Filed: November 7, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TROVE BRANDS, LLC
Petitioner
v.

CAMELBAK PRODUCTS, LLC
Patent Owner

IPR2025-00155
Patent 11,684,187

DECLARATION OF GLENN E. VALLEE, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 11,684,187

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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. 11,684,187 ("the '187 patent"). I understand that this declaration will be submitted as Exhibit 1003 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. 11,684,187 ("the '187 patent")
1002	Order on Stipulation and Joint Motion to Amend the Case Schedule in *Trove Brands, LLC v. CamelBak Products, LLC, et al.*, No. 5:23-cv-04267-PCP (N.D. Cal. June 18, 2024)
1003	Declaration of Glenn E. Vallee, Ph.D.
1004	United States Patent No. 6,279,773 to Kiyota ("Kiyota")
1005	United States Patent Application Publication No. 2007/0039959 to Choi, et al. ("Choi")

Exhibit No.	Description
1006	Certified English Translation of Korean Patent Publication No. KR 200282506 Y1 ("Park")
1007	Translation Certificate for Korean Patent Publication No. KR 200282506 Y1 to Park
1008	Korean Patent Publication No. KR 200282506 Y1 to Park
1009	Certified English Translation of International Publication No. WO 2004/063042 to Ribarits ("Ribarits")
1010	Translation Certificate for International Publication No. WO 2004/063042 to Ribarits
1011	International Publication No. WO 2004/063042 to Ribarits

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 '187 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 '187 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.

14. I understand that where a claim element is described in terms of the function it performs rather than the structure of the element, it is considered a "means-plus-function" element under the patent law. I understand that such claim elements often, but not always, take the form of reciting a "means for" performing a function. I understand that, even if the term "means" is not used in connection with the recited function, the element may nonetheless be a means-plus-function element

under the patent law where the element would not be understood by a person skilled in the art as describing a sufficiently definite structure or the element recites function without reciting sufficient structure for performing the function. I understand this often occurs when the claim element uses, in place of "means," a generic nonce word that does not connote a specific structure. "Mechanism" is an example of such a nonce word.

15. I also understand that in cases where a claim term is evaluated as a means-plus-function element, it is construed in a two-step process: First, one identifies the function. Second, one identifies the structure described in the patent specification that is clearly linked to the function recited in the claim.

16. A claim element construed as a means-plus-function element encompasses the corresponding structure described in the specification and equivalents thereof. A structure in the prior art is considered equivalent if a person of ordinary skilled in the art would consider the difference between the prior art structure and the corresponding structure described in the patent specification to be insubstantial. One way of showing that the prior art structure is only insubstantially different is to show that it performs the claimed function in substantially same way to achieve substantially the same result as the structure of the specification.

2. Anticipation

17. 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.

18. 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.

19. 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

20. 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.

21. 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.

22. 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.

23. 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.

24. 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.

25. I understand anticipation, described above, is considered the ultimate or epitome of obviousness. Thus, when a reference discloses each limitation of a claim, the claim is necessarily obvious.

C. Person Having Ordinary Skill in the Art

26. I understand that when interpreting the claims of the ’187 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 ’187 patent. I have been asked to assume that the priority date for claims 1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, and 19 is January 21, 2009.

27. 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.

28. 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.

29. The ’187 patent describes the use of well-known technologies for designing reusable, portable drink containers. Based on my review of the ’187 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.

30. 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.

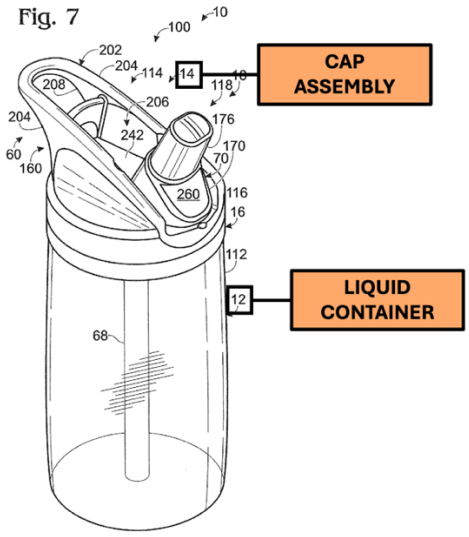
31. I have based my opinions on the qualifications of one of skill in the art on my review of the ’187 patent, the relevant prior art, and my experience. In the late 2000s, I was familiar with design principles common in the mechanical arts. I frequently worked with and supervised engineering students and junior engineers who had the requisite knowledge and experience to make and use the articles described in the ’187 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 '187 patent and the scientific and engineering principles applicable to the pertinent art.

II. THE '187 PATENT

A. Specification and Figures

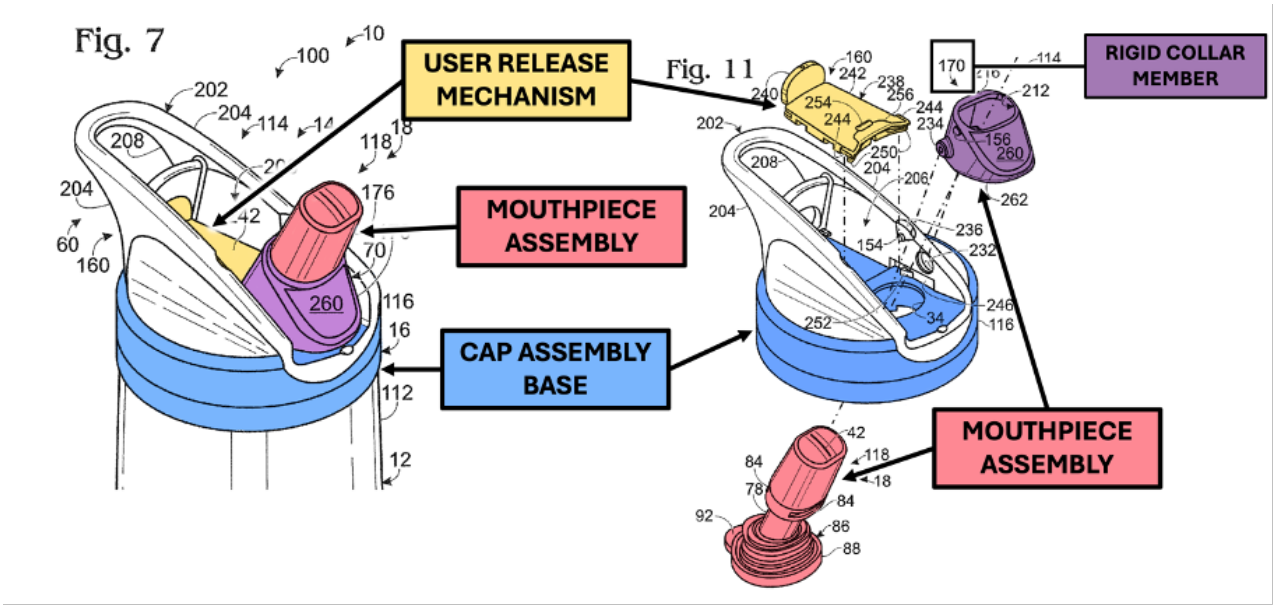
32. The '187 patent is titled, "Drink Containers," and discloses drink containers that include a liquid container and a cap assembly removably coupled to the liquid container. Ex. 1001, 4:11-12. An exemplary embodiment of the drink containers disclosed in the '187 patent is shown in Figure 7, which I have reproduced below with annotations to show the "liquid container 12" and "cap assembly 14".[1]



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

Ex. 1001, Fig. 7. Figure 7 shows a drink container and cap assembly with a mouthpiece assembly in its dispensing configuration. Ex. 1001, 2:16-20. Figure 8 shows the same, with its mouthpiece assembly in its stowed configuration. Ex. 1001, 2:21-22.

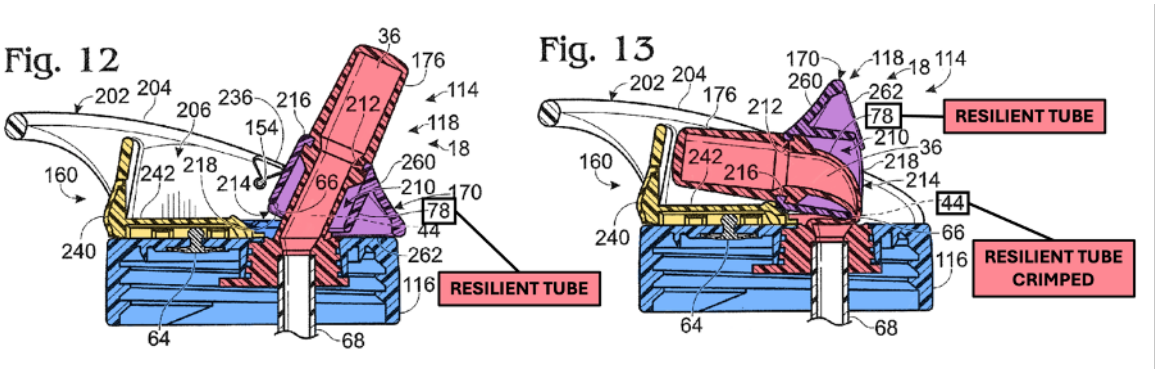
33. As shown below in excerpted Figures 7 and 11, the "cap assembly 14" includes a base, a mouthpiece assembly, a rigid collar member, and a user release mechanism:



Ex. 1001, at Figs. 7, 11. The cap assembly includes "mouthpiece assembly 118," "rigid collar member 170," and "user release mechanism 160." The '187 Patent discloses that "[r]igid collar member 170 defines a through-passage 210 through which tube 78 and a portion of bite-actuated mouthpiece 176 extends," and that "[a]ccordingly, when the rigid collar member is pivoted, at least the mouthpiece

portion of the mouthpiece assembly pivots with it." Ex. 1001, at 11:42-45; 55-57.

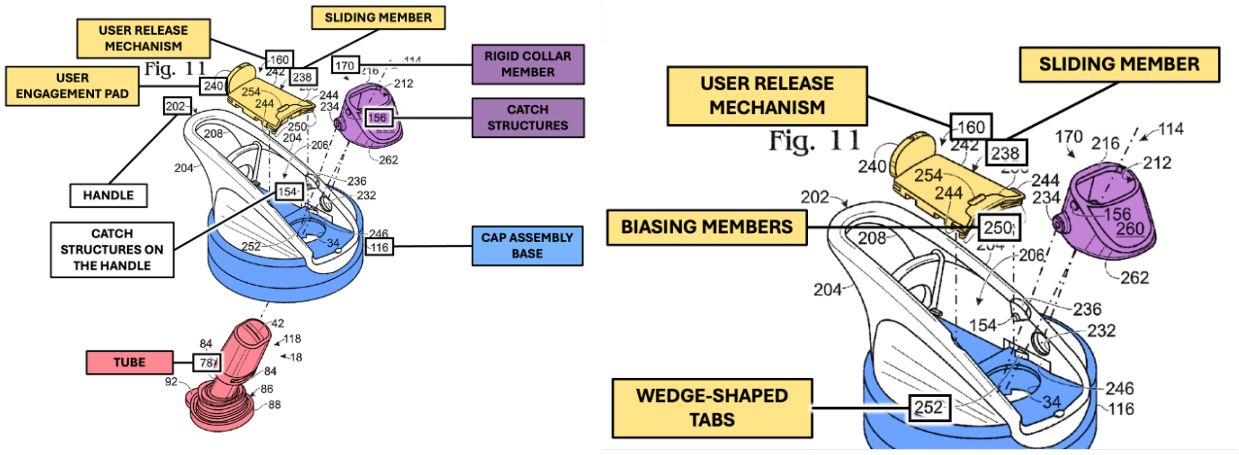
34. Figures 12 and 13 show cross-sectional views of the cap assembly with the mouthpiece assembly in its dispensing and stowed configurations, respectively:



Ex. 1001, Figs 12, 13. As shown in Figure 13, the rigid collar member 170's "crimping portion 66 engages and crimps the crimping region of the tube to thereby restrict the flow of drink liquid through the liquid passage when the mouthpiece assembly is in the stowed configuration …." Ex. 1001., 11:63-67. However, "crimping portion of the rigid collar member does not engage the crimping region of the tube when the mouthpiece assembly is in the dispensing configuration, as perhaps best seen in FIG. 12." Ex. 1001, 11:1-4.

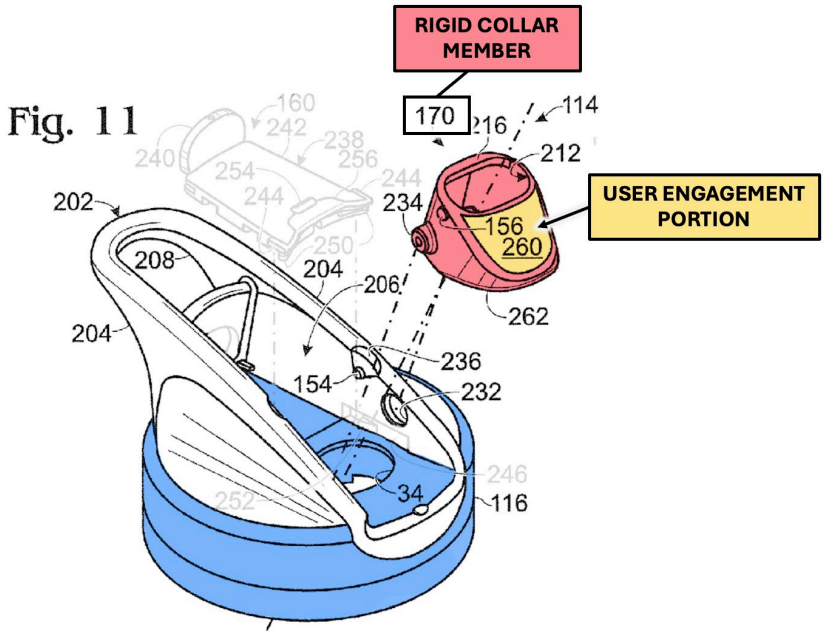
35. The '187 Patent discloses two embodiments of its user release mechanism. The first embodiment is shown in the above figures and further described below. *See* Ex. 1001, 12:50-13:39 (describing first embodiment). In this embodiment, the mouthpiece is held in its closed configuration by catch structures ("protrusions 156") on "rigid collar member 170" which engage with catch

structures ("depressions 154") on "handle 202." Ex. 1001, 12:22-37. When the user presses "user engagement pad 240" on "sliding member 238," the sliding member slides between "base 116" and "rigid collar member 170." Ex. 1001, 13:15-25. This movement urges the collar upwards to disengage the corresponding catch structures. With the catch structures disengaged, the inherent bias in resilient tube 78 causes the mouthpiece to pivot into its dispensing configuration.



Ex. 1001, Fig. 11.

36. I have illustrated the second embodiment, which can be an alternative or an additional user release mechansim, in Figure 11 below. *See* Ex. 1001, 13:40-54 (describing second emboidment). In this embodiment, the user presses the mouthpiece assembly directly at "user engagement portion 260" on "rigid collar member 170," which causes "catch structures 154 and 156" to disengage and the mouthpiece to pivot into its dispensing configuration.



Ex. 1001, Fig. 11.

B. Claims

37. The ’187 patent includes 19 claims, of which only claim 1 is independent. 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.

38. Independent claim 1 of the ’187 patent 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:

Claim 1	
1[A]	**a liquid container** having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid; and
1[B]	**a cap assembly** removably coupled to the liquid container, the cap assembly comprising:
1[B][1]	**a base** removably coupled to the neck of the liquid container and including a through-passage extending through the base;
1[B][2]	**a first catch structure** coupled to the base;
1[B][3]	**a mouthpiece assembly** defining a liquid passage through which drink liquid from the liquid container may selectively flow, the mouthpiece assembly being configured to be selectively positioned between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment into at least the liquid passage, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container through the liquid passage, wherein the mouthpiece assembly is biased to the dispensing configuration and wherein the mouthpiece assembly comprises:
1[B][3][a]	**a rigid collar member** that is pivotally coupled to a portion of the cap assembly;
1[B][3][b]	**a mouthpiece portion** extending from the rigid collar member and including an outlet, wherein the rigid collar member extends around at least a portion of the mouthpiece portion; and
1[B][3][c]	**a second catch structure** adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration; and

Claim 1	
1[B][4]	**a user release** mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration, wherein the user release mechanism comprises a displacement mechanism with a user engagement pad, wherein the displacement mechanism is configured to displace the first catch structure to selectively disengage the first and the second catch structures, and wherein the user release mechanism is biased to urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures.

C. Priority Date

39. For the purposes of this analysis, I have been asked to assume that the priority date for claims 1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, and 19 is January 21, 2009.

D. Claim Construction

1. "User Release Mechanism"

40. Claim 1 recites "a user release mechanism." I note, however, that Claim 1 does not recite any specific structure for the claimed "user release mechanism." Instead, this claim recites the function associated with the claimed "user release mechanism." For example, the term "mechanism" is a generic term used in the mechanical arts that does not denote any specific structure. Likewise,

the term "user release" is not structural; it merely describes, at a high level, the function performed by the mechanism. Accordingly, a person of ordinary skill in the art would not have understood the term "user release mechanism" to sufficiently define any particular structure to perform the claimed function. For this reason, I understand that the term "user release mechanism" is a so-called "means-plus-function" term and is therefore governed by 35 U.S.C. §112.

2. Other Claim Constructions

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

E. Prior IPR Proceedings Involving the '187 Patent

42. I understand that the '187 Patent has not been the subject of any prior petitions for *Inter Partes* Review.

III. PRIOR ART BEVERAGE/DRINK CONTAINERS

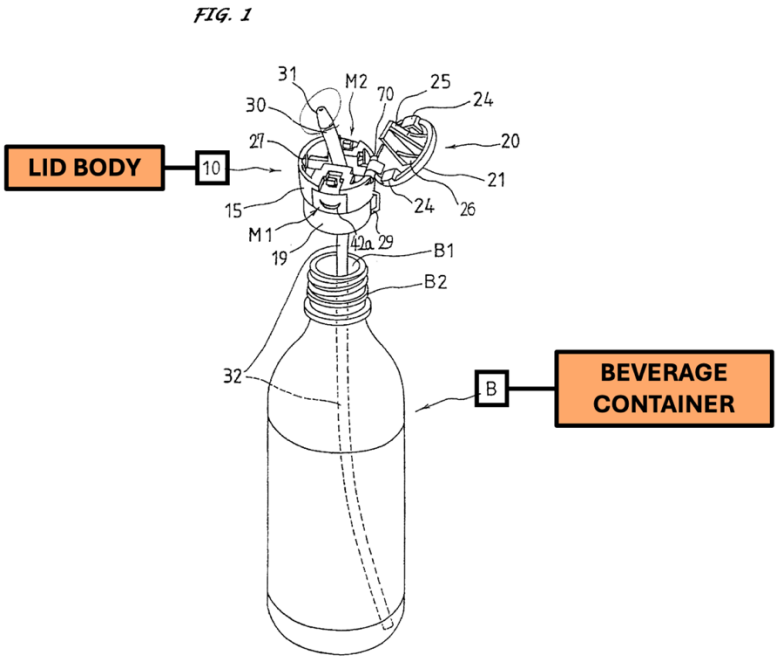
43. Drink containers with removable caps have, of course, long been known. And drink cap assemblies with the features claimed in the '187 patent (e.g., base, mouthpiece, rigid collar, and a user release mechanism) have also been known since well before the '187 patent's priority date. I briefly summarize certain references below, each of which would have been known to a person of skill in the art and would have informed that person'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. Kiyota

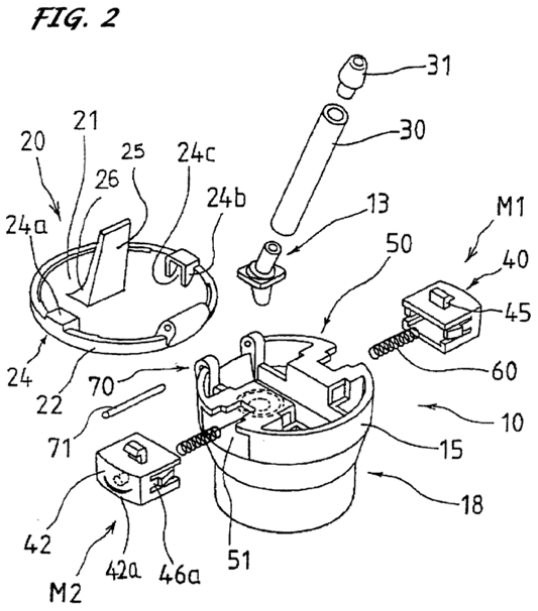
44. Kiyota (Ex. 1004), which is titled " Lid Body of Beverage Container," discloses a cap assembly, which Kiyota refers to as "lid body 10," for use with a drink container. Ex. 1004, Abstract, Title, 1:5-7.

45. An exemplary embodiment is shown in Figure 1 of Kiyota:



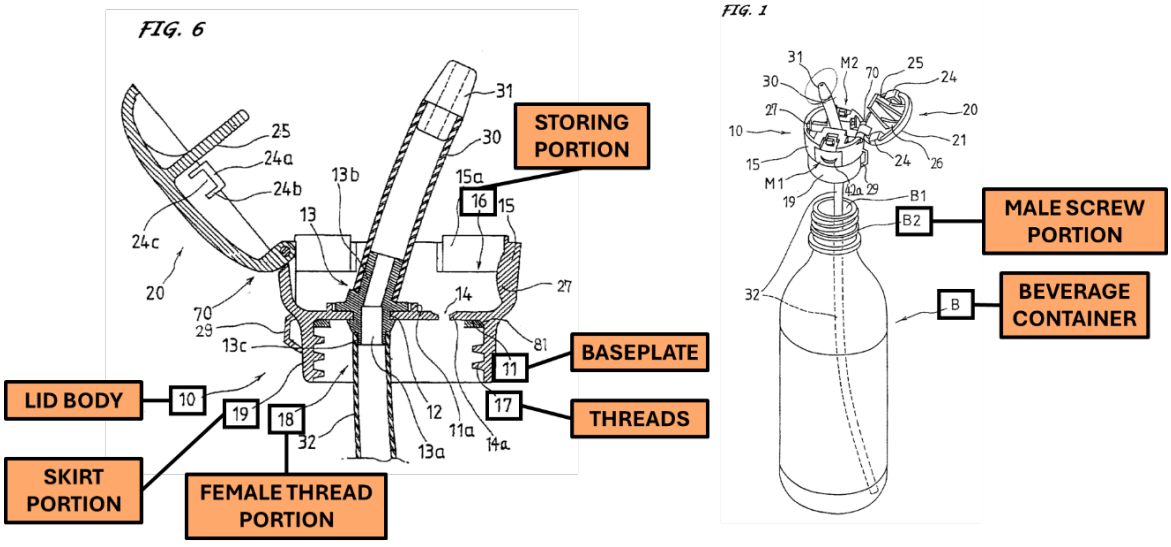
Ex. 1004, Fig. 1.

46. Figure 2 shows an exploded view of Kiyota's lid body:



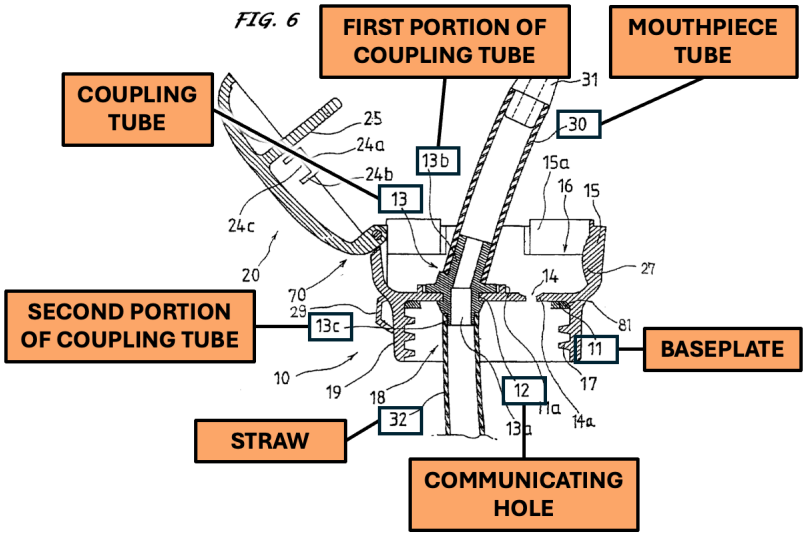
Ex. 1004, Fig. 2 (cropped).

47. The lid body connects to the beverage container by virtue of a threaded engagement between a "male screw portion B2" on the beverage container and a "female thread portion 18" on the lid body, as shown below:

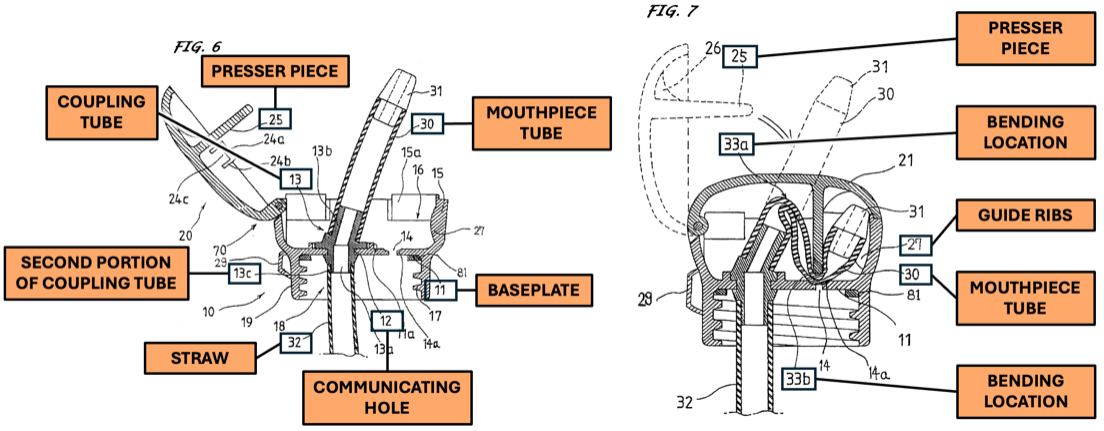


Ex. 1004, Figs. 1, 6. The lid body includes a "storing portion 16" above a "baseplate 11" that retains "mouthpiece tube 30" when in the stowed position.

48. As shown below, "mouthpiece tube 30" is secured to "baseplate 11" via "coupling tube 13," which extends through "communicating hole 12" to form a fluid passage through "baseplate 11." The coupling tube includes flanges that secure it in "communicating hole 12," and is comprised of a "first coupling portion 13b" for connecting to "mouthpiece tube 30" (from which a user may drink the beverage) and a "second coupling portion 13c" for connecting to "suction tube 32," which is a straw extending into the beverage container.

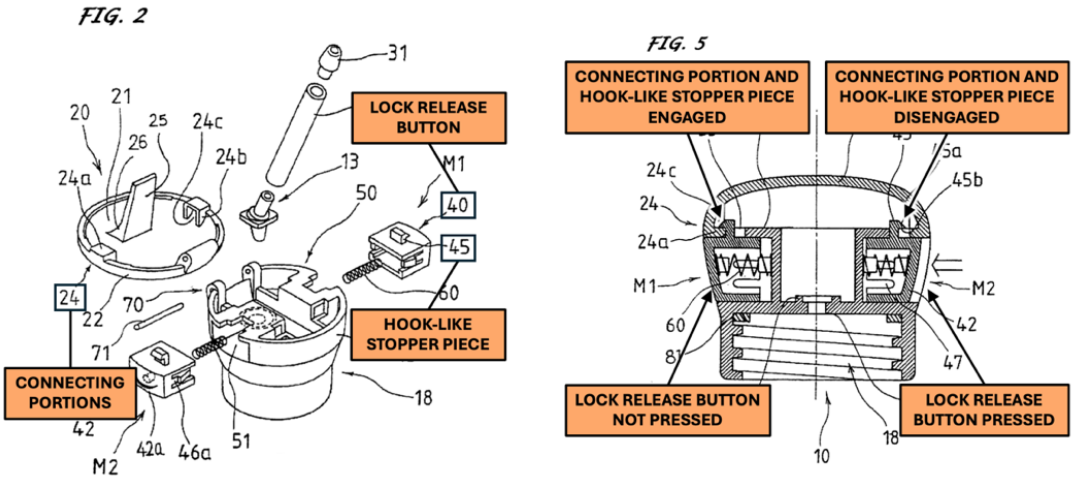


49. Below, I have annotated Figures 6 and 7 to show the components of the lid body in the dispensing and stowed configurations, respectively:



Ex. 1004, Figs. 6, 7. The lid body also includes a "lid portion 20" that includes a "presser piece 25." The "lid portion 20" is pivotable about "hinge 70" to close the lid body and retain the "mouthpiece tube 30" within. When stowed, the "presser piece 25" presses down on "mouthpiece tube 30," which presses the tube against "baseplate 11." This movement causes the tube to crimp at locations 33a and 33b, as shown in Figure 7. A pair of "guide ribs 27" guide "mouthpiece tube 30" into its stowed position as it is pressed down by "presser piece 25."

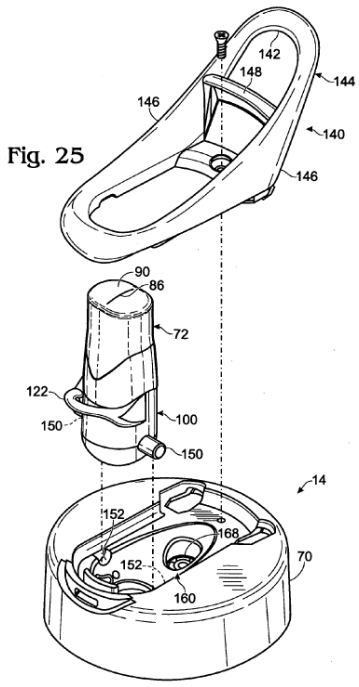
50. To maintain the lid in its stowed configuration, Kiyota's lid body includes corresponding catch structures on the underside of the lid ("connecting portions 24") and on a pair of "hook-like stopper pieces 45" on the upper surface of "lock release buttons 40", which I have identified in Figures 2 and 5 below:



Ex. 1004, Figs. 2, 5. To open Kiyota's lid, the user presses the lock release buttons, which causes the "hook-like stopper pieces 45" to disengage from the "connecting portions 24" on the underside of the lid. This allows "mouthpiece tube 30" to push "openable lid 20" to the open position as the tube returns via its bias to its uncrimped state, whereby drink liquid can flow through it to the user's mouth.

B. Choi

51. Choi (Ex. 1005) is titled "Drink bottles with bite-actuated mouthpieces" and discloses "a cap assembly with a base 70," a mouthpiece assembly comprising a "mouthpiece 72 and mount 100.," Ex. 1005, ¶[0072]. An exemplary embodiment of Choi's cap assembly is shown below:



Ex. 1005, Fig. 25.

