district court. I understand CamelBak has asserted that the patent claims cover Trove Brands’ Owala Flip and Owala Flip (For Kids) products. *See* Ex. 1011 (the infringement contentions). In certain instances, CamelBak’s assertions demonstrate a scope for the claims that is pertinent in applying the claims to the prior art. I therefore have applied the prior art to the ’250 patent based on Patent Owner’s assertions regarding the scope of the ’250 patent. As I discuss in detail below, if Patent Owner is correct in its assertion that the claims of the ’250 patent cover particular aspects of the Owala Flip and Flip (For Kids) products, then the claims are obvious over the prior art, in view of the knowledge of one skilled in the art. To

the extent I have applied Patent Owner's assertions regarding claim construction in my analysis, doing so should not be read as an agreement with those assertions.

40. That said, my opinions herein do not depend on any particular claim construction beyond the plain and ordinary meaning of the claim terms. It is my opinion that, under any reasonable construction, each claim at issue is rendered anticipated and/or obvious by the prior art.

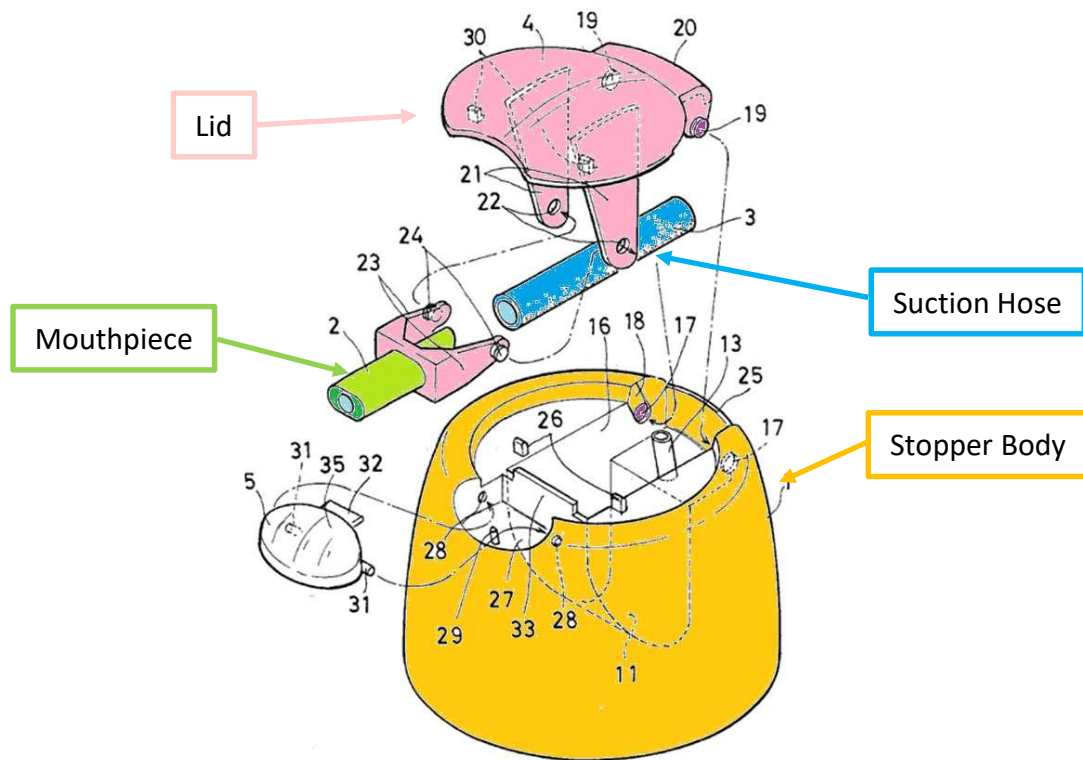
III. PRIOR ART BEVERAGE/DRINK CONTAINERS

41. Drink container with removable caps have, of course, long been known. And drink cap assemblies with the features claimed in the '250 patent (e.g., base, pivoting mount, mouthpiece, and on/off valve) have also been known since before the '250 patent's priority date. I briefly summarize several references below, each of which would have been known to one skilled in the art and would have informed one skilled in the art's knowledge of the structure, components, and materials that could be used in the design of drink containers and drink container cap assemblies. I note, however, that these references are merely exemplary, and are not exhaustive of the prior art that would have been known to and relied upon by a person of ordinary skill in the art in the design of drink containers and drink container cap assemblies.

A. Nakajima

42. Nakajima (Ex. 1004), which is titled “Stopper with Mouthpiece for Liquid Container,” discloses a cap assembly for a drink bottle that includes a lid and mouthpiece that are removable for easy cleaning. *See* Ex. 1004, Abstract. Nakajima describes the “problem to be solved by the present invention” as “to provide a stopper with a mouthpiece in which the lid can be easily removed without destroying it when it needs to be cleaned, etc., while remaining difficult to remove under normal conditions of use.” *Id.* at ¶[0006].

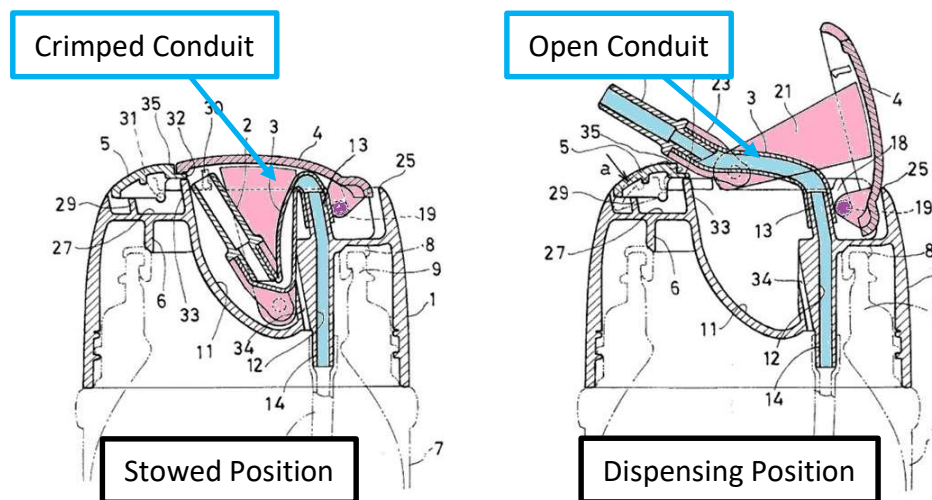
43. An exemplary embodiment is shown in Figure 1 of Nakajima:



Ex. 1004, Fig. 1. As shown above, “the stopper with a mouthpiece ... is composed

of a combination of a stopper body 1, a mouthpiece 2, a suction hose 3, a lid 4, and a button 5 serving as a disengaging means.” *Id.* at ¶[0012]. I note that Nakajima uses the term “stopper” generally to describe the cap assembly of a drink bottle, and the term “stopper body” to describe the base of the cap assembly.

44. Figures 2 and 3 show the internal structure of Nakajima’s cap assembly, in the stowed configuration (Fig. 2) and dispensing configuration (Fig. 3):



Id. at Figs. 2, 3. According to Nakajima:

“The stopper body 1 has an annular rib 6 (see Fig. 2) on the underside, which is used to seal the mouth 9 of the container 7 by pressing the rib 6 against a mouth gasket 8 in the container 7. A storage recess 11 is provided inside the rib 6, and the mouthpiece 2 and suction hose 3 are stored in the storage recess 11. A vertical communication hole 12 is provided in the rear portion of the storage recess 11, and connection ports 13, 14 are provided in the upper and lower end portions.

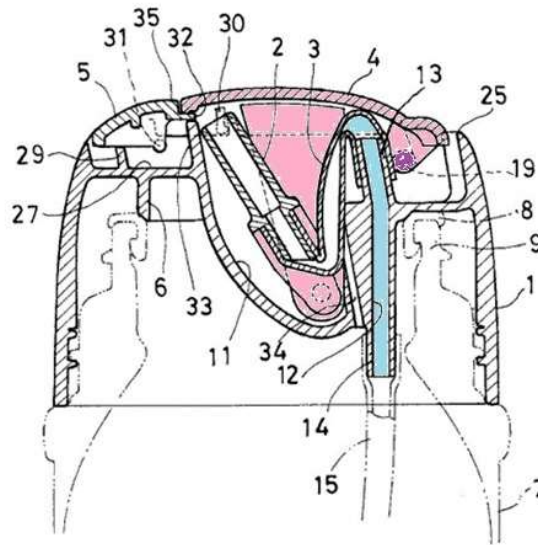
Id. at ¶[0013].

45. The mouthpiece and suction hose are pivotable between the stowed position and the dispensing position by virtue of their connection to “lid 4.” As described in Nakajima:

A pair of hinge shafts 19, 19 are provided on the left and right sides of the hinge portion 20 (see Fig. 1) in the rear end portion of the lid 4, and each hinge shaft 19 is rotatably fitted into each shaft receiving recess 17. The lid 4 covers the storage recess 11 and the top surface of the stopper body 1 surrounding the recess. A pair of leg pieces 21 and 21 are provided on the underside of the lid 4, and a protrusion 24 on the arms 23 of the mouthpiece 2 is rotatably fitted into a hole 22 at the bottom end of each leg piece 21.

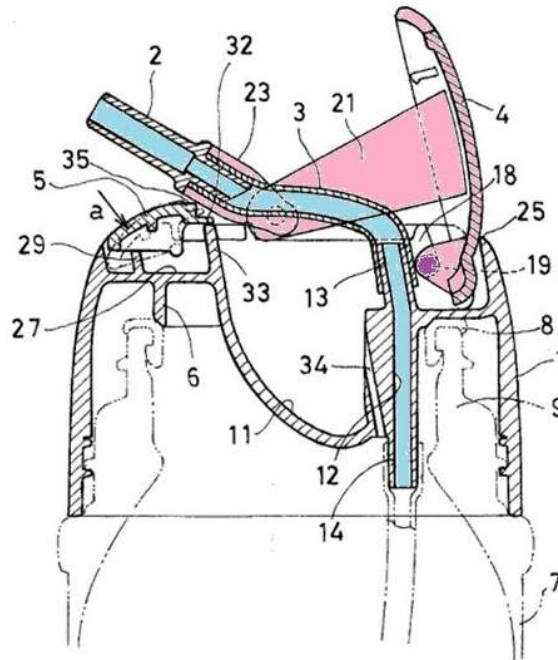
Id. at ¶[0016]. Opening and closing Nakajima’s lid operates a manual on/off valve that allows (in the dispensing position) or restricts (in the stowed position) the flow of fluid through the cap assembly.

46. In the stowed position, as shown in Figure 2, “the mouthpiece 2 and the suction hose 3 are folded into the storage recess 11, and the lid 4 is engaged with the stopper body 1 to cover and close the storage recess 11. In this state, a portion of the bent suction hose 3 seals the air hole 34, preventing leakage of liquid inside the container 7.” *Id.* at ¶[0022].



Id. at Fig. 2.

47. In the dispensing position, as shown in Figure 3, the lid is “pushed up and released by the restoring elasticity of the suction hose 3. As the lid 4 opens, the mouthpiece 2 protrudes above the button 5 and the air hole 34 is unsealed to prevent depressurization of the interior of the container 7.” *Id.* at ¶[0023].



Id. at Fig. 3. In this position, fluid from the drink bottle can flow from the drink bottle, through the “communication hole 12” and the elastic “suction hose 3,” and to the user through a dispensing outlet on the mouthpiece. *See id.* at ¶[0013-0014].

48. Nakajima’s lid also serves as a dust cover that protects the mouthpiece and suction hose from debris while in the stowed position. *See id.* at ¶[0003]. Likewise, the leg pieces on the underside of the lid serve as lateral guards that control the position of the mouthpiece in both the stowed and dispensing configurations.

B. Ribarits

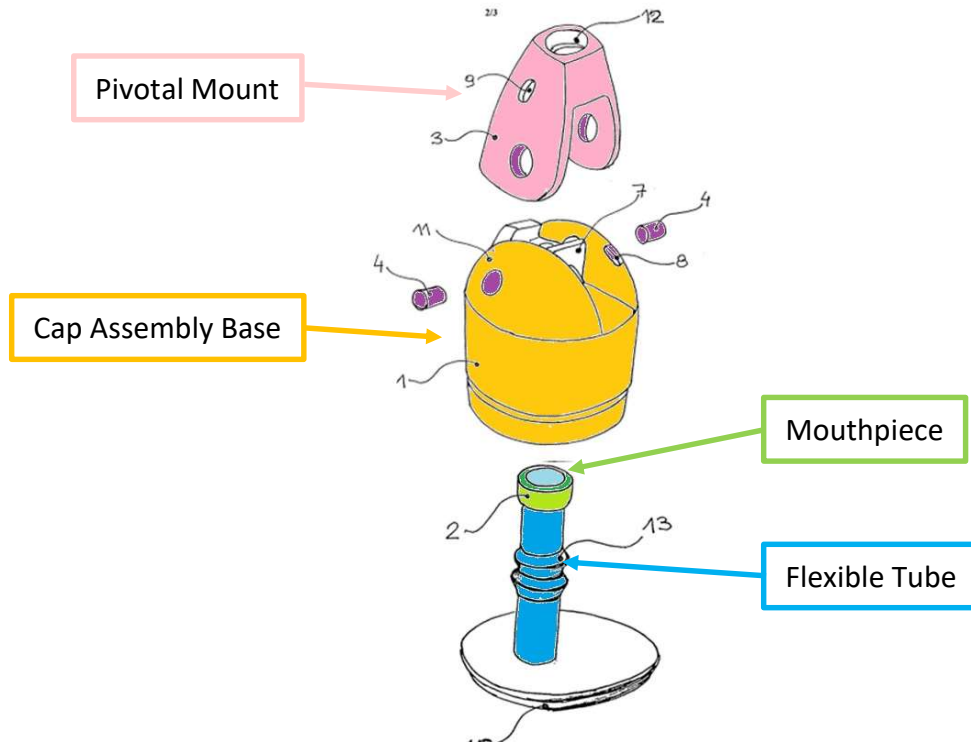
49. Ribarits (Ex. 1006), which is titled “Drinking Device,” discloses “a drinking device which enables a drink to be drunk in a pleasant, hygienic manner, and can be both opened and closed with one hand.” Ex. 1006, Abstract. The device

includes “a drinking spout” that can be “pivoted at the top” of any common threaded cap assembly for a drink bottle. *See* Ex. 1006, 2.

50. The components and structure of the Ribarits device are identified as:

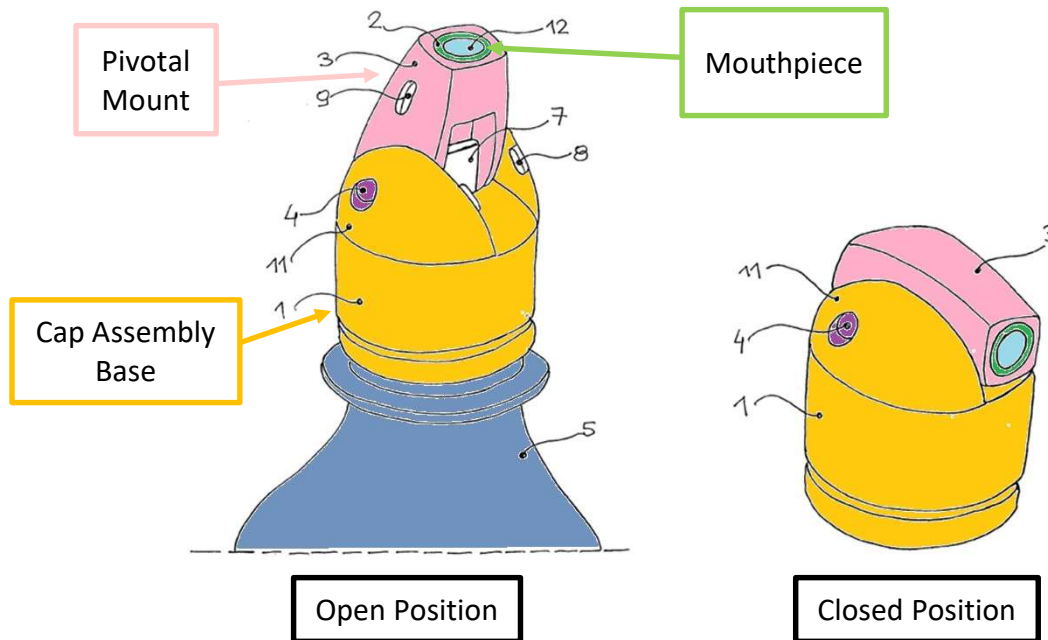
a closing cap (1), a sealed tubular element (2) inserted therein, and a drinking spout (3) which is fixed in the lateral parts (11) by two axial pins (4), wherein the sealed tubular element (2) is inserted into the drinking spout (3), characterized in that when the closing cap (1) is screwed onto the bottle (5), the required tightness is obtained by means of the sealing rings (10), and in that the knobs (8) applied to the lateral parts (11) engage in the recesses (9) on the drinking spout (3).

Ex. 1006, 3 (Claim 1). Figure 2 is an exploded view of the Ribarits device, which identifies the above-listed components:



Ex. 1006, Fig. 2.

51. The Ribarits device includes a “drinking spout” that pivots between an open position and a closed position, as shown in Figure 1 below:



Ex. 1006, Fig. 1.

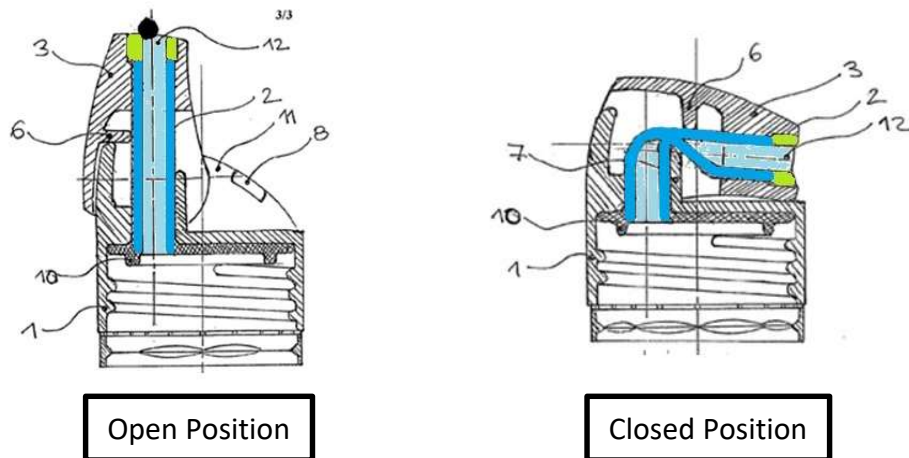
52. Ribarits describes the overall structure and function of the cap assembly as follows:

In the lateral parts placed at the top of the closing cap, the drinking spout is movably mounted by means of both axles. When the drinking spout is pivoted open, the elastic tube inserted therein is straightened and the opening is thus released. The liquid located in the bottle can now be withdrawn via the tube guided in the drinking spout, wherein the tightness is given by screwing the neck of the bottle onto the sealing part of this element.

If now the device is to be closed, by folding down the drinking spout, the tube is bent between the outlet opening of the closing cap and the accommodation in the drinking spout by means of the two webs, and the device is closed.

Ex. 1006, 2.

53. Figure 3, which I have reproduced below, shows cross-sectional views of the exemplary embodiment of the Ribarits cap assembly, in the open and closed positions:



Ex. 1006, Fig.3. As shown and described above, an elastic tube serves as a mouthpiece and fluid conduit for the user to draw fluid out of the drink container, through the cap assembly, and into the user's mouth.

54. The pivoting action of the drinking spout functions as a manual on/off valve that controls the flow of fluid through the elastic tube. In the open position (above, left), the drinking spout is pivoted away from the cap assembly base, opening the elastic tube and allowing fluid to flow from the drink container to the user. In the closed position, the drinking spout is pivoted down, causing the elastic tube to crimp within the cap assembly, thereby restricting the flow of fluid from the drink container to the user.