52. In another embodiment, Choi discloses that "drink bottles 10 according to the present disclosure may, but are not required to, include an optional straw 180 that extends from the cap assembly into the fluid container … ." Ex. 1005, ¶ [0072]. This is shown in Figure 9 of Choi, which I have reproduced below:

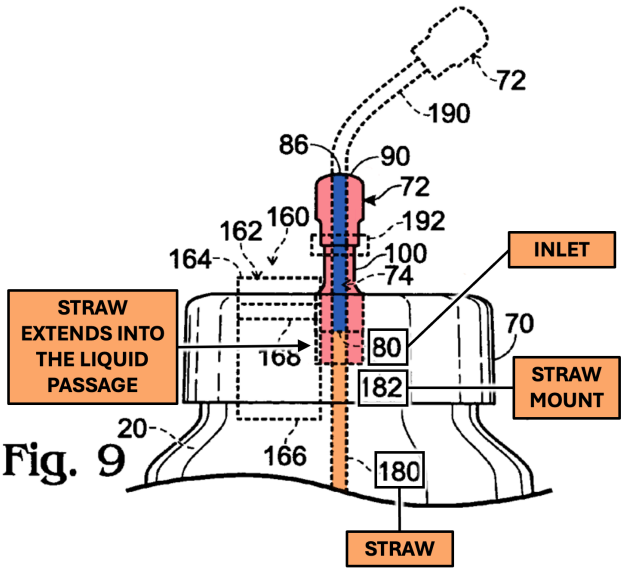
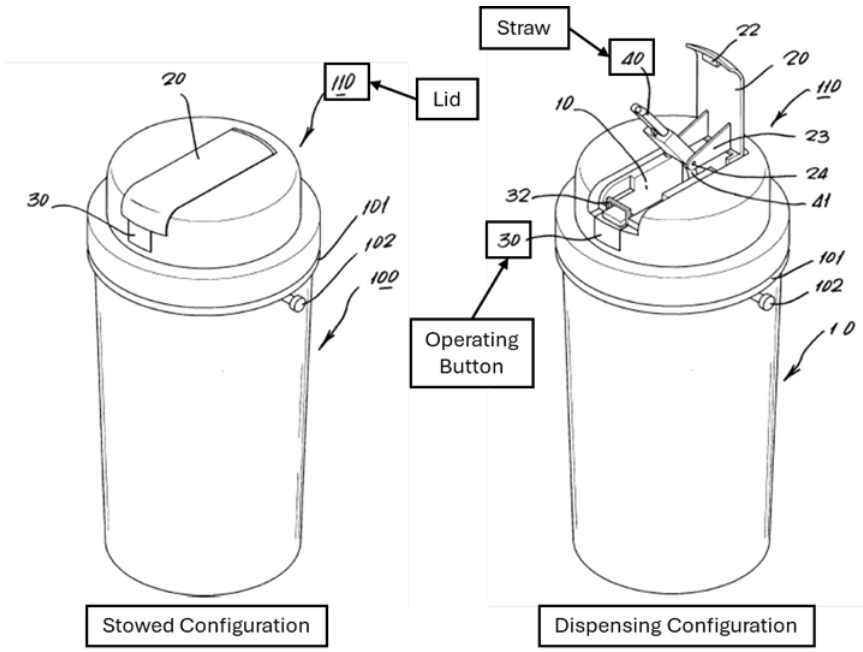


Fig. 9

Ex. 1005, Fig. 9. Choi further discloses: "Straw 180 may be removably (or permanently) coupled to a corresponding mount 182 on the cap assembly, such as at or proximate the inlet 80 of fluid conduit 74." Ex. 1005, ¶ [0072]. As shown in Figure 9, Choi's "straw 180" is inserted into "mount 182" adjacent to "inlet 80." Ex. 1005, ¶ [0072].

C. Park

53. Park (Ex. 1006), which is titled "Portable water bottle with a straw," discloses a water bottle that includes a lid with a built in straw that can be opened automatically with the touch of a button. Ex. 1006, Abstract. Figures 1 and 2, reproduced below, show Park's lid in its closed and open configurations, respectively:

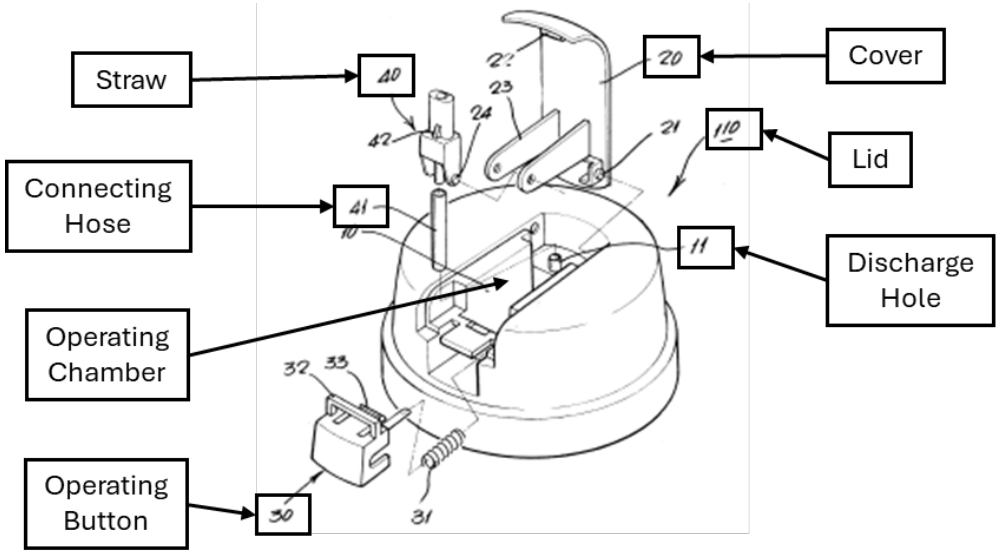


Ex. 1006, Figs. 1-2. According to Park, the "object" of the invention is:

> [T]o provide a portable water bottle with a straw that is not only easy to manufacture due to its simple structure by simply pressing the operating button formed on the lid in a one-touch manner so that the cover is opened and the straw is released, but also highly hygienic because it is easy to drink water without holding a straw by hand, and that also improves usability and structure by having a straw embedded in it by simply closing the cover in a one touch manner.

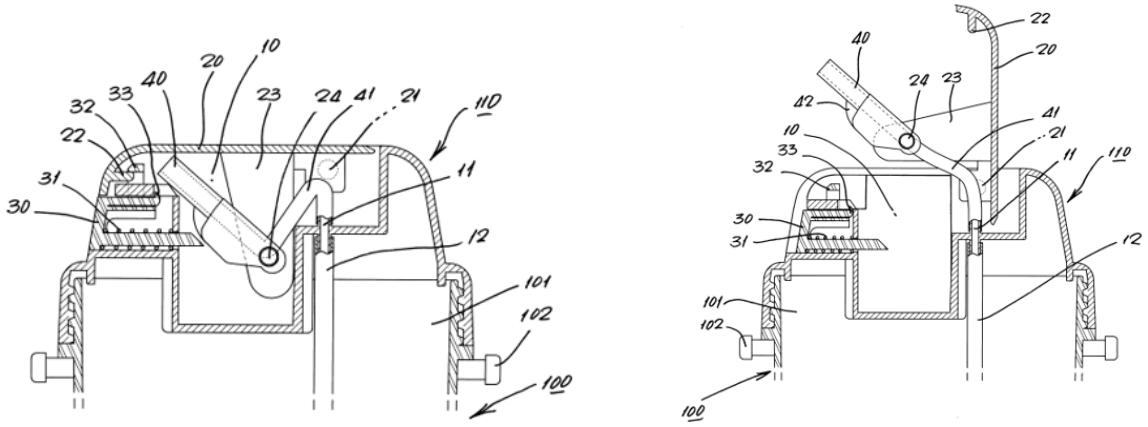
Ex. 1006, 3.

54. Figure 3 is an exploded view of Park includes "lid 110," which I have color and annotated to highlight its relevant components:



Ex. 1006, Fig. 3. The

55. Figures 5 and 6, below, show how the components of Park's lid move from the stowed configuration to the open configuration:



Ex. 1006, Figs. 5-6. As shown above, Park's lid includes "operating chamber 10" that receives "straw 40" and "connecting hose 41" when "cover 20" is pivoted to the closed configuration. In the open position, a user may suck on "straw 40," which causes liquid to flow from "water bottle 100" and into "connecting hose 41" through

"discharge hole 11" in the base of the lid. Ex. 1006, 5 ("when the straw 40 is sucked into the mouth, the contents of the water bottle 100 are directed through the guide hose 12 and the connecting hose 41, and out the straw 40, and the contents can be safely drunken").

56. Park also discloses a "locking means" that locks the lid in the closed configuration. Ex. 1006, 4. Specifically, the "locking means" comprises "operating button 30," which includes "hook 32" on its upper surface, which engages "protrusion 22" on the underside of "cover 20" to hold the lid in the closed position. Ex. 1006, 4. To open the lid, a user presses "operating button 30," which slides within "operating chamber 10" to disengage "hook 32" from "protrusion 22" and automatically release "cover 20." Ex. 1006, 4. Because the "connecting hose 41 is formed of a flexible soft material and has a certain elasticity, it always tries to unfold vertically, and when the lid 20 is opened, its elastic force causes the straw 40 to protrude … ." Ex. 1006, 4. According to Park:

> "[T]he moment the cover 20 is opened, the straw 40, which is axially coupled to the bracket 23 of the lower part by the hinge shaft 24, is also unfolded by the elastic force of the connecting hose 41, so that the straw 40 maintains an angle that is most convenient for the user to suck into the mouth."

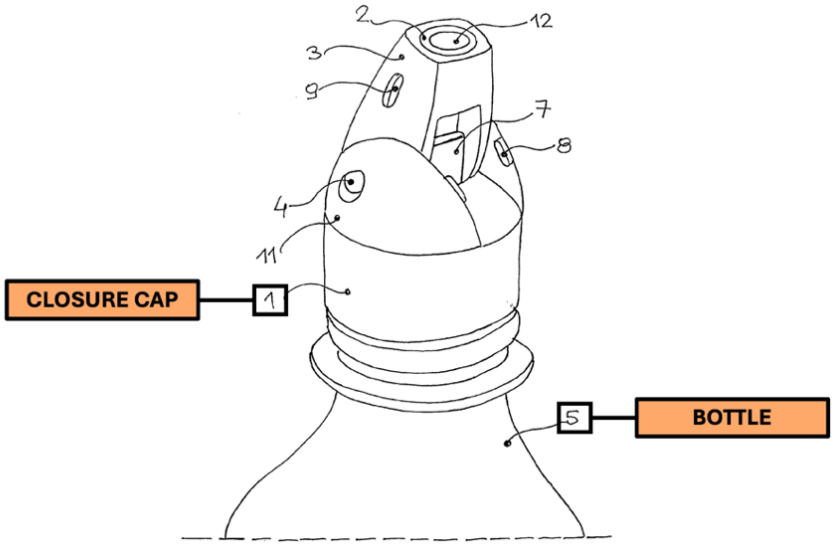
Ex. 1006, 5.

57. To close the lid, the user simply presses "cover 20" into the closed

position. As Park describes: "In the process of closing the cover 20 … the straw 40 … is pivoted using the hinge shaft 24 as the supporting point and is securely accommodated into the operating chamber 10." Ex. 1006, 5. In this position, as shown in Figure 5, "the connecting hose 41 is double bent … to completely close the discharge passage of the connecting hose 41." Ex. 1006, 5.

D. <u>Ribartis</u>

58. Ribarits (Ex. 1009), 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. 1009, Abstract.



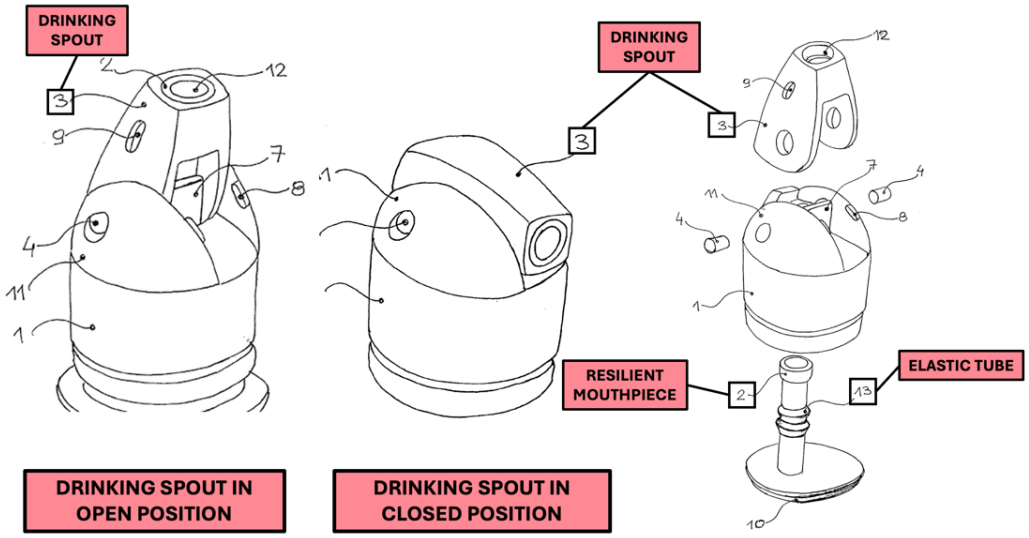
Ex. 1009, Fig. 1.

59. 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. 1009, 3 (Claim 1). As shown below, the device includes "a drinking spout" that can be "pivoted" between an open position and a closed position. Ex. 1009, 2.



Ex. 1009, Figs. 1, 2. An elastic tube serves as a fluid conduit for the user to draw fluid out of the drink container, through the cap assembly, and into the user's mouth.

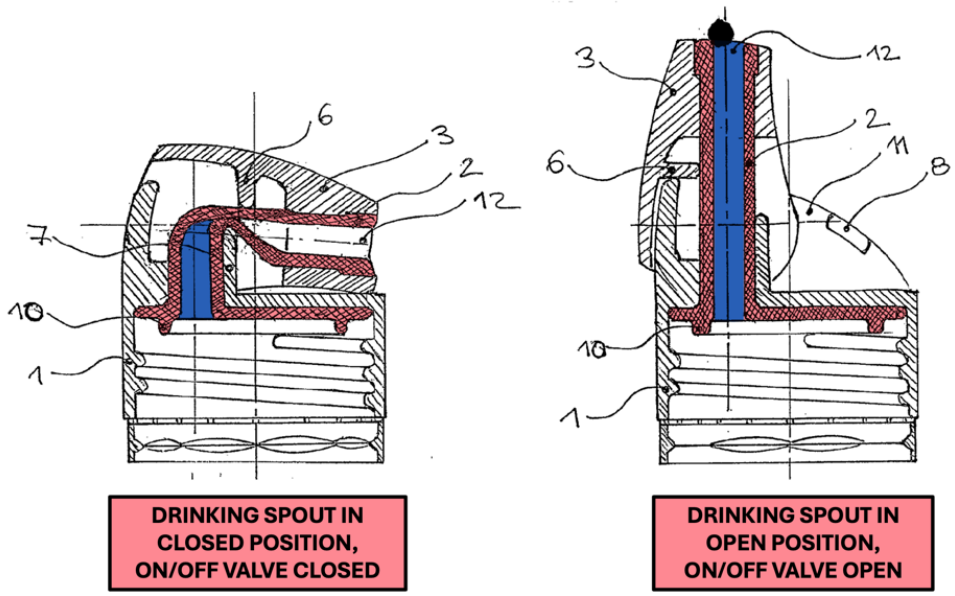
60. Ribarits describes the overall structure and function of the cap assembly as follows:

> 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. 1009, 2.

61. 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. 1009, Fig.3. The pivoting action of the drinking spout functions as an on/off valve that controls the flow of fluid through the elastic tube. In the open position (above, right), 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 (above, left), 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.

IV. GROUND 1: CLAIMS 1, 3-9, 11-17, AND 19 WOULD HAVE BEEN OBVIOUS IN VIEW OF KIYOTA, CHOI, AND RIBARITS

62. As I explain below, Kiyota expressly discloses nearly all the elements of claims 1, 3-9, 11-17, and 19. To the extent Kiyota does not expressly disclose any element of claims 1, 3-9, 11-17, and 19, the claims would have been obvious over Kiyota in view of Choi, Ribarits, and/or the knowledge of one skilled in the art at the time of the '187 patent invention. Accordingly, in my opinion, each of claims 1, 3-9, 11-17, and 19 would have been obvious over Kiyota in view of Choi, Ribarits, and/or the knowledge of a person of ordinary skill in the art.

A. Claim 1 is Obvious over Kiyota in view of Choi

63. I address below how Kiyota, in view of Choi and/or the knowledge of a person of ordinary skill in the art, renders obvious each element of Claim 1.

1. Preamble: "A drink container"

64. 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, Kiyota discloses "a drink container."

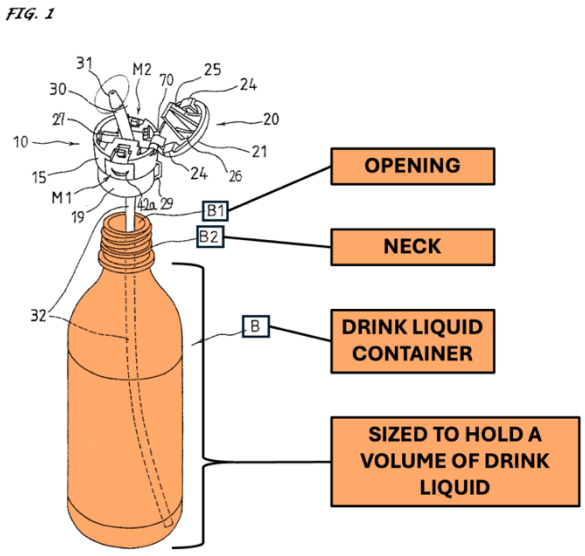
65. For example, Kiyota discloses that its invention "relates to a lid body detachably mounted on the mouth portion of a beverage container." (Ex. 1004, 1:4-5). One skilled in the art would have understood that the "beverage container" in

Kiyota is a drink container because Kiyota discloses that its lid body is "provided with a mouthpiece tube for easily drinking a beverage" (Ex. 1004, 1:8-9).

2. 1[A]: "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid"

66. Limitation 1[A] recites, "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid." As I explain below, Kiyota discloses this limitation.

67. As discussed above, Kiyota discloses "a lid body detachably mounted on the mouth portion of a beverage container." Ex. 1004, 1:4-5. As shown below, Kiyota's "beverage container B" includes a neck (i.e. "male screw portion B2") with an opening (i.e. "mouth portion B1").



Ex. 1004, Fig. 1, 4:59-62. One skilled in the art would have understood "container

B" to have a neck, including at least "male screw portion B2" and "mouth portion B1," that "mouth portion B1" was an opening, and that "beverage container B" had an internal compartment sized to hold a volume of potable drink liquid because it would be necessary to store the drink liquid before it was dispensed to the user.

3. 1[B]: "a cap assembly removably coupled to the liquid container"

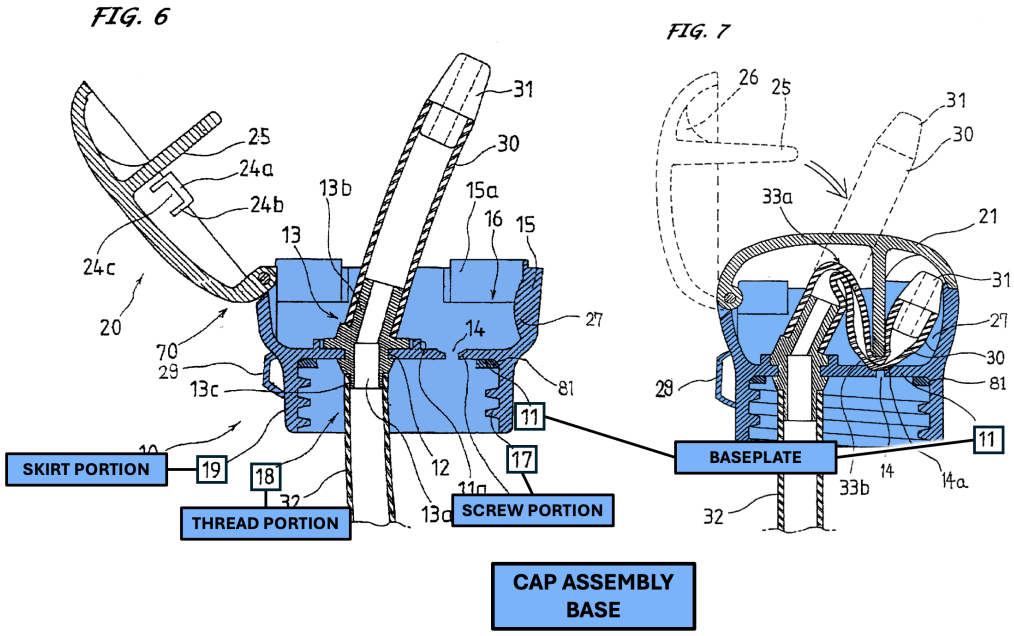
68. Limitation 1[B] recites, "a cap assembly removably coupled to the liquid container." As I explain below, Kiyota discloses this limitation.

69. For example, Kiyota discloses that "main body portion 10," a part of its "lid body," is "detachably mounted on the mouth portion of a beverage container," (Ex. 1004, 1:4-5). Thus, a person of skill in the art would have understood Kiyota's "lid body" to comprise a "cap assembly" that is "removably coupled" to the beverage container.

a. 1[B][1]: "a base removably coupled to the neck of the liquid container and including a through-passage"

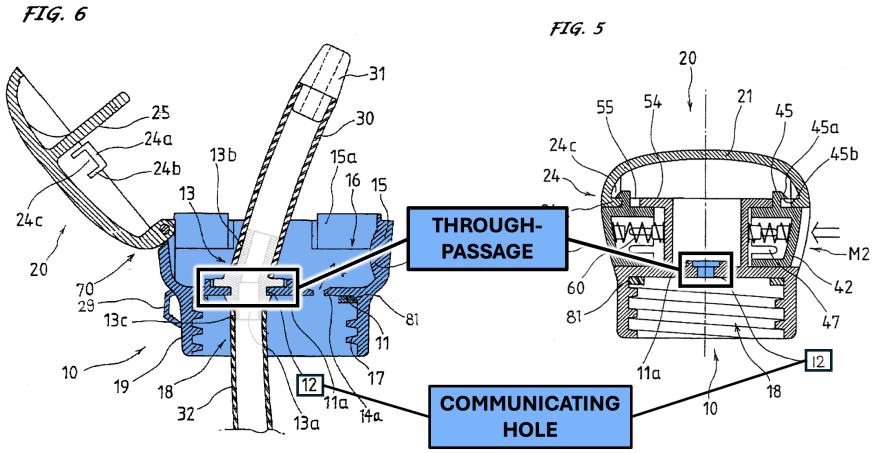
70. Limitation 1[B][1] recites "a base removably coupled to the neck of the liquid container and including a through-passage." As I explain below, Kiyota discloses this limitation.

71. For example, Kiyota's "main body portion 10" includes a thread portion that comprises "baseplate 11" and "thread portion 18." The thread portion is further comprised of a "screw portion 17" and a "skirt portion 19," as shown in blue below:



Ex. 1004, Figs. 6, 7. The "main body portion 10" is coupled to the beverage container via the threaded coupling formed between the "male screw portion B1" of the beverage container and the female "screw portion 17" of the "main body portion 10." Thus, one of skill in the art would have understood Kiyota's "main body portion 10" to be removably coupled to the beverage container.

72. Kiyota also discloses a "communicating hole 12" in "baseplate 11" that constitutes a through-passage through "main body portion 10." Ex. 1004, 5:21-23. This is shown annotated Figures 5 and 6 below:

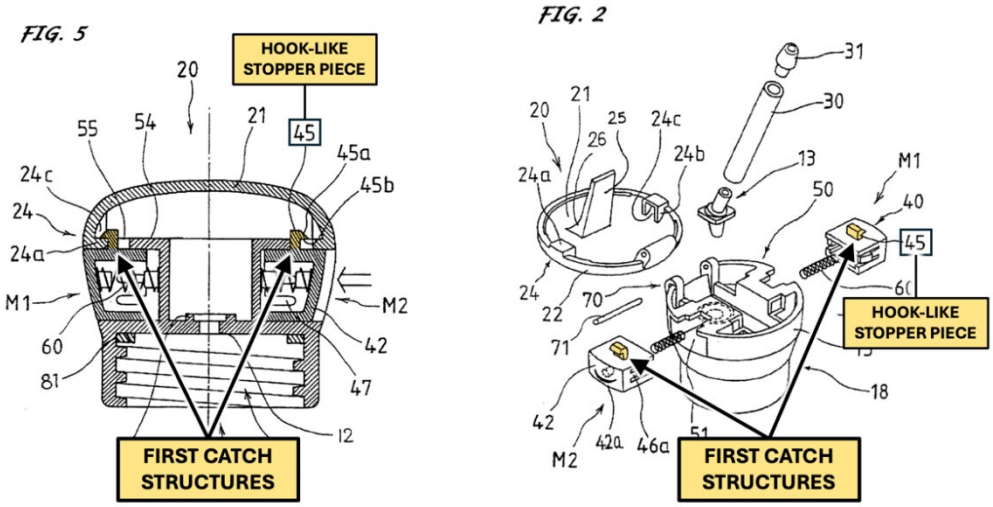


Ex. 1004, Figs. 5, 6.

b. 1[B][2]: "a first catch structure coupled to the base"

73. Limitation 1[B][2] recites that the cap assembly comprises "a first catch structure coupled to the base." As I explain below, Kiyota discloses this limitation.

74. For example, as shown in annotated Figures 2 and 5 below, Kiyota's lid body (i.e. cap assembly) includes "hook-like stopper pieces 45," which project upwardly from "lock release buttons 40":



Ex. 1004, Figs. 2, 5. The "hook-like stopper pieces 45" engage with "connecting portions 24" on the underside of "openable lid 20" when the lid is closed. As I describe in more detail below, the "connecting portions 24" constitute a second catch structure located on the mouthpiece assembly of Kiyota's cap assembly. Thus, one of skill in the art would have understood Kiyota's "hook-like structures 45" to constitute a "first catch structure."

75. Additionally, Kiyota's "lock release buttons 40," which include "hook-like stopper pieces 45," are coupled to the Kiyota's "main body portion 10" (i.e. base) in two ways. First, "spring 60" couples "lock release buttons 40" to "main body portion 10. *See* ex. 1004, 6:20-56. Second, "stopper protrusions 48" connect with "edge portions 57a" of "notched windows 57" to retain "lock release button 40" in "socket 50." *See id.* at 6:1-19.

FIG. 5

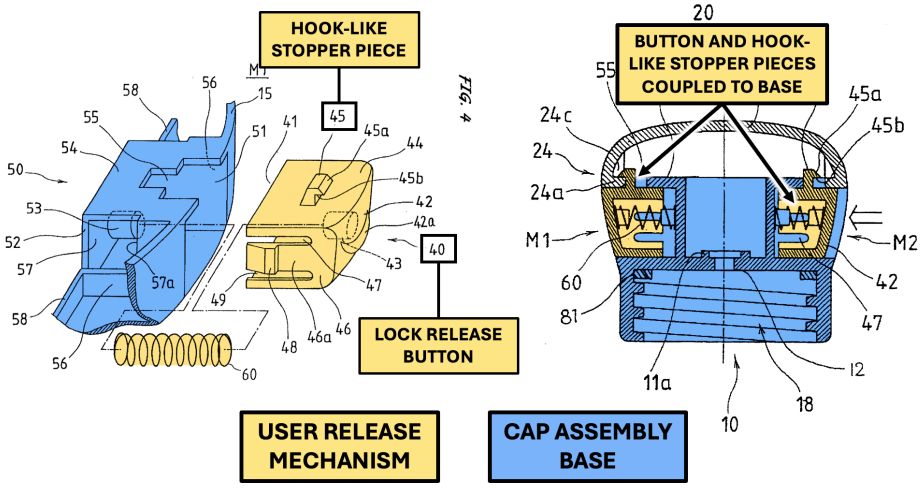


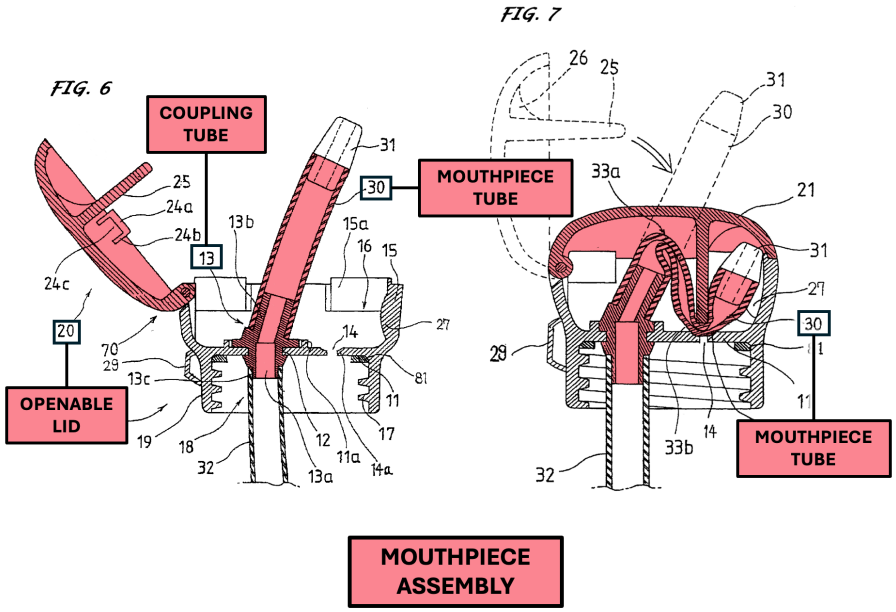
FIG. 4

Id., Figs. 4, 5.

c. 1[B][3]: "a mouthpiece assembly defining a liquid passage through which drink liquid from the liquid container may selectively flow, the mouthpiece assembly being configured to be selectively positioned between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment into at least the liquid passage, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container through the liquid passage, wherein the mouthpiece assembly is biased to the dispensing configuration"

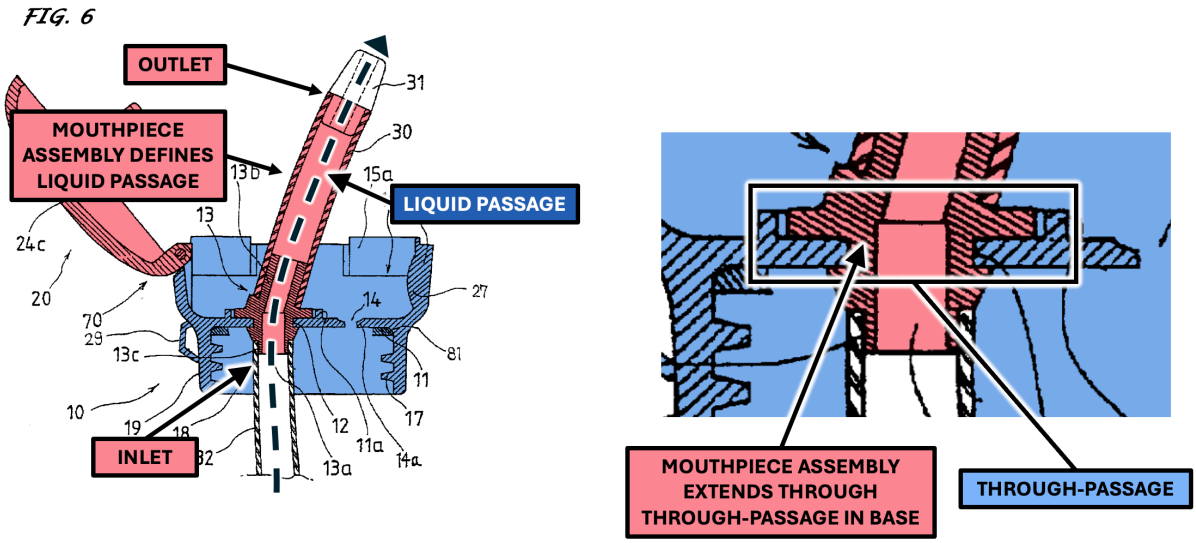
76. Limitation 1[B][3] recites "a mouthpiece assembly defining a liquid passage through which drink liquid from the liquid container may selectively flow, the mouthpiece assembly being configured to be selectively positioned between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment into at least the liquid passage, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container through the liquid passage, wherein the mouthpiece assembly is biased to the dispensing configuration." As I explain below, Kiyota discloses this limitation.

77. I first note that the term "assembly" is commonly used in the mechanical arts, and encompasses structures comprised of parts assembled together. For example, Kiyota's mouthpiece assembly includes at least "mouthpiece tube 30," "coupling tube 13," and "openable lid 20," as shown in annotated Figure 6 below:



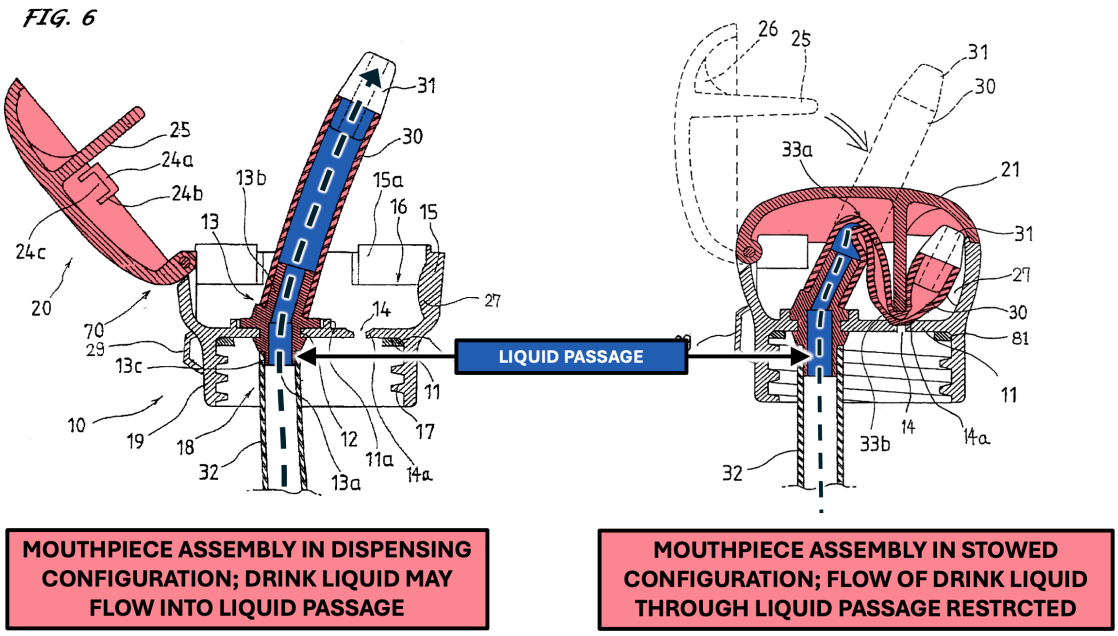
Ex. 1004, Figs. 6, 7. These components function together as an assembly to provide a mouthpiece through which as user may drink the liquid contained in the drink container, when in the dispensing configuration, and to store the mouthpiece when not in use, that is, when in the stowed configuration.

78. Kiyota's mouthpiece assembly extends through the "communicating hole 12" (i.e. through-passage) and defines a liquid passage with an inlet and an outlet, as illustrated below:



Ex. 1004, Fig. 6.

79. Kiyota's mouthpiece assembly is also "configured to be selectively configured between a dispensing configuration … and a stowed configuration … ." Figure 6 (below, left) shows Kiyota's mouthpiece assembly in the dispensing configuration, wherein liquid may flow from the internal compartment of the beverage container into the liquid passage. Figure 7 (below, right) shows Kiyota's mouthpiece assembly in the stowed configuration, wherein the liquid passage restricts the flow of drink liquid through the liquid passage by pressing the inner walls of mouthpiece tube 30 against each other at "bending portions 33a and 33b." Ex. 1004, 11:9-15.



Ex. 1004, Figs. 6, 7.

80. Kiyota's also discloses its mouthpiece assembly is biased to the dispensing configuration. According to Kiyota, "as the mouthpiece tube 30 is raised by its elasticity with opening action of the openable lid 20, there is no need to push open the openable lid 20 by hands, and there is no need to pull out and raise the mouthpiece tube 30 from the storing portion by hands." Ex. 1004, 11:19-23.

i. 1[B][3][a]: "a rigid collar member that is pivotally coupled to a portion of the cap assembly"

81. Limitation 1[B][3][a] recites that the mouthpiece assembly comprises " a rigid collar member that is pivotally coupled to a portion of the cap assembly." As I explain below, this limitation would have been obvious over Kiyota in view of Choi.

82. Kiyota and Choi are very closely related and disclose drink containers of substantially the same functionality. They both disclose drink containers having mouthpiece assemblies with stowed and dispensing configurations, comprising a tube that is crimped to prevent leaks when the mouthpiece assembly is closed, and a mouthpiece portion that is extended toward the user when the mouthpiece assembly is in its dispensing configuration. They both address the same problem of an easily closable mouthpiece assembly for use in a drink container and do so in the same way, i.e. by crimping the tube.

83. Kiyota teaches the importance of extending the mouthpiece toward the user at a comfortable orientation. However, Kiyota relies on the weight of "mouthpiece portion 31," an optional component, to achieve the most comfortable angle.

> "Moreover, when the mouthpiece portion 31 consisting of comparatively hard synthetic resin material is inserted in the end of the mouthpiece tube 30, the mouthpiece tube 30 is slightly bent by weight of the mouthpiece portion 31, so that the mouthpiece portion 31 can easily be taken in mouth, but even if there is no mouthpiece portion 31, sucking and drinking is not inconvenient."

Ex. 1004, 9:18-24.

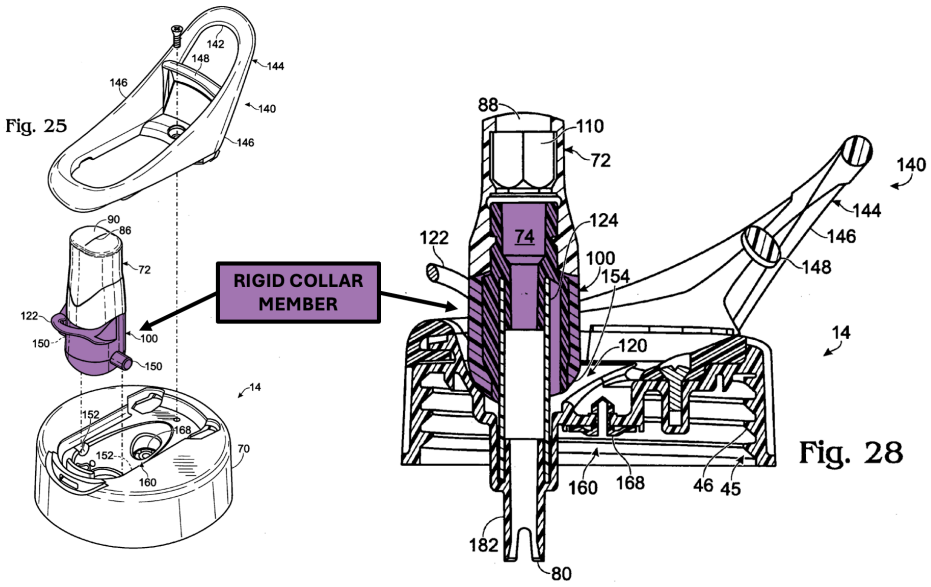
84. Choi also teaches the importance of the orientation at which the mouthpiece extends toward the user. However, rather than rely on the presence of

an optional component, Choi uses a pivoting "mount 100" (i.e. rigid collar member) to control the orientation of its mouthpiece.

> It is also within the scope of the present disclosure that mount 100 may be adjustably positionable relative to the base of the cap assembly, thereby permitting the orientation of the bite-actuated mouthpiece to be adjusted within a range of positions, or configurations, that are defined at least in part by the mount. This adjustable positioning of the mouthpiece, when provided for in a particular embodiment, may permit a user to adjust the orientation of the mouthpiece to a user-selected drinking orientation."

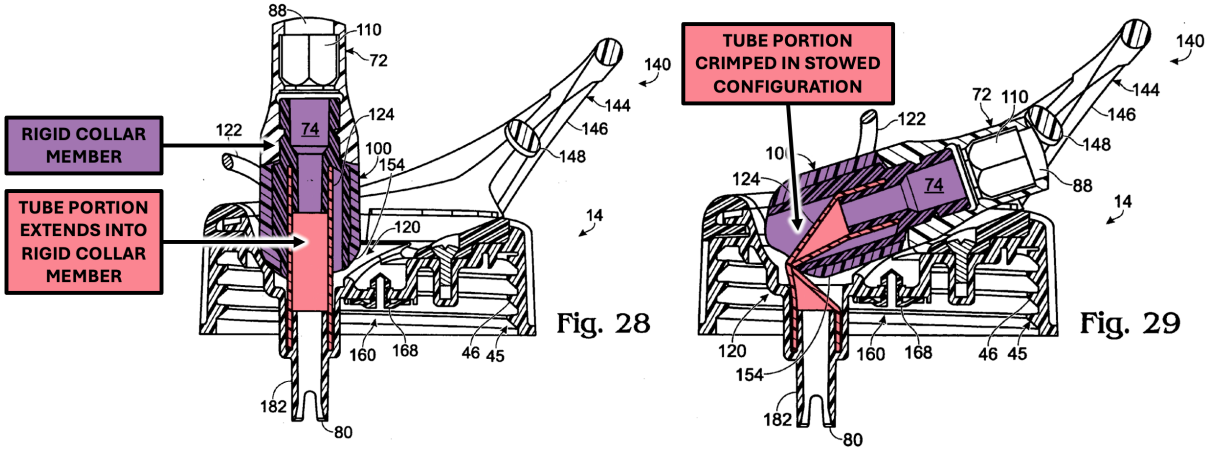
Ex. 1005, ¶0047.

85. For example, Choi's "mount 100" constitutes a rigid collar member that is pivotally coupled to a the "base 70" and "handle 140," each of which are part of Choi's "cap assembly 14."



Ex. 1005, Figs. 25, 28.

86. Choi further discloses that its "tube 124" extends at least partially



through "mount 100." " For example, in FIGS. 28 and 29, the on/off valve includes a flexible tube, or conduit 124 that in FIG. 28 fluidly interconnects the inlet 80 of the fluid conduit with the internal chamber 110 of the mouthpiece. However, when the mount is pivoted to a stowed configuration, such as shown in FIG. 29, the body 154 of the mount engages the tube and collapses or otherwise compresses or crimps the tube to obstruct the fluid conduit." Ex. 1005, ¶0085.

Ex. 1005, Figs. 28, 29.

87. A person of ordinary skill in the art would recognize these designs are interchangeable, and would have been motivated to combine the teachings of Kiyota and Choi and to modify Kiyota's mouthpiece assembly to include a resilient

mouthpiece and rigid collar member that pivots relative to the base of the cap assembly, as in Choi, for several reasons.

88. First, a person of ordinary skill in the art would have recognized that using a resilient mouthpiece and pivoting rigid collar member with Kiyota's cap assembly would allow the user greater control over the orientation of the mouthpiece when the mouthpiece assembly is in a dispensing configuration. A person of ordinary skill in the art would have understood the choice between using a pivoting rigid collar member or using the resiliency of the mouthpiece tube and the weight of optional components to be a simple design choice between two identified, predictable solutions. Likewise, in view of the teachings of Choi, a person of ordinary skill in the art would have had a reasonable expectation of success of in modifying Kiyota to include an internal friction fit. *See* Ex. 1005, ¶¶ [0046]-[47]. Additionally, bite-actuated mouthpieces and pivoting rigid collars were well known in the art at the time of the invention.

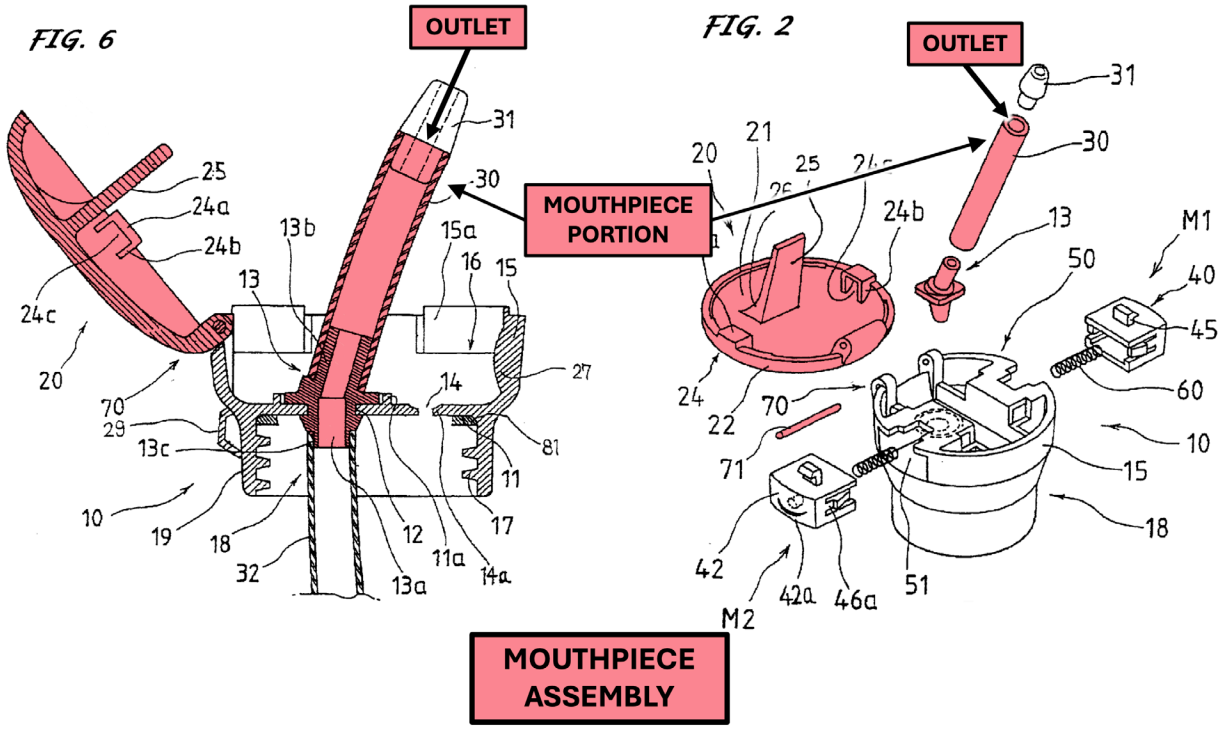
89. A person or ordinary skill in the art would also have been motivated to use a resilient mouthpiece and pivoting rigid collar member because doing so would allow the mouthpiece to be positioned in a consistent orientation regardless of the presence of optional components. Additionally, a person of skill in the art would have recognized that the modified mouthpiece assembly would have offered

improved leak protection, easy cleanability, and superior protection for the mouthpiece when stowed.

ii. 1[B][3][b]: "a mouthpiece portion extending from the rigid collar member and including an outlet, wherein the rigid collar member extends around at least a portion of the mouthpiece portion"

90. Limitation 1[B][3][b] recites that the mouthpiece assembly comprises "a mouthpiece portion extending from the rigid collar member and including an outlet, wherein the rigid collar member extends around at least a portion of the mouthpiece portion." As I explain below, Kiyota discloses this limitation.

91. As shown below, Kiyota discloses a its mouthpiece portion with an outlet (the end of mouthpiece tube 30). However, Kiyota does not disclose a rigid collar member.



Ex. 1004, Figs. 2, 6.

92. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi. Choi discloses "mouthpiece 72" (i.e. a mouthpiece portion) that extends from "mount 100" (i.e. a rigid collar member). Ex. 1005, ¶0053. Choi's mouthpiece portion includes "slit 88" which defines "opening 86" (i.e. an outlet). *Id.* at ¶0050. Although Choi's mouthpiece portion extends from its rigid collar member, as shown below, the rigid collar member does not extend around the mouthpiece portion.

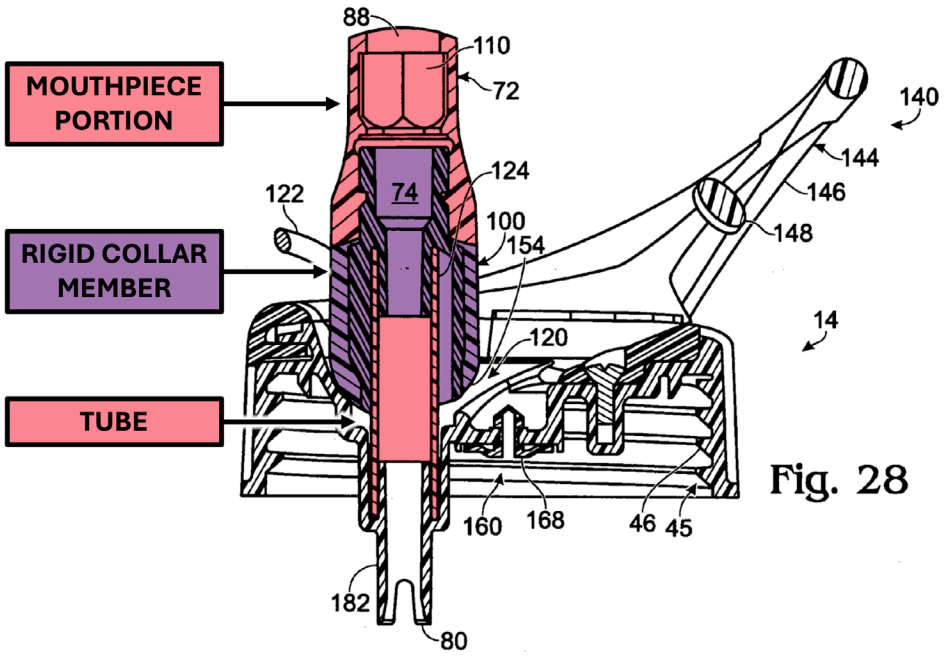


Fig. 28

Id., Fig. 28.

93. Choi also discloses "elongate drink tube 190" which "fluidly interconnect[s] the bite-actuated mouthpiece with mount 100" *id*., ¶0073, and allows the user to " draw drink fluid from the drink bottle without having to hold the drink bottle." *Id*. A schematic illustration of "elongate drink tube 190" is shown below.

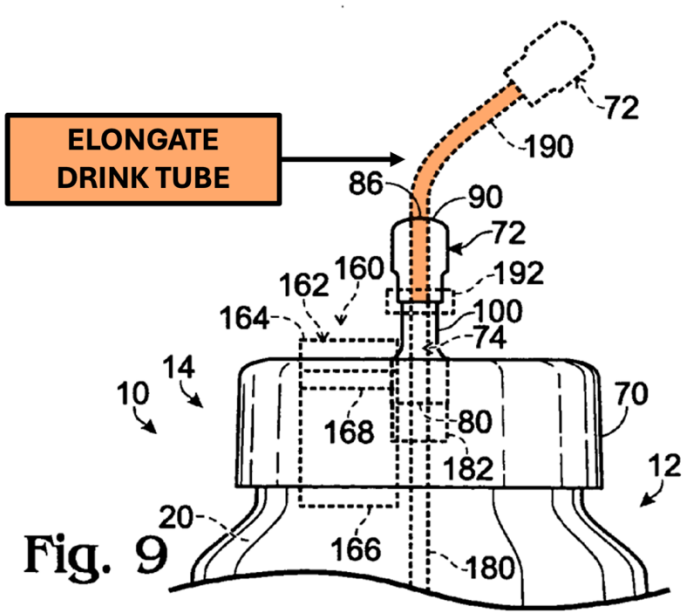


Fig. 9

Id., Fig. 9.

94. As shown above, "optional mount 192" interconnects "elongate drink tube 190" with "mount 100," although Choi is explicit that "elongate drink tube 190" can be coupled directly to "mount 100" without "optional mount 192." *Id*. at ¶0073. Choi further discloses "elongate drink tube 192" can be interconnected with "mount 100" "by extending the corresponding end of the drink tube within or over an end of the mount. After attachment to the mount, the drink tube may optionally be described as forming an extension of the fluid conduit 74." *Id*.

95. It is my opinion that, based on the above disclosure, a person of skill in the art would understand that any component, including "mouthpiece 72," could extend "fluid conduit 74" by extending "within or over an end of the mount." That

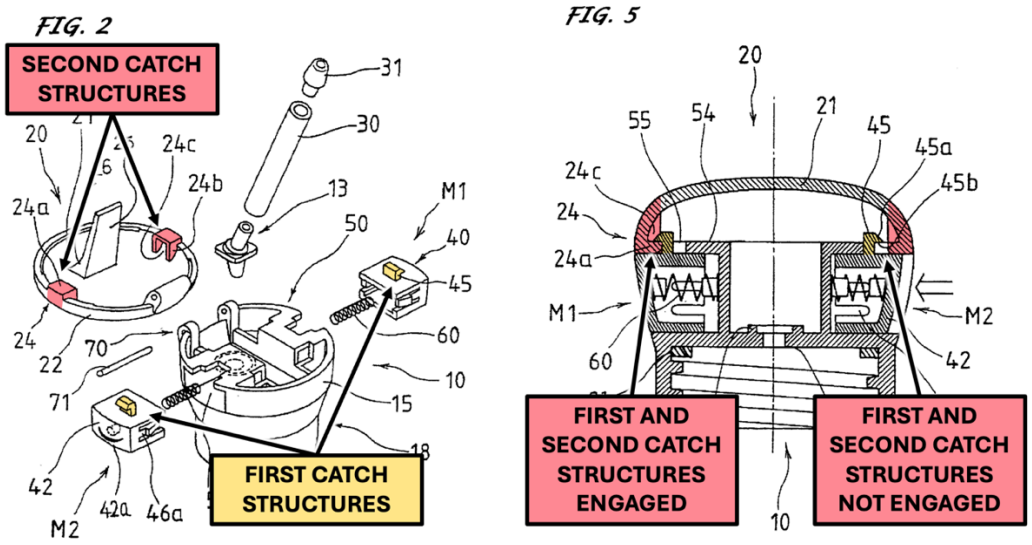
is, the choice to extend into or around the outside of "mount 100" was merely a design choice, and that either option would be successful. It is also my opinion that a person of skill in the art would understand that "mount 100" would extend around at least a portion of any component that extended into it.

96. Accordingly, it is my opinion that extending a rigid collar member around at least a portion of a mouthpiece extending from the rigid collar member would have been obvious to a person of skill in the art over Kiyota in light of the disclosure in Choi and the knowledge of a person of skill in the art.

iii. 1[B][3][c]: "a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration"

97. Limitation 1[B][3][c] recites "a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration." As discussed in limitation 1[B][2] above, and as I explain below, Kiyota discloses this limitation.

98. Kiyota discloses second catch structures that comprise "connecting portions 24" on the underside of "openable lid 20." As shown in Figures 2 and 5 below, the "connecting portions 24" engage with the "hook-like stopper pieces 45" (i.e. first catch structures) on the "lock release buttons 40" to retain the mouthpiece assembly in the stowed configuration:



Ex. 1004, Figs. 2, 5. Kiyota further discloses:

> "since the mouthpiece tube 30 is stored within the storing portion 16 in the pushed and folded condition against its elasticity by the presser piece 25, upward force acts on the presser piece 25, thereby coupling receiving pieces 24a, 24a of each connecting portion 24, 24 with lower edge portions 45 a, 45 a of each stopper piece 45, 45 strongly."

Ex. 1004, 10:32-37.

d. **1[B][3]: "a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration, wherein the user release mechanism comprises a displacement mechanism with a user engagement pad, wherein the displacement mechanism is configured to displace the first catch structure to selectively disengage the first and the second catch structures, and wherein the user release mechanism is biased to urge the displacement mechanism away from a position where the**

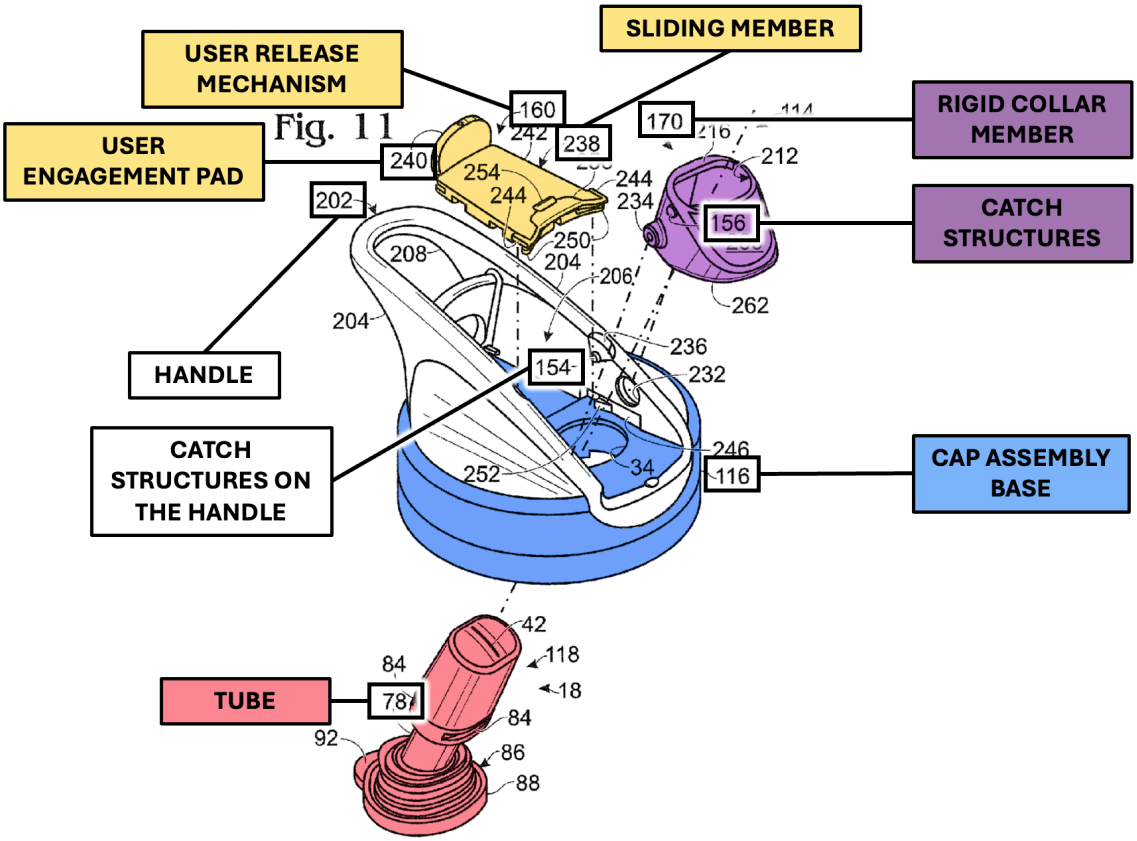
displacement mechanism disengages the first and second catch structures."

99. Limitation 1[B][4] recites that the mouthpiece assembly comprises " a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration, wherein the user release mechanism comprises a displacement mechanism with a user engagement pad, wherein the displacement mechanism is configured to displace the first catch structure to selectively disengage the first and the second catch structures, and wherein the user release mechanism is biased to urge the displacement mechanism away from a position where the displacement mechanism disengages the first and second catch structures." As discussed above, I understand this claim limitation is a means-plus-function limitation, and is thus governed by 35 U.S.C. § 112, paragraph 6.

100. As recited in this claim limitation, the function of the "user release mechanism" is "to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration." Ex. 1001, Claim 1. As discussed above, the '187 Patent specification discloses two embodiments of the user release mechanism. As I

explain below, it is my opinion that Kiyota discloses a user release mechanism that is equivalent to the first of these two embodiments.

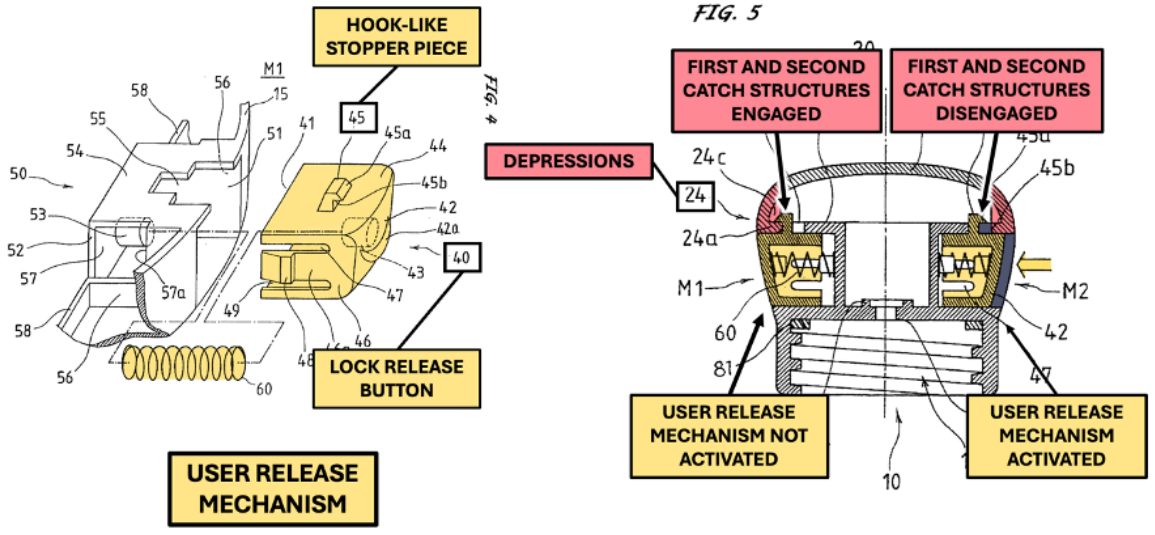
101. In the first embodiment described in the '187 Patent, the user release mechanism includes a "user engagement pad 240" and "sliding member 238," as shown below.



Ex. 1001, Fig. 11. In this embodiment, the mouthpiece is held in its closed configuration by catch structures 156 on rigid collar member 170 which engage with catch structures 154 on handle 202. The user activates the user release mechanism by pressing "user engagement pad 240," which forces the "sliding member 238" to

move between "base 116" and "rigid collar member 170," which pressing the collar upwards with suffiient force to disengage catch structures 154 and 156. With the catch structures disengaged, the mouthpiece pivots into its dispensing configuration due to the bias created by the bend in tube 78. Ex. 1001, 12:50-13:39 (describing first embodiment).

102. Kiyota discloses an equivalent structure to the embodiment described above. Specifically, Kiyota discloses "lock release buttons 40" that are adapted to automatically disengage the "hook-like stopper pieces 45" (i.e. first catch structures) and "connecting portions 24" (i.e. second catch structures) upon actuation of the buttons.



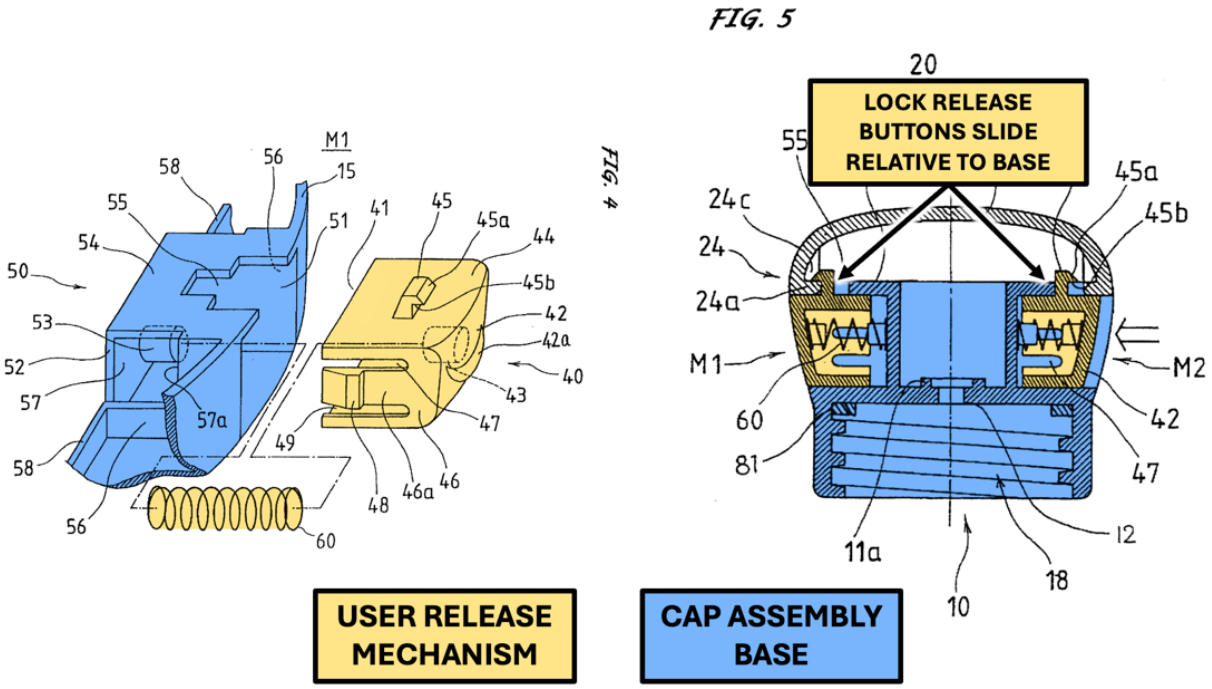
Ex. 1004, Figs. 4, 5. According to Kiyota, when "lock release buttons 40[] are simultaneously depressed in the radial direction . . . each stopper piece 45[] are

slipped away from the depressions 24[]." Ex. 1004, 8:66-9:13. Kiyota further discloses that upon disengagement of hook-like stopper pieces and connecting pieces, "mouthpiece tube 30 pushes the top board 21 by its elastic force, automatically opens the openable lid 20 with pressure and stands by outwardly projecting from the storing portion 16." Ex. 1004, 9:11-13.