C. Panicci

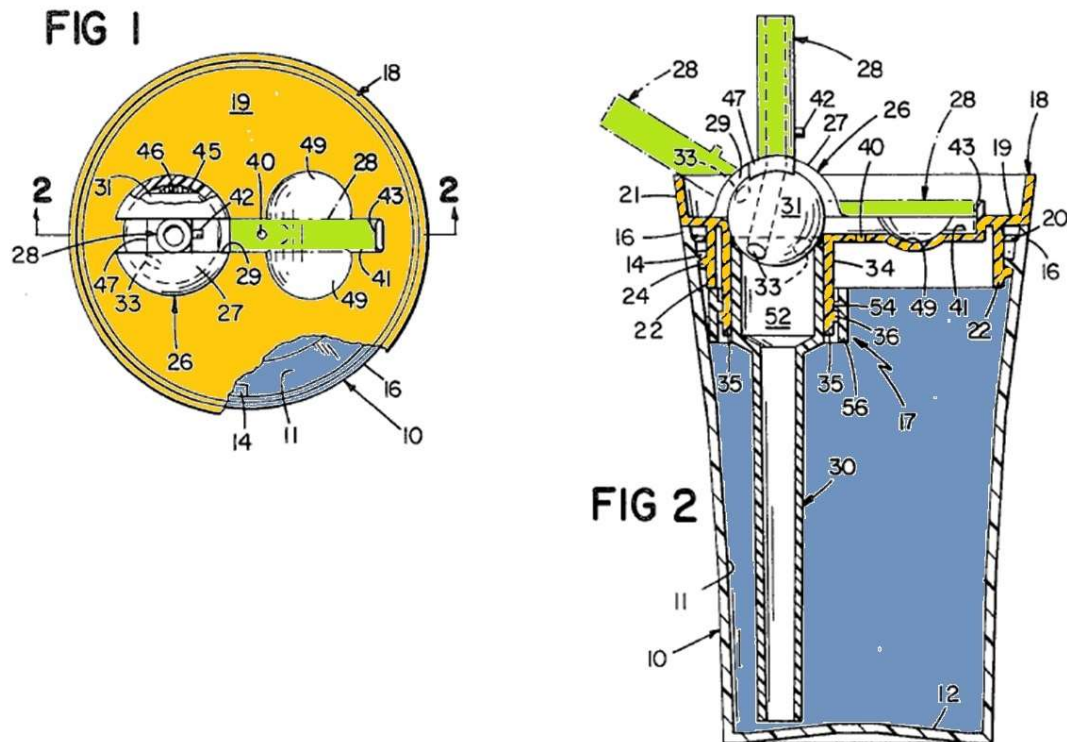
55. Panicci (Ex. 1007), which is titled “Cup with Pivoting Straw,” discloses a “drinking cup and cover with straw assembly seated in the cover” with a “moveable straw” that is “pivotally and sealably attached” to “permit pivoting of the straw with respect to the cover.” Ex. 1007, Abstract.

56. According to Panicci:

It is a further object of the invention to provide a means for storing the external straw segment in a compact configuration that minimizes the opportunity for contamination of the straw or for spilling the contents of the cup particularly during transport of the cup from one location to another.

Ex. 1007, 1:29-35.

A preferred embodiment of the Panicci invention is shown in Figures 1 and 2, which I have reproduced below:



Ex. 1007, Figs. 1, 2.

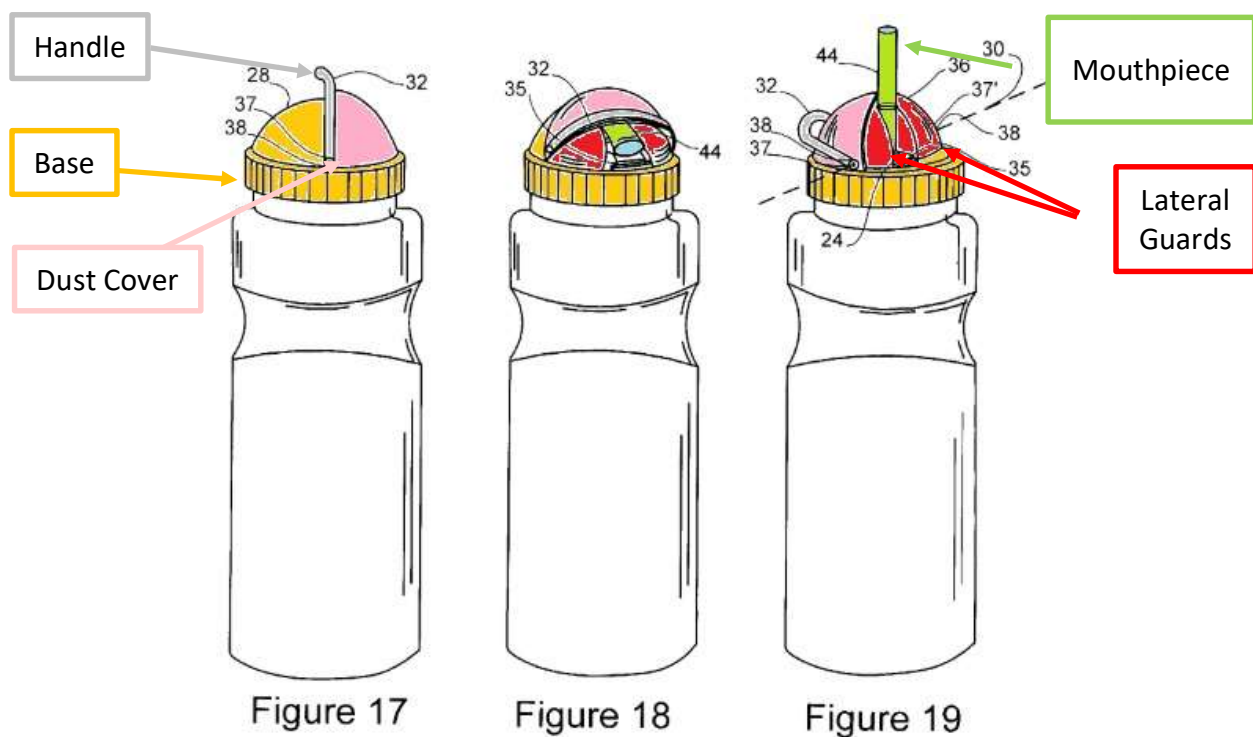
57. As shown in the above figures and described in Panicci, the “upper straw 28 extends through slot 29 and pivots in a vertical plane.” Ex. 1007, 3:23-24. In its closed position, the upper straw pivots into “a storage recess 41 in the plane of slot 29, sized to accommodate the upper tubular portion of straw member 28.” Ex. 1007, 3:35-37.

58. According to Panicci: “Tab 43 at the end of recess 41 is positioned to cover the upper end of straw segment 26 to avoid contamination of the straw.” Ex. 1007, 3:45-47. Thus, a person of ordinary skill in the art would understand “tab 43”

to constitute a dust cover to prevent debris from entering the outlet of the straw when the device is not in use.

D. Hughes

59. Hughes (Ex. 1008), which is titled “Automatic Valved Bottle Cap for use with Liquid Containers,” discloses a removable cap assembly with a pivoting mouthpiece, dust cover, lateral guards, and a carrying handle:



(Ex. 1008, Figs. 17-19). Hughes’ mouthpiece is comprised of a flexible “drinking hose” that collapses when pivoted into a stowed configuration. (*Id.* at 9:45-53). In

the stowed configuration, the mouthpiece is secured in a channel formed by a pair of lateral guards, which is, in turn, covered by a domed dust cover. (*Id.*)

**IV. GROUND 1: CLAIMS 1, 2, AND 4–6 WOULD HAVE BEEN OBVIOUS
OVER NAKAJIMA IN VIEW OF THE KNOWLEDGE OF A
PERSON OF ORDINARY SKILL IN THE ART**

60. As I explain below, Nakajima expressly discloses nearly all the elements of claims 1, 2, and 4–6. To the extent Nakajima does not expressly disclose any element of claims 1, 2, and 4–6, the claims would have been obvious over Nakajima in view of the knowledge of one skilled in the art at the time of the '250 patent invention. Accordingly, in my opinion, each of claims 1, 2, and 4–6 is obvious over Nakajima in view of the knowledge of a person of ordinary skill in the art.

A. Claim 1 is Obvious over Nakajima

61. I address below how Nakajima, in view of the knowledge of a person of ordinary skill in the art, renders obvious each element of claim 1.

1. Preamble: “A drink container”

62. The preamble recites a “drink container.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of claim 1 is limiting. Regardless, as I explain below, Nakajima discloses “a drink container.”

63. For example, Nakajima discloses “a stopper with a mouthpiece for a water bottle or other liquid container.” (Ex. 1004, ¶[0001]). One skilled in the art would have understood that the “liquid container” in Nakajima is a drink container because Nakajima discloses that the “mouthpiece” of the container “communicates with the interior of the container” to allow a user “to drink the beverage inside.” (Ex. 1004, ¶[0002]).

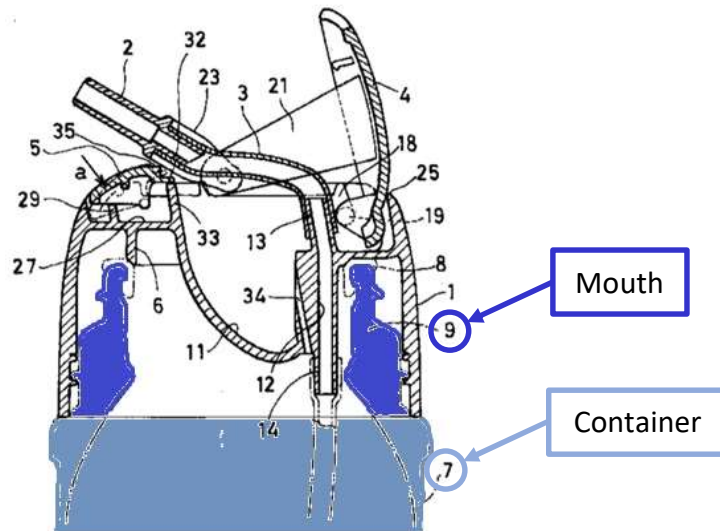
2. **1[a]: “a fluid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid;”**

64. Limitation 1[a] recites, “a fluid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid;” As I explain below, Nakajima discloses this limitation.

65. As noted above, Nakajima discloses “a stopper with a mouthpiece for a water bottle or other liquid container.” (Ex. 1004, ¶[0001]). One of skill in the art would have understood that the “liquid container” of Nakajima would include an internal compartment sized to hold a volume of potable drink fluid because Nakajima discloses that the “mouthpiece” of the stopper “communicates with the interior of the container” to allow a user “to drink the beverage inside.” (Ex. 1004, ¶[0002]).

66. Nakajima also discloses the “stopper body 1” is sealed against “the

mouth 9 of the container 7.” (*Id.* at ¶[0013]). This is shown in annotated Figure 3 below:



(*Id.*, Fig. 3). One of skill in the art would have understood the “mouth 9” of the “container 7” to constitute a neck with an opening, as identified above.

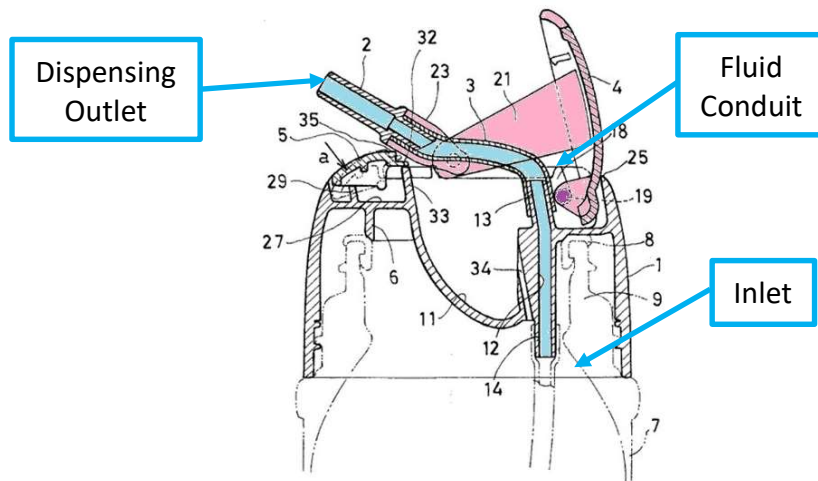
3. **1[b]: “a cap assembly removably coupled to the fluid container to cover the opening, wherein the cap assembly defines a fluid conduit for drink fluid to flow from the fluid container and through the cap assembly to a user, wherein the fluid conduit includes an inlet through which drink fluid from the fluid container may enter the fluid conduit, and a dispensing outlet through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user”**

67. Limitation 1[b] recites, “a cap assembly removably coupled to the fluid container to cover the opening, wherein the cap assembly defines a fluid conduit for drink fluid to flow from the fluid container and through the cap assembly to a user, wherein the fluid conduit includes an inlet through which drink fluid from the fluid

container may enter the fluid conduit, and a dispensing outlet through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user.” As I explain below, Nakajima discloses this limitation.

68. Nakajima discloses “stopper body 1” is removably coupled to the “container 7” to cover the “mouth 9” of the container. Ex. 1004, ¶¶[0012]-[0014]. Nakajima further discloses that “stopper body 1 has an annular rib 6 ... on the underside, which is used to seal the mouth 9 of the container 7 by pressing the rib 6 against a mouth gasket 8 in the container 7.” (Ex. 1004, ¶[0013]). Thus, one of skill in the art would have understood the “stopper body 1” of Nakajima to be a cap assembly that is removably coupled to Nakajima’s fluid container to cover the mouth, i.e. opening, of the container.

69. The cap assembly of Nakajima (i.e. the “stopper body”) includes a fluid conduit from the container to the user, which includes “a communication hole 12” connected via “connection port 13” to “a suction hose 3” and “a mouthpiece 2.” Ex. 1004, ¶¶[0012]-[0014]. This is shown in Figure 3 below:



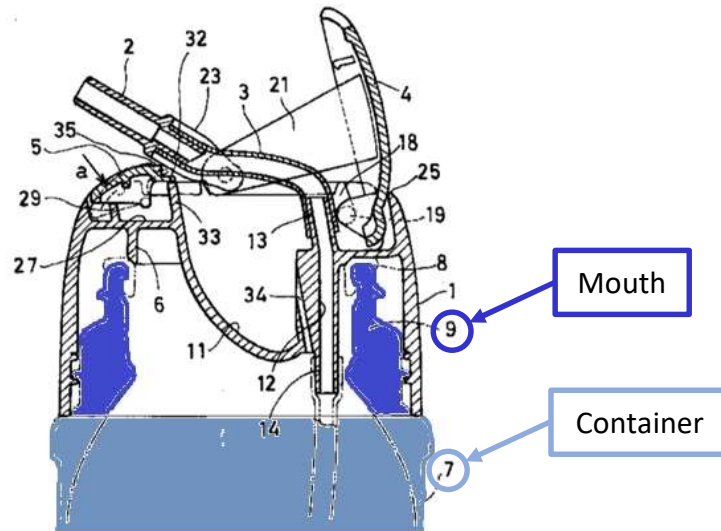
Ex. 1004, Fig. 3. As shown with the dashed line in the above figure, fluid enters the fluid conduit from the container via an inlet (“connection port 14), flows through the “suction hose 3,” and is dispensed from a dispensing outlet at the end of “mouthpiece 2.” Ex. 1004, ¶¶[0012]-[0014].

4. **1[b][1]: “a cap assembly base removably coupled to the neck of the fluid container, wherein the cap assembly base is configured to be selectively and repeatedly decoupled from and re-coupled to the neck of the fluid container”**

70. Limitation 1[b][1] recites “a cap assembly base removably coupled to the neck of the fluid container, wherein the cap assembly base is configured to be selectively and repeatedly decoupled from and re-coupled to the neck of the fluid container.” As I explain below, Nakajima discloses this limitation.

71. As noted above, one of skill in the art would have understood the “stopper body 1” of Nakajima to constitute a cap assembly removably coupled to the “container 7.” As shown in Figure 3 of Nakajima, annotated below, one of skill

in the art would have understood such removable coupling to be achieved through engagement and disengagement between a base portion of “stopper body 1” and the neck of the underlying liquid container.



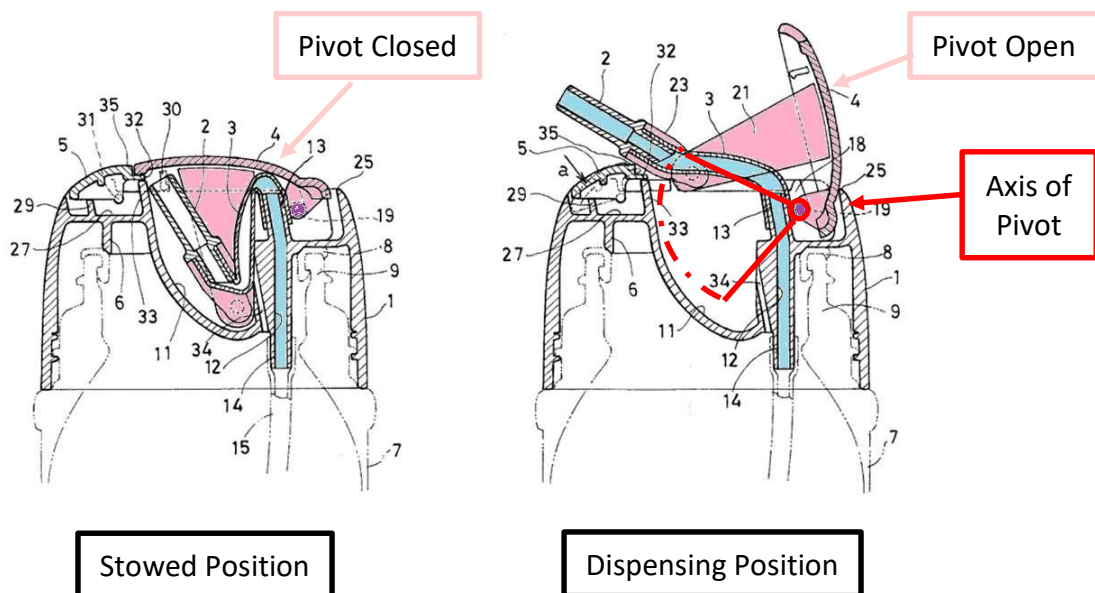
Ex. 1004, Fig. 3.

5. **1[b][2]: “a pivotal mount coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base, the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a distal end of the pivotal mount”**

72. Limitation 1[b][2] recites that the cap assembly comprises “a pivotal mount coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base, the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a

distal end of the pivotal mount.” As I explain below, Nakajima discloses this limitation.

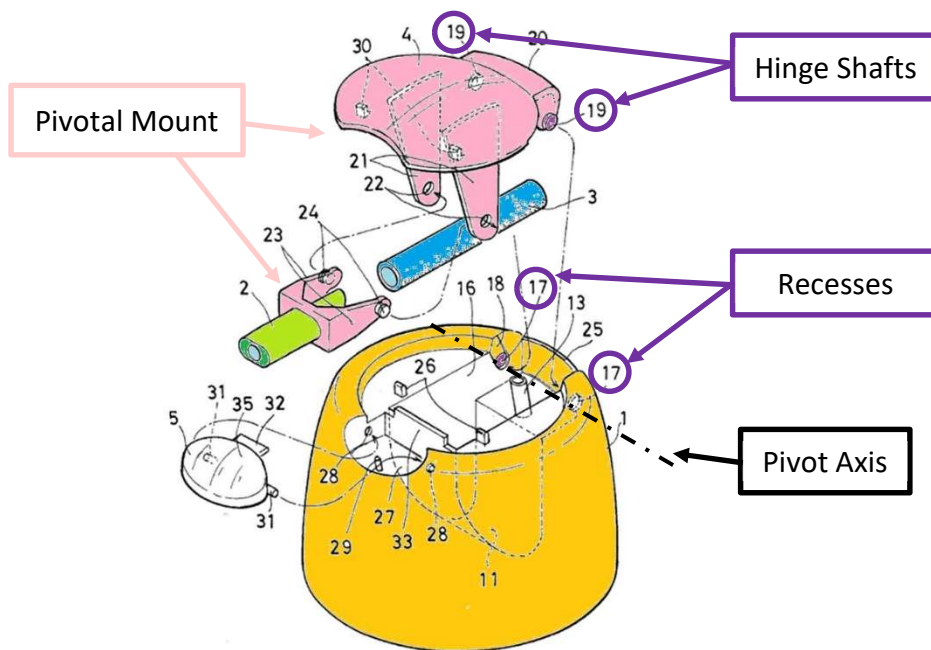
73. For example, Nakajima discloses two structures that pivot to form a “pivotal mount.” The first is “lid 4,” which is mounted to the cap assembly and pivotable relative to the cap assembly base, as shown in Figure 3 below:



Ex. 1004, Figs. 2, 3. As shown above, “leg pieces 21” are fixed to the underside of the lid and pivot with the lid. The second structure of Nakajima’s pivotal mount is the “arms 23” on the “mouthpiece 2,” which are “rotatably fitted” to the “leg pieces 21.” *Id.*, ¶[0016]. The lid “is attached so as to open and close freely, and the mouthpiece moves up and down in conjunction with the opening and closing of the lid.” *Id.* at ¶[0003]. Thus, one of skill in the art would have understood the

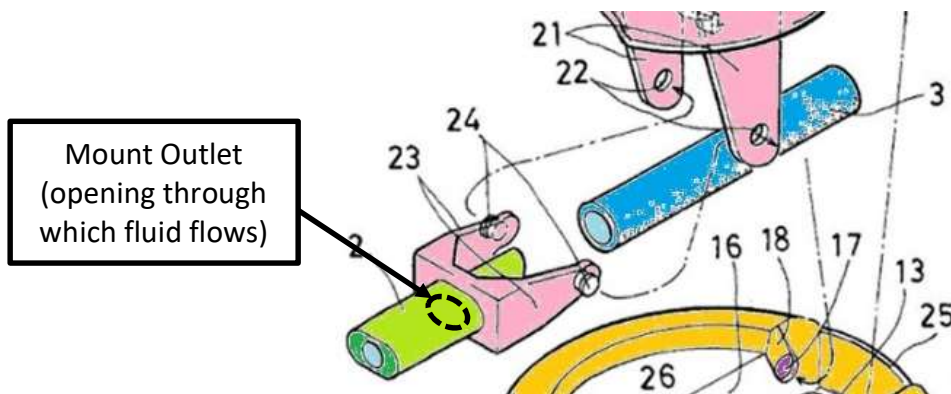
combination of Nakajima’s “lid 4,” having “leg pieces 21,” and the mouthpiece bracket “arms 23” of “mouthpiece 2” to constitute a “pivotal mount.”

74. Nakajima further discloses the “lid is attached to the stopper body by fitting a pair of hinge shafts on the lid itself into shaft receiving recesses in the stopper body, so that the lid can be opened and closed freely.” *Id.* at ¶[0004]. The “pair of hinge shafts 19” project laterally from the “hinge portion 20” (*Id.* at ¶[0016]) and are “rotatably fitted into” a corresponding pair of “shaft receiving recess[es] 17” in the cap assembly base (*Id.*). This is shown in annotated Figure 1 below:

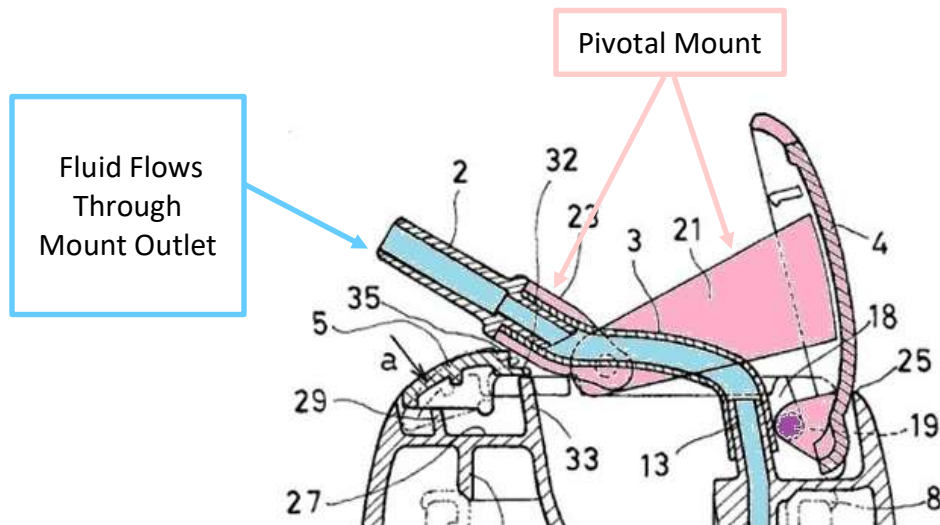


Id. at Fig. 1. Thus, one of skill in the art would have understood the hinge shafts and recesses to comprise two joints that couple the pivotal mount to the cap assembly and define an axis of rotation of Nakajima’s pivotal mount.

75. As shown below, a bracket formed by the “arms 23” constitutes the portion of the pivotal mount that is fixed to the mouthpiece. The mouthpiece extends from the base of the bracket formed by “arms 23,” which includes a hollow passage that forms part of the fluid conduit to allow fluid to flow from “suction hose 3,” through the bracket, and out through the dispensing end of “mouthpiece 2.”



(Ex. 1004, Fig. 1).



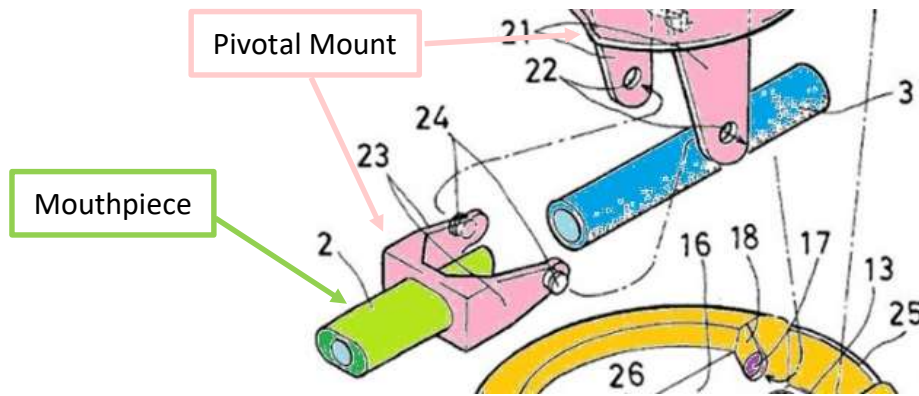
(Ex. 1004, Fig. 3). A person of ordinary skill in the art would have understood the hollow passage in the bracket formed by “arms 23” to constitute a “mount outlet,” i.e. an outlet of the pivotal mount, at the distal end of the pivotal mount.

6. **1[b][3]: “a mouthpiece coupled to the mount outlet of the pivotal mount for pivotal movement with the pivotal mount relative to the cap assembly base”**

76. Limitation 1[b][3] recites “ a mouthpiece coupled to the mount outlet of the pivotal mount for pivotal movement with the pivotal mount relative to the cap assembly base.” As I explain below, this limitation would have been obvious over Nakajima in view of the knowledge of a person of ordinary skill in the art.

77. Nakajima describes its “mouthpiece 2” and “arms 23” as two portions of a single component that is “rotatably fitted” to “leg pieces 21.” Ex. 1004, ¶[0016].

Thus, Nakajima discloses that the “mouthpiece 2” is ‘coupled’ to the portion of the pivotal mount formed by “arms 23.”

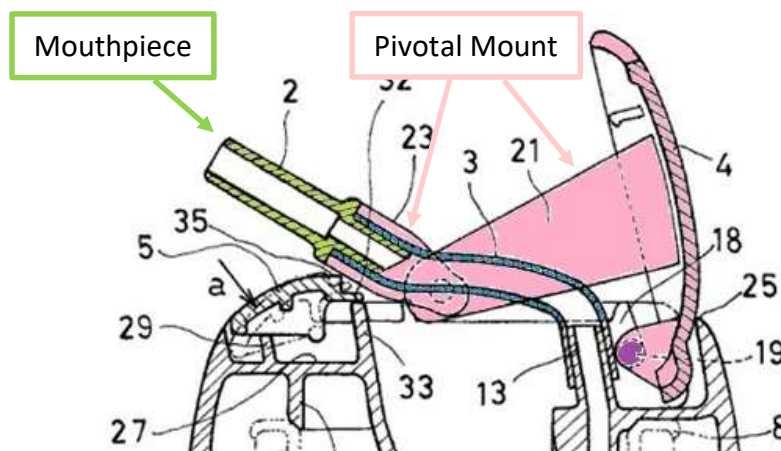


Ex. 1004, Fig. 1.

78. If the mouthpiece and pivotal mount must be made of multiple separable parts, in my opinion, it would have been obvious to a person of ordinary skill to modify Nakajima to achieve such a design. For example, a person of ordinary skill in the art would have recognized the desirability of constructing Nakajima’s “mouthpiece 2” and “arms 23” as two separate components, including (1) a tubular fluid conduit configured to engage with the user’s mouth, and (2) a bracket portion configured to pivot with the opening and closing of the cap assembly lid. For example, this would have been desirable so that the two components could be made of different materials, such as a hard plastic for the arms and a more resilient, flexible material like latex or silicone for the mouthpiece. This also would have been desirable to enable replacing the mouthpiece when it gets worn out from, for

example, multiple bite marks, without having to also replace the arms. In addition, a person of ordinary skill in the art would have understood that whether to use a single component mouthpiece and bracket, or a two-component mouthpiece and bracket (as shown in my colored annotation above), would have constituted nothing more than a routine choice between two alternative design choices.

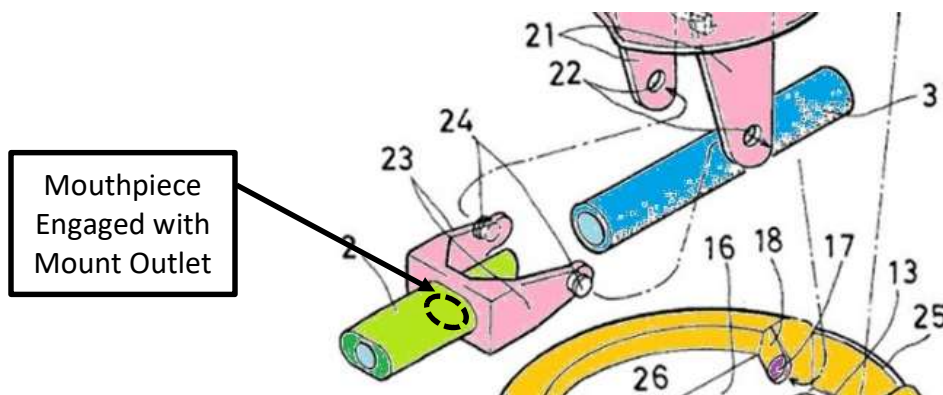
79. In a two-component configuration, the overall design of Nakajima's mouthpiece and pivoting bracket (i.e. "arms 23") would remain essentially unchanged. The only difference is that the mouthpiece would be built as a separate component that could be fitted through the bracket. This modification would not require any change to the design of the bracket formed by "arms 23." I have colored and annotated Figure 3 below to show how the proposed modification of Nakajima's "mouthpiece 2" and "arms 23" into a two-component configuration would have been readily apparent to a person of ordinary skill:



(Ex. 1004, Fig. 3). In the figure above, I have used green highlighting to show the

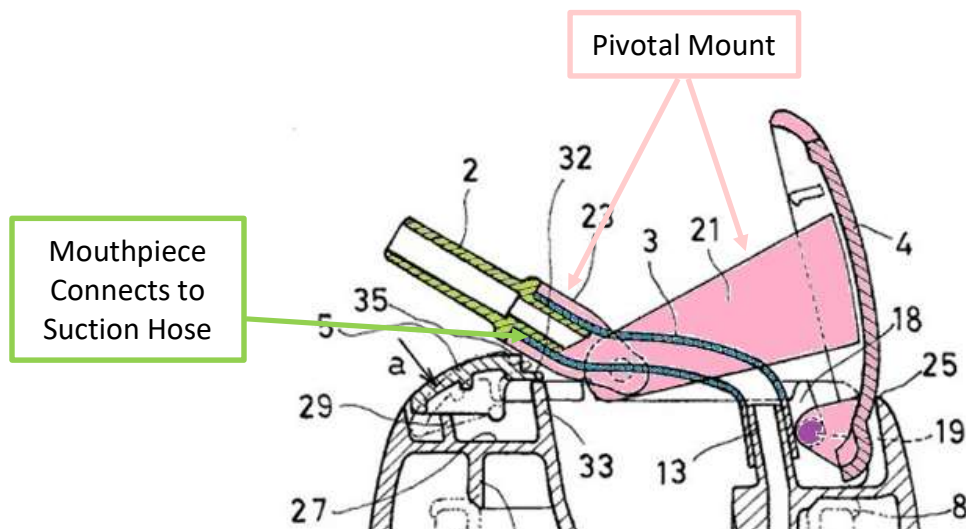
structure of the mouthpiece in a two-component configuration. The figure clearly shows how a separate mouthpiece is inserted through the mount outlet of the “arms 23” to connect to “suction hose 3.” In view of Nakajima’s Figure 3, a person of ordinary skill would have readily understood how to modify Nakajima to construct a mouthpiece as a separate component that was removably coupled to the pivotal mount at the bracket formed by “arms 23.” And, because such a change would not require any significant alteration to the structure of Nakajima’s mouthpiece and pivotal mount, a person of ordinary skill in the art would have had a reasonable expectation of success in implementing the design.

80. In the two-component configuration, the mouthpiece is inserted through the mount outlet of the bracket portion of the pivotal mount:



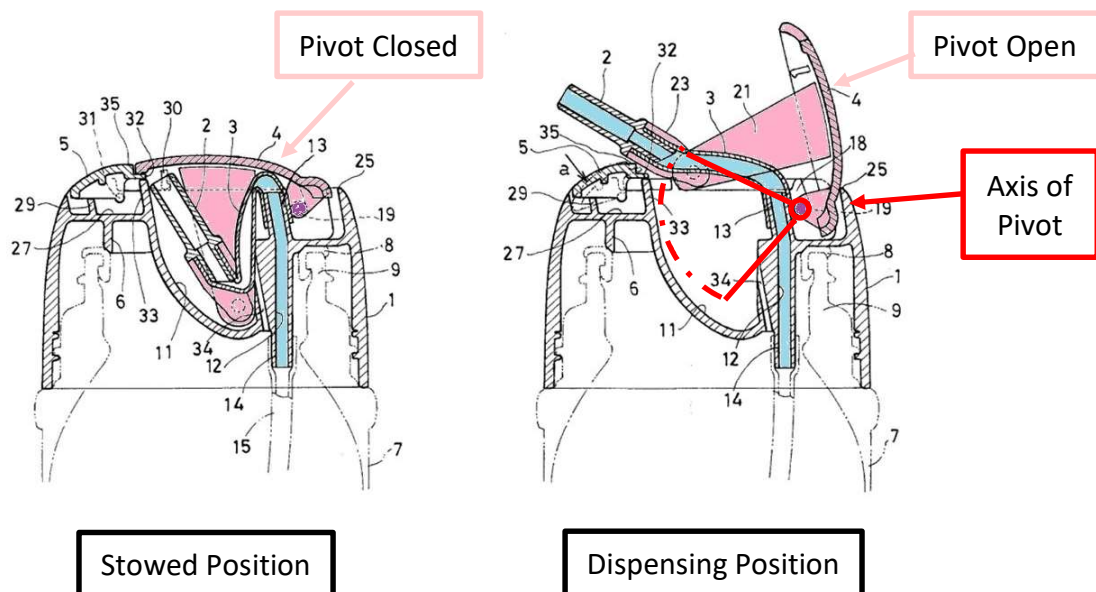
Ex. 1004, Fig. 1. Thus, a POSITA would understand the mouthpiece to be “engaged with” the pivotal mount, as claimed. As shown below, the mouthpiece includes a projection on the opposite side of the bracket that engages with “suction hose 3” to

form a fluid conduit:



Ex. 1004, Fig. 3.

81. Due to its coupling with the pivotal mount, Nakajima’s mouthpiece “moves up and down in conjunction with the opening and closing of the lid.” (*Id.*, ¶[0003]). The pivoting movement of the mouthpiece is shown below:

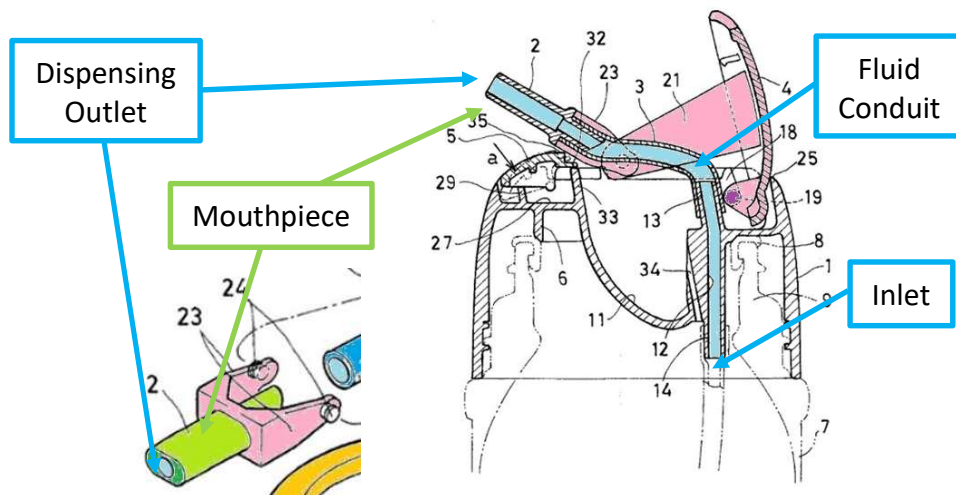


(*Id.*, Figs. 2–3).

7. **1[b][3][i]: “wherein the mouthpiece defines a portion of the fluid conduit, including the dispensing outlet”**

82. Limitation 1[b][3][i] recites “ wherein the mouthpiece defines a portion of the fluid conduit, including the dispensing outlet.” As I explain below, Nakajima discloses this limitation.

83. As noted above, Nakajima’s device includes a fluid conduit from the container to the user, which includes “a communication hole 12” connected via “connection port 13” to “a suction hose 3” and “a mouthpiece 2.” Ex. 1004, ¶¶[0012]–[0014]. As shown in the figure below, the mouthpiece of Nakajima defines the portion of the fluid conduit opposite the inlet from the liquid container, and includes the dispensing outlet from which a user may dispense liquid from the container.