103. Kiyota's structures that perform the claimed user release mechanism function are equivalent to the first embodiment described in the '187 Patent. That is because they perform the same function, in the same way, to achieve the same result. For example, in the first embodiment of the '187 Patent, the user pushes a sliding element forward, towards the mouthpiece assembly, to disengage the catch structures. Kiyota's mechanism functions in substantially the same way: a user presses the release buttons, which slide toward the mouthpiece assembly to automatically disengagement the catch structures.

104. Kiyota additionally discloses "lock release buttons 40," which are "movably fixed within… socket 50." Ex. 1004, 6:1-3. To open Kiyota's openable lid 11, both lock release buttons 40 "are moved in the inside direction of the sockets 50[]. (arrow direction of FIG. 5)" and "the lower edge portions 45b[] of each stopper piece 45[] are separated from depressions 24c[] of each connecting portion 24[]." (*Id*. at 7:60-64). A POSITA would understand that, because "socket 50" is part of

Kiyota's "main body portion 10" (i.e. cap assembly base) "lock release buttons 40" slide relative to the cap assembly base when activated.



Id., Figs. 2, 5.

105. Additionally, Kiyota discloses that "spring 60" pushes "lock release button 40" away from back plate 52. "The lock release button 40, by energization force of the spring 60, in FIG. 4, moves to the right direction." *Id*. at 7:3-4. A POSITA would understand that "spring 60" biases Kiyota's "lock release button 40" (i.e. Kiyota's user release mechanism) away from a position where the sliding member disengages the first and second catch structures.

106. I understand that in co-pending litigation, the Patent Owner contends

the "user release mechanism" limitation should not be construed as a means-plus-function claim term. Although I disagree with Patent Owner's contention, it is my opinion that Kiyota nonetheless discloses a structure that performs the function recited in the claim.

107. Accordingly, Kiyota discloses each element of claim 1, and therefore it is my opinion that Kiyota anticipates Claim 1. To the extent there are any differences between Claim 1 and Kiyota's disclosures, it is also my opinion that Claim 1 would have been obvious over Kiyota, in view of the knowledge of a person of ordinary skill in the art.

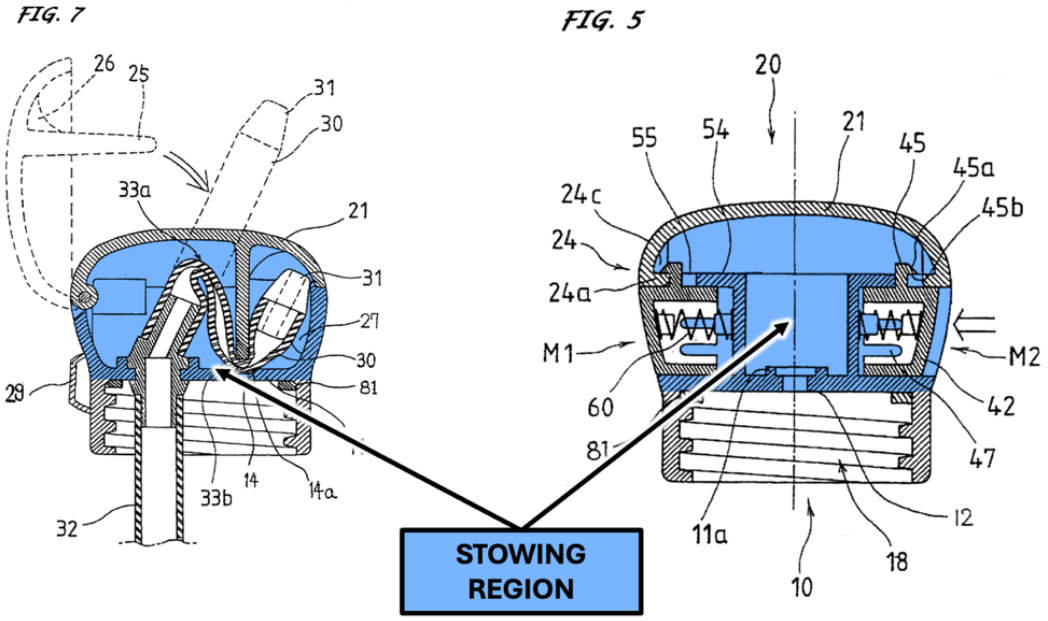
B. Claim 3 is Obvious over Kiyota in view of Choi

108. Claim 3 depends from Claim 1, and thus incorporates the limitations of Claim 1. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 1.

109. Claim 3 further recites, "wherein the cap assembly defines a stowing region sized to receive at least a portion of the mouthpiece assembly when the mouthpiece assembly is in the stowed configuration." As I explain below, Kiyota discloses this additional limitation.

110. For example, Kiyota discloses "storing portion 16." "The main body portion 10 is divided into a storing portion 16 positioned upward from a baseplate

11 and a thread portion 18 positioned downward by a baseplate 11, and the storing portion 16 is shaped bowl-like having a peripheral wall portion 15 expandably rising from the periphery of the baseplate 11 to the upper part." Ex. 1004, 4:66-5:4. The "storing portion 16" is shown below.



Id., Figs. 5, 7.

111. Additionally, as shown above, Kiyota discloses that "mouthpiece tube 30" is stored in "storing portion 16" when "openable lid 11" is closed (i.e. when the mouthpiece assembly is in its stowed configuration). "[W]hen the openable lid 20 is closed, the mouthpiece tube 30 is… stored within the storing portion 16." (Id. at 10:13-16)."

112. Accordingly, it is my opinion that Kiyota discloses the additional

limitation of Claim 3, and thus anticipates this claim. It is also my opinion that Claim 3 would have been obvious over Kiyota, in view of the knowledge of a person of ordinary skill in the art.

C. Claim 4 is Obvious over Kiyota in view of Choi

113. Claim 4 depends from Claim 1, and thus incorporates the limitations of Claim 1. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 1.

114. Claim 4 further recites, "wherein the rigid collar member comprises a collar aperture and wherein the mouthpiece portion extends past the collar aperture." As I discuss below, this limitation would have been obvious over Kiyota in view of Choi.

115. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi.

116. As discussed above, a person of skill in the art would have been motivated to combine the rigid collar member and mouthpiece of Choi with the cap assembly of Kiyota. Choi's rigid collar member (mount 100) includes a collar aperture, and Choi's mouthpiece 72 extends past the collar aperture.

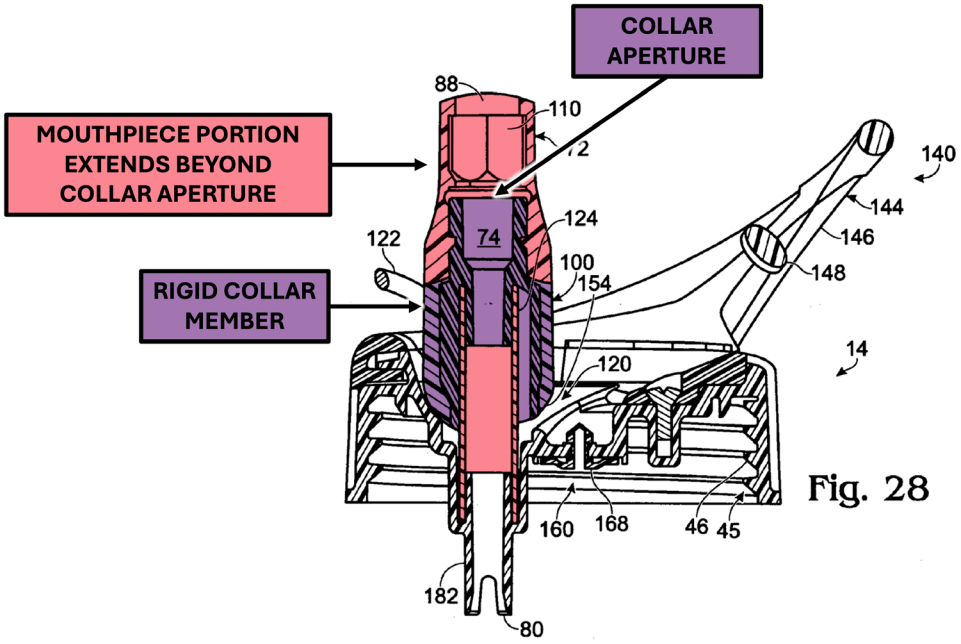


Fig. 28

Ex. 1005, Fig. 28.

117. Accordingly, Claim 4 would have been obvious to a POSITA in over Kiyota in view of Choi.

D. Claim 5 is Obvious over Kiyota in view of Choi

118. Claim 5 depends from Claim 1, and thus incorporates the limitations of Claim 1. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 1.

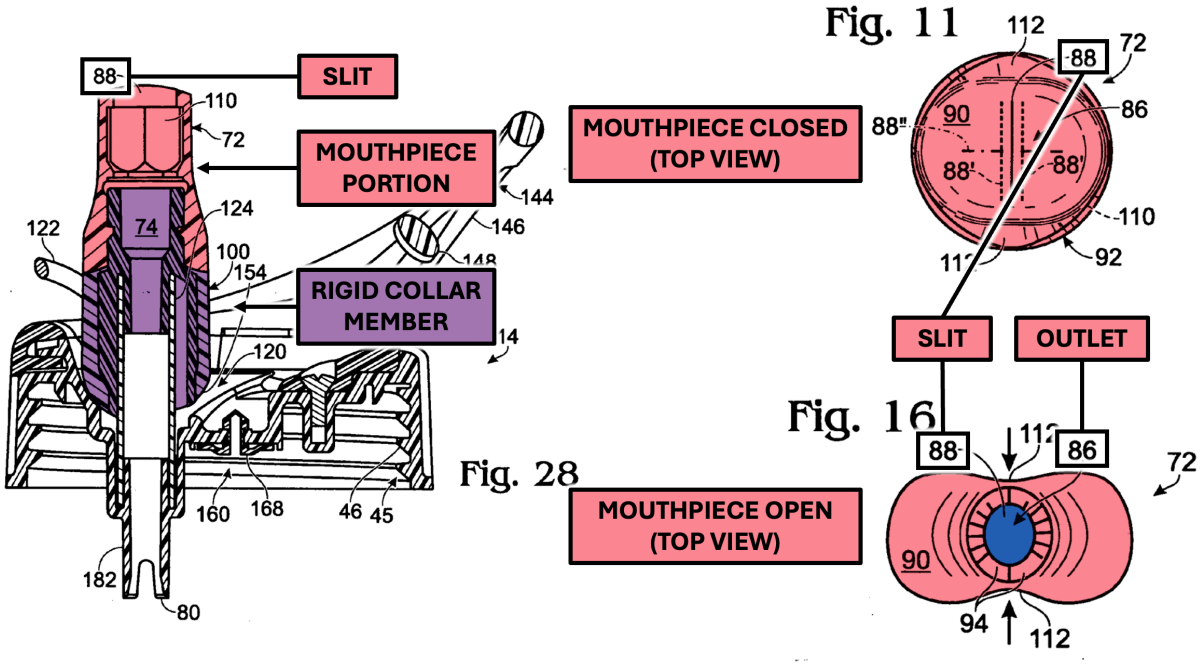
119. Claim 5 further recites, "wherein the mouthpiece portion is constructed of a resiliently deformable material." As I explain below, Kiyota discloses this additional limitation.

120. Kiyota discloses that its mouthpiece portion (the end of mouthpiece

tube 30) is constructed of a resiliently deformable material "[M]outhpiece tube 30…, for example, is a tubular member made of elastic and flexible synthetic resin" Ex. 1004, 9:66-67).

121. Accordingly, it is my opinion that Kiyota discloses the additional limitation of Claim 5, and thus anticipates this claim. It is also my opinion that Claim 5 would have been obvious over Kiyota, in view of Choi. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi.

122. Choi also discloses that its "bite-actuated mouthpiece 72" (i.e. mouthpiece portion) is constructed of a resiliently deformable material. "Mouthpiece 72 is resilient," Ex. 1005, ¶0052. "Bite-actuated mouthpieces are deformable." *Id*. at ¶0004. Choi also discloses that "mouthpiece 72" includes "opening 86" (i.e. an outlet). "[D]rink fluid may be dispensed through the self-sealing opening 86 in the mouthpiece." Ex. 1005, ¶0081. As discussed above, it is my opinion that a person of ordinary skill in the art would have been motivated to use the rigid collar member and mouthpiece portion of Choi with the mouthpiece assembly of Kiyota.



Id., Figs. 11, 16, and 28.

123. Accordingly, it is my opinion that Claim 6 would have been obvious over Kiyota, in view of Choi and/or and the knowledge of a person of ordinary skill in the art.

E. Claim 6 is Obvious over Kiyota in view of Choi

124. Claim 6 depends from Claim 5, and thus incorporates the limitations of Claim 6. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 5.

125. Claim 6 further recites, "wherein the mouthpiece assembly includes mouthpiece-securing structure that secures the mouthpiece portion to the rigid collar member and restricts relative movement between the mouthpiece portion and the

rigid collar member." It is also my opinion that Claim 6 would have been obvious over Kiyota, in view of Choi. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi.

126. Choi discloses mouthpiece assembly that a "mount 100" (i.e. a rigid collar member) "to which the bite-actuated mouthpiece is removably mounted, or secured." Ex. 1005, ¶0046. Figure 29, below, illustrates the mouthpiece securing structure.

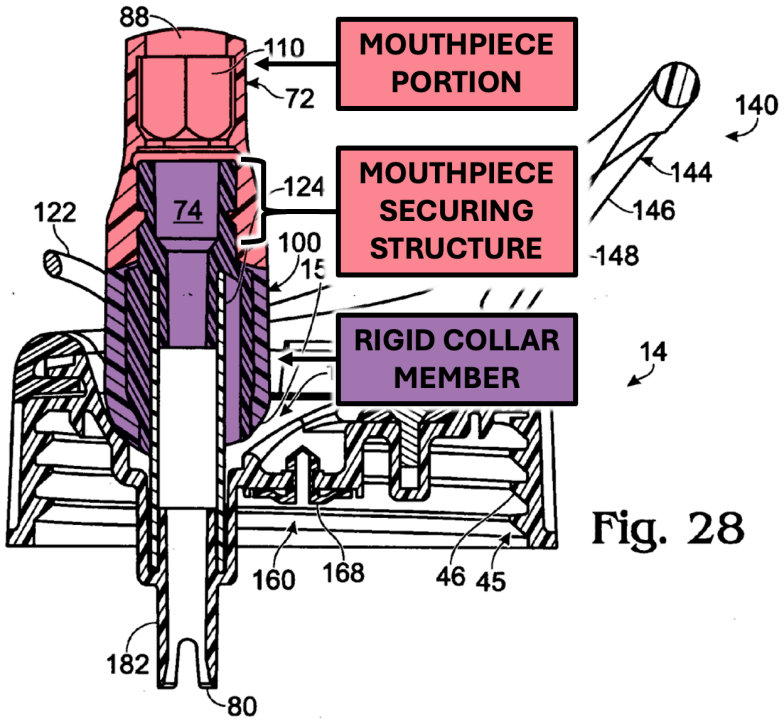


Fig. 28

Ex. 1005, Fig. 28. A person of skill in the art would understand that when a mouthpiece is secured to the rigid collar member as described in Choi and discussed

above in connection with claim 1, relative movement between the two connected components is restricted.

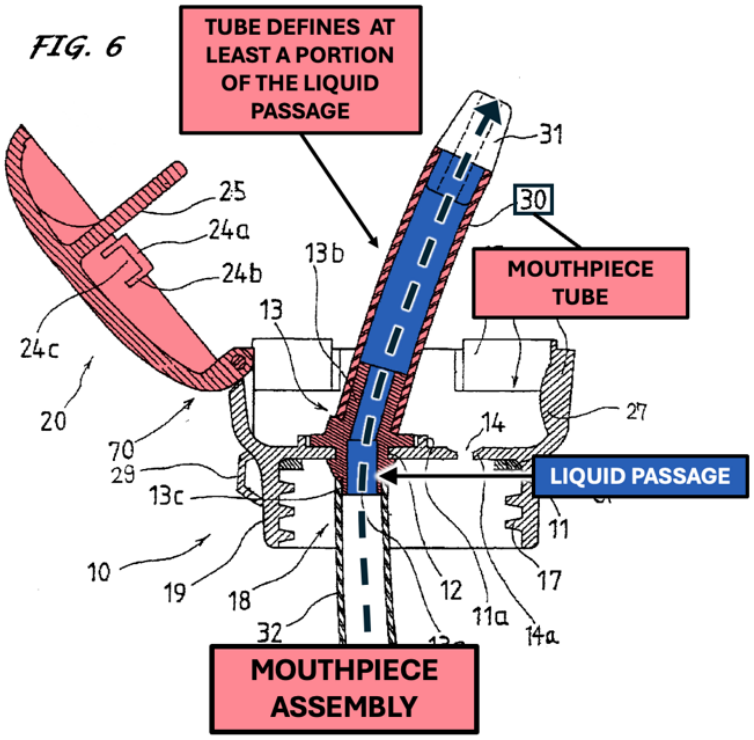
127. Accordingly, it is my opinion that Claim 6 would have been obvious over Kiyota, in view of Choi and the knowledge of a person of ordinary skill in the art.

F. Claim 7 is Obvious over Kiyota in view of Choi

128. Claim 7 depends from Claim 5, and thus incorporates the limitations of Claim 5. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 5.

129. Claim 7 further recites, "wherein the mouthpiece assembly comprises a tube portion that defines at least a portion of the liquid passage for drink liquid to flow from the internal compartment to the mouthpiece portion." As I discuss below, it is my opinion that this limitation would have been obvious over Kiyota in view of Choi. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi.

130. As shown below, Kiyota's mouthpiece tube 30 defines at least a portion of the liquid passage.



Ex. 1004, Fig. 6.

131. Choi discloses "a flexible tube, or conduit 124 that in FIG. 28 fluidly interconnects the inlet 80 of the fluid conduit with the internal chamber 110 of the mouthpiece." (Ex. 1005, ¶0085).

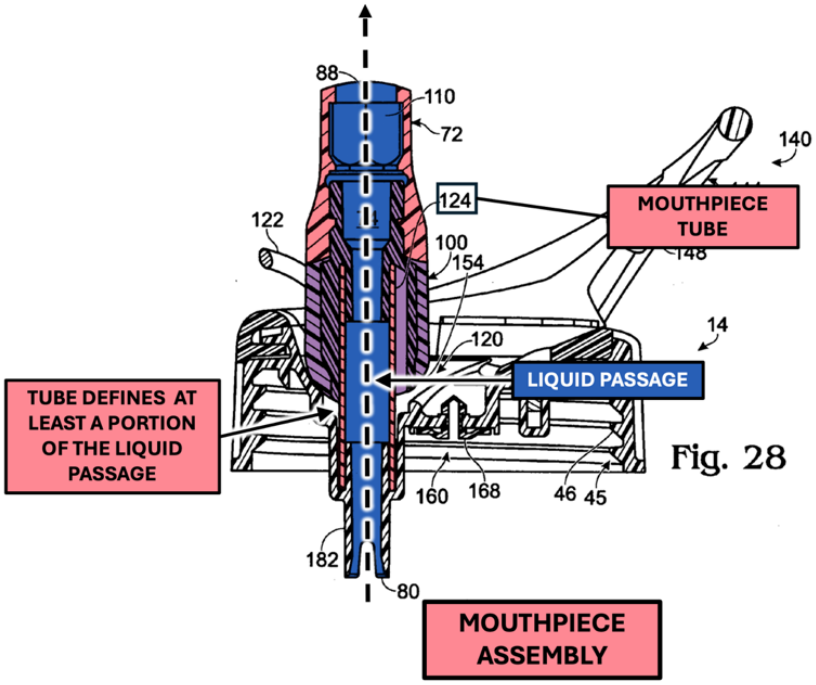


Fig. 28

Id., Fig. 28.

132. Accordingly, it is my opinion that Claim 7 would have been obvious over Kiyota, in view of Choi and the knowledge of a person of ordinary skill in the art.

G. Claim 8 is Obvious over Kiyota in view of Choi

133. Claim 8 depends from Claim 7, and thus incorporates the limitations of Claim 7. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 7.

134. Claim 8 further recites, "wherein the tube portion includes structure for securing the tube portion to the rigid collar member and restricting relative movement between the tube portion and the rigid collar member." As I discuss

below, it is my opinion that this limitation would have been obvious over Kiyota in view of Choi. As discussed above, although Kiyota does not disclose a rigid collar member, it is my opinion that adding a rigid collar member, would have been obvious in view of Choi.

135. As shown below, Choi discloses that its "tube 124" extends at least partially through "mount 100." "[T]he on/off valve includes a flexible tube, or conduit 124 that in FIG. 28 fluidly interconnects the inlet 80 of the fluid conduit with the internal chamber 110 of the mouthpiece" Ex. 1005, ¶0085.

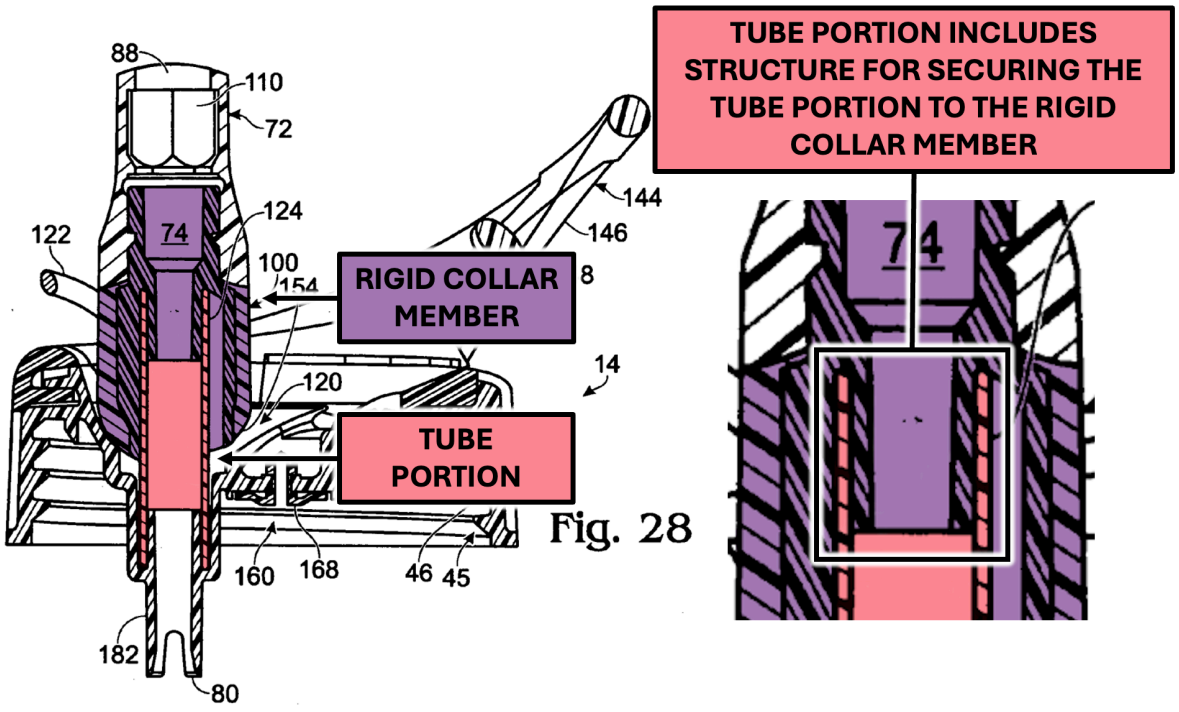


Fig. 28

Ex. 1005, Fig. 28. A person of art would understand that, while the tube is secured to the rigid collar member, relative movement between the two components is

restricted.

136. Accordingly, it is my opinion that Claim 5 would have been obvious over Kiyota, in view of Choi and the knowledge of a person of ordinary skill in the art.

H. Claim 9 is Anticipated by, and/or Obvious over Kiyota

137. Claim 9 depends from Claim 7, and thus incorporates the limitations of Claim 7. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 7.

138. Claim 9 further recites, "wherein one of the mouthpiece portion and the tube portion includes the mouthpiece-securing structure; wherein the mouthpiece-securing structure includes one or more of a channel and a depression; wherein the rigid collar member includes one or more of a lip, a flange, and a protrusion; and wherein the one or more of the channel and the depression defines a seat that engages and mates with the one or more of the lip, the flange, and the protrusion." As I explain below, this limitation would have been obvious over Kiyota in view of Choi.

139. As shown below, Choi discloses "mount 100" (i.e. a rigid collar member) that includes a includes a lip, flange, or protrusion, and "mouthpiece 72" that includes a channel or depression that defines a seat that engages and mates with the lip, flange, or protrusion of" mount 100."

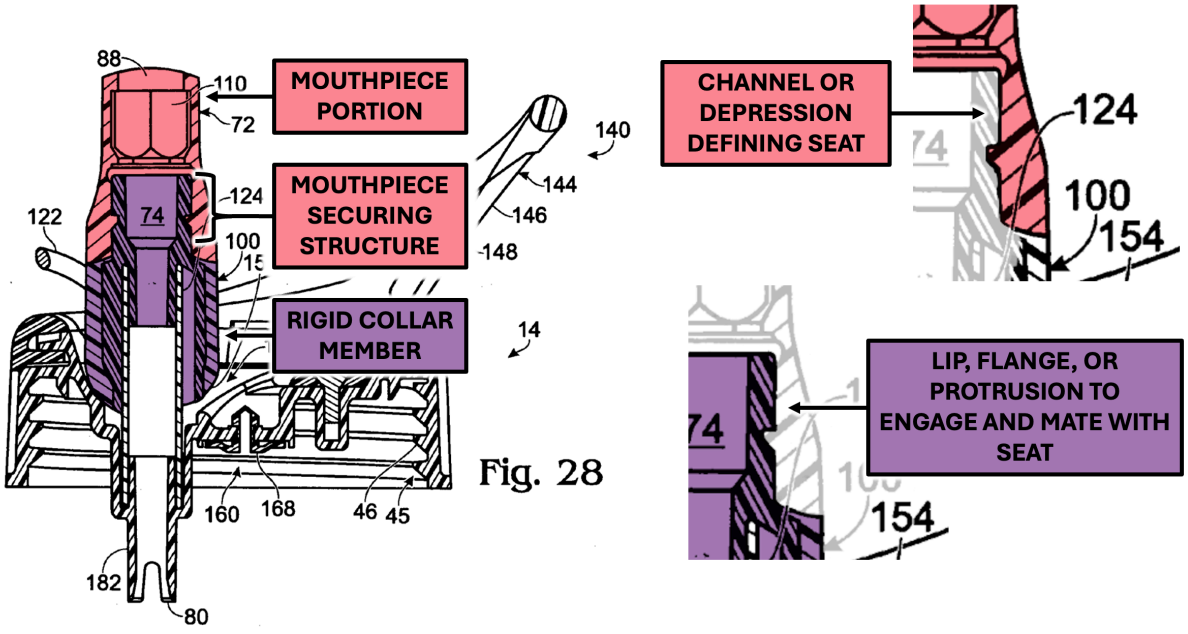


Fig. 28

Ex. 1005, Fig. 28.

140. Accordingly, it is my opinion that Claim 9 would have been obvious over Kiyota in view of Choi.

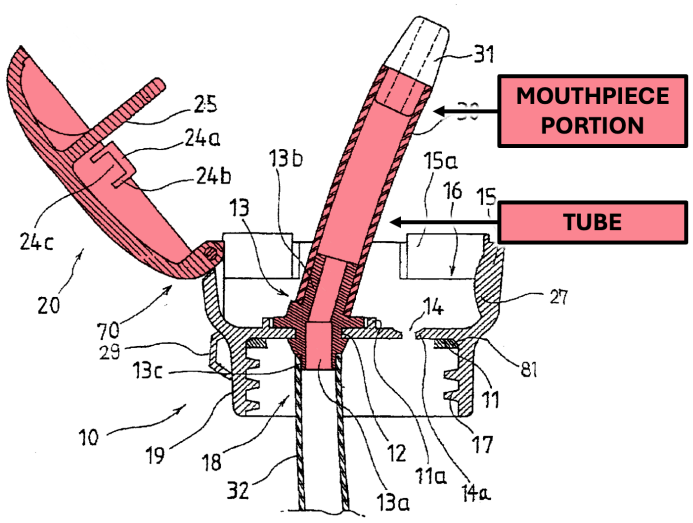
I. Claim 11 is Obvious over Kiyota in view of Choi and Ribarits

141. Claim 11 depends from Claim 7, and thus incorporates the limitations of Claim 7. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 7.

142. Claim 11 further recites, "wherein the mouthpiece portion and the tube portion are constructed as a unitary assembly of the resiliently deformable material." As I explain below, this limitation would have been obvious over Kiyota in view of Choi and Ribarits.

143. As shown below, Kiyota discloses "mouthpiece tube 30" which includes a tube portion and a mouthpiece portion (the end of "mouthpiece tube 30"). As discussed above, Kiyota's mouthpiece and tube portions are constructed of the same resiliently deformable material. Because Kiyota's mouthpiece portion is simply the end of its tube portion, the two portions are necessarily constructed as a unitary assembly.

FIG. 6



Ex. 1004, Fig. 6.

144. As discussed above, a person of skill in the art would have been motivated to add Choi's rigid collar member and bite-actuated mouthpiece to Kiyota's cap assembly. Although Choi discloses a tube and a mouthpiece portion constructed of resilient material, Choi's tube and mouthpiece portion are not constructed as a unitary assembly.

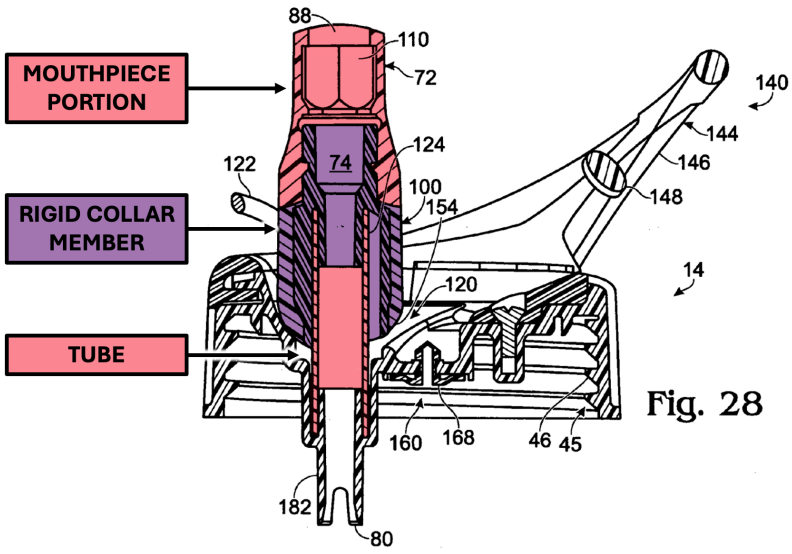
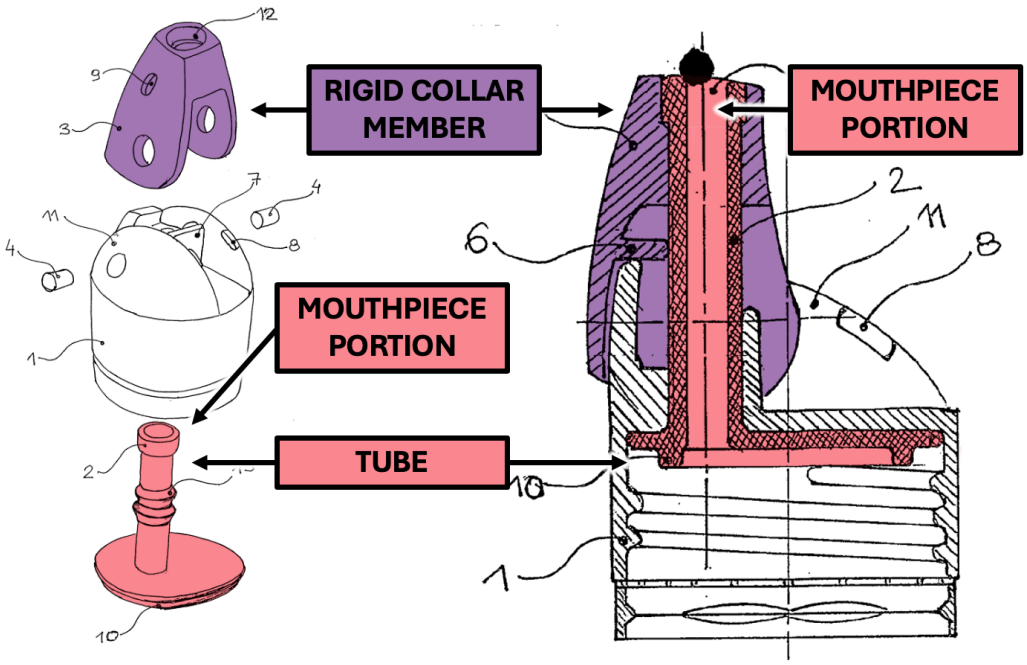


Fig. 28

Ex. 1005, Fig. 28.