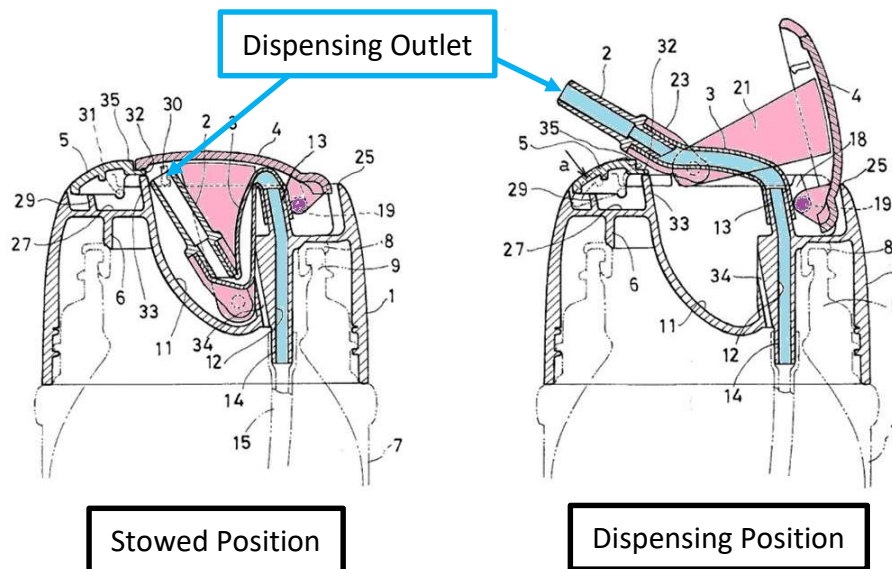


(Ex. 1004, Figs. 1, 3).

8. **1[b][3][ii]: “wherein the mouthpiece and the pivotal mount are configured to be selectively pivoted between a stowed position and a dispensing position.”**

84. Limitation 1[b][3][ii] recites “ wherein the mouthpiece and the pivotal mount are configured to be selectively pivoted between a stowed position and a dispensing position. As I explain below, Nakajima discloses this limitation.

85. As noted above, the mouthpiece of Nakajima is mounted to the pivotal mount (i.e. “lid 4”) such that “the mouthpiece moves up and down in conjunction with the opening and closing of the lid.” Ex. 1004, ¶[0003]. As shown in Figures 2 and 3 below, the mouthpiece pivots between a stowed position (Fig. 2) and a dispensing position (Fig. 3).



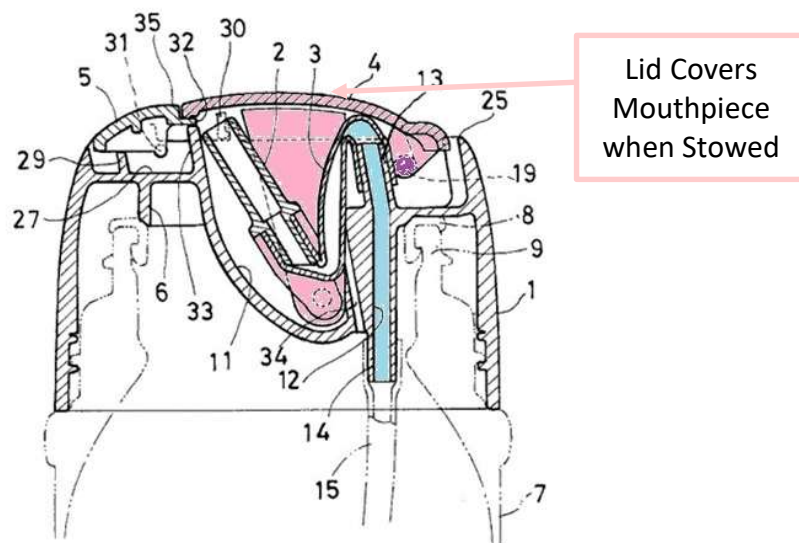
Ex. 1004, Figs. 2, 3

9. **1[b][3][iii]: “wherein the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position”**

86. Limitation 1[b][3][iii] recites “wherein the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position.”

87. Nakajima discloses: “The lid 4 covers the storage recess 11 and the top surface of the stopper body 1 surrounding the recess.” *Id.* at ¶[0016]. “When the lid 4 is closed, the suction hose 3 is bent at two upper and lower points and folded into the storage recess 11 together with the mouthpiece 2.” *Id.* at ¶[0018].

88. As shown in annotated Figure 2 below, Nakajima’s “lid 4” at least partially covers the mouthpiece when the pivotal mount is in the stowed position:

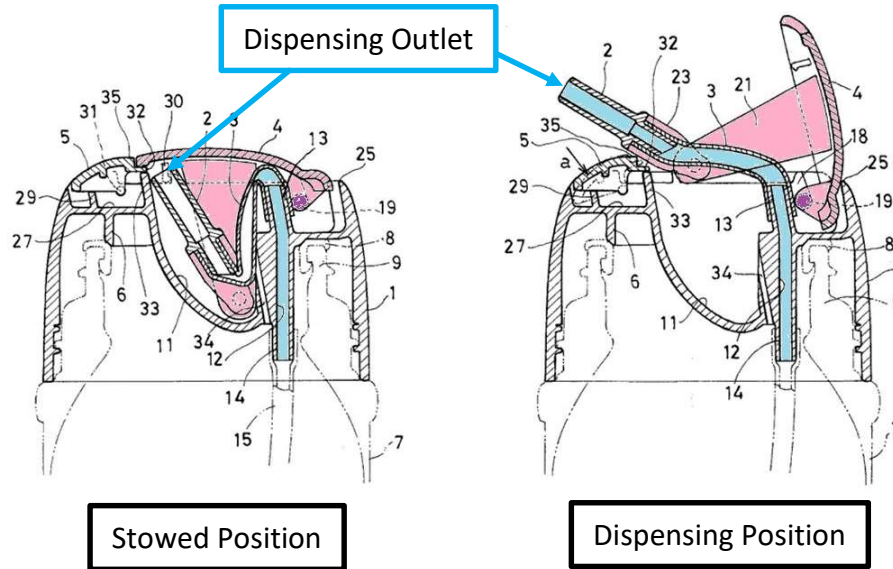


Ex. 1004 Fig 3. Thus, a person of ordinary skill in the art would have understood Nakajima’s “lid 4” to constitute a dust cover..

10. **1[b][3][iv]: “and wherein the dispensing outlet is positioned further away from the cap assembly base when the mouthpiece and the pivotal mount are in the dispensing position than when the mouthpiece and the pivotal mount are in the stowed position”**

89. Limitation 1[b][3][iv] recites “ and wherein the dispensing outlet is positioned further away from the cap assembly base when the mouthpiece and the pivotal mount are in the dispensing position than when the mouthpiece and the pivotal mount are in the stowed position.” As I explain below, Nakajima discloses this limitation.

90. As noted above, the mouthpiece of Nakajima is pivotable between a stowed position and a dispensing position. As shown in Figures 2 and 3 below, the mouthpiece pivots between a stowed position (Fig. 2) and a dispensing position (Fig. 3). In the dispensing position (below, right), the dispensing outlet at the end of the mouthpiece is positioned further away from the cap assembly base (i.e. “stopper body 1”), as compared to the stowed position (below, left):



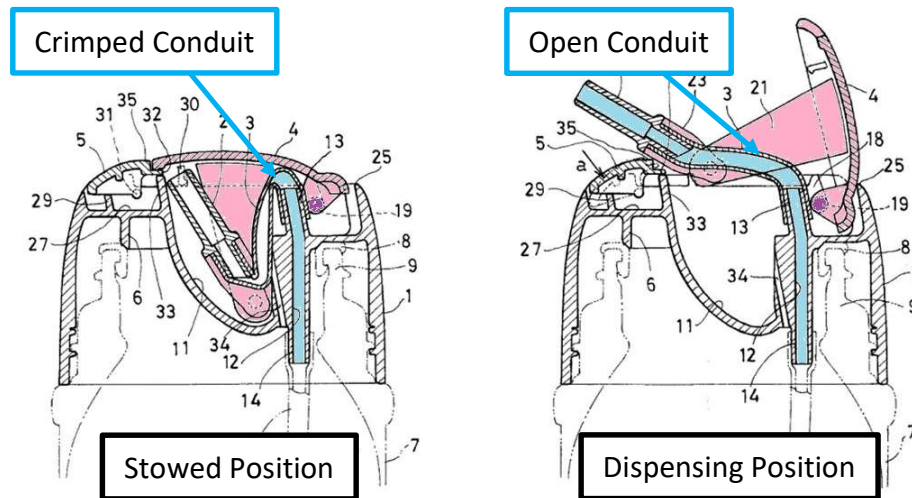
Ex. 1004, Figs. 2, 3.

11. **1[b][4]: “an on/off valve having a closed configuration, in which the on/off valve obstructs the fluid conduit to restrict drink fluid from flowing between the inlet and the dispensing outlet, and an open configuration, in which the on/off valve permits drink fluid to flow through the fluid conduit from the inlet to the dispensing outlet”**

91. Limitation 1[b][4] recites “an on/off valve having a closed configuration, in which the on/off valve obstructs the fluid conduit to restrict drink fluid from flowing between the inlet and the dispensing outlet, and an open configuration, in which the on/off valve permits drink fluid to flow through the fluid conduit from the inlet to the dispensing outlet.” As I explain below, Nakajima discloses this limitation.

92. The on/off valve of Nakajima comprises the crimping and uncrimping functionality of the fluid conduit that occurs when the lid and mouthpiece pivot,

thereby switching between the stowed position and dispensing position. This is shown in Figures 2 and 3 below.



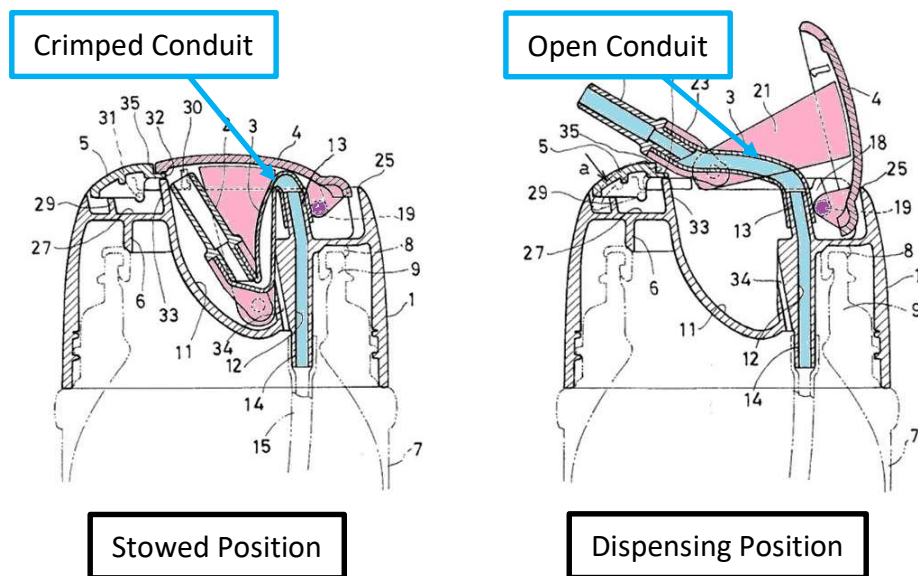
Ex. 1004, Figs. 2, 3.

12. **1[b][4][i]-[iii]: “wherein the manual on/off valve includes a flexible tube that defines a portion of the fluid conduit; wherein when the manual on/off valve is in the closed configuration, the tube is crimped to obstruct the flow of drink fluid through the fluid conduit, and wherein when the manual on/off valve is in the open configuration, the tube is not crimped and does not obstruct the flow of drink fluid through the fluid conduit”**

93. Limitations 1[b][4][i]-[iii] recite “ wherein the on/off valve includes a flexible tube that defines a portion of the fluid conduit; wherein when the on/off valve is in the closed configuration, the tube is crimped to obstruct the flow of drink fluid through the fluid conduit; and wherein when the on/off valve is in the open configuration, the tube is not crimped and does not obstruct the flow of drink fluid

through the fluid conduit..” As I explain below, Nakajima discloses these limitations.

94. As noted above, the manual on/off valve of Nakajima comprises the crimping functionality of the fluid conduit between the inlet and mouthpiece. The portion of the fluid conduit between the inlet and the mouthpiece is “suction hose 3,” which is a flexible, elastic tube that bends at two locations when the “lid 4” is closed. Ex. 1004, ¶¶[0014], [0018]. This is shown in Figures 2 and 3 below.



Ex. 1004, Figs. 2, 3.

95. According to Nakajima:

In the normal state, as shown in Fig. 2, the mouthpiece 2 and the suction hose 3 are folded into the storage recess 11, and the lid 4 is engaged with the stopper body 1 to cover and close the storage recess 11. In this state, a portion of the bent suction hose 3 seals the air hole 34, preventing leakage of liquid inside the container 7.

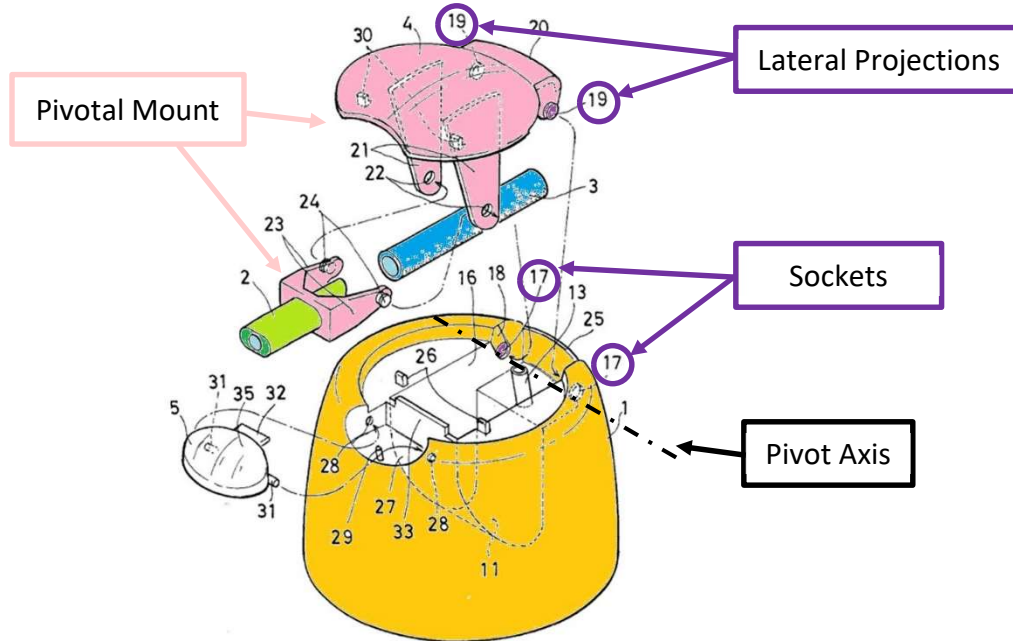
Id. at ¶[0022]. When the lid is opened, the elasticity of the “suction hose 3” causes it to unfold, thereby opening the fluid conduit and allowing liquid to be dispensed from the container. *See id.* at ¶[0023].

96. Accordingly, it is my opinion that Nakajima either discloses or renders obvious all the elements of claim 1. Thus, it is my opinion that claim 1 would have been obvious over Nakajima, in view of the knowledge of a person of ordinary skill in the art.

B. Claim 2 is Obvious over Nakajima

97. Claim 2 depends from claim 1, and further recites, “wherein the two joints comprise a pair of lateral projections extending from the pivotal mount that extend into a pair of sockets in the cap assembly base.” Nakajima discloses this additional limitation.

98. As discussed above, Nakajima discloses the “lid is attached to the stopper body by fitting a pair of hinge shafts on the lid itself into shaft receiving recesses in the stopper body, so that the lid can be opened and closed freely.” Ex. 1004 at ¶[0004]. The “pair of hinge shafts 19” project laterally from the “hinge portion 20” (*Id.* at ¶[0016]) and are “rotatably fitted into” a corresponding pair of “shaft receiving recess[es] 17” in the cap assembly base (*Id.* at ¶[0016]). This is shown in annotated Figure 1 below:



Id. at Fig. 1. Thus, one of skill in the art would have understood the hinge shafts and recesses to comprise lateral projections extending from the pivotal mount into sockets of the cap assembly.

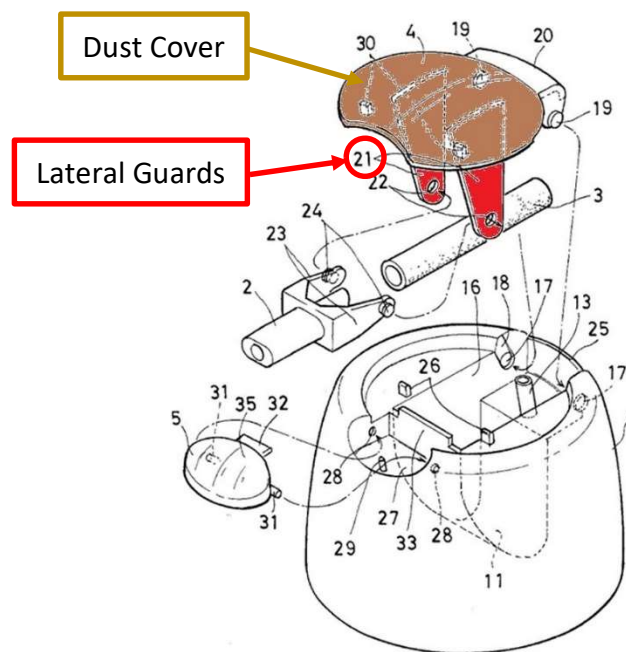
99. Accordingly, it is my opinion that Nakajima discloses the additional elements of claim 2. Thus, for the same reasons as discussed above in connection with claim 1, it is also my opinion that claim 2 would have been obvious over Nakajima, in view of the knowledge of a person of ordinary skill in the art.

C. Claim 4 is Obvious over Nakajima

100. Claim 4 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that Nakajima discloses and/or renders obvious each limitation of claim 1.

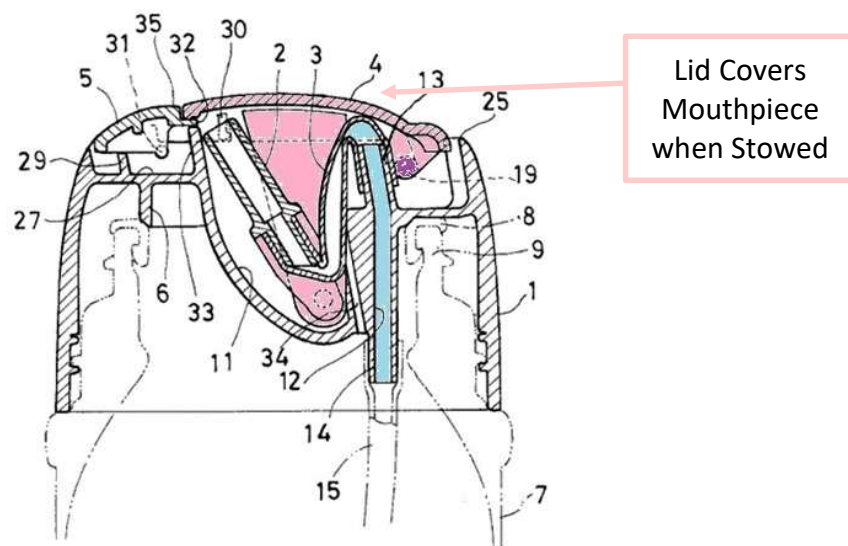
101. Claim 4 further recites “wherein the cap assembly includes a pair of lateral guards that extend on opposed sides of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position and wherein the dust cover extends between the pair of lateral guards and is positioned to protect the dispensing outlet of the mouthpiece by extending across at least a portion of the dispensing outlet of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position.” As I explain below, Nakajima discloses these additional limitations.

102. Nakajima discloses a “pair of leg pieces 21 and 21 are provided on the underside of the lid 4.” Ex. 1004, ¶[0016]. As shown in annotated Figures 1 and 2 below, the leg pieces extend on opposed sides of “mouthpiece 2” when the mouthpiece and pivotal mount (i.e. “lid 4”) are in the stowed position.



Ex. 1004, Fig. 1, ¶[0016]. Thus, a person of ordinary skill in the art would have understood the “pair of legs” on the underside of Nakajima’s pivotal mount to constitute a pair of lateral guards.