145. It is nevertheless my opinion that constructing the tube and mouthpiece portion as a unitary assembly would have been obvious to a person of skill in the art in light of Ribarits. Ribarits discloses a pivoting rigid collar member (spout 3), which is pivotally mounted in a conventional threaded cap. (Ex. 1009, 2). A tube (sealing tube element 2) includes a mouthpiece portion constructed as a unitary assembly of resiliently deformable material (rubber or latex). (*Id.*).



Id., Figs 2, 3.

146. Ribarits is very similar to both Kiyota and Choi. All three references disclose cap assemblies for use with drink containers containing drink liquid and all three have substantially the same functionality, namely, mouthpiece assemblies with open and closed configurations, resilient mouthpieces, and crimpable tubes. Each reference addresses the same problem of an easily sealable mouthpiece assembly for use with a drink container, and each addresses the problem in the same way, i.e. by crimping the tube.

147. Kiyota, Choi, and Ribarits each disclose slightly different, interchangable, configurations of components in their respective cap assemblies. Kiyota and Ribarits both disclose a tube and mouthpiece that are constructed as a

unitary assembly of a resiliently deformable material. Choi and Ribarits both disclose a rigid collar member. A person of skill in the art would recognize that the three configurations disclosed by Kiyota, Choi, and Ribarits are interchangeable.

148. A person of skill in the art would have been motivated for multiple reasons to combine the unitary construction of resiliently deformable material disclosed in Ribarits and Kiyota with the rigid collar member disclosed in Ribarits and Choi. For example, it would have been obvious to a person of skill to make Choi's multiple pieces integral because use of one-piece construction has been recognized as merely a matter of obvious engineering choice. *In re Larson*, 340 F.2d 965, 968 (CCPA 1965).

149. Further, a person of skill in the art would have been incentivized to have fewer parts. A person of skill would recognize that Choi's separate tube and mouthpiece portions could be molded as a single piece of resiliently deformable material based on the disclosure in Kiyota and Ribarits and/or their own knowledge. A person of skill would have recognized that not only would this save on the number of parts to be molded, but would have provided improved safety for the drink container. It has long been understood that it is best to avoid potentially small parts that could present a choking hazard if disassembled, such as potentially could occur with the mouthpiece 72 of Choi. A person of skill in the art would have recognized

that a unitary assembly could be easily inserted through the rigid collar member, as in Ribarits.

150. Additionally, the combination of Kiyota, Choi, and Ribarits involves the simple substitution of one known element for another—Choi's two-part assembly for the unitary assembly of Kiyota and Ribarits. A person of skill in the art would have recognized that a unitary assembly would provide comparable overall functionality and also improved safety. A person of skill would also have recognized a drink container with a mouthpiece portion and tube constructed as a unitary assembly as disclosed in Kiyota and Ribarits would yield predictable results.

151. A person person of skill in the art also would have reasonably expected success in combining the unitary assembly of Kiyota and Ribarits with the rigid collar member of Choi and Ribarits. For example, a person of skill would have readily understood that Ribarits had already successfully achieved such a combination. Additionally, a person of skill would have readily understood that Choi could accommodate the unitary assembly. Thus, the combination would have involved no more than the routine substitution of one multi-part assembly (Choi) for another of unitary construction (Kiyota and Ribarits) to provide the same desired functionality, albeit with improved safety.

152. Accordingly, it is my opinion that Kiyota discloses the additional

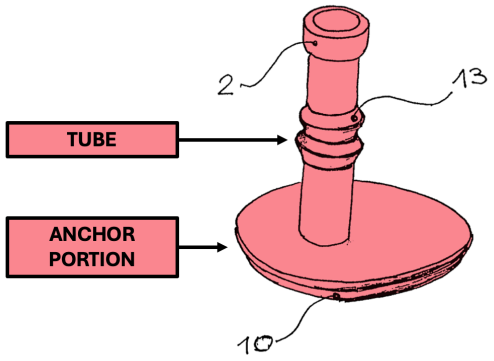
limitation of Claim 11, and thus anticipates this claim. It is also my opinion that Claim 11 would have been obvious over Kiyota, in view of the knowledge of a person of ordinary skill in the art.

J. Claim 12 is Obvious over Kiyota in view of Choi and Ribarits

153. Claim 12 depends from Claim 7, and thus incorporates the limitations of Claim 7. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 7.

154. Claim 12 further recites, "wherein the mouthpiece assembly further includes an anchor portion that extends from the tube portion." As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the mouthpiece assembly of Kiyota.

155. Ribarits discloses "projecting sealing rings 10" (i.e. anchor portions) that project from the end of its "sealed tubular element 2" (i.e. tube). "[T]the sealed tubular element (2) has… projecting sealing rings (10)." (Ex. 1009, 3).



(*Id*., Figs 2).

156. Accordingly, it is my opinion that Ribarits discloses the additional limitation of Claim 12, and thus Claim 12 would have been obvious over Kiyota, in view of Choi and Ribarits.

K. Claim 13 is Obvious over Kiyota in view of Choi and Ribarits

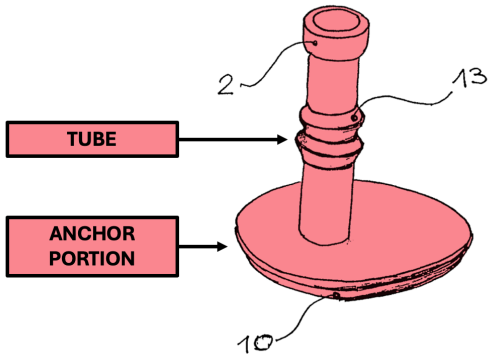
157. Claim 13 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Kiyota, Choi, and Ribarits disclose and/or render obvious each limitation of Claim 12.

158. Claim 13 further recites, "wherein the anchor portion has a greater exterior perimeter than the tube portion." As I explain below, this limitation would have been obvious over Kiyota in light of Choi and Ribarits.

159. As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the

mouthpiece assembly of Kiyota.

160. As shown below, "projecting sealing rings 10" (i.e. the anchor portion) have a greater exterior perimeter than "sealed tubular element 2" (i.e. the tube portion).



Ex. 1009, Fig 2.

161. Accordingly, it is my opinion that Ribarits discloses the additional limitation of Claim 13, and thus Claim 13 would have been obvious over Kiyota, in view of Choi and Ribarits.

L. Claim 14 is Obvious over Kiyota in view of Choi and Ribarits

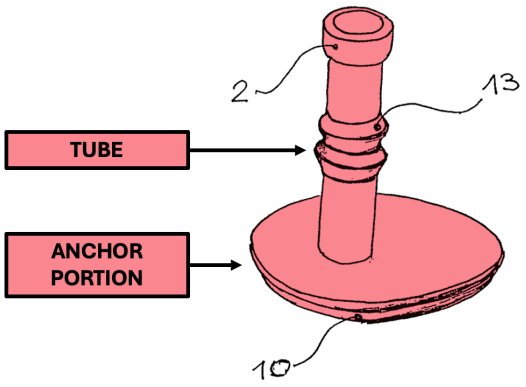
162. Claim 14 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Kiyota, Choi, and Ribarits disclose and/or render obvious each limitation of Claim 12.

163. Claim 14 further recites, "wherein the anchor portion and tube portion are constructed as a unitary assembly of the resiliently deformable material." As I

explain below, it is my opinion that this limitation would have been obvious over Kiyota in light of Choi and Ribarits.

164. As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the mouthpiece assembly of Kiyota.

165. Ribarits discloses that its anchor portion and tube are constructed as a unitary assembly of resiliently deformable material. Ex. 1009, 2.



Id. Fig. 2.

166. Accordingly, it is my opinion that Kiyota discloses the additional limitation of Claim 14, Claim 14 would have been obvious over Kiyota, in view of Choi and Ribarits.

M. Claim 15 is Obvious over Kiyota in view of Choi and Ribarits

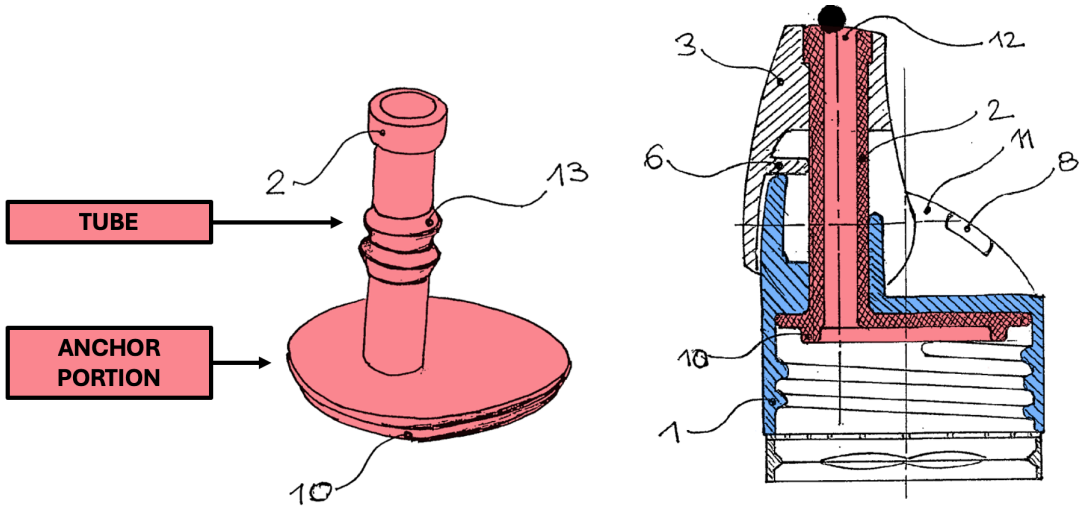
167. Claim 15 depends from Claim 12, and thus incorporates the limitations

of Claim 12. As explained above, it is my opinion that Kiyota, Choi, and Ribarits disclose and/or render obvious each limitation of Claim 12.

168. Claim 15 further recites, "wherein the anchor portion defines a recess that is sized and shaped to engage and mate with corresponding structure of the base of the cap assembly." As I explain below, this limitation would have been obvious over Kiyota in light of Choi and Ribarits.

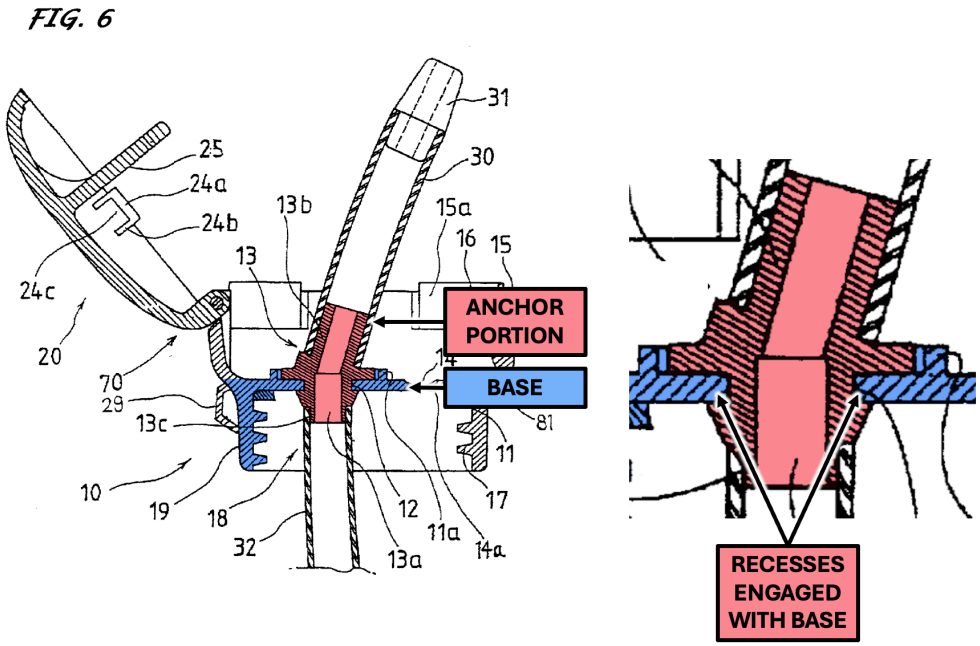
169. As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the mouthpiece assembly of Kiyota.

170. Ribarits discloses a tube with an anchor portion that, as shown below, is sized and shaped to engage and mate with the base of the cap assembly, but does not define a recess.



Ex. 1009, Figs. 2, 3.

171. Kiyota discloses an anchor portion that, as shown below, defines a recess created by flanges on either side of the opening in the base. The recess is sized and shaped to engage and mate with the corresponding structure of the base of the cap assembly.



Ex. 1004, Fig. 6.

172. It is my opinion that it would have been obvious to a person of skill in the art to combine the recessed design of Kiyota's anchor portion with the unitary construction of Ribarits. Such a person would have been motivated to do so because of the additional protection against leaks that such a design would provide. First, a recess in the anchor around a corresponding structure in the base would improve the

connection and seal between the tube and the base. Second, a recessed design would support the anchor portion from above and below the through-passage, preventing the anchor portion from becoming mis-aligned during use, ensuring a tight, consistent seal.

173. A person of skill in the art also would have reasonably expected success in combining the recessed design of Kiyota's portion with the anchor portion of Ribarits. For example, a person of skill would have readily understood that Ribarits could accommodate a recessed design. Thus, the combination would have involved no more than the routine substitution of an anchor portion without recesses for another with recesses to provide the same desired functionality, albeit with an improved leak prevention.

174. Accordingly, it is my opinion that Kiyota discloses the additional limitation of Claim 15, and thus Claim 15 would have been obvious over Kiyota, in view of Choi and Ribarits.

N. Claim 16 is Obvious over Kiyota in view of Choi and Ribarits

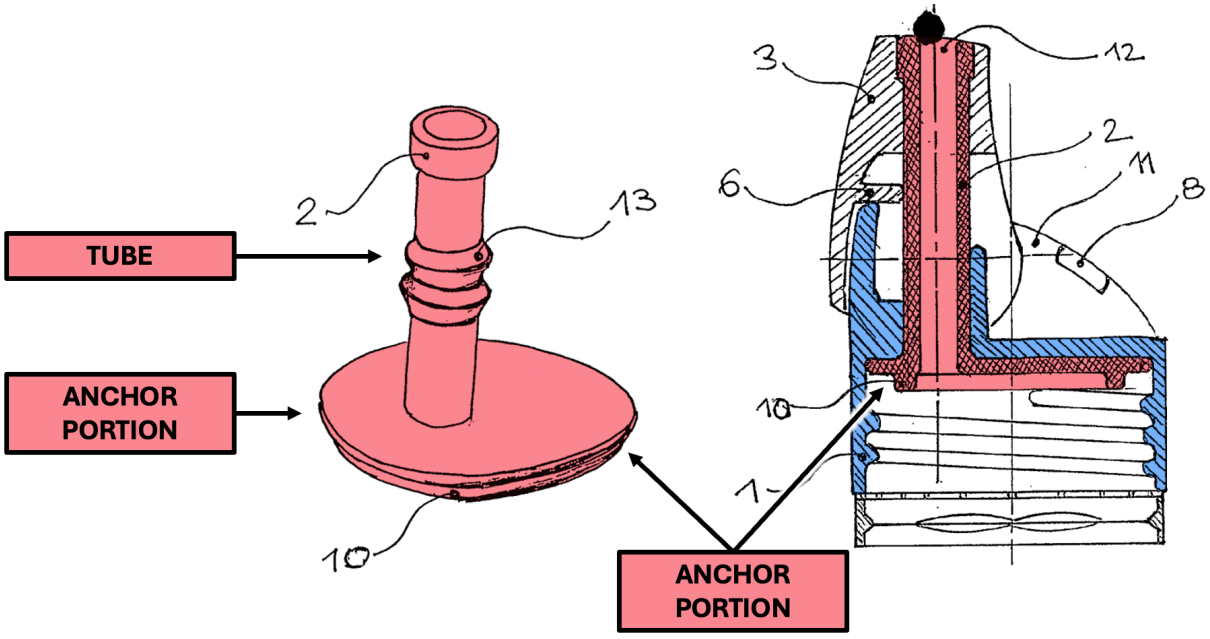
175. Claim 16 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Kiyota, Choi, and Ribarits disclose and/or render obvious each limitation of Claim 12.

176. Claim 16 further recites, "wherein the anchor portion includes a

projecting flange that provides a friction-fit arrangement with the through-passage of the base." As I explain below, this limitation would have been obvious over Kiyota in light of Choi and Ribarits.

177. As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the mouthpiece assembly of Kiyota.

178. Ribarits discloses that its anchor portion is a projecting flange (sealing ring 10) that provides a friction-fit arrangement with the through-passage of the base.



(Ex. 1009, Figs. 2, 3).

179. Accordingly, it is my opinion that Kiyota discloses the additional

limitation of Claim 16, and thus Claim 16 would have been obvious over Kiyota, in view of Choi and Ribarits.

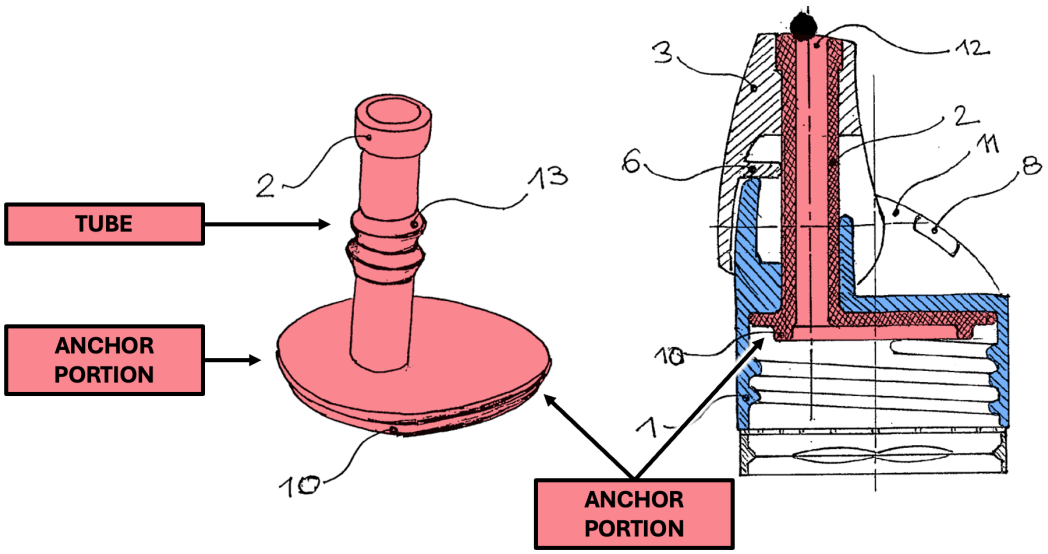
O. Claim 17 is Obvious over Kiyota in view of Choi and Ribarits

180. Claim 17 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Kiyota, Choi, and Ribarits disclose and/or render obvious each limitation of Claim 12.

181. Claim 17 further recites, "wherein the anchor portion is sized to restrict passage of the anchor portion through the through-passage and thus restrict removal of the mouthpiece assembly via a top side of the cap assembly." As I explain below, this limitation would have been obvious over Kiyota in light of Choi and Ribarits.

182. As discussed above, it is my opinion that it would have been obvious to a person of skill in the art to combine the rigid collar member and mouthpiece of Choi, and the unitary tube, anchor portion, and mouthpiece portion of with the mouthpiece assembly of Kiyota.

183. Ribarits discloses an anchor portion that is sized to restrict passage of the anchor portion through the through-passage and prevents the mouthpiece assembly from being removed through the top side of the cap assembly.



Ex. 1009, Figs. 2, 3.

184. Accordingly, it is my opinion that Kiyota discloses the additional limitation of Claim 17, and thus Claim 17 would have been obvious over Kiyota, in view of Choi and Ribarits.

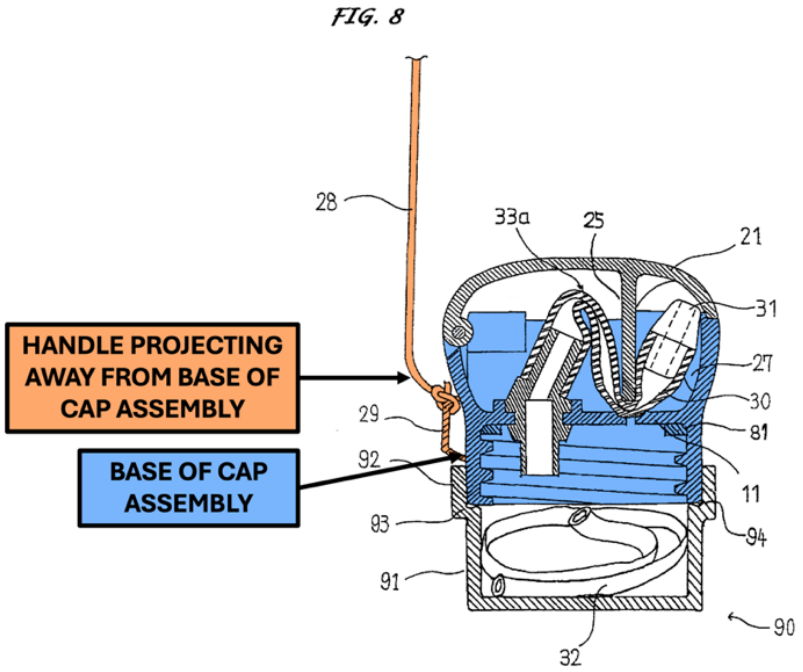
P. Claim 19 is Obvious over Kiyota and/or Choi

185. Claim 19 depends from Claim 1, and thus incorporates the limitations of Claim 1. As explained above, it is my opinion that Kiyota and Choi disclose and/or render obvious each limitation of Claim 1.

186. Claim 19 further recites, "wherein the cap assembly further comprises a handle that projects away from the base." As I explain below, Kiyota and Choi both discloses this additional limitation.

187. As shown in Figure 8 below, Kiyota discloses a handle that projects

away from the base of the cap assembly:

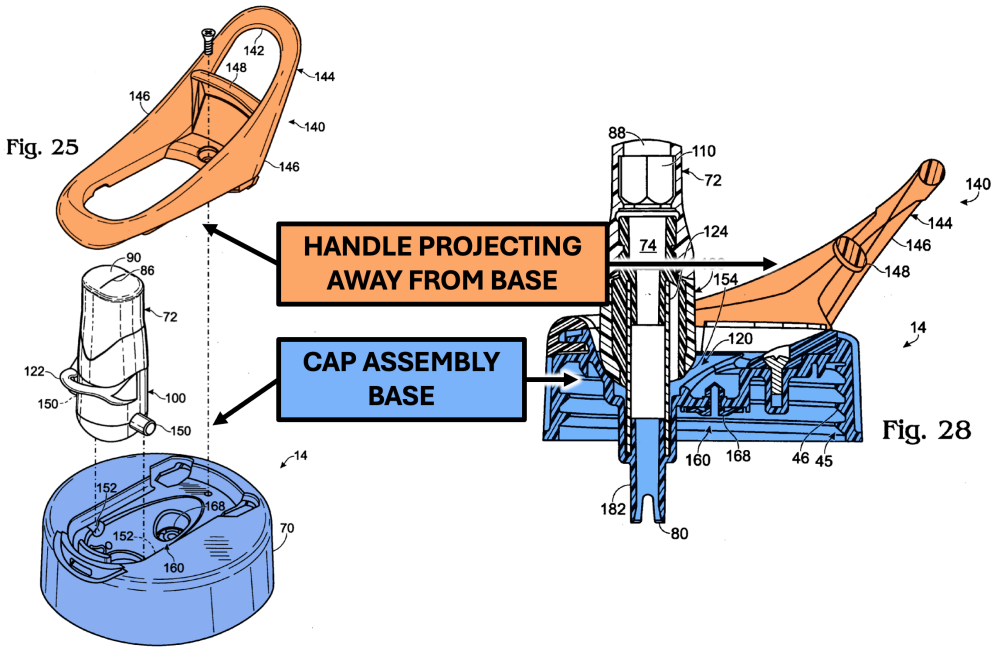


Ex. 1004, Fig. 8. Kiyota's handle is "hooking portion 29," which projects away from the base of "lid body 10." Kiyota also discloses that "strap-like body 28" can be tied to the hooking portion, which also projects upward and away from the base. A person of ordinary skill would have understood both the "hooking portion 29" individually, and in combination with the "strap-like body 28," to constitute a handle projecting away from the cap assembly base.

188. Although it is my opinion that a person of ordinary skill in the art would have understood Kiyota's "hooking portion 29" and "strap-like body 28" to constitute a "handle," as recited in Claim 6, to the extent Kiyota does not explicitly disclose a "handle," it is also my opinion that modifying Kiyota's "hooking portion

29" to form a more conventional handle would have been obvious to a person of ordinary skill. For example, Kiyota describes the desirability of carrying the lid and beverage container. *See, e.g.*, Ex. 1004, 8:33-38. A person of ordinary skill would have understood that Kiyota's "hooking portion" could be readily enlarged to accommodate a user's finger or hand, and thereby form a handle to grasp the device. A person of ordinary skill would have been motivated to make this change because it would not have altered the overall function or structure of Kiyota's cap assembly and would have provided an alternative mechanism by which to carry the device, in addition to Kiyota's strap.

189. Additionally, Choi discloses a handle that projects away from its cap assembly base. "The illustrative example of a cap assembly 14 shown in FIGS. 21-27 also includes a handle 140 that extends from the base of the cap assembly." (Ex. 1005, ¶0078).



(*Id.*, Figs. 25, 28). It would have been obvious to a person of skill in the art to enlarge Kiyota's "hooking portion" based on the larger handle disclosed by Choi.

190. Accordingly, it is my opinion that both Kiyota and Choi disclose the additional limitation of Claim 19, and thus anticipates this claim. It is also my opinion that Claim 19 would have been obvious over Kiyota, in view of the knowledge of a person of ordinary skill in the art.

V. GROUND 2: CLAIMS 1, 3-9, 11-14, 16-17, AND 19 WOULD HAVE BEEN OBVIOUS IN VIEW OF PARK AND RIBARITS

191. As I explain below, Park expressly discloses all the elements of claims 1, 3, and 19. As I also explain below, Ribarits discloses nearly all the elements of claims 1, 3-9, 11-14 and 16-17. To the extent Park does not expressly disclose any

element of claims 1, 3-9, 11-14, 16-17, and 19, it is my opinion that each of those claims would have been obvious over Park, or in the alternative, obvious over Park, in view Ribarits and the knowledge of a person skilled in the art at the time of invention of the '187 patent.

A. Claim 1 is Obvious over Park, in view of Ribarits

192. As discussed in detail in the sections that follow, Park discloses all the limitations of claim 1. For example, Park discloses a liquid container (i.e. "water bottle 100") having a removable cap assembly (i.e. "lid 110") with a through-passage (i.e. "discharge hole 11") in its base. Ex. 1006 at 4, Figs. 1-2. Park discloses a mouthpiece assembly that includes a mouthpiece portion (i.e. "straw 40"), a bracket portion, and a tube portion (i.e. "connecting hose 41") that defines a liquid passage and which is configured to be selectively pivoted between dispensing and stowed configurations. Ex. 1006 at 4, Figs. 5-6. The mouthpiece portion of Park's "straw 40" extends from the bracket portion, which constitutes a rigid collar member, and which is pivotally coupled to the cap assembly at hinge shaft 24. The tube of Park's mouthpiece assembly is constructed of a resiliently deformable material (i.e. "flexible soft material"), includes crimping regions that prevent the flow of liquid when in the stowed position, and is biased to the dispensing configuration. Ex. 1006 at 4.

193. Park also discloses a user release mechanism (i.e. "locking means") that includes first and second catch structures (i.e. "hook 32" and "protrusion 22") that engage to retain the mouthpiece assembly in the stowed configuration. Ex. 1006 at 4. Park's user release mechanism includes a sliding member (i.e. "operating button 30") that slides relative to the base of Park's cap assembly and which is biased via "spring 31" away from the position wherein "hook 32" and "protrusion 22" are disengaged. Ex. 1006 at 4.

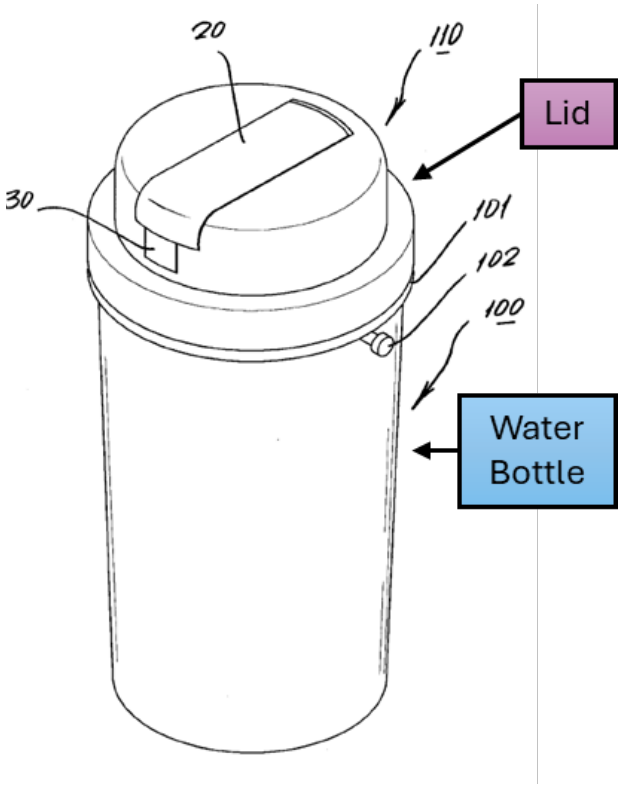
194.

195. As discussed below, Ribarits also discloses nearly all the limitations of claim 1. For example, Ribarits discloses a rigid collar member, namely a "drinking spout" that is pivotally coupled to Ribarits' cap assembly base and which extends around a "sealed tubular element." As I explain below in connection with limitations 1[B][3][a]-[b], to the extent a person of ordinary skill in the art would not have understood Park to disclose and/or render obvious the claimed "rigid collar member," it is my opinion that a person of ordinary skill in the art would have been motivated to combine Park and Ribarits, and that, in view of the teachings of Ribarits and the knowledge of a person of ordinary skill in the art, would have been motivated to replace Park's "straw 40" and "connecting hose 41" with Ribarits' "drinking spout" (i.e. rigid collar member) and "sealed tubular element."

1. Preamble: "A drink container"

196. 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, each of Park and Ribarits discloses "a drink container."

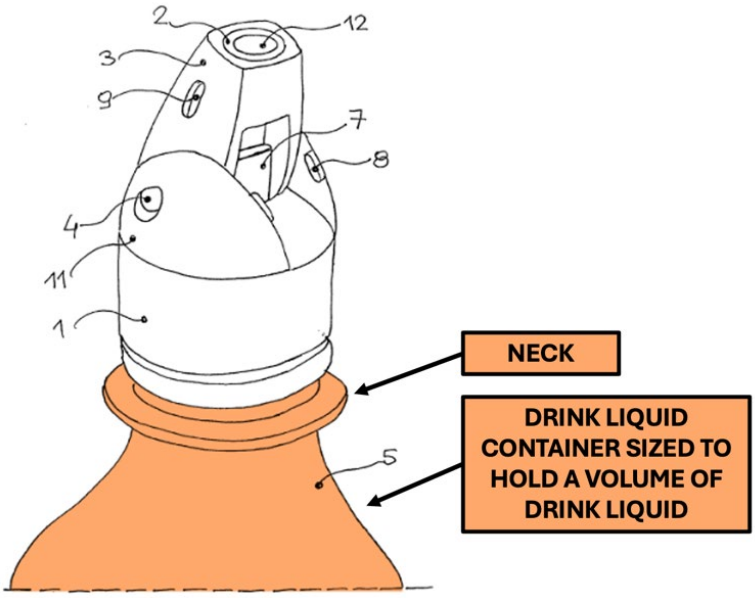
197. Park discloses "a portable water container with a built-in straw" (Ex. 1006, Abstract), which is shown in Figure 1 below:



Ex. 1006, Fig. 1. As shown in Figure 1, item "100 represents a water bottle capable of holding a suitable amount of water."

198. 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. 1009, Abstract. Ribarits explains that the invention "relates to a device for comfortably drinking and portioning from the bottles common today." Ex. 1009, 1. The drink container of Ribarits is shown in Figure 1 below, as item 5:

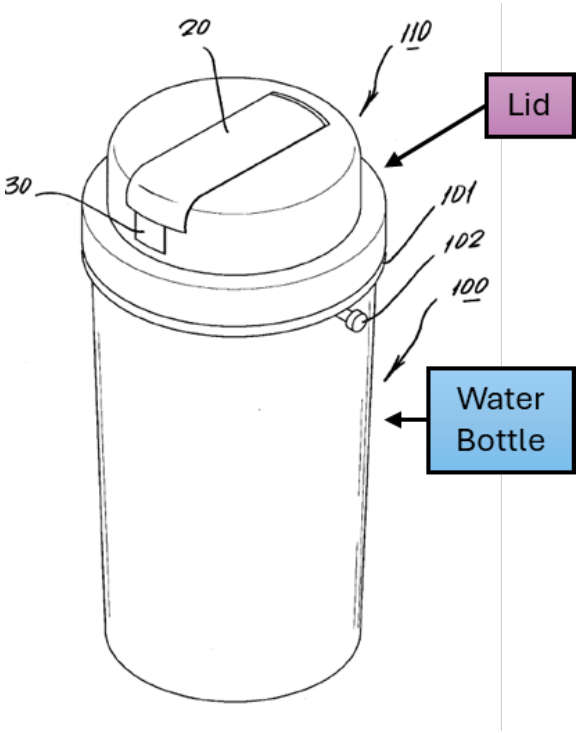


Ex. 1009, Fig. 1.

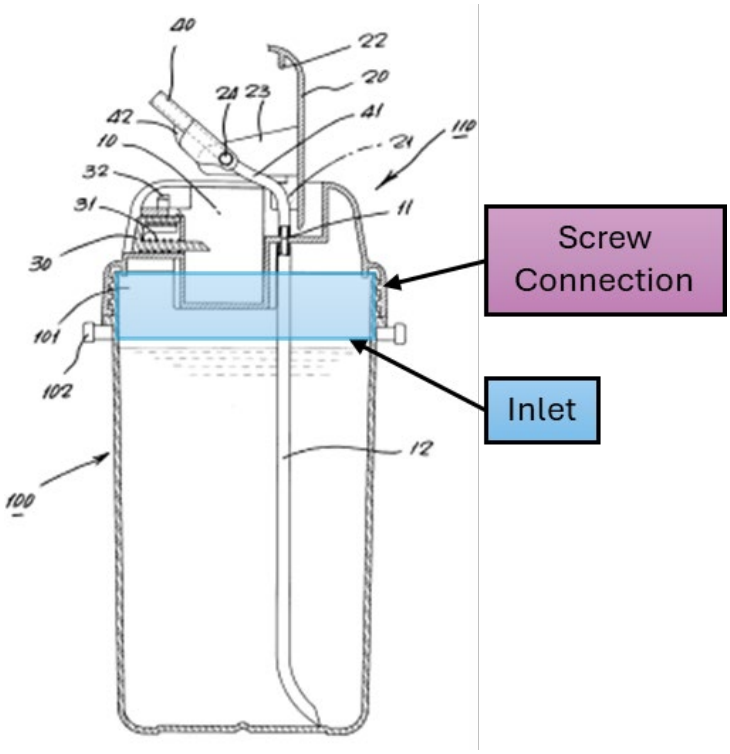
2. <u>1[A]: "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink fluid"</u>

199. 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, each of Park and Ribarits discloses this limitation.

200. As discussed above and shown in Figure 1 below, Park discloses a "drink container":

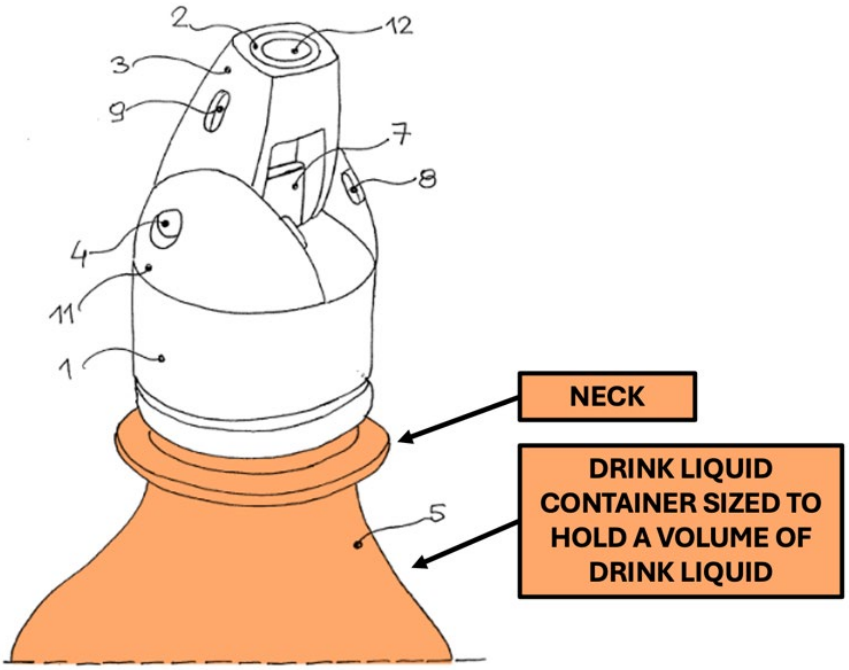


Ex. 1006, Fig. 1. As shown in Figure 4 below, item "110 represents a lid operable for opening and closing by being screwed onto an inlet 101 of the water bottle 100."



Ex. 1006 at 4, Fig. 4. A person of ordinary skill in the art would have understood Park's "inlet 101" to constitute the neck of "water container 100."

201. As discussed above and shown below, Ribarits discloses a bottle, i.e. a fluid container, having a neck with an opening.

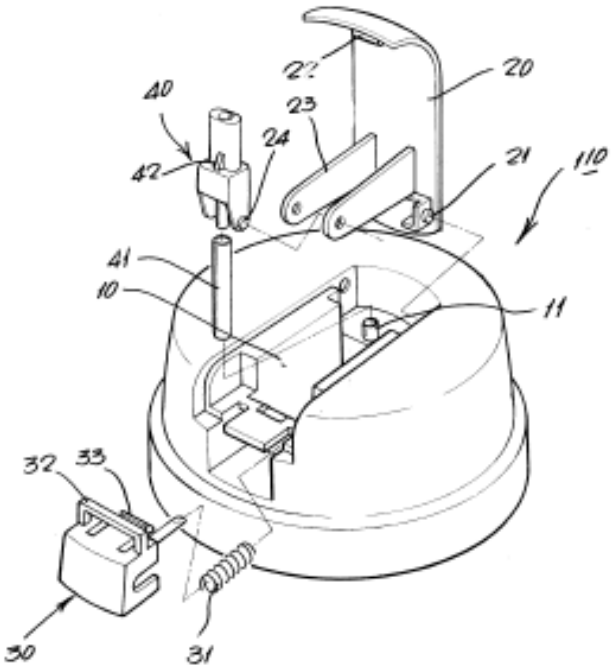


Ex. 1009, Fig. 1. A person of ordinary skill in the art would have understood that the neck portion of the bottle would be an opening that attaches to a threaded cap with a drinking spout, and that the bottle would also have an internal compartment sized to hold a volume of drink liquid. These features would be necessary to drink from the bottle, which is the purpose of the Ribarits invention. Ex. 1009, 2.

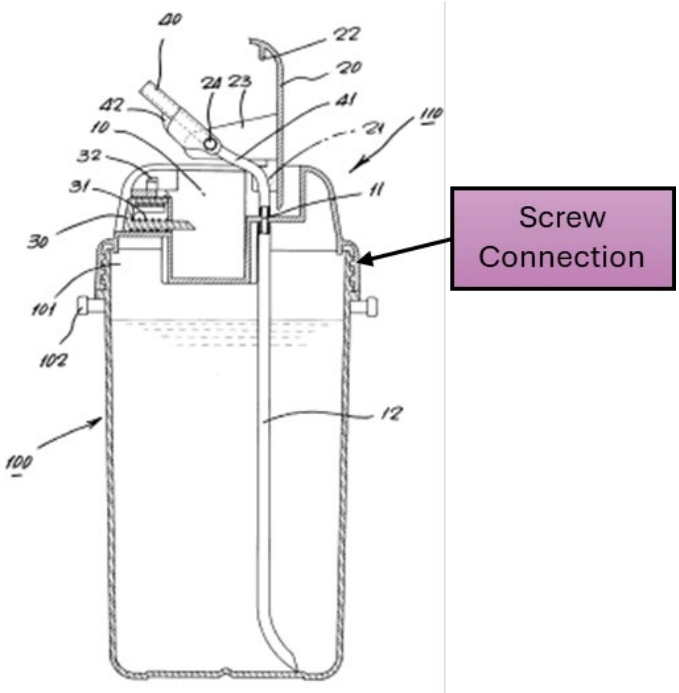
3. 1[B]: "a cap assembly removably coupled to the liquid container"

202. Limitation 1[B] recites, "a cap assembly removably coupled to the liquid container." As I explain below, each of Park and Ribarits discloses this limitation.

203. Park discloses "lid 110," an exploded view of which is shown in Figure 3 below:

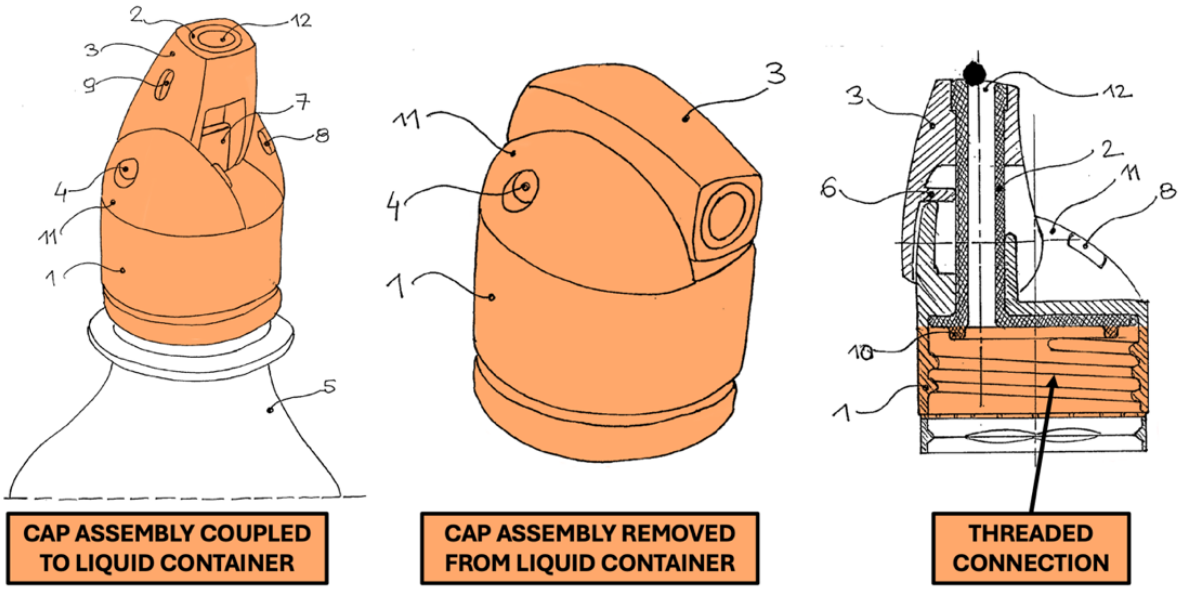


Ex. 1006, Fig. 3. The "lid 110 is screwed to the inlet 101 of the water bottle 100 to open and close" the water bottle. Ex. 1006, 4. This is shown in Figure 4 below:



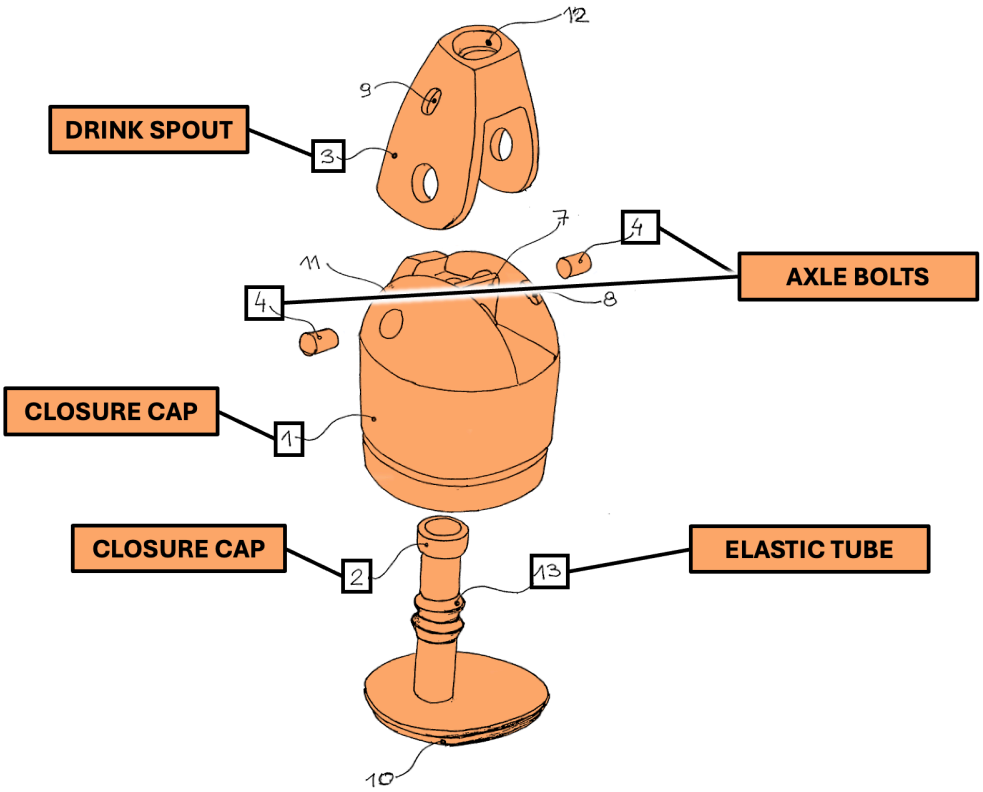
Ex. 1006, Fig. 4. Thus, a person of ordinary skill in the art would have understood Park's "lid 110" to constitute a cap assembly removably coupled to the container, as claimed.

204. Ribarits discloses "a common closing cap provided with a thread" that "is screwed onto the bottle (5)." Ex. 1009, 2-3.



Ex. 1009, Figs. 1, 3. As shown above, Ribarits' "closing cap" is removably coupled to the liquid container via a threaded connection. Ex. 1009, 2-3.

205. Ribarits' cap assembly includes closure cap 1, elastic tube 13 with resilient mouthpiece 2 and sealing rings 10, drink spout 3, and axle bolts 4, as shown in the exploded view below:

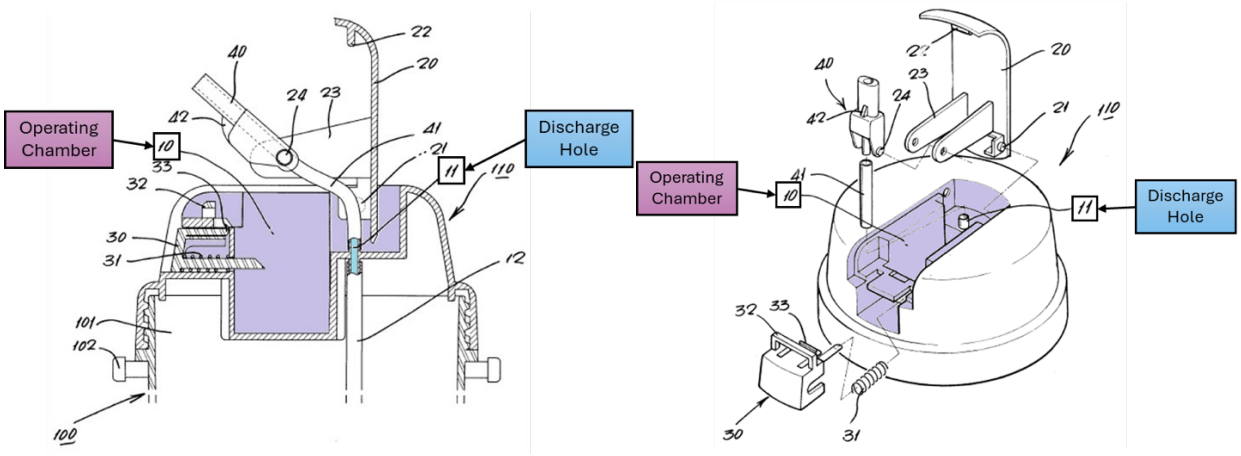


Ex. 1009, Fig. 2.

a. 1[B][1]: "a base removably coupled to the neck of the liquid container and including a through-passage"

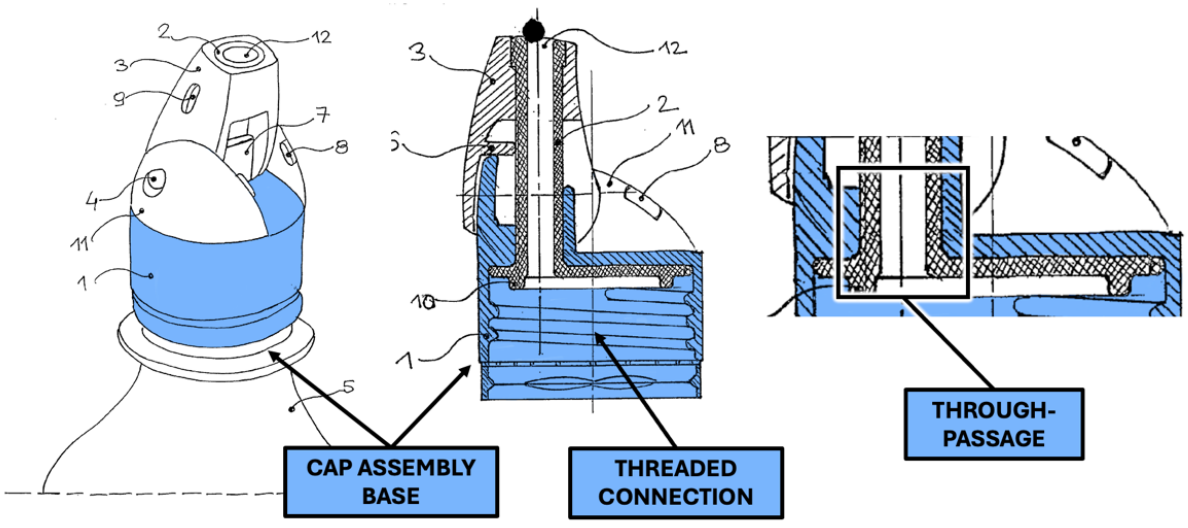
206. Limitation 1[B][1] recites the cap assembly comprises "a base removably coupled to the neck of the liquid container and including a through-passage." As I explain below, each of Park and Ribarits discloses this limitation.

207. As discussed above, the base of Park's "lid 110" is removably coupled to the neck of the water bottle via a threaded connection. In addition, Park's lid contains an "operating chamber 10" which includes "a discharge hole 11 that is connected upward and downward," as shown below:



Ex. 1009, Figs. 3-4. Thus, a person of ordinary skill in the art would have understood the discharge hole to be a through-passage extending through the base of the lid.

208. As also discussed above, Ribarits' "closing cap" is removably coupled to the neck of the liquid container via a threaded connection. Ribarits also discloses that its "closing cap" includes a through-passage, as shown below:



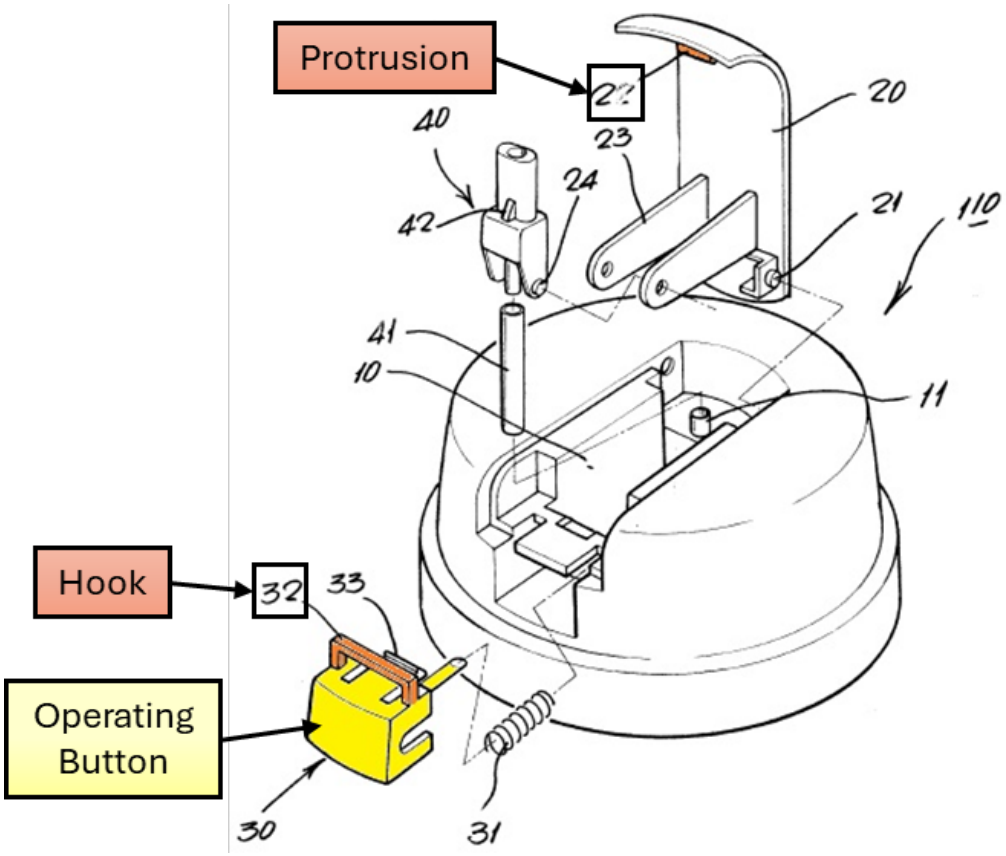
Ex. 1009, Figs. 1, 3.

b. 1[B][2]: "a first catch structure"

209. Limitation 1[B][2] recites that the cap assembly comprises "a first catch structure." As I explain below, each of Park and Ribarits discloses this limitation.

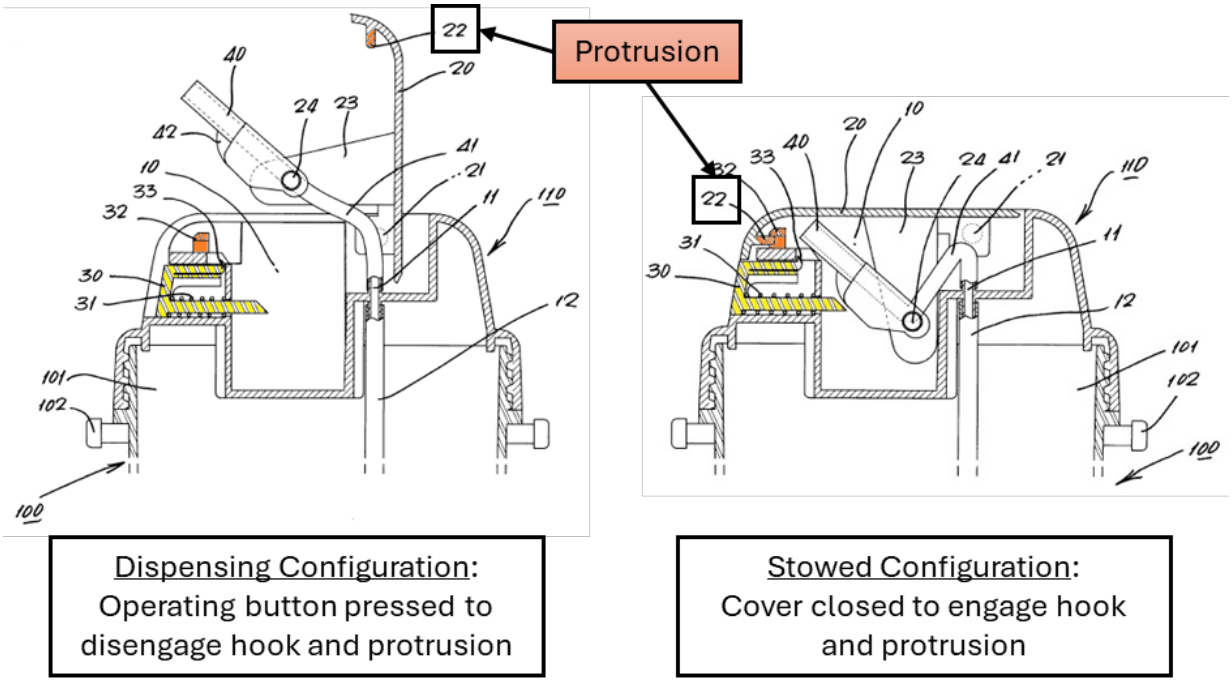
210. Park discloses a hook and corresponding protrusion on its "lid 110" that engage to maintain the lid in a closed configuration. As discussed below, a person of ordinary skill in the art would have understood Park's hook and protrusion to constitute a first and second catch structure, as claimed.

211. Figure 3 shows "hook 32" (orange) on the upper surface of "operating button 30" (yellow), as shown below:



Ex. 1006, 4-5, Fig. 3. Figure 3 also shows "protrusion 22" on the underside of "cover 20."

212. As shown in Figures 5 and 6 below, Park discloses that "hook 32" and "protrusion 22" are engaged in the stowed configuration (below, left) and disengaged in the dispensing configuration (below, right):

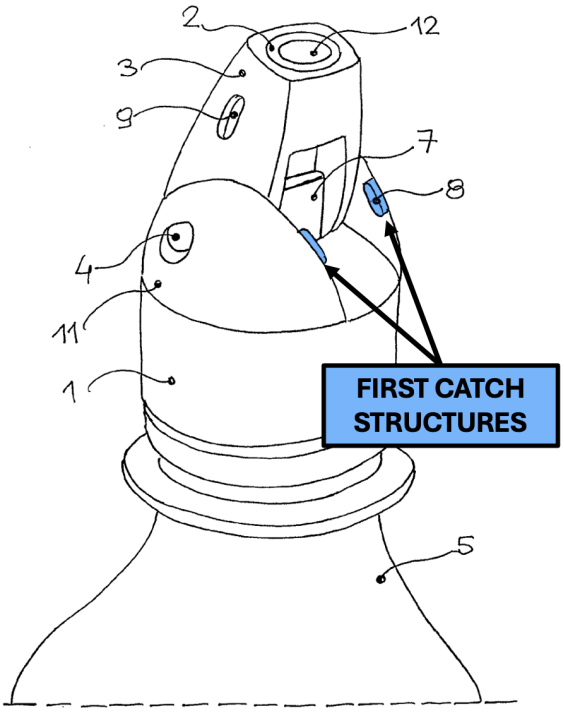


Ex. 1006, Figs. 5-6.

213. According to Park, "operating button 30" is "fastened at the front surface of the operating chamber 10" and "elastically installed" on the base of the cap assembly "by a spring 31 at the front end of the operating chamber 10." Ex. 1006, 4). Because "hook 32" is integral with "operating button 30," it is also coupled to the base of the cap assembly. Thus, a person of ordinary skill in the art would

have understood "hook 32" (i.e. the first catch structure) to be coupled to the base of "lid 110" (i.e. the cap assembly) via "spring 31."

214. Ribarits discloses a "securing mechanism" that comprises a corresponding set of "knobs" and "recesses" on the drinking spout of the closing cap. As shown below, a pair of "recesses laterally attached in the lateral parts" of the cap assembly (item 8 in Figure 1) comprise a first catch structure:



Ex. 1009, Fig. 1. According to Ribarits, when the drinking spout is pivoted to the stowed configuration, knobs snap into the recesses to "prevent accidental opening of the drinking spout." Ex. 1009, 2.