103. Nakajima also discloses: “The lid 4 covers the storage recess 11 and the top surface of the stopper body 1 surrounding the recess.” *Id.* at ¶[0016]. “When the lid 4 is closed, the suction hose 3 is bent at two upper and lower points and folded into the storage recess 11 together with the mouthpiece 2.” *Id.* at ¶[0018]. As shown in annotated Figure 2 above, Nakajima’s “lid 4” extends between the pair of lateral guards (i.e. “pair of legs 21”) and protects the dispensing outlet and mouthpiece when the pivotal mount is in the stowed position. Thus, a person of ordinary skill in the art would have understood Nakajima’s “lid 4” to constitute a dust cover.



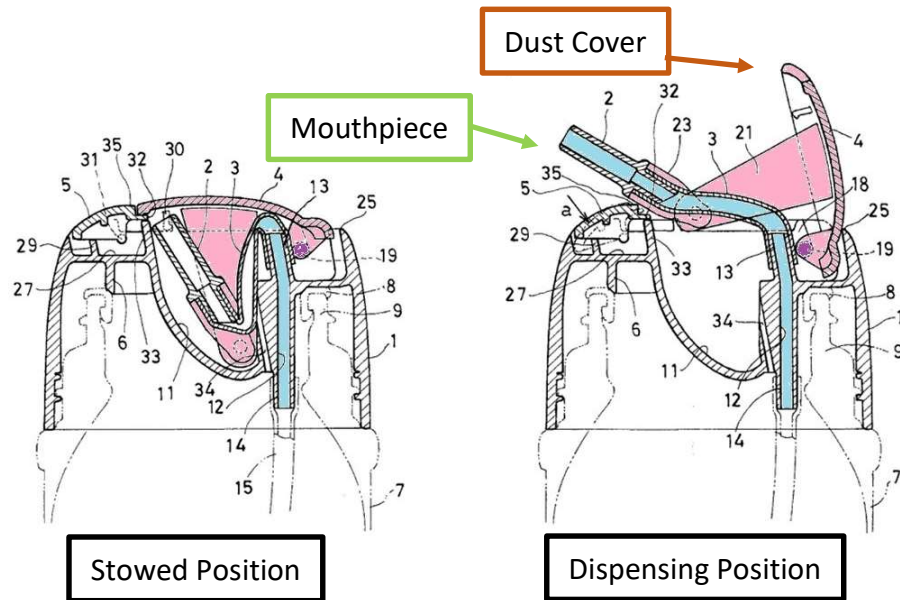
Ex. 1004, Fig. 3.

104. Accordingly, it is my opinion that Nakajima discloses the additional elements of claim 3. Thus, for the same reasons as discussed above in connection with claim 1, it is also my opinion that claim 3 would have been obvious over Nakajima, in view of the knowledge of a person of ordinary skill in the art.

D. Claim 5 is Obvious over Nakajima

105. Claim 5 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that Nakajima discloses and/or renders obvious each limitation of claim 1. Claim 5 further recites, “ wherein when the mouthpiece is pivoted from the stowed position to the dispensing position, the mouthpiece pivots away from the dust cover.” As I explain below, Nakajima discloses this additional limitation.

106. As shown in annotated Figures 2 and 3 below, Nakajima’s mouthpiece pivots away from the dust cover (i.e. “lid 4”) when the mouthpiece is pivoted from the stowed position (below, left) to the dispensing position (below, right).



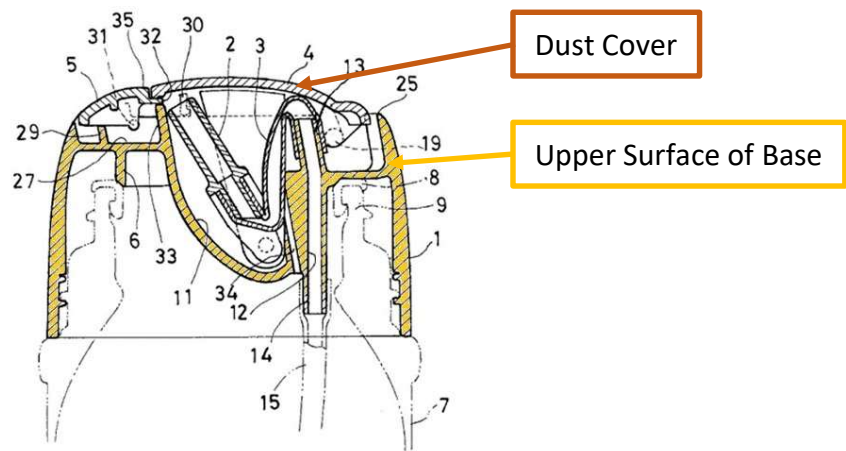
Ex. 1004, Figs. 2, 3.

107. Accordingly, it is my opinion that Nakajima discloses the additional elements of claim 5. Thus, for the same reasons as discussed above in connection with claim 1, it is also my opinion that claim 5 would have been obvious over Nakajima, in view of the knowledge of a person of ordinary skill in the art.

E. Claim 6 is Obvious over Nakajima

108. Claim 6 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that Nakajima discloses and/or renders obvious each limitation of claim 1. Claim 6 further recites, “wherein the dust cover projects above an upper surface of the cap assembly base.” As I explain below, Nakajima discloses this additional limitation.

109. As shown in annotated Figures 2 and 3 below, Nakajima’s dust cover (i.e. “lid 4”) projects above an upper surface of the cap assembly base (i.e. “stopper body 1”) in both the stowed position (below, left) and dispensing position (below, right).



Ex. 1004, Figs. 2, 3.

110. Accordingly, it is my opinion that Nakajima discloses all the elements of claim 5. Thus, for the same reasons as discussed above in connection with claim 1, it is also my opinion that claim 6 would have been obvious over Nakajima, in view of the knowledge of a person of ordinary skill in the art.

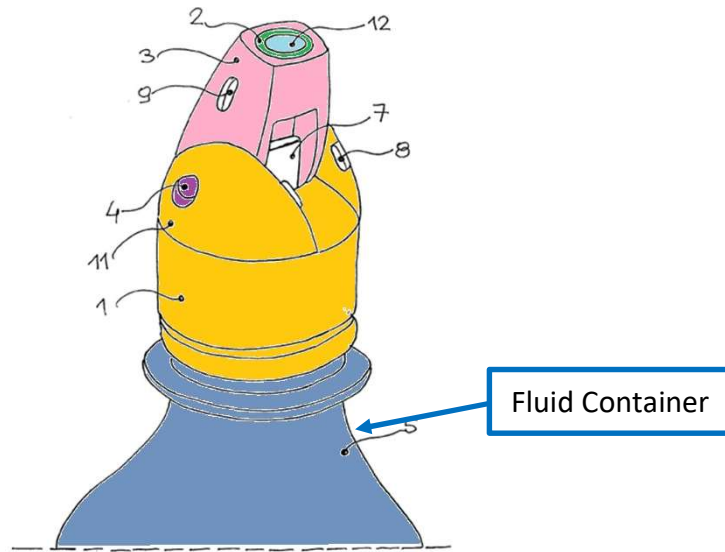
V. GROUND 2: CLAIMS 1,2 4–8, 10–14, AND 16–18 WOULD HAVE BEEN OBVIOUS OVER RIBARITS IN VIEW OF PANICCIE AND/OR THE KNOWLEDGE OF A PERSON OF ORDINARY SKILL IN THE ART

A. Claim 1 is Obvious over Ribarits in view of the Knowledge of a Person of Ordinary Skill in the Art

1. Preamble: “A drink container”

111. The preamble recites a “drink container.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of claim 1 is limiting. Regardless, as I explain below, Ribarits discloses “a drink container.”

112. Ribarits discloses “a drinking device which enables a drink to be drunk in a pleasant, hygienic manner, and can be both opened and closed with one hand.” (Ex. 1006, Abstract). Ribarits explains that the invention “relates to a device for comfortably drinking and portioning from one of the bottles common today.” (*Id.*, 1). The drink container of Ribarits is shown in Figure 1 below, as item 5:

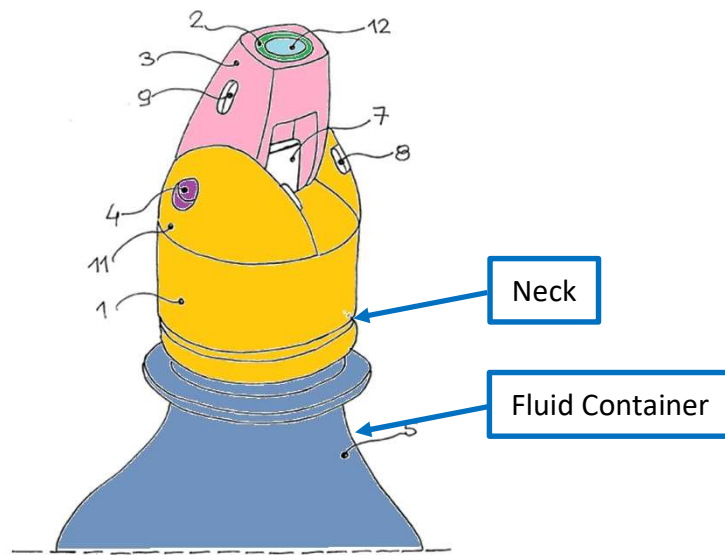


Ex. 1006, Fig. 1.

2. **1[a]: “a fluid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid”**

113. Limitation 1[a] recites, “ a fluid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid;” As I explain below, Ribarits discloses this limitation.

114. As shown in the annotated figure below, Ribarits discloses a bottle, i.e. a fluid container, having a neck with an opening:



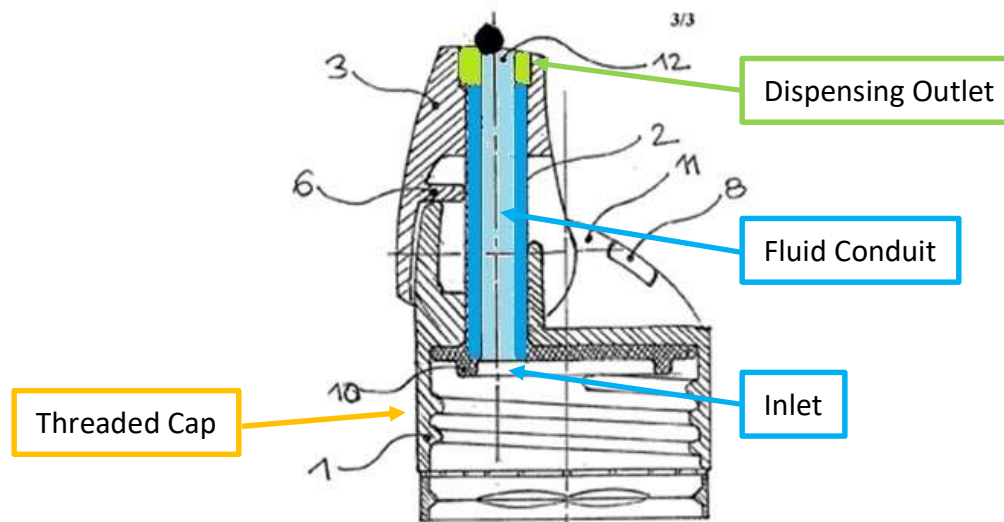
(Ex. 1006, Fig. 1). A person of ordinary skill in the art would have understood that the neck portion of the bottle would be an opening that attaches to a threaded cap with a drinking spout, and that the bottle would also have an internal compartment sized to hold a volume of drink liquid. These features would be necessary to drink from the bottle, which is the purpose of the Ribarits invention. (Ex. 1006, 2).

3. **1[b]: “a cap assembly removably coupled to the fluid container to cover the opening, wherein the cap assembly defines a fluid conduit for drink fluid to flow from the fluid container and through the cap assembly to a user, wherein the fluid conduit includes an inlet through which drink fluid from the fluid container may enter the fluid conduit, and a dispensing outlet through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user, and further wherein the cap assembly comprises:”**

115. Limitation 1[b] recites “a cap assembly removably coupled to the fluid container to cover the opening, wherein the cap assembly defines a fluid conduit for

drink fluid to flow from the fluid container and through the cap assembly to a user, wherein the fluid conduit includes an inlet through which drink fluid from the fluid container may enter the fluid conduit, and a dispensing outlet through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user, and further wherein the cap assembly comprises:” As I explain below, Ribarits discloses these limitations.

116. Ribarits discloses “a common closing cap provided with a thread” that “is screwed onto the bottle (5).” (Ex. 1006, 2-3).



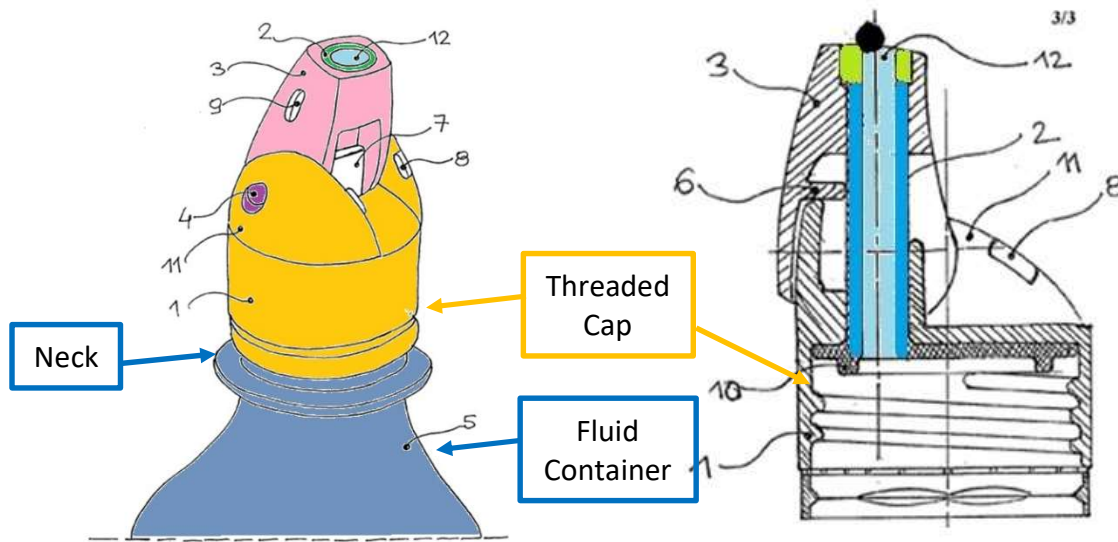
Ex. 1006, Fig. 3. The cap contains an “elastic tube” having an inlet and a dispensing outlet. *Id.* at 2. A person of ordinary skill in the art would have understood the elastic tube to constitute a “fluid conduit.”

117. Ribarits also discloses: “When the drinking spout is pivoted open, the elastic tube inserted therein is straightened and the opening is thus released,” allowing liquid in the bottle to “be withdrawn via the tube guided in the drinking spout” *Id.*

4. **1[b][1]: “a cap assembly base removably coupled to the neck of the fluid container wherein the cap assembly base is configured to be selectively and repeatedly decoupled from and re-coupled to the neck of the fluid container”**

118. Limitation 1[b][1] recites “a cap assembly base removably coupled to the neck of the fluid container wherein the cap assembly base is configured to be selectively and repeatedly decoupled from and re-coupled to the neck of the fluid container.” As I explain below, Ribarits discloses this limitation.

119. The “drinking spout” of Ribarits is “pivoted at the top in a common closing cap provided with a thread.” Ex. 1006, 2. As shown below, the thread is located at the base of the closing cap, which is screwed onto a bottle:



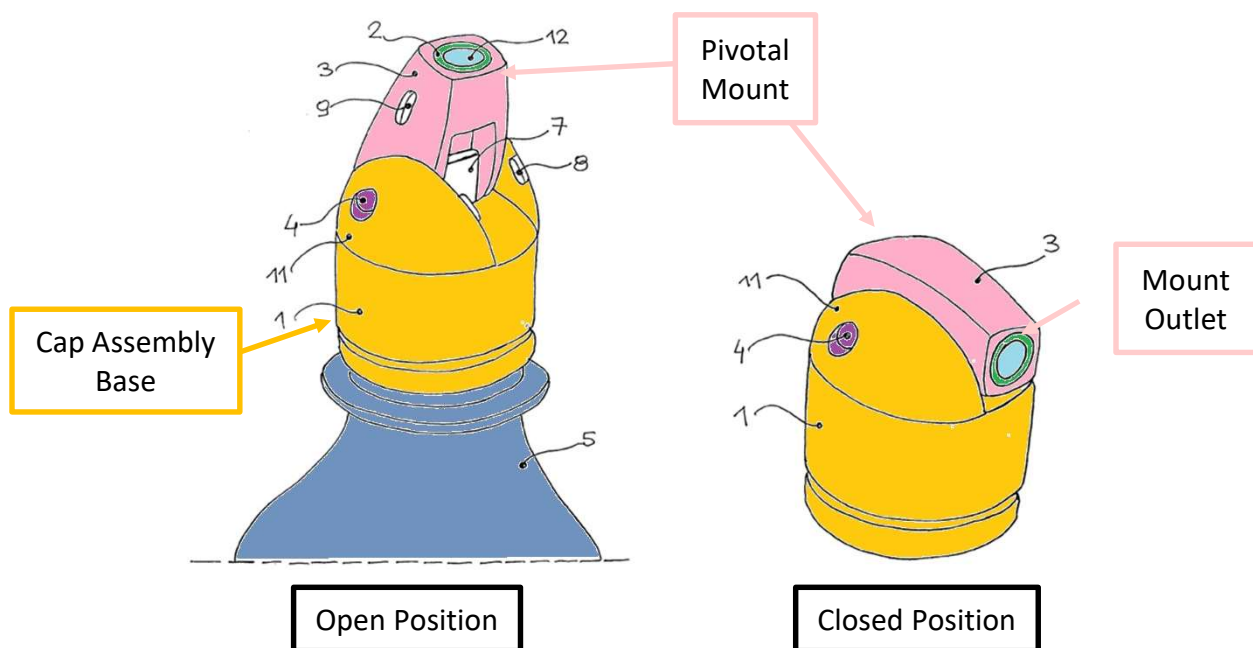
Ex. 1006, Figs. 1, 3. Ribarits further discloses the “closing cap can have various thread shapes and diameters and can also have other closing systems, such as bayonet catches or friction closures.” *Id.* at 3 (Claim 6). Thus, a person of ordinary skill in the art would have understood Ribarits to disclose a cap assembly that was removably coupled, via a threaded connection, to the neck of a fluid container.

5. **1[b][2]: “a pivotal mount coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base, the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a distal end of the pivotal mount”**

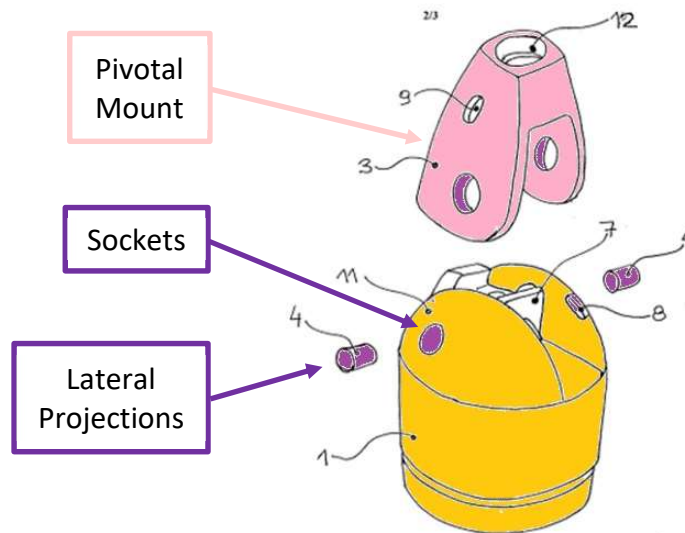
120. Limitation 1[b][2] recites that the cap assembly comprises “a pivotal mount coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base, the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a

distal end of the pivotal mount.” As I explain below, Ribarits discloses this limitation.