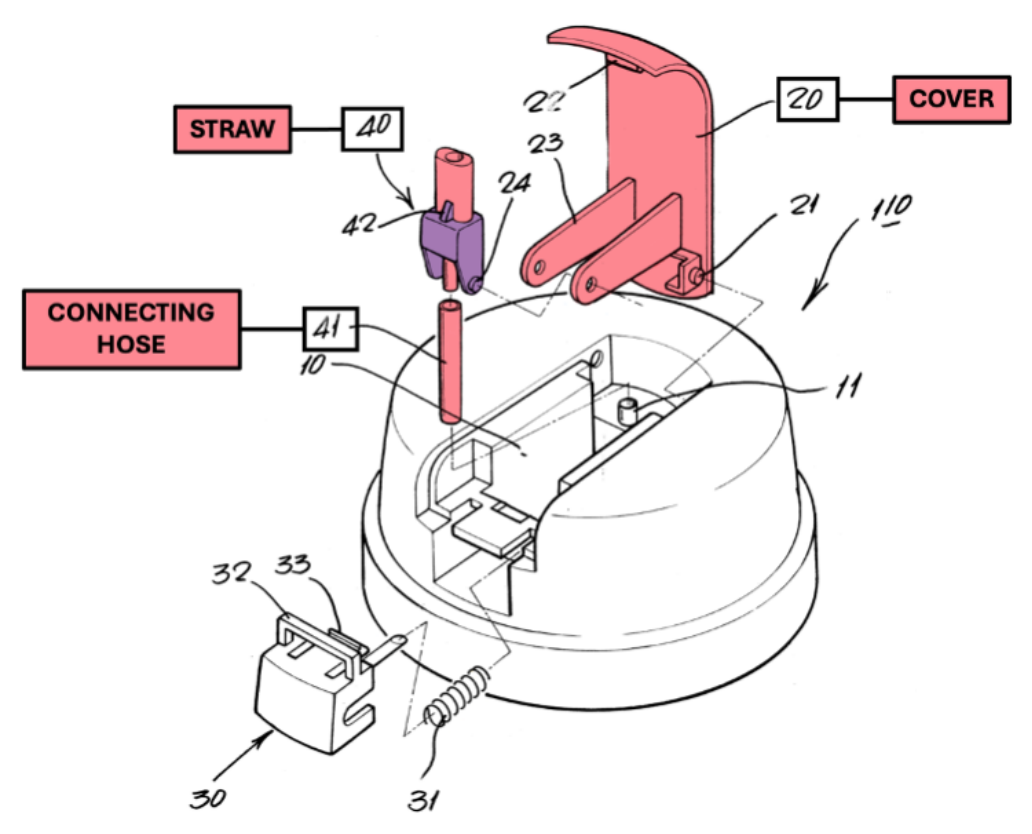
215. Ribarits also teaches that the "knobs" and "recesses" are

interchangeable between the closing cap and drinking spout. For example, in Ribarits Claim 1, the "knobs (8)" are identified as being on "lateral parts" of the cap and "recesses (9)" are identified as being "on the drinking spout." By contrast, in Ribarits Claim 5, the "recesses (9)" are identified on the "lateral parts" of the cap and the "knobs (8) are located on the drinking spout." Ex. 1009, 3.

c. 1[B][3]: Mouthpiece Assembly

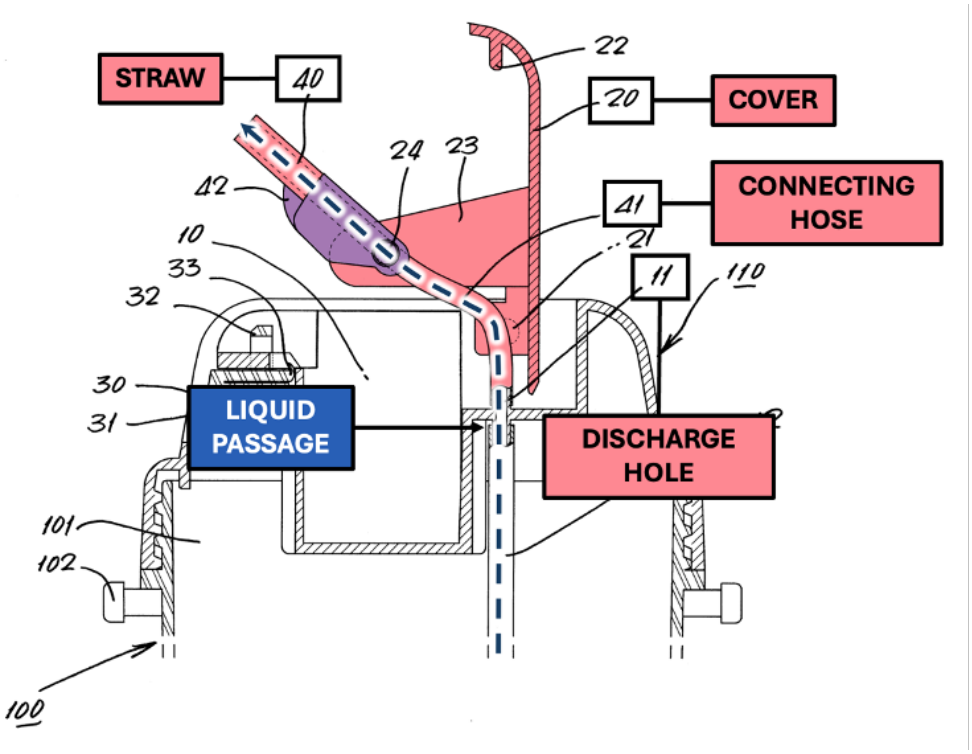
216. Limitation 1[B][3] recites "a mouthpiece assembly" and comprises three subparts. The first subpart of limitation 1[B][3] recites: "a mouthpiece assembly defining a liquid passage through which drink liquid from the liquid container may selectively flow." Each of Park and Ribarits disclose this limitation.

217. Park discloses a mouthpiece assembly, which a person of ordinary skill in the art would have understood to include at least "straw 40," "connecting hose 41," and "cover 20." The components of Park's mouthpiece assembly are shown in green in Figure 3 below:



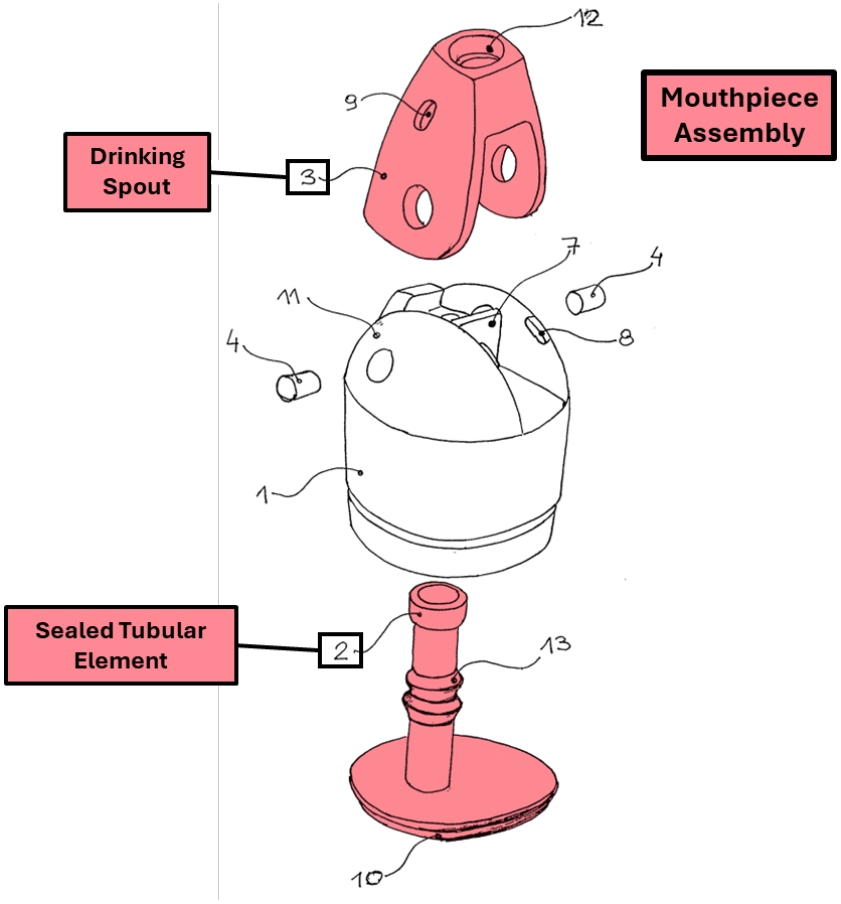
Ex. 1006, Fig. 3.

218. According to Park, "straw 40 … is connected to the discharge hole 11 … by a connecting hose 41 of a certain elastic and flexible soft material." Ex. 1006, 4). As shown below, the components of Park's mouthpiece assembly define a liquid passage wherein "discharge hole 11" defines an inlet through which liquid may enter from the container, and "straw 40" defines an outlet through which liquid may be dispensed to the user:



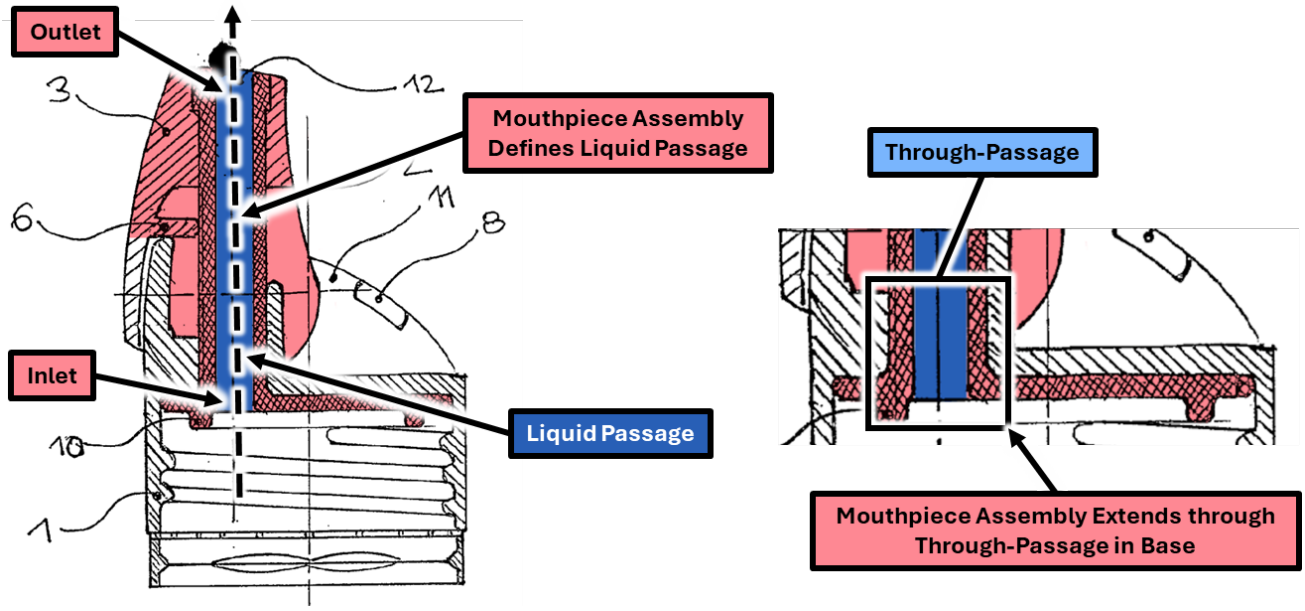
Ex. 1006, Fig. 6.

219. Ribarits also discloses a mouthpiece assembly that defines a liquid passage from the container. Ribarits' mouthpiece assembly includes at least "drinking spout (3)" and "sealed tubular element (2)," as shown below:



Ex. 1009, Fig. 2.

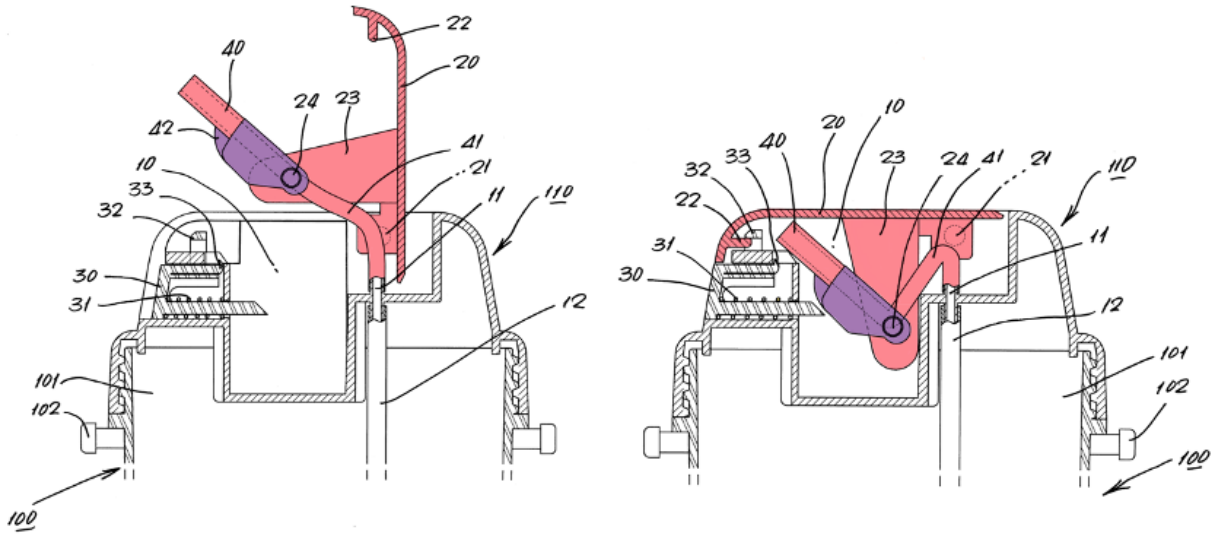
220. Ribarits' sealed tubular element is a flexible tube made from an elastic "rubber or latex" material, which, as shown below, extends through Ribarits' through-passage to define a liquid passage from the container to the user:



Ex. 1009 at 2, Fig. 3. As shown above, the flexible tube includes an inlet at its base and an outlet at its opposite end, through which liquid may be dispensed.

221. The second subpart of limitation 1[B][3] recites: "the mouthpiece assembly being configured to be selectively positioned between a dispensing configuration, in which the liquid passage permits drink liquid to flow from the internal compartment at least into the liquid passage, and a stowed configuration, in which drink liquid is restricted from being dispensed from the liquid container through the liquid passage." Each of Park and Ribarits discloses this subpart.

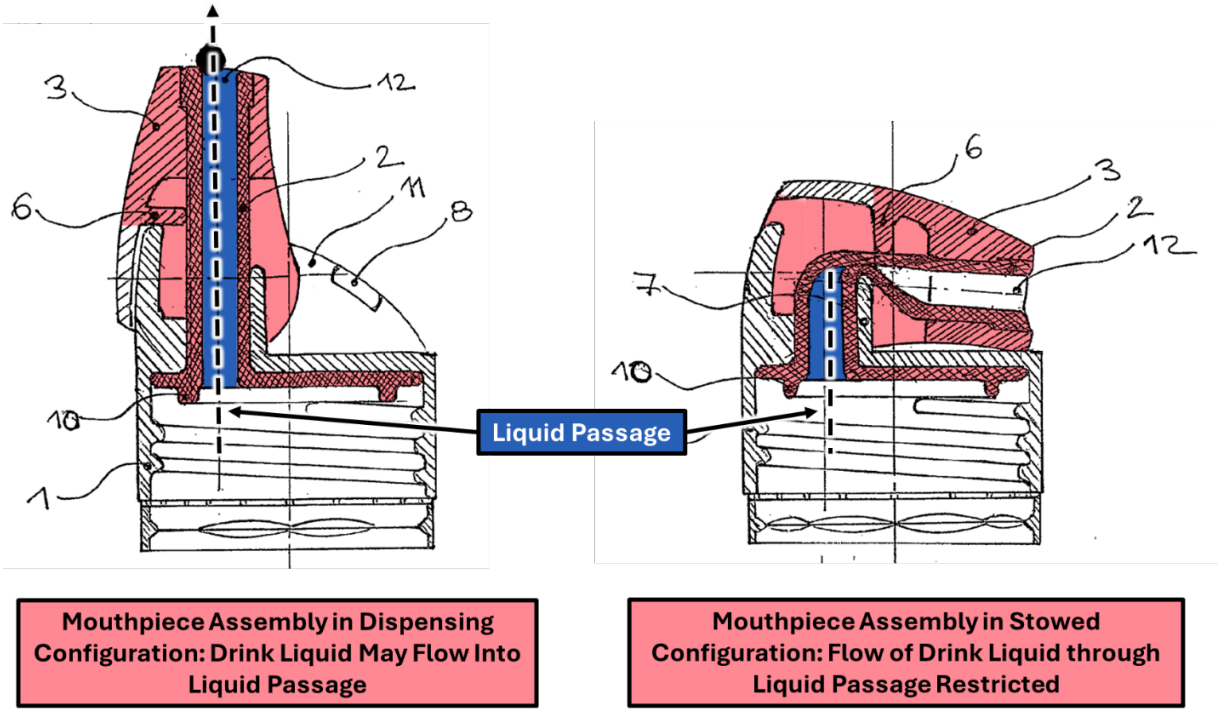
222. As shown in Figures 5 and 6 below, Park's mouthpiece assembly can be opened into a dispensing configuration (below, right) or closed into a stowed configuration (below, left):



Ex. 1006, Figs. 5-6.

223. Park discloses: "when the straw 40 is sucked into the mouth, the contents of the water bottle 100 are directed through the guide hose 12 and the connecting hose 41, and out the straw 40." Ex. 1006, 5. Thus, in the dispensing configuration, liquid flows from the internal compartment, through the liquid passage defined by the "connecting hose 41" and "straw 40," and to the user. In contrast, Park discloses that in the stowed configuration, "the connecting hose 41 is double bent … to completely close the discharge passage of the connecting hose 41," thereby restricting liquid from being dispensed from the container. Ex. 1006, 5.

224. Ribarits' drinking spout is pivotable between an open (i.e. dispensing) configuration and a closed (i.e. stowed) configuration, as shown below:



Ex. 1009, Fig. 3. In the dispensing configuration, liquid may flow from the container, through the sealed tubular element, and to the user:

> 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.

Ex. 1009, 2. In the stowed configuration, the sealed tubular element is crimped, thereby restricting the flow of liquid from the container to the user:

> 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. 1009, 2.

225. The third subpart of limitation 1[B][3] recites: "wherein the mouthpiece assembly is biased to the dispensing configuration." Each of Park and Ribarits discloses this subpart.

226. Park discloses:

> "Since the connecting hose 41 is formed of a flexible soft material and has a certain elasticity, it always tries to unfold vertically, and when the lid 20 is opened, its elastic force causes the straw 40 to protrude, and then the lid 20 is closed, it accommodates this by bending."

Ex. 1006, 4. Likewise, Park discloses:

> "[T]he moment the cover 20 is opened, the straw 40 … is also unfolded by the elastic force of the connecting hose 41, so that straw 40 maintains an angle that is most convenient for the user to suck into the mouth."

Id. at 5.

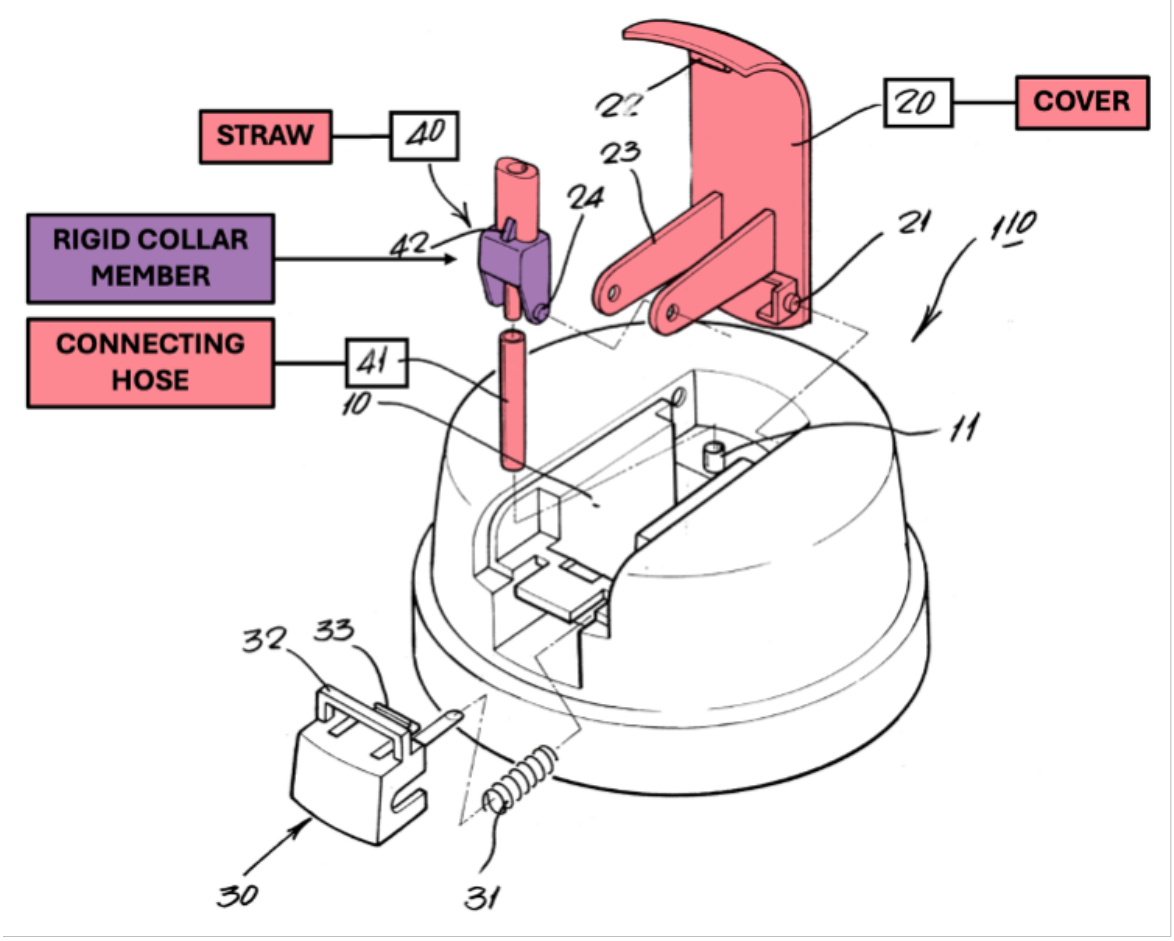
227. Ribarits discloses that its "sealed tubular element" is constructed of flexible "elastic rubber or latex" material. Ex. 1009, 2. Like Park's connecting hose, because Ribarits' tubular element is comprised a resilient material, a person of ordinary skill would have understood the tubular element to be biased in favor of the dispensing configuration.

i. 1[B][3][a]: Rigid Collar Member

228. Limitation 1[B][3][b] recites the mouthpiece assembly comprises " a rigid collar member that is pivotally coupled to a portion of the cap assembly." As explained below, it is my opinion that this limitation would have been obvious over

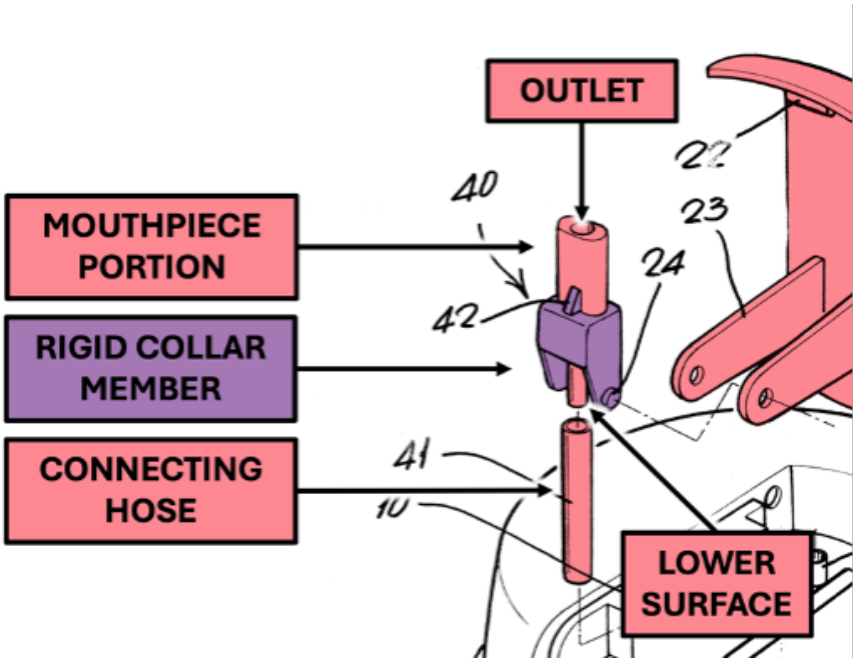
Park, or, in the alternative, obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

229. Park discloses the "straw 40 is axially coupled to the bracket 23 of the cover 20 by the hinge shaft 24, which is freely rotatable using the shaft as a supporting point, and is connected to the discharge hole 11 formed in the center of the lid 110 by a connecting hose 41 of a certain elastic and flexible soft material." Ex. 1006, 4. These components are shown in figure 3 below:



Ex. 1006, Fig. 3. Park's "straw 40" is a single component that comprises: (i) a

mouthpiece portion that contacts the user's mouth during use; (ii) a bracket portion containing "hinge shaft 24" that allows the straw to pivot between the stowed and dispensing configurations; and (iii) a "lower surface" that connects to "connecting hose 41":

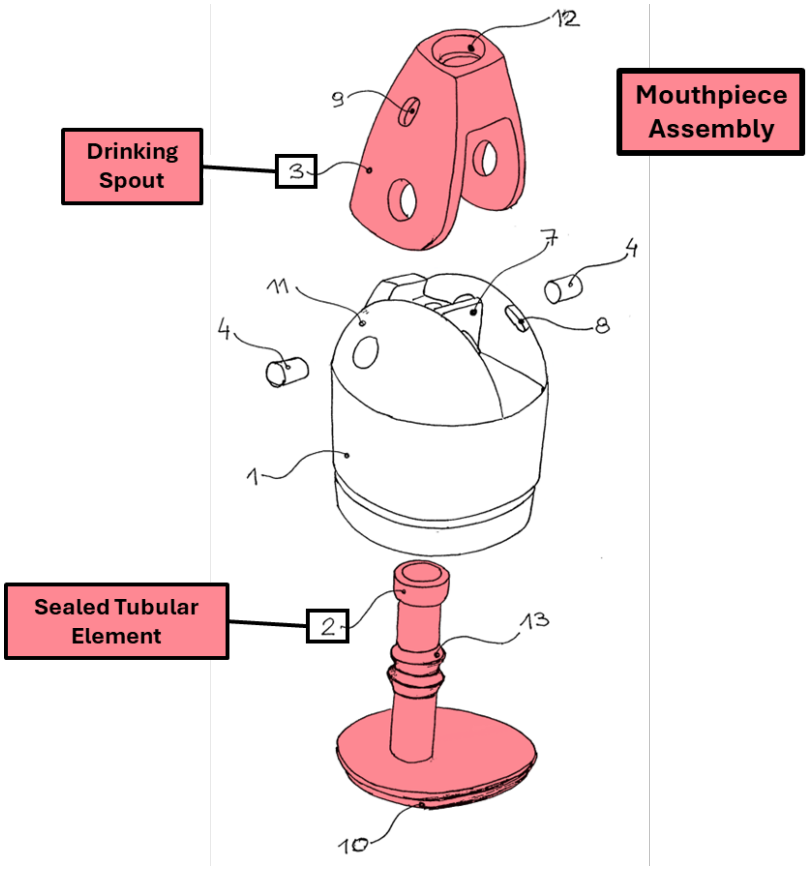


Ex. 1006, Fig. 3. The bracket portion of the straw is pivotally coupled to the cap assembly because it is connected to "cover 20" and freely rotates about "hinge shaft 24," all of which are part of the mouthpiece assembly, which in turn is part of the cap assembly. Thus, a person of ordinary skill in the art would have understood the bracket portion of the straw to constitute a rigid collar member.

230. To the extent a person of ordinary skill in the art would not have understood the bracket portion of Park's "straw 40" to constitute a rigid collar

member because it is integral with the mouthpiece portion of the straw, it is nonetheless my opinion that this limitation would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

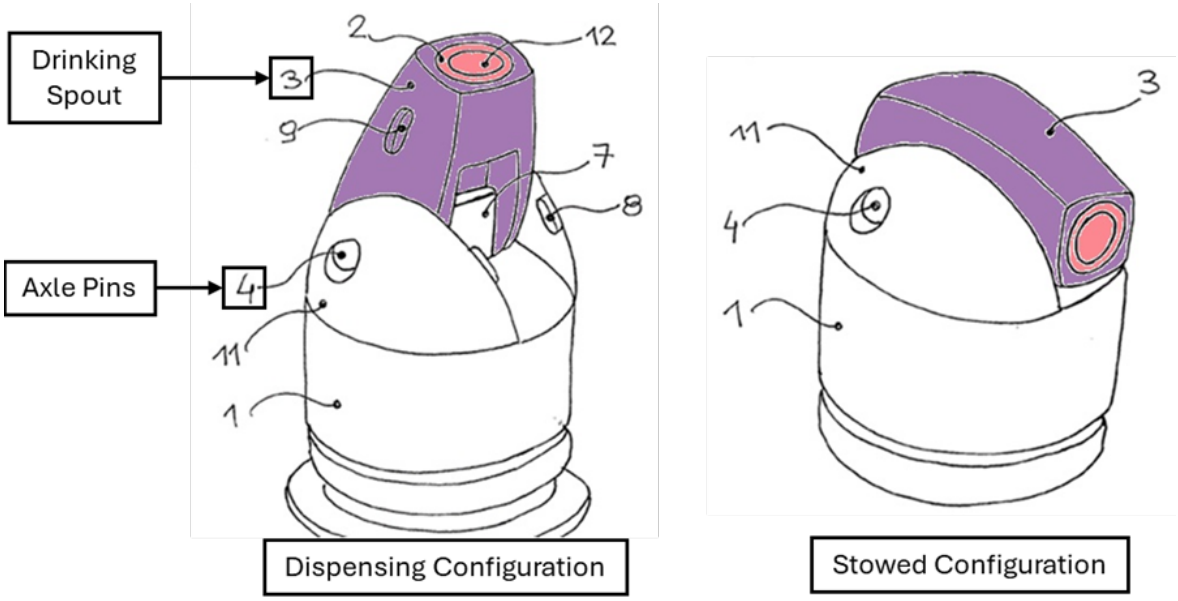
231. Ribarits discloses a "rigid collar member." Ribarits' mouthpiece assembly includes "drinking spout 3" and "sealed tubular element 2," as shown below:



Ex. 1009, Fig. 2.

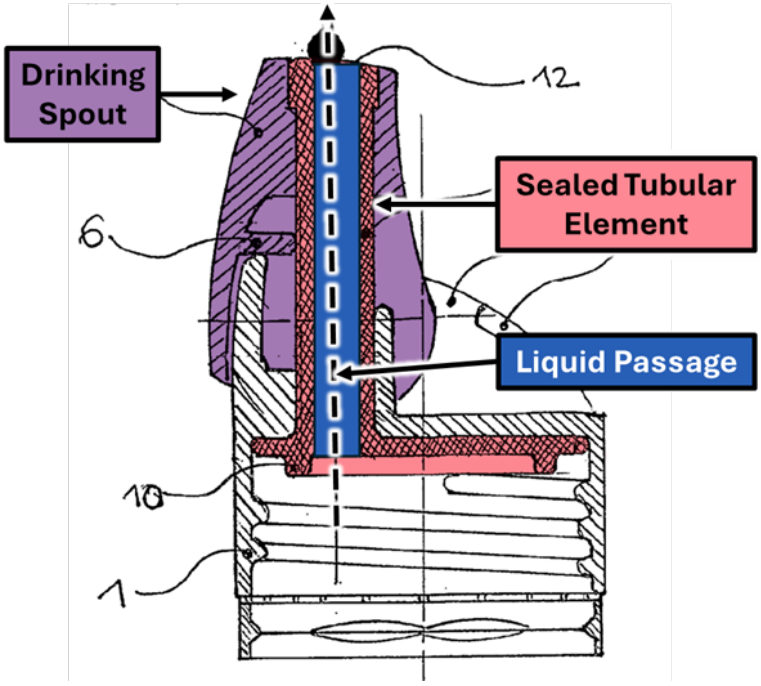
232. A pair of "axle pins 4" couple Ribarits' "drinking spout" to the "closure cap 1." This allows the drinking spout to pivot between a dispensing configuration

and a stowed configuration, as shown below:

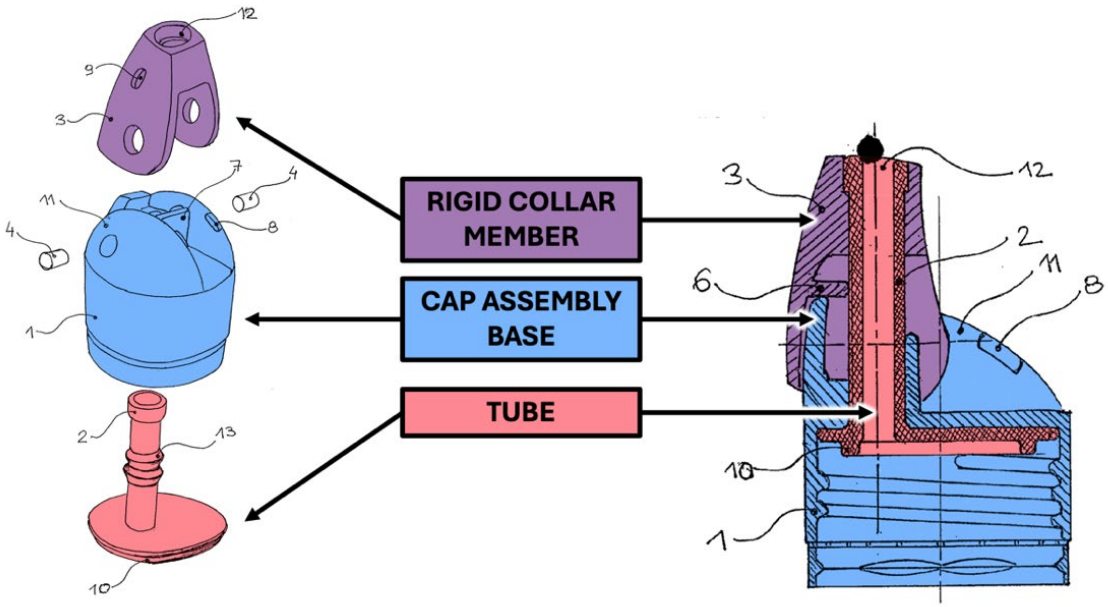


Ex. 1009, Fig. 1.