121. Figure 1 of Ribarits shows how the “drinking spout” of Ribarits pivots relative to the cap assembly base between an open and closed position. Ribartis’ pivotal mount also includes a “mount outlet,” as shown below:

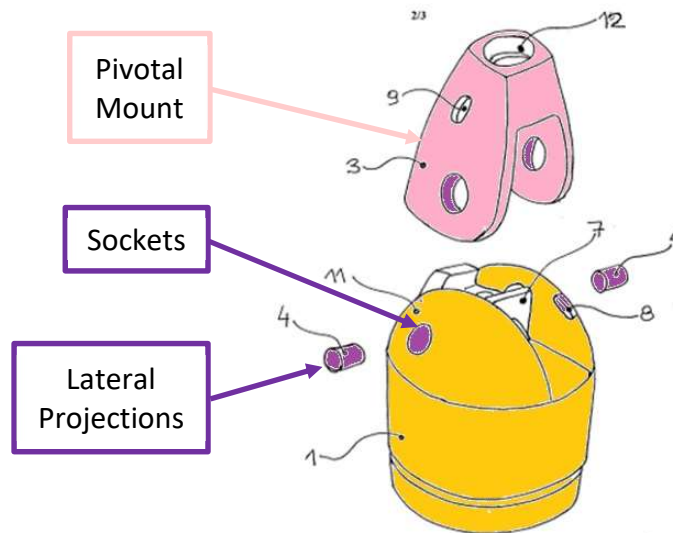


Ex. 1006, Fig. 1. Thus, a person of ordinary skill in the art would have understood the “drinking spout” of Ribarits to constitute a pivotal mount.



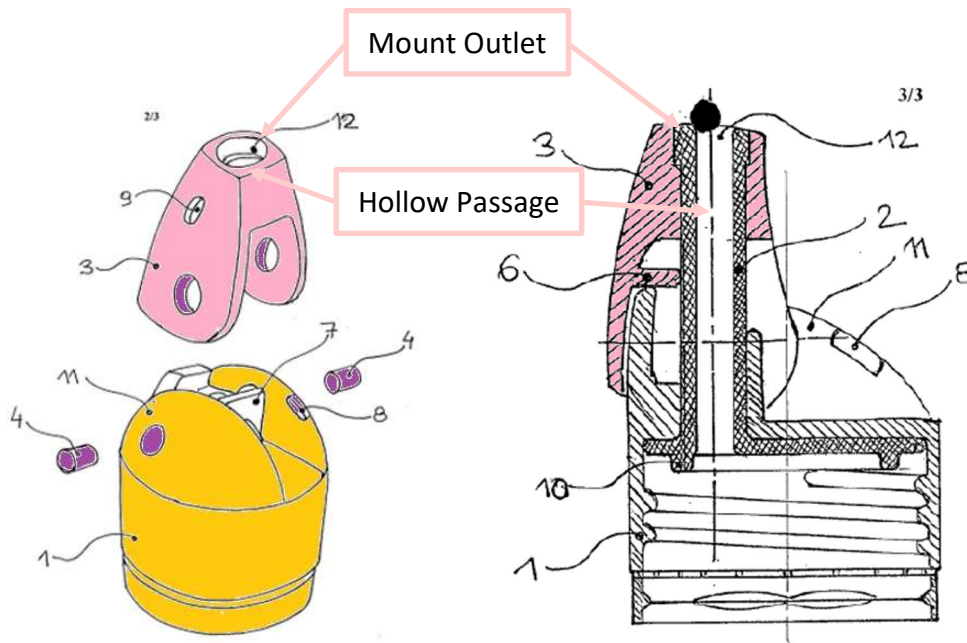
Ex. 1006, Fig. 2.

122. Ribarits also discloses the limitations: “coupled to the cap assembly base at two joints that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base.” For example, Ribarits discloses the pivotal mount (i.e. “drinking spout”) is “fixed in the lateral parts” of the cap assembly “by two axial pins.” Ex. 1006, 3 (Claim 1). Ribarits also discloses: “The drinking spout is movably mounted by means of both axes.” *Id.* at 2. As shown below, the axial pins extend into and through a pair of sockets in the closure cap and engage corresponding sockets on the drinking spout to form a pivoting hinge for the drinking spout.



Ex. 1006, Fig. 2. Thus, a person of ordinary skill in the art would understand Ribarits’ axial pins and sockets as a two joints that define a pivotal axis.

123. Ribarits also discloses the limitation “the pivotal mount defining a hollow passage, the hollow passage having a mount outlet on a distal end of the pivotal mount.” As shown below, Ribarits’ pivotal mount has a hollow passage through which fluid passes and a mount outlet, i.e. an outlet of the pivotal mount, at the distal end.

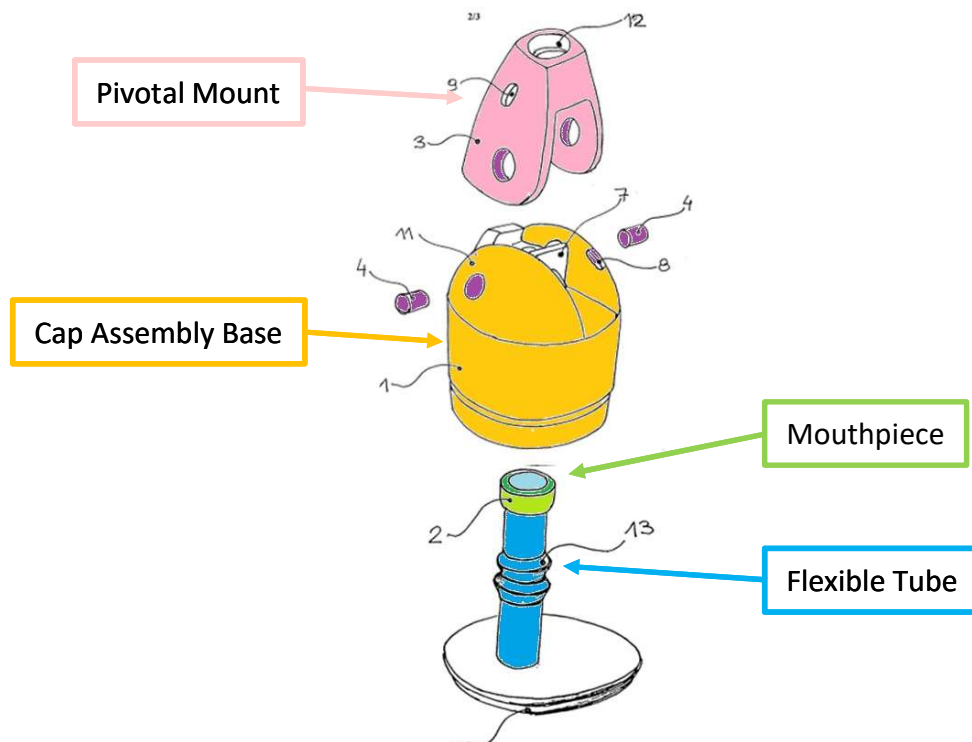


(Ex. 1006 Figs. 2-3).

6. **1[b][3]: “a mouthpiece coupled to the mount outlet of the pivotal mount for pivotal movement with the pivotal mount relative to the cap assembly base”**

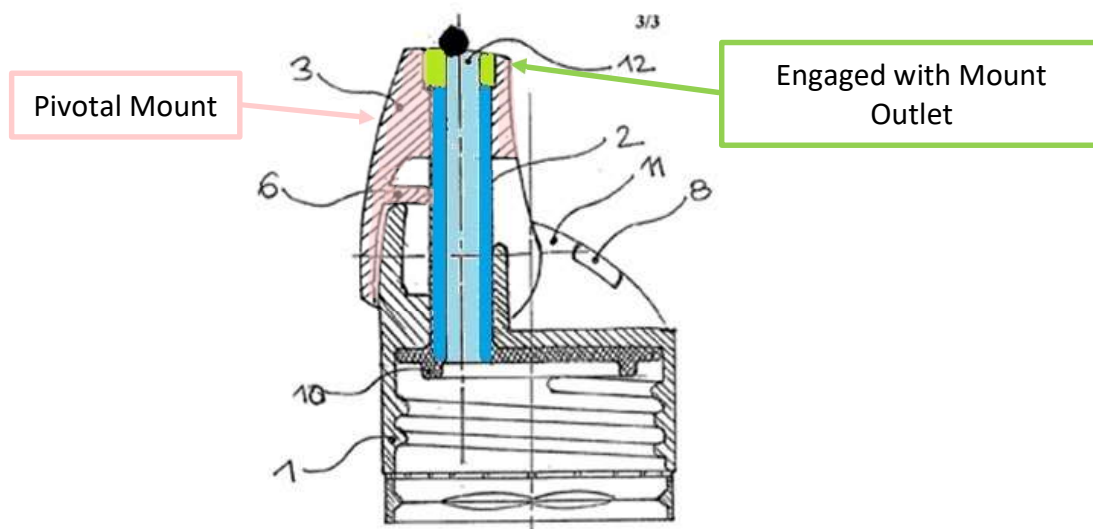
124. Limitation 1[b][3] recites “a mouthpiece coupled to the mount outlet of the pivotal mount for pivotal movement with the pivotal mount relative to the cap assembly base;” As I explain below, Ribarits discloses this limitation.

125. Ribarits discloses “a sealed tubular element of rubber or latex” that “is inserted” through the closing cap and into the pivoting drinking spout. Ex. 1006, 2. Rubber and latex are examples of resilient materials that were well-known to persons of ordinary skill in the art. As shown below, the mouthpiece is engaged to the mount outlet and thereby coupled to the pivotal mount at the dispensing outlet:



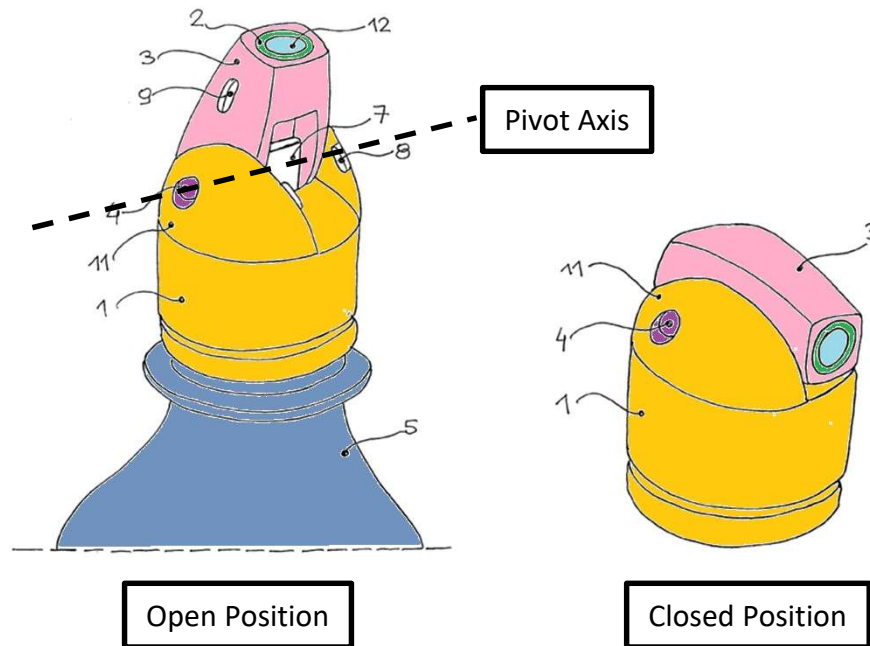
Ex. 1006, at Fig. 2. A person of ordinary skill in the art would have understood rubber and latex to be examples of resilient materials commonly used for the mouthpieces of drinking devices at the time of invention of the '250 patent.

126. As shown below, Ribarits' mouthpiece is inserted through the cap assembly base and engaged with the mount outlet at the dispensing outlet:

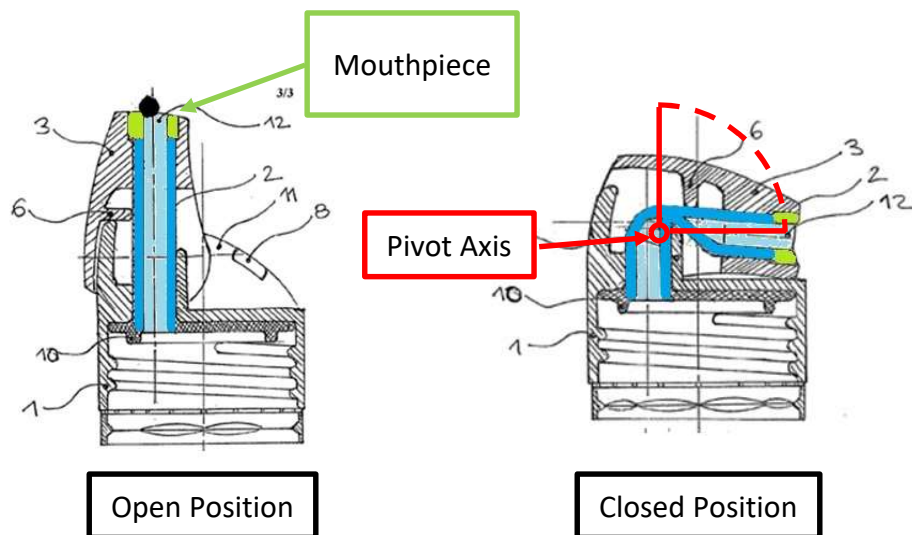


Ex. 1006, at Fig. 3.

127. As shown in the annotated figures below, the sealed tubular element (i.e. mouthpiece) of Ribarits is connected to and pivots with the drinking spout (i.e. pivotal mount) between an open position and a closed position about the axis defined by the axle pins (i.e. lateral projections) and sockets.



Ex. 1006, Fig. 1.



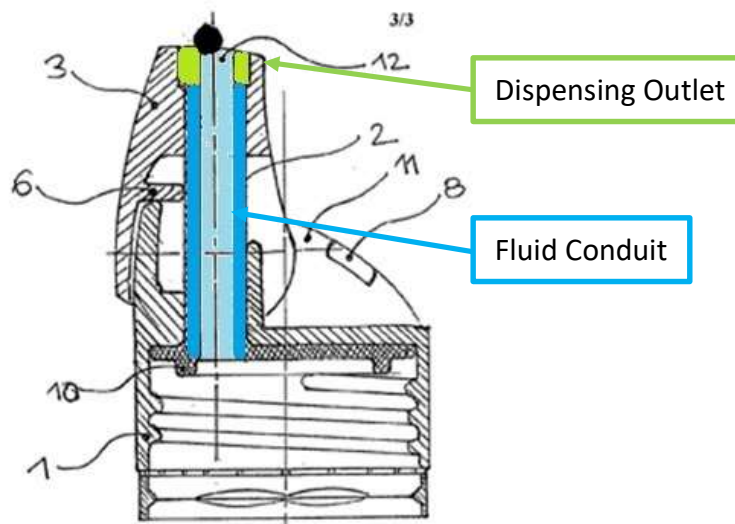
Ex. 1006, Fig. 3. As seen in the above figures, the sealed tubular element (i.e. mouthpiece) has a larger diameter at the end proximate the spout outlet that

corresponds to a wider section of the hollow passage through the spout (i.e. mount outlet). One skilled in the art would have understood that the wider tip of the sealed tubular element couples to the inside of the spout to maintain the tubular element in place as the spout is pivoted opened or closed.

7. **1[b][3][i]: “wherein the mouthpiece defines a portion of the fluid conduit, including the dispensing outlet;”**

128. Limitation 1[b][3][i] recites “wherein the mouthpiece defines a portion of the fluid conduit, including the dispensing outlet.” As I explain below, Ribarits discloses this limitation.

129. As shown in the annotated figure below, the sealed tubular element (i.e. mouthpiece) of Ribarits defines a fluid conduit through the cap assembly and pivotal mount of the drinking spout, having an inlet at the cap assembly base and a dispensing outlet at the opposite end.

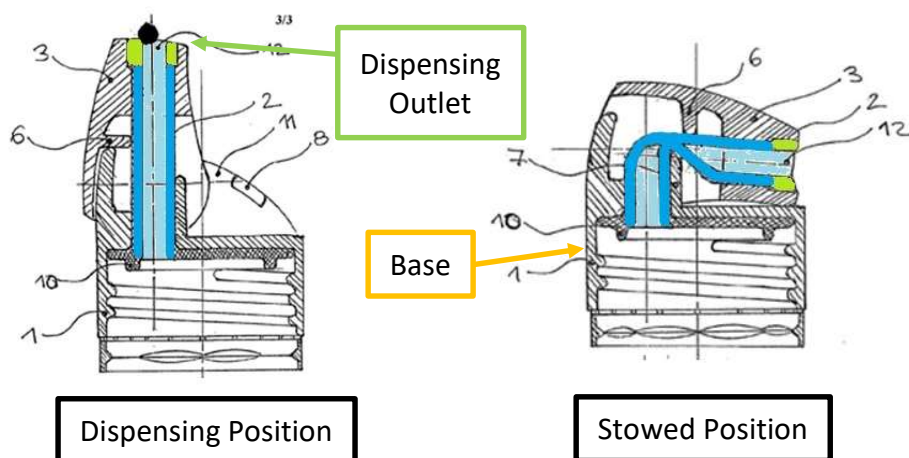


Ex. 1006, Fig. 3.

8. **1[b][3][ii]: “wherein the mouthpiece and the pivotal mount are configured to be selectively pivoted between a stowed position and a dispensing position”**

130. Limitation 1[b][3][ii] recites “wherein the mouthpiece and the pivotal mount are configured to be selectively pivoted between a stowed position and a dispensing position[.]” As I explain below, Ribarits discloses this limitation.

131. Ribarits discloses: “When the drinking spout is pivoted open, the elastic tube inserted therein is straightened and the opening is thus released.” Ex. 1006, 2. In this dispensing position, the “liquid located in the bottle can [] be withdrawn via the tube guided in the drinking spout” *Id.* The stowed position is achieved “[w]hen the drinking spout is pivoted closed,” whereby the “tube is bent between the outlet opening of the closing cap and the accommodation in the drinking spout” *Id.* This is shown in the annotated figures below:

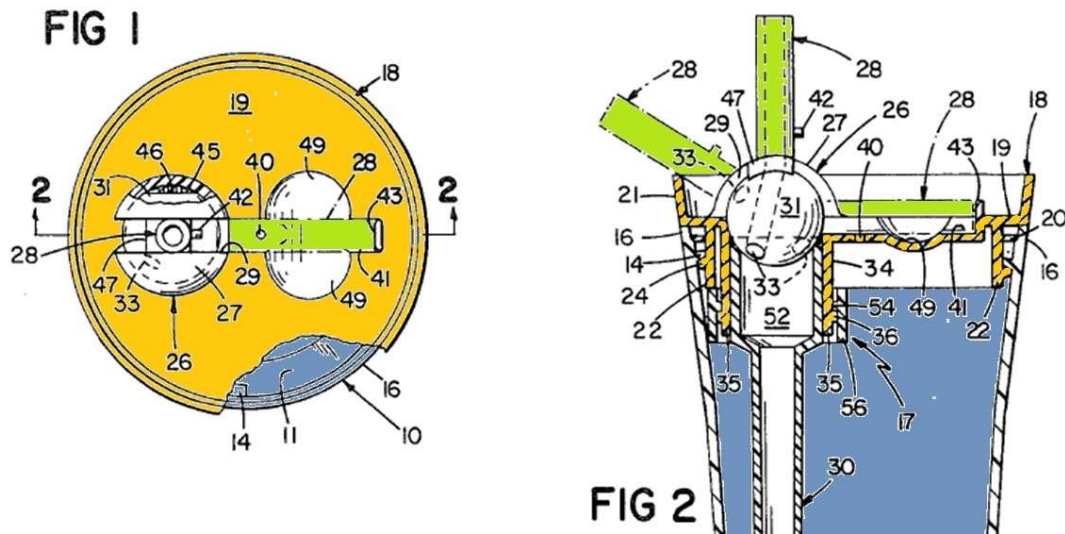


Ex. 1006, Fig. 3.

9. **1[b][3][iii]: “the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position[.]”**

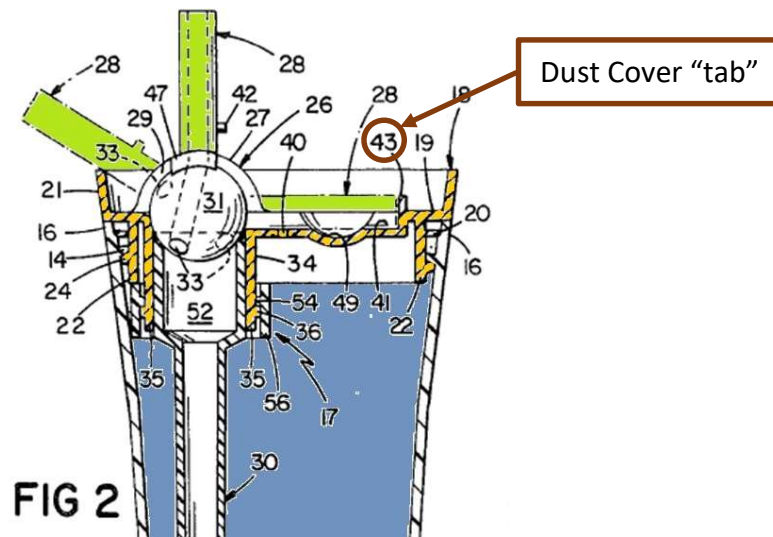
132. Limitation 1[b][3][iii] discloses, “the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position[.]” Ribarits does not disclose “ the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position.” However, Panicci does disclose “the mouthpiece is at least partially covered by a dust cover when the mouthpiece and pivotal mount are in the stowed position.” As I explain below, it would have been obvious to a to modify Ribarits to include such a dust cover as disclosed in Panicci.

133. Panicci discloses the use of a dust cover extending between lateral guards and positioned to protect the dispensing outlet of a mouthpiece. For example, as shown in Figures 1 and 2 below, Panicci discloses: “upper straw 28 extends through slot 29 and pivots in a vertical plane.” Ex. 1007, 3:23-24.



Ex. 1007, Figs. 1, 2. The upper straw pivots into “a storage recess 41 in the plane of slot 29, sized to accommodate the upper tubular portion of straw member 28.” Ex. 1007, 3:35-37. “Tab 43 at the end of recess 41 is positioned to cover the upper end of straw segment 26 to avoid contamination of the straw.” Ex. 1007, 3:45-47.

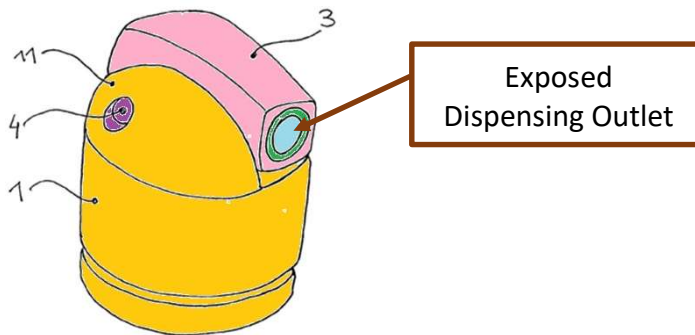
134. A person of ordinary skill in the art would have understood the “tab 43” to constitute a dust cover extending between the walls of the recess and positioned across the outlet of the mouthpiece (i.e. “upper straw 28”) when in the stowed position.



Ex. 1007, Fig. 2. A person of ordinary skill in the art would have been motivated to modify Ribarits to add a dust cover similar to Panicci's 'tab,' to prevent unwanted contamination and/or fluid leakage for several reasons.

135. First, at the time of the invention of the '250 Patent, the use of dust covers, both alone or in combination with lateral guards, such as in the Panicci device, was a well-known technique in the design of drink container closures with dispensing straws or mouthpieces.

136. Such a dust cover would be particularly suited to Ribarits because, as shown below, Ribarits' dispensing outlet is exposed when in the stowed position:



Ex. 1006, Fig. 1.

137. A person of ordinary skill in the art would have been motivated to add a dust cover to protect Ribarits' dispensing outlet to improve hygiene and reduce the risk of accidental leakage from the spout. Likewise, a person of ordinary skill in the art would have understood that the addition of a simple dust cover to the cap assembly base, in the form of a 'tab' structure similar to that of the Panicci device, would effectively cover the exposed end of the Ribarits spout to improve hygiene and prevent unwanted contamination and/or fluid leakage. This could be accomplished by, for example, constructing the length of the spout relative to the base to leave room for a vertical extension of the base between the lateral guards, positioned to cover the outlet.

138. Panicci itself provides a motivation for making the proposed substitution. According to Panicci, one of the objects of its invention is "to provide a means for storing the external straw segment in a compact configuration that *minimizes the opportunity for contamination of the straw or for spilling the*

contents of the cup particularly during transport of the cup from one location to another. Ex. 1007, 1:29-35 (emphasis added).

139. A person of ordinary skill in the art would have understood that such a modification was nothing more than the application of a known technique (i.e. the use of dust covers to improve hygiene and prevent accidental leakage) to improve a known device (i.e. the Ribarits cap assembly) to yield predictable results (i.e. protection of a dispensing outlet from unwanted contamination or leakage).

140. Likewise, a person of ordinary skill would have understood the simple modification described above would constitute nothing more than the addition of a known prior art element (i.e. a dust cover) according to its established function (i.e. to cover an exposed surface) to obtain a predictable result (i.e. the protection of a dispensing outlet from unwanted contamination or leakage).

141. In view of the numerous prior art examples known at the time of the invention, a person of ordinary skill in the art would have had a reasonable expectation of success in implementing a dust cover to improve the Ribarits design. In addition, adding a dust cover to protect the exposed end of Ribarits dispensing outlet in the stowed configuration would not have required any rearrangement or modification of any of the other components of the Ribarits cap assembly.

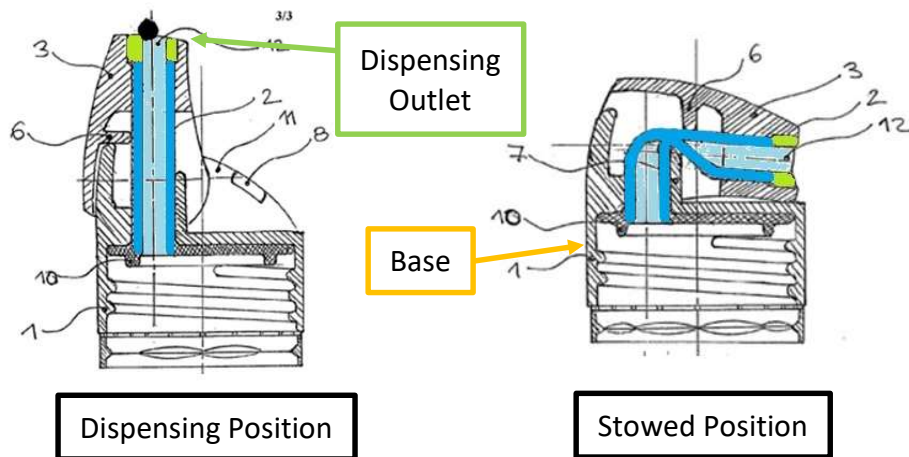
142. Accordingly, it is my opinion that claim 3 is obvious over Ribarits, in

view of Panicci.

10. 1[b][3][iv]: “wherein the dispensing outlet is positioned further away from the cap assembly base when the mouthpiece and the pivotal mount are in the dispensing position than when the mouthpiece and the pivotal mount are in the stowed position”

143. Limitation 1[b][3][iv] discloses “wherein the dispensing outlet is positioned further away from the cap assembly base when the mouthpiece and the pivotal mount are in the dispensing position than when the mouthpiece and the pivotal mount are in the stowed position.” Ribarits discloses this limitation.

144. As discussed above, the mouthpiece and pivotal mount of Ribarits may pivot between a dispensing configuration and a stowed configuration:

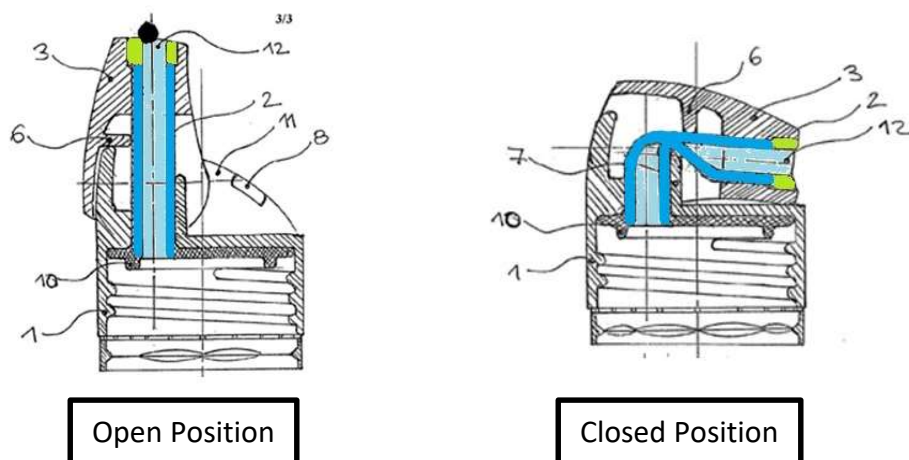


Ex. 1006, Fig. 3. As shown above, in the dispensing position, the dispensing outlet is positioned further away from the cap assembly base than in the stowed position.

11. **1[b][4]: “a manual on/off valve having a closed configuration, in which the manual on/off valve obstructs the fluid conduit to restrict drink fluid from flowing between the inlet and the dispensing outlet, and an open configuration, in which the manual on/off valve permits drink fluid to flow through the fluid conduit from the inlet to the dispensing outlet”**

145. Limitation 1[b][4] recites “an on/off valve having a closed configuration, in which the on/off valve obstructs the fluid conduit to restrict drink fluid from flowing between the inlet and the dispensing outlet, and an open configuration, in which the on/off valve permits drink fluid to flow through the fluid conduit from the inlet to the dispensing outlet;” As I explain below, Ribarits discloses this limitation.

146. The sealed tubular element of Ribarits includes an on/off valve that obstructs fluid flow in a closed configuration, and permits fluid flow in an open configuration, as shown below:



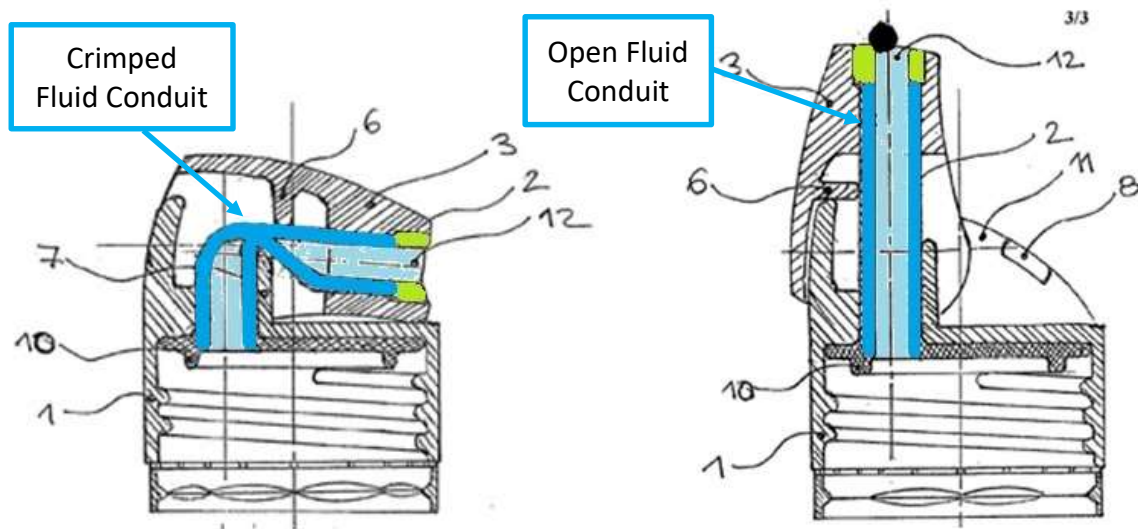
Ex. 1006, Fig. 3.

147. In the closed configuration (above, left), the sealed tubular element is crimped, thereby obstructed fluid flow through the fluid conduit. In the open configuration (above, right) the tubular element is uncrimped, thereby permitting fluid to flow through the fluid conduit of the sealed tubular element from the inlet at the cap assembly base to the dispensing outlet at the opposite end.

12. **1[b][4][i]-[iii]: “wherein the on/off valve includes a flexible tube that defines a portion of the fluid conduit; wherein when the on/off valve is in the closed configuration, the tube is crimped to obstruct the flow of drink fluid through the fluid conduit; and wherein when the on/off valve is in the open configuration, the tube is not crimped and does not obstruct the flow of drink fluid through the fluid conduit.”**

148. Limitations 1[b][4][i]-[iii] recite “wherein the on/off valve includes a flexible tube that defines a portion of the fluid conduit; wherein when the on/off valve is in the closed configuration, the tube is crimped to obstruct the flow of drink fluid through the fluid conduit; and wherein when the on/off valve is in the open configuration, the tube is not crimped and does not obstruct the flow of drink fluid through the fluid conduit.” As I explain below, Ribarits discloses these limitations.

149. The on/off valve is comprised of a flexible tube, i.e. the central tube portion of the sealed tubular element, which defines the fluid conduit from the inlet to the dispensing outlet, as shown below.



Ex. 1006, Fig. 3.

150. The “tube section” of the sealed tubular element “has a bellow-shaped formation” located at the manual on/off valve which crimps in the closed configuration, thereby obstructing fluid flow through the fluid conduit. *Id.* at 3 (Claim 3); *see also id.* at 2 (“by folding down the drinking spout, the tube is bent between the outlet opening of the closing cap and the accommodation in the drinking spout by means of two webs, and the device is closed”).

151. Ribarits also discloses: “When the drinking spout is pivoted open, the elastic tube inserted therein is straightened and the opening is thus released,” as shown below. In this open configuration, the “liquid located in the bottle can now be withdrawn via the tube guided in the drinking spout” *Id.* at 2.

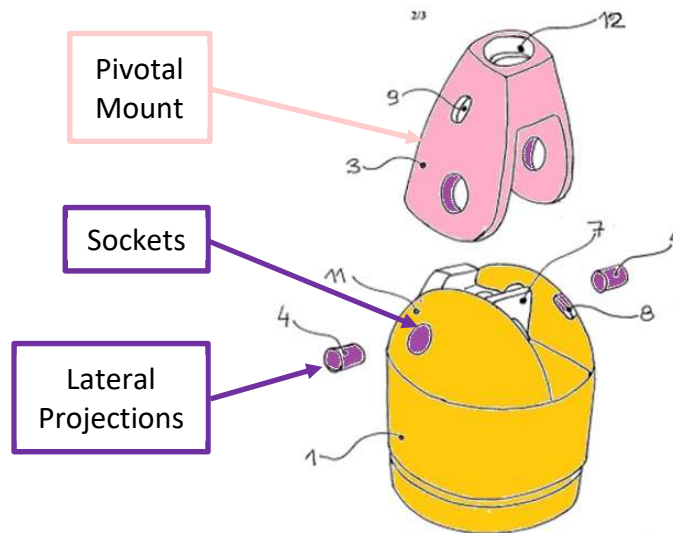
152. Accordingly, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

B. Claim 2 is Obvious over Ribarits in view of Panicci

153. Claim 2 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

154. Claim 2 further recites: “wherein the two joints comprise a pair of lateral projections extending from the pivotal mount that extend into a pair of sockets in the cap assembly base.” Ribarits discloses this additional limitation.

155. Ribarits discloses the pivotal mount (i.e. “drinking spout”) is “fixed in the lateral parts” of the cap assembly “by two axial pins.” Ex. 1006, 3 (Claim 1). Ribarits also discloses: “The drinking spout is movably mounted by means of both axles.” *Id.* at 2. Thus, a person of ordinary skill in the art would have understood the pair of axial pins to constitute a pair of lateral projections on the pivotal mount (i.e. “drinking spout”). As shown below, the axial pins extend into and through a pair of sockets in the closure cap and engage corresponding sockets on the drinking spout to form a pivoting hinge for the drinking spout.



Ex. 1006, Fig. 2.

156. To the extent a person of ordinary skill in the art would not have understood Ribarits’ disclosure of axle pins to constitute a “pair of lateral projections,” it would have been obvious to include this feature in view of the knowledge of a person of ordinary skill in the art.

157. The concept of using lateral projections and corresponding sockets to connect two items so that they can pivot relative to one another was well-known at the time of invention, including in the relevant art. The prior art includes numerous examples of these types of pivoting, hinged connections in the context of reusable beverage containers like Ribarits. One such reference is Nakajima, which I discuss in detail in Grounds 1 and 2 above, and which include at least two pivoting hinge joints comprised of lateral projections rotatably fitted into corresponding sockets.

158. In view of this and similar prior art devices, a person of ordinary skill in the art would have readily understood that the axle pins of Ribarits could be substituted for lateral projections emanating directly from the drinking spout to form the pivotal mount.

159. In addition, a person of ordinary skill in the art also would have been motivated to substitute Ribarits' axle pins for lateral projections emanating from the pivotal mount. That is because lateral projections would be integrated into the pivotal mount, and thus could be molded from a single piece of plastic. This would have been consistent with well-known methods at the time. In addition, use of a single molded piece would have been known to save manufacturing and assembly costs, as separate components would not be needed, resulting in fewer required molds. Moreover, substituting lateral projections would have also eliminated the process of inserting Ribartis' axle pins into the mating parts of the cap assembly base and pivotal mount, thereby simplifying product manufacture and assembly.

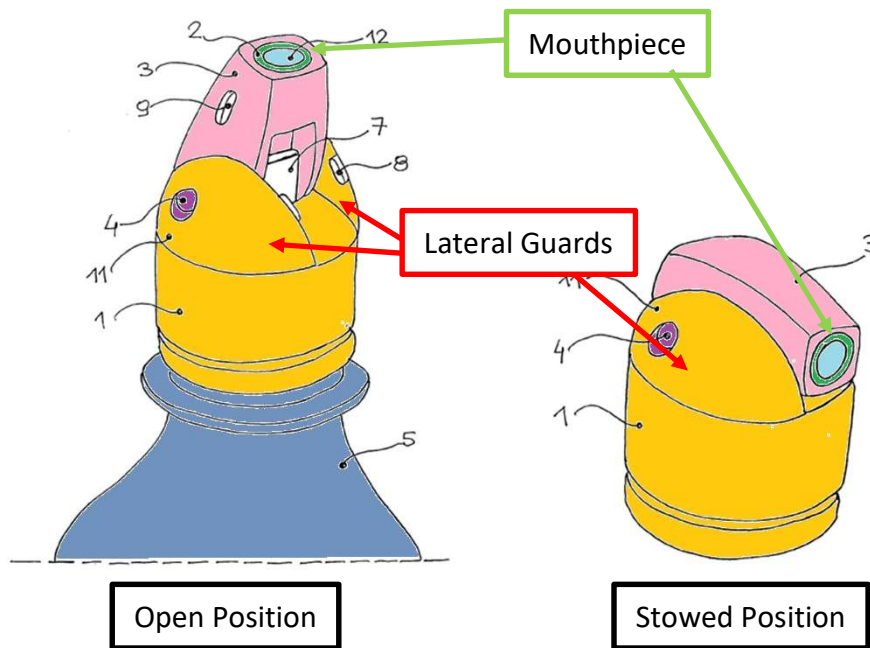
160. Accordingly, it is my opinion that claim 2 is obvious over Ribarits in view of Panicci and the knowledge of a person ordinarily skilled in the art.

C. Claim 4 is Obvious over Ribarits in view of Panicci

161. Claim 4 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

162. Claim 4 further recites: “wherein the cap assembly includes a pair of lateral guards that extend on opposed sides of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position and wherein the dust cover extends between the pair of lateral guards and is positioned to protect the dispensing outlet of the mouthpiece by extending across at least a portion of the dispensing outlet of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position.” As explained below, Ribarits discloses the limitation: “wherein the cap assembly includes a pair of lateral guards that extend on opposed sides of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position.”

163. Ribarits’ cap assembly includes a pair of lateral guards on opposed sides of the mouthpiece, as shown below:



Ex. 1006, Fig. 1. When the pivotal mount is in the stowed position the pair of lateral guards on opposite sides of the pivotal mount.

164. Ribarits' cap assembly does not disclose "the dust cover extends between the pair of lateral guards and is positioned to protect the dispensing outlet of the mouthpiece by extending across at least a portion of the dispensing outlet of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position." However, as discussed above in paragraphs 132–141, it would have been obvious to one of ordinary skill in the art to modify Ribarits to include the dust cover of Panicci.

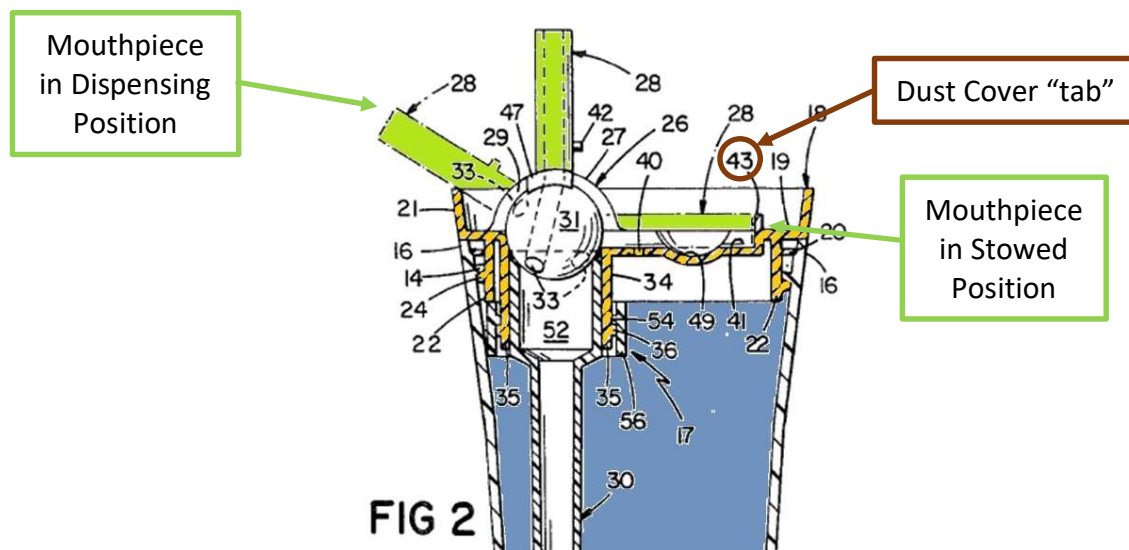
165. Accordingly, it is my opinion that claim 4 is obvious over Ribarits in view of Panicci and the knowledge of one skilled in the art.

D. Claim 5 is Obvious over Ribarits in view of Panicci

166. Claim 5 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

167. Claim 5 further recites: “wherein when the mouthpiece is pivoted from the stowed position to the dispensing position, the mouthpiece pivots away from the dust cover.” As explained below, Panicci discloses the additional limitation

168. As shown in Figure 2 of Panicci below, the mouthpiece (i.e. “upper straw 28”) pivots away from the dust cover (i.e. “tab 43”) when the straw moves from the stowed position to the dispensing position.



Ex. 1007, Fig. 2.

169. As discussed above, the mouthpiece of Ribarits pivots away from the cap assembly when moving from the stowed position to the dispensing position. Thus, when the dust cover of Panicci (i.e. “tab 43”) is combined with the cap assembly of Ribarits, as discussed in connection with claim 3 above, a person of ordinary skill in the art would have understood the mouthpiece of Ribarits to pivot away from the dust cover when moving from the stowed position to the dispensing position.

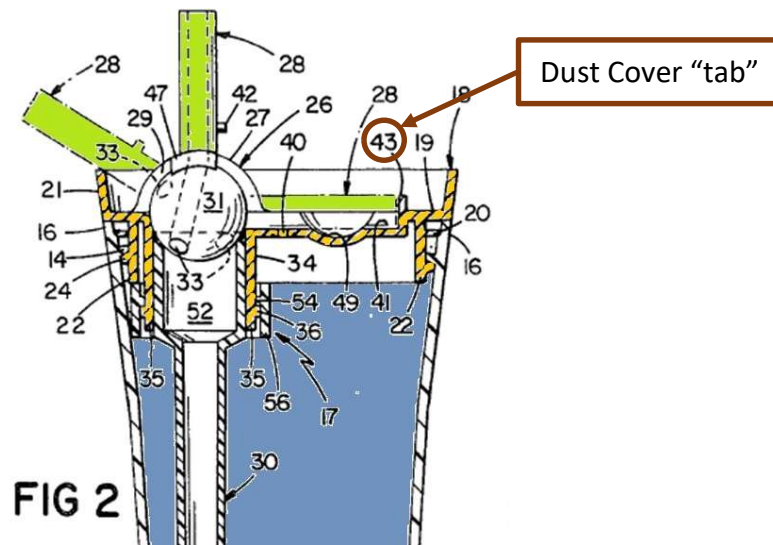
170. Accordingly, it is my opinion that claim 5 is obvious over Ribarits in view of Panicci and the knowledge of a person ordinarily skilled in the art.

E. Claim 6 is Obvious over Ribarits in view of Panicci

171. Claim 6 depends from claim 1, and thus incorporates the limitations of claim 1. As explained above, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

172. Claim 6 further recites: “wherein the dust cover projects above an upper surface of the cap assembly base.” As explained below, Panicci discloses the additional limitation

173. As shown in Figure 2 of Panicci below, the dust cover (i.e. “tab 43”) projects above an upper surface of the base of the cap assembly:



Ex. 1007, Fig. 2.

174. As Panicci confirms, the “tab 43” is at “the end of recess 41” and “positioned to cover the upper end of straw segment” when the straw is stowed within the recess. A person of ordinary skill in the art would understand that the only way in which “tab 43” could cover the exposed end of the straw is if the “tab 43” extended above the lower surface of the recess. Likewise, a person of ordinary skill in the art would have understood the lower surface of “recess 41” to constitute an upper surface of the base of the Panicci cap assembly.

175. For the same reasons as those discussed above in connection with claim 1, a person of ordinary skill in the art would have been motivated to combine the dust cover of Panicci with the drinking spout of Ribarits to achieve the design

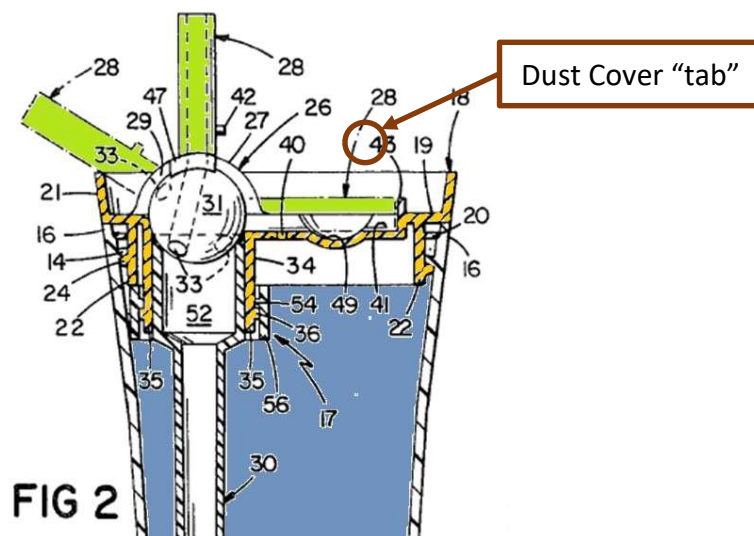
claimed in the '250 patent. Accordingly, it is my opinion that claim 6 is obvious over Ribarits, in view of Panicci.

F. Claim 7 is Obvious over Ribarits in view of Panicci

176. Claim 7 is an independent claim that contains all the limitations of claim 1. As explained above, it is my opinion that claim 1 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

177. Claim 7 contains the additional limitation “wherein the dust cover remains stationary when the mouthpiece and the pivotal mount are selectively pivoted between the stowed position and the dispensing position[.]” Panicci discloses this additional limitation.

178. Panicci discloses a “tab 43” that serves as a dust cover to protect the exposed end of a drinking straw when pivoted to a stowed position:



(Ex. 1007, Figs. 2). Panicci’s “tab” remains stationary at the position identified above, regardless of the position of the mouthpiece.

179. For the same reasons discussed above in claim 1, it is my opinion that a person of ordinary skill in the art would have been motivated to modify Ribarits to add a dust cover similar to Panicci’s “tab.” Thus, it is my opinion that claim 7 is obvious of Ribarits, in view of Panicci.

G. Claim 8 is Obvious over Ribarits in view of Panicci.

180. Claim 8 depends from claim 7, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 7 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

181. Claim 8 further recites the same additional limitation of claim 2: “wherein the two joints comprise a pair of lateral projections extending from the pivotal mount that extend into a pair of sockets in the cap assembly base.” As explained above, Panicci discloses this limitation

182. Accordingly, it is my opinion that claim 8 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

H. Claim 10 is Obvious over Ribarits in view of Panicci.

183. Claim 10 depends from claim 7, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 7 is obvious over Ribarits

in view of Panicci and the knowledge of a person of ordinary skill in the art.

Claim 10 further recites the same additional limitation of claim 4, “wherein the cap assembly includes a pair of lateral guards that extend on opposed sides of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position and wherein the dust cover extends between the pair of lateral guards and is positioned to protect the dispensing outlet of the mouthpiece by extending across at least a portion of the dispensing outlet of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position.” As explained above, Ribarits discloses this limitation.

184. Accordingly, it is my opinion that claim 10 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

I. Claim 11 is Obvious over Ribarits in view of Panicci.

185. Claim 11 depends from claim 7, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 7 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

186. Claim 11 further recites the same additional limitation of claim 5: “wherein when the mouthpiece is pivoted from the stowed position to the dispensing position, the mouthpiece pivots away from the dust cover.” As explained above, Ribarits discloses this limitation.

187. Accordingly, it is my opinion that claim 11 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

J. Claim 12 is Obvious over Ribarits in view of Panicci

188. Claim 12 depends from claim 7, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 7 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

189. Claim 12 further recites the same additional limitation of claim 6: “wherein the dust cover projects above an upper surface of the cap assembly base.” As explained above, Panicci discloses this limitation.

190. Accordingly, it is my opinion that claim 12 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

K. Claim 13 is Obvious over Ribarits in view of Panicci

191. Claim 13 is an independent claim that is nearly identical to claim 7. However, where claim 7 claims a “dust cover,” claim 13 claims a “dispensing guard.” As explained above, it is my opinion that claim 7 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art. As discussed below, Panicci discloses the “dispensing guard” of claim 13. Thus for the same reasons discussed in connection with claim 7 above, claim 13 would have been obvious over Ribarits in view of Panicci.

192. The specification of the '250 patent discloses the dispensing guard is adapted to “protect the dispensing face of the bite-actuated mouthpiece when the mouthpiece is in its stowed configuration.” (Ex. 1001, 17:4–6).

193. Panicci discloses a “tab 43” that serves as a dispensing guard to protect the exposed end of a drinking straw when pivoted to a stowed position. (Ex. 1007, 3:45–47). For the same reasons discussed above in claim 1, a person having ordinary skill in the art would have been motivated to modify Ribarits to add a dispensing guard similar to Panicci’s “tab.” Thus, claim 13 is obvious over Ribarits, in view of Panicci.

L. Claim 14 is Obvious over Ribarits in view of Panicci.

194. Claim 14 depends from claim 13, and thus incorporates the limitations of claim 13. As explained above, it is my opinion that claim 13 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

195. Claim 14 further recites the same additional limitation of claim 2: “two joints comprise a pair of lateral projections extending from the pivotal mount that extend into a pair of sockets in the cap assembly base.” As explained above, Panicci discloses this limitation

196. Accordingly, it is my opinion that claim 14 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

M. Claim 16 is Obvious over Ribarits in view of Panicci.

197. Claim 16 depends from claim 13, and thus incorporates the limitations of claim 13. As explained above, it is my opinion that claim 13 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

198. Claim 16 further recites the same additional limitation of claim 4, “wherein the cap assembly includes a pair of lateral guards that extend on opposed sides of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position and wherein the dust cover extends between the pair of lateral guards and is positioned to protect the dispensing outlet of the mouthpiece by extending across at least a portion of the dispensing outlet of the mouthpiece when the mouthpiece and the pivotal mount are in the stowed position.” As explained above, Ribarits discloses this limitation.

199. Accordingly, it is my opinion that claim 16 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

N. Claim 17 is Obvious over Ribarits in view of Panicci.

200. Claim 17 depends from claim 13, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 13 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

201. Claim 17 further recites the same additional limitation of claim 5: “wherein when the mouthpiece is pivoted from the stowed position to the dispensing position, the mouthpiece pivots away from the dust cover.” As explained above, Ribarits discloses this limitation.

202. Accordingly, it is my opinion that claim 17 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

O. Claim 18 is Obvious over Ribarits in view of Panicci

203. Claim 18 depends from claim 13, and thus incorporates the limitations of claim 7. As explained above, it is my opinion that claim 13 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

204. Claim 12 further recites the same additional limitation of claim 6: “wherein the dust cover projects above an upper surface of the cap assembly base.” As explained above, Panicci discloses this limitation.

205. Accordingly, it is my opinion that claim 12 is obvious over Ribarits in view of Panicci and the knowledge of a person skilled in the art.

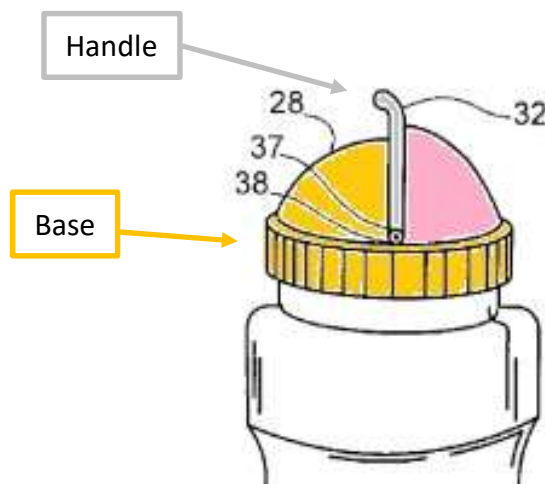
**VI. GROUND 3: CLAIMS 3, 9 AND 15 WOULD HAVE BEEN OBVIOUS
OVER RIBARITS IN VIEW PANICCI AND/OR THE KNOWLEDGE
OF A PERSON ORDINARILY SKILLED IN THE ART AND
IN FURTHER VIEW OF HUGHES**

A. Claim 3 is Obvious over Ribarits in view of Hughes

206. Claim 3 depends from claim 2, and thus incorporates the limitations of claim 1. As explained above in Ground 2, it is my opinion that claim 2 is obvious over Ribarits in view of Panicci and the knowledge of a person of ordinary skill in the art.

207. Claim 3 further recites: “wherein the cap assembly base further comprises a handle that extends from the cap assembly base, and further wherein the handle is secured to the cap assembly base in a position that obstructs removal of the pair of lateral projections from the pair of sockets.” As I explain below, these additional limitations would have been obvious over Ribarits, in view of Hughes.

208. Hughes discloses a handle that extends from the cap assembly base:



Ex. 1008, Fig. 17. The handle in Hughes is secured to the cap assembly via a pair of axle pins that engage the cap assembly and allow for pivotal movement of the handle and cover. Ex. 1008, 4:63-5:4.

209. It would have been obvious to a person of ordinary skill in the art to add the handle of Hughes to the cap assembly of Ribarits to achieve the claimed invention for several reasons. First, the use of carrying handles for fluid containers was commonplace at the time of the invention. Basic reusable water bottles, such as in Hughes, routinely included handles to facilitate carrying. Accordingly, a person of ordinary skill in the art would have recognized the desirability of adding a handle to the Ribarits cap assembly. Doing so would have constituted nothing more than a routine design choice for a person of skill in the art.

210. In addition, a person of ordinary skill would have been motivated to add Hughes' handle to the Ribarits cap assembly for at least two reasons. First, as noted above, handles were well-known to facilitate carrying of a water bottle. Second, it was equally well-known to a person of ordinary skill that for liquid containers intended to hold cold beverages, the use of a handle would minimize the transfer of heat from the user's hand, and thereby ensure the contents of the container remained colder for longer.

211. In adding the Hughes handle to the Ribarits cap assembly, a person ordinary skill in the art would have been motivated to secure the handle via the existing sockets in Ribarits' cap assembly base because doing so would not require any modification to the Ribarits design. In this configuration, as in Hughes, the handle could optionally be rotated into a carrying and a retracted position. Because such a configuration would cover the sockets in the Ribarits cap assembly base, it would have the added benefit of obstructing removal of the pivotal mount from the cap assembly base at the point of connection between the lateral projections and sockets. Likewise, a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Ribarits to include Hughes' handle because, as noted above, it could be accomplished in the same manner as in the Hughes device (i.e. by attaching the handle via sockets in the cap assembly base) and doing so would not require any change the design of the Ribarits cap assembly base.

212. Accordingly, claim 3 would have been obvious over Ribarits, in view of Hughes.

B. Claim 9 is Obvious over Ribarits in view of Panicci, in further view of Hughes

213. Claim 9 depends from claim 7, and thus incorporates the limitations of claim 3. As explained above, it is my opinion that claim 7 is obvious over Ribarits in view of Panicci.

214. Claim 9 further recites the same additional limitation of claim 3: “wherein the cap assembly base further comprises a handle that extends from the cap assembly base, further wherein the handle is secured to the cap assembly base in a position that obstructs removal of the pair of lateral projections from the pair of sockets.” As explained above, Hughes discloses this additional limitation.

215. Additionally, as discussed in connection with claim 3 above, it is my opinion that it would have been obvious to add Hughes’ handle to the modified Ribarits cap assembly. Accordingly, it is my opinion that claim 9 would have been obvious over Ribarits, in view of Panicci, in further view of Hughes.

C. Claim 15 is Obvious over Ribarits in view of Hughes

216. Claim 15 depends from claim 13, and thus incorporates the limitations of claim 3. As explained above, it is my opinion that claim 13 is obvious over Ribarits in view of Panicci.

217. Claim 13 further recites the same additional limitation of claim :
“wherein the cap assembly further includes a handle that extends from the cap assembly base and includes the pair of lateral guards and the dust cover.” As explained above, Hughes discloses this additional limitation.

218. Additionally, as discussed in connection with claim 3 above, it is my opinion that it would have been obvious to add Hughes’ handle to the modified Ribarits cap assembly. Accordingly, it is my opinion that claim 15 would have been obvious over Ribarits, in view of Panicci, in further view of Hughes.

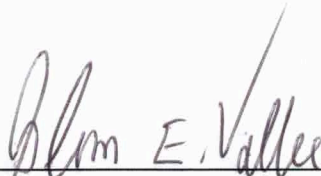
VII. CONCLUSION

219. For the above reasons, it is my opinion that claims 1-7, and 9-23 of the ’250 patent would have been obvious over the prior art.

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

Dated: November 3, 2024

By:



Glenn Vallee, Ph.D., P.E.