233. Ribarits' "drinking spout" surrounds the "sealed tubular element," which constitutes the tube portion of Ribarits' mouthpiece assembly and defines a liquid passage through the spout, as shown below:



Ex. 1009, Fig. 3. Thus, a person of ordinary skill in the art would have understood Ribarits' "drinking spout 3" to constitute the claimed rigid collar member:



Ex. 1006, Figs. 2-3.

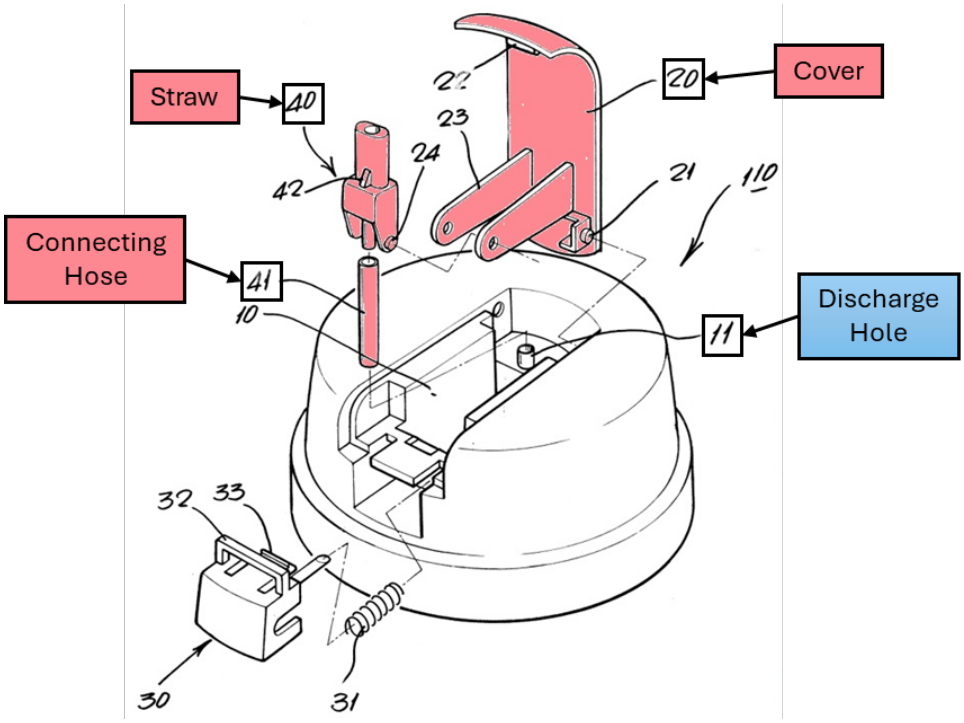
234. For the reasons explained below, it is my opinion that it would have been obvious to a person of ordinary skill to modify Park to include such a rigid collar member.

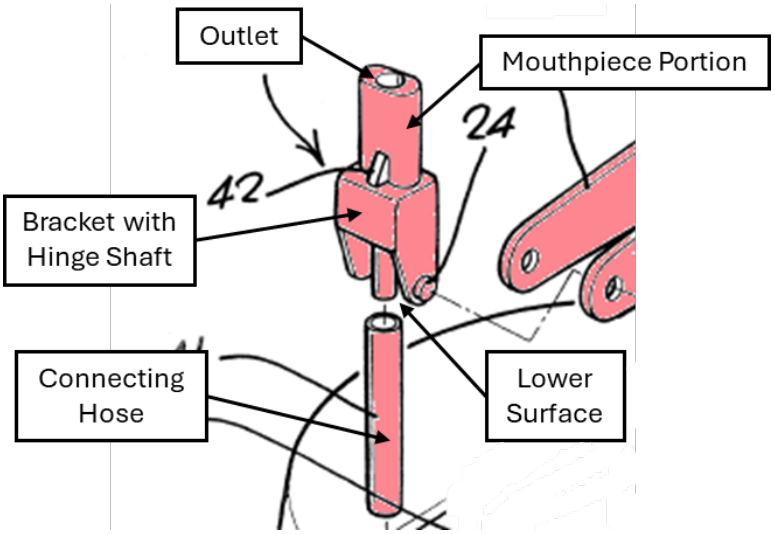
235. I first note that a person of ordinary skill in the art would have looked to the teachings of Ribarits to modify and improve Park's design. That is because Park and Ribarits are directed to similar subject matter and have the same goals. For example, Park states the object of its invention is to "provide a portable water bottle with a straw" that improves useability by being operated "in a one-touch manner" and that is "also highly hygienic because it is easy to drink water without holding a straw by hand." Ex. 1006, 3. Ribarits identifies a similar goal, stating: "The invention relates to 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. 1009, Abstract.

236. To achieve those goals, both Park and Ribarits disclose drink containers with cap assemblies of substantially the same functionality. For example, as explained above, they both disclose cap assemblies that can be opened and closed into dispensing and stowed configurations, which include elastic tube components with crimping regions that collapse in the stowed configuration to prevent leakage

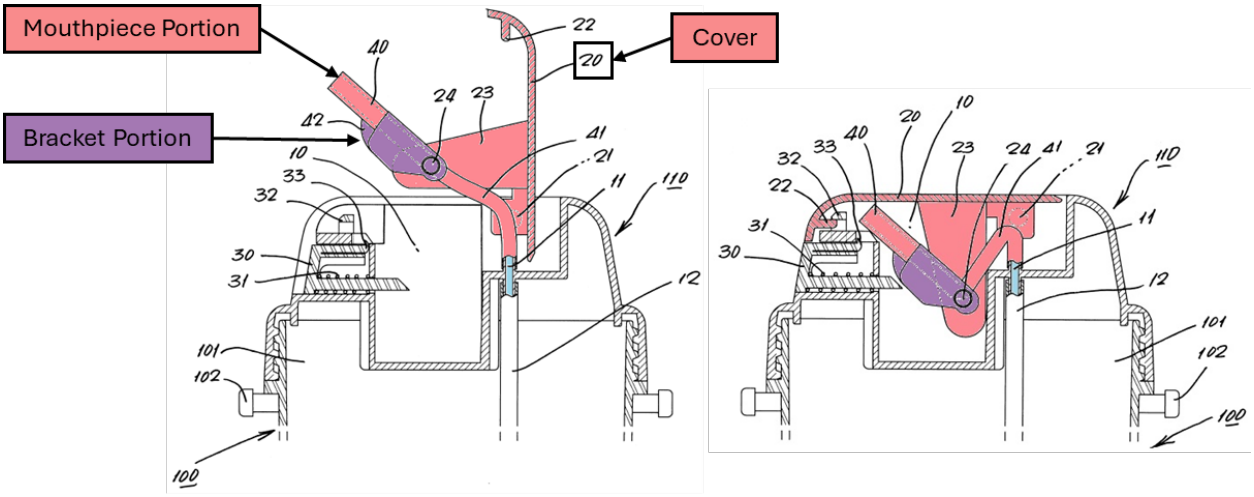
when the drink containers are not in use. *See* ¶¶53-61, above.

237. Park provides a mouthpiece assembly wherein a tube portion constructed of flexible elastic material (i.e. "connecting hose 41"), and an integral mouthpiece portion and bracket portion constructed of a rigid material (i.e. "straw 40") are assembled from separate components and attached to a through-passage (i.e. "discharge hole 11") in the base of the cap assembly (i.e. "lid 110"):





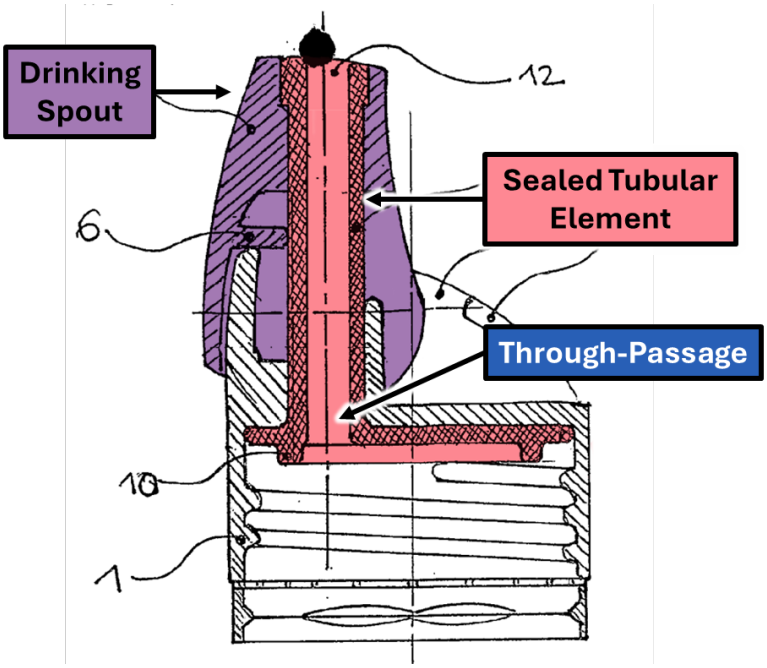
Ex. 1006, Fig. 3. Park's mouthpiece assembly moves between its dispensing and stowed configurations due to the pivoting interaction between the bracket portion of Park's "straw 40" and "cover 20":



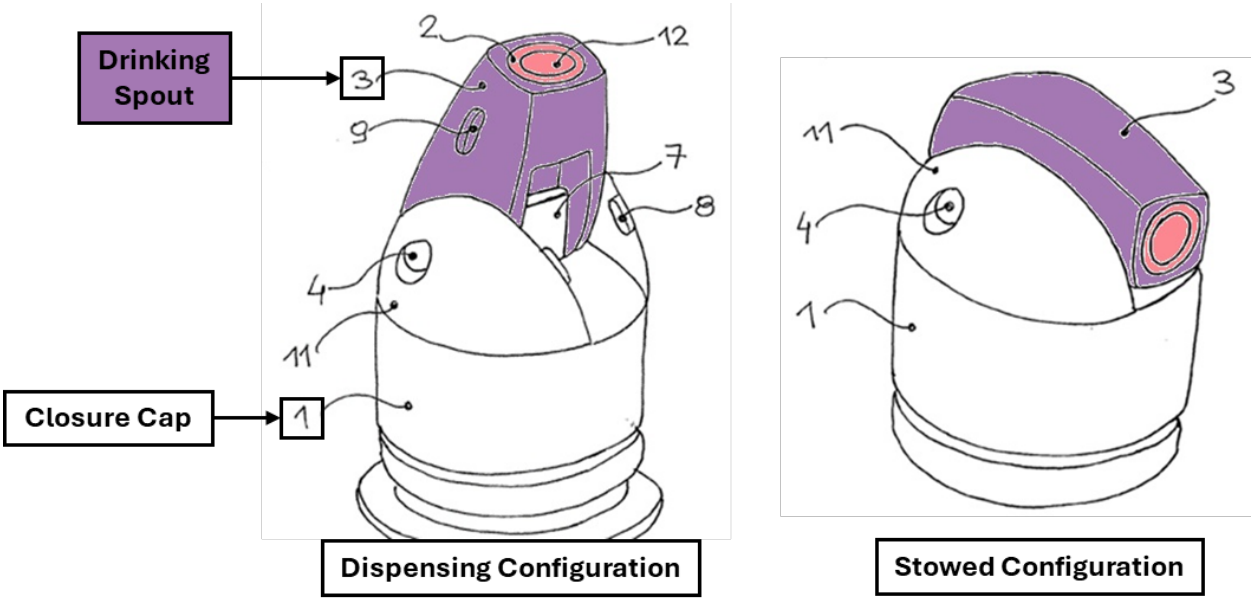
Ex. 1006, Figs. 5-6.

238. Ribarits, on the other hand, provides a mouthpiece assembly wherein a tube portion and a mouthpiece portion are constructed as a unitary assembly of

flexible elastic material (i.e. "sealed tubular element"), which extends through both a through-passage in the base of the cap assembly (i.e. "closing cap 1") and a rigid collar member (i.e. "drinking spout").



Ex. 1009, Fig. 3. Ribarits' mouthpiece assembly moves between its dispensing and stowed configurations due to the pivoting interaction between Ribarits' "drinking spout" (i.e. rigid collar member) and "closure cap" (i.e. cap assembly):



Ex. 1009, Fig. 2.

239. A person of ordinary skill in the art would have recognized that the alternative configurations of the mouthpiece assembly in Park and Ribarits are interchangeable, and would have been motivated to replace the "straw" and "connecting hose" of Park's mouthpiece assembly with the "drinking spout" and "sealed tubular element" of Ribarits mouthpiece assembly. This is true for several reasons.

240. For example, a person of ordinary skill in the art would have been motivated to construct the mouthpiece portion of Park's "straw 40" and Park's "connecting hose 41" as a unitary assembly of elastic (i.e. resiliently deformable) material, as in Ribarits' "sealed tubular element." That is because a person of ordinary skill in the art would have recognized Ribarits' one-piece construction, as

opposed to Park's multi-component construction, to a be routine engineering choice. For example, a person of ordinary skill in the art would have recognized that Park's straw and connecting hose could be molded as a single piece of elastic material using common manufacturing techniques. A person of ordinary skill in the art would have been motivated to use this technique because it would have resulted in fewer parts, thereby improving manufacturing efficiency and reducing manufacturing costs.

241. In addition, a person of ordinary skill in the art would have recognized that a single-piece construction would eliminate the connection point between Park's "straw 40" and "connecting hose 41," and thereby eliminate the risk of inadvertent detachment of the straw and connecting hose during use.

242. By replacing the mouthpiece portion of Park's "straw 40" and Park's "connecting hose 41" with Ribarits' single-piece construction, a person of ordinary skill in the art also would have recognized that the tube portion of the mouthpiece assembly could be designed to fit through, and provide a tight seal with, Park's "discharge hole 11." A person of ordinary skill in the art would have recognized the desirability of making this change, because it would eliminate the connection point between the "connecting hose 41" and the upper part of "discharge hole 11" in Park's design, and thus eliminate the risk of inadvertent detachment of the connecting hose during use of the device.

243. In addition to using Ribarits' single-piece construction of the tube and mouthpiece portions of the mouthpiece assembly, a person of ordinary skill in the art also would have been motivated to use Ribarits' rigid collar member (i.e. "drinking spout") with the single-piece construction of the mouthpiece and tube portions of the mouthpiece assembly. A person of ordinary skill in the art would have recognized several benefits of this design.

244. First, a person of ordinary skill in the art would have recognized that such a rigid collar member could be molded with the same shape as the bracket portion of Park's "straw 40," which is coupled to "cover 20." In this way, the rigid collar member would preserve the overall functionality of Park's cap assembly, without requiring any further modification.

245. Second, as in Ribarits, the use of a rigid collar member would support the more flexible mouthpiece and tube portions of the mouthpiece assembly and control the movement of those components when pivoting the mouthpiece assembly between the dispensing and stowed configurations.

246. Third, as in Ribarits, the flexible mouthpiece and tube portions of the mouthpiece assembly could be inserted through and removed from the rigid collar member. A person of ordinary skill in the art would have recognized the desirability of using such a design because it would have facilitated removal of the single-piece

construction for cleaning, maintenance, or replacement.

247. As described above, a person of ordinary skill in the art would have recognized the combination of Park and Ribarits to involve the simple substitution of one known element for another—Park's integral mouthpiece and collar for the integral mouthpiece and tube of Ribarits. A person of ordinary skill in the art also would have recognized that a unitary assembly would provide comparable overall functionality and also improved leak prevention. A person of ordinary skill in the art also would have recognized a drink container with an integral mouthpiece and tube extending through a rigid collar as disclosed in Ribarits would yield predictable results.

248. A person of ordinary skill in the art also would have reasonably expected success in replacing Park's "straw 40" and "connecting hose 41" with Ribarits' "drinking spout 3" and "sealed tubular member 2." For example, a person of ordinary skill in the art would have readily understood that Ribarits had already successfully achieved such a combination. A person of ordinary skill in the art also would have readily understood that Park could accommodate a single-piece construction of the mouthpiece and tube portions of the mouthpiece assembly. A person of ordinary skill in the art would have recognized that using Ribarits' single-piece construction of resiliently deformable material, in conjunction with a rigid

collar member, would perform the same function, in substantially the same way, when used in Park's cap assembly. Thus, the combination would have involved no more than the routine substitution of one integral component (mouthpiece and collar) for another (mouthpiece and tube) to provide the same desired functionality, albeit with improved leak prevention.

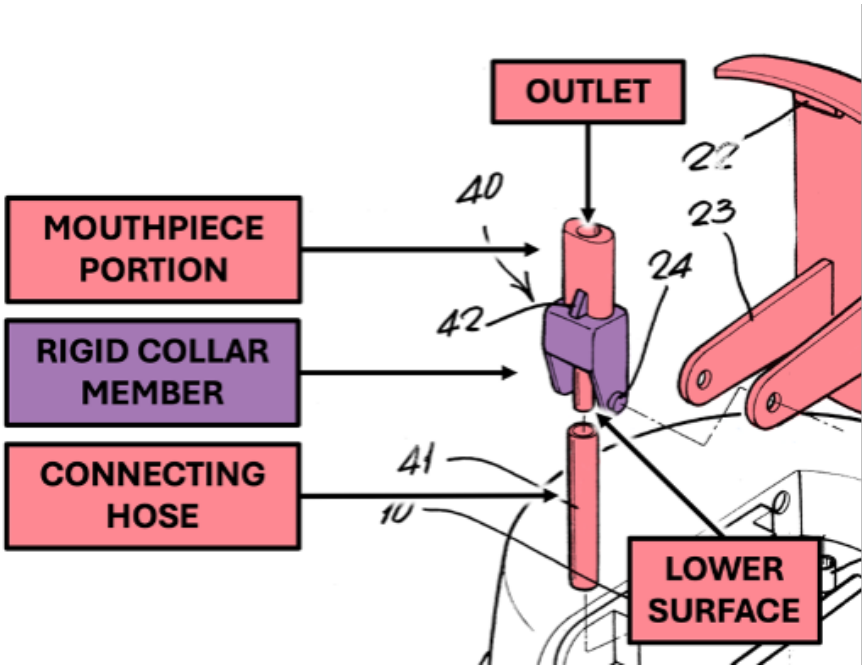
249. Accordingly, it is my opinion that it would have been obvious to a person of ordinary skill in the art to modify Park in view of Ribarits and the knowledge of a person of ordinary skill in the art to include a rigid collar member, such as that disclosed in Ribarits.

ii. 1[B][3][b] Mouthpiece Portion

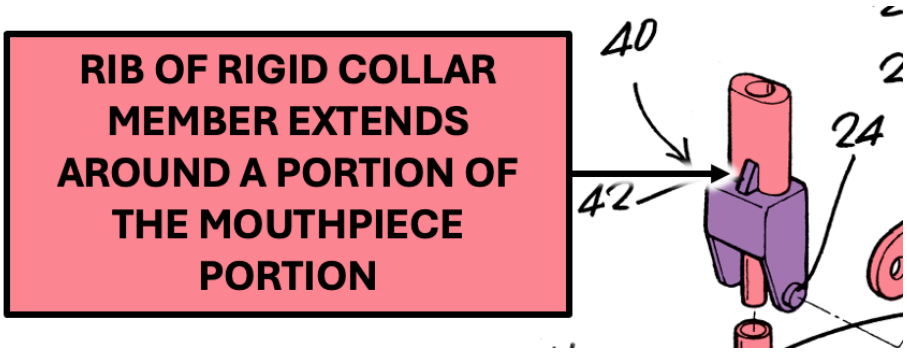
250. Limitation 1[B][3][b] recites the mouthpiece assembly comprises "a mouthpiece portion extending from the rigid collar member and including an outlet, wherein the rigid collar member extends around at least a portion of the mouthpiece portion." As I explain below, it is my opinion that this limitation would have been obvious over Park, or in the alternative, obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

251. As explained above, Park's "straw 40" is a single component comprising three subparts: (i) a mouthpiece portion that contacts the user's mouth during use; (ii) a bracket portion (i.e. rigid collar member) containing "hinge shaft

24" that allows the straw to pivot between the stowed and dispensing configurations; and (iii) a "lower surface" that connects to "connecting hose 41" to define a liquid passage. As shown below, the mouthpiece portion of "straw 40" includes the outlet of the straw and extends from the rigid collar member, which I have identified in purple for ease of reference:



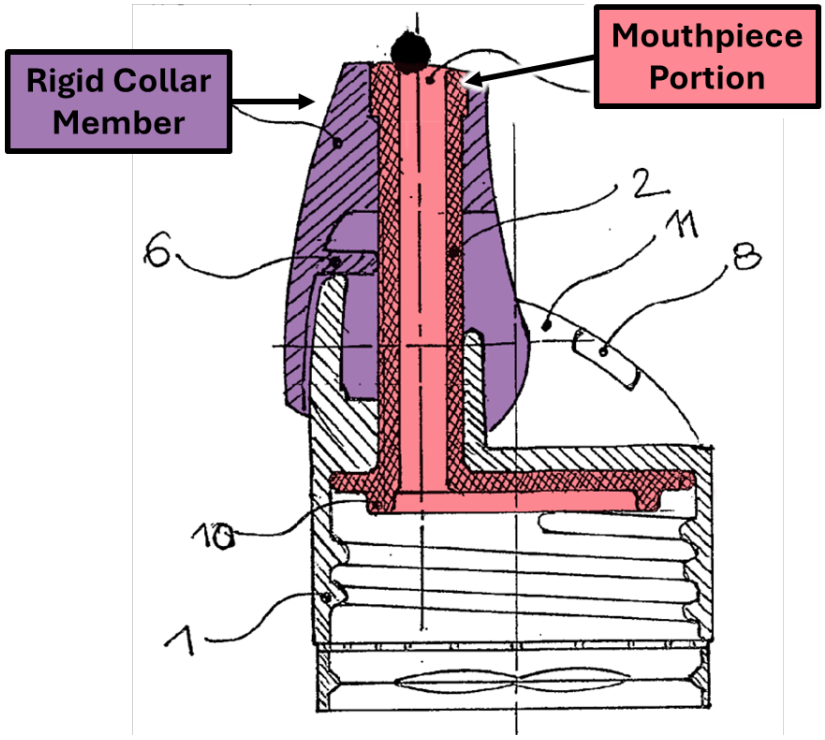
Ex. 1006, Fig. 3. The upper surface of the rigid collar member extends around the periphery of the base of the mouthpiece portion. Additionally, as shown below, Park's rigid collar member includes "sliding protrusion 42," which extends around at least a portion of its mouthpiece portion.



Id.

252. To the extent a person of ordinary skill in the art would not have understood the bracket portion of Park's "straw 40" to constitute a rigid collar member that extends around at least a portion of the mouthpiece portion, because the mouthpiece portion is integral with the rigid collar member, it is nonetheless my opinion that this limitation would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

253. As shown below, Ribarits discloses a rigid collar member that extends around at least a portion of its mouthpiece portion:



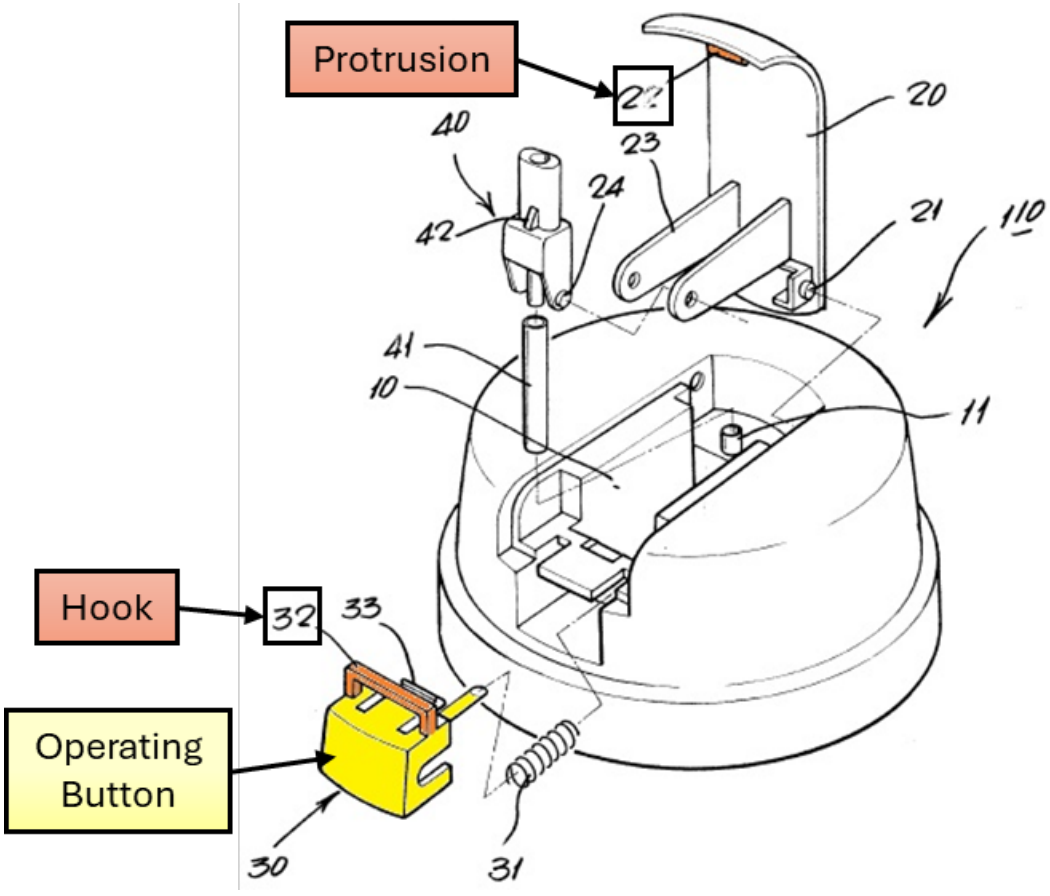
Ex. 1009, Fig. 3. As explained above, it is my opinion that it would have been obvious to a person of ordinary skill in the art to modify Park's mouthpiece assembly to include a rigid collar member, such as that disclosed in Ribarits. In implementing such modification, it also would have been obvious to a person of ordinary skill in the art, that the resulting rigid collar member would extend around at least a portion of the mouthpiece portion of the mouthpiece assembly.

iii. 1[B][3][c] Second Catch Structure

254. Limitation 1[B][3][c] recites that the mouthpiece assembly comprises "a second catch structure adapted to be selectively engaged with the first catch structure to retain the mouthpiece assembly in the stowed configuration." As I

explain below, each of Park and Ribarits discloses this limitation.

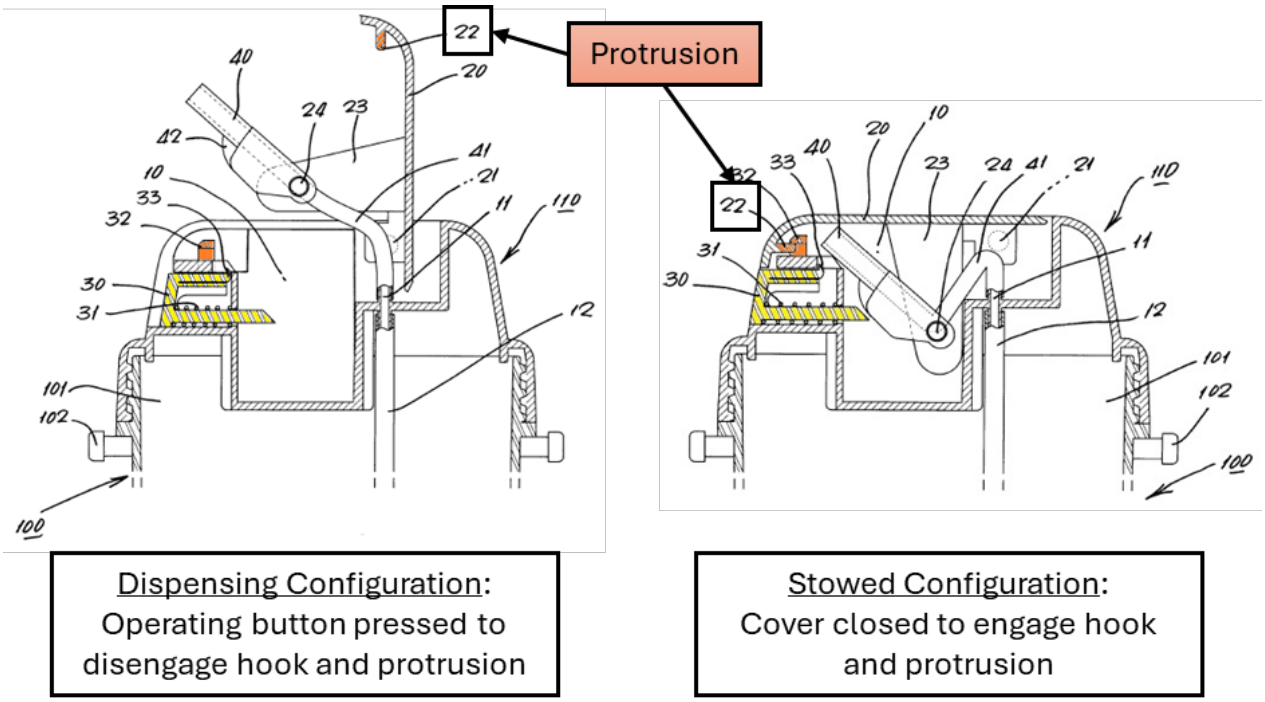
255. Park discloses a set of corresponding catch structures that engage to maintain the assembly in a closed configuration. The second catch structure comprises "protrusion 22" on the underside of "cover 20," which is adapted to be selectively engaged with "hook 32" (i.e. the first catch structure) to retain the mouthpiece assembly in the stowed configuration. Ex. 1006, 4-5.



Ex. 1006, Fig. 3.

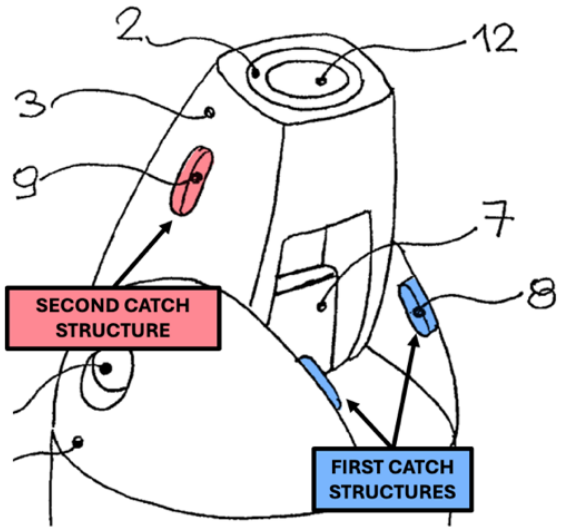
256. Figures 5 and 6, below, illustrate the selective engagement of the "hook

32" and "protrusion 22" during use:



Ex. 1006, Figs. 5-6.

257. As explained in limitation 1[B][2], Ribarits discloses a "securing mechanism" comprised of corresponding catch structures (i.e. knobs and recesses) on the base and drinking spout of its closing cap. As shown below, the second catch structure comprises a pair of corresponding "knobs" on the drinking spout:



Ex. 1009, Fig. 1. The knobs snap into the recesses to retain the drinking spout, and thus the mouthpiece assembly, in the closed (i.e. stowed) configuration. I again note, as previously discussed, that Ribarits teaches that the knobs and recesses are interchangeable; thus, the knobs or recesses may be on either the closing cap or the drinking spout, so long as the pair of knobs engages with a pair of recesses.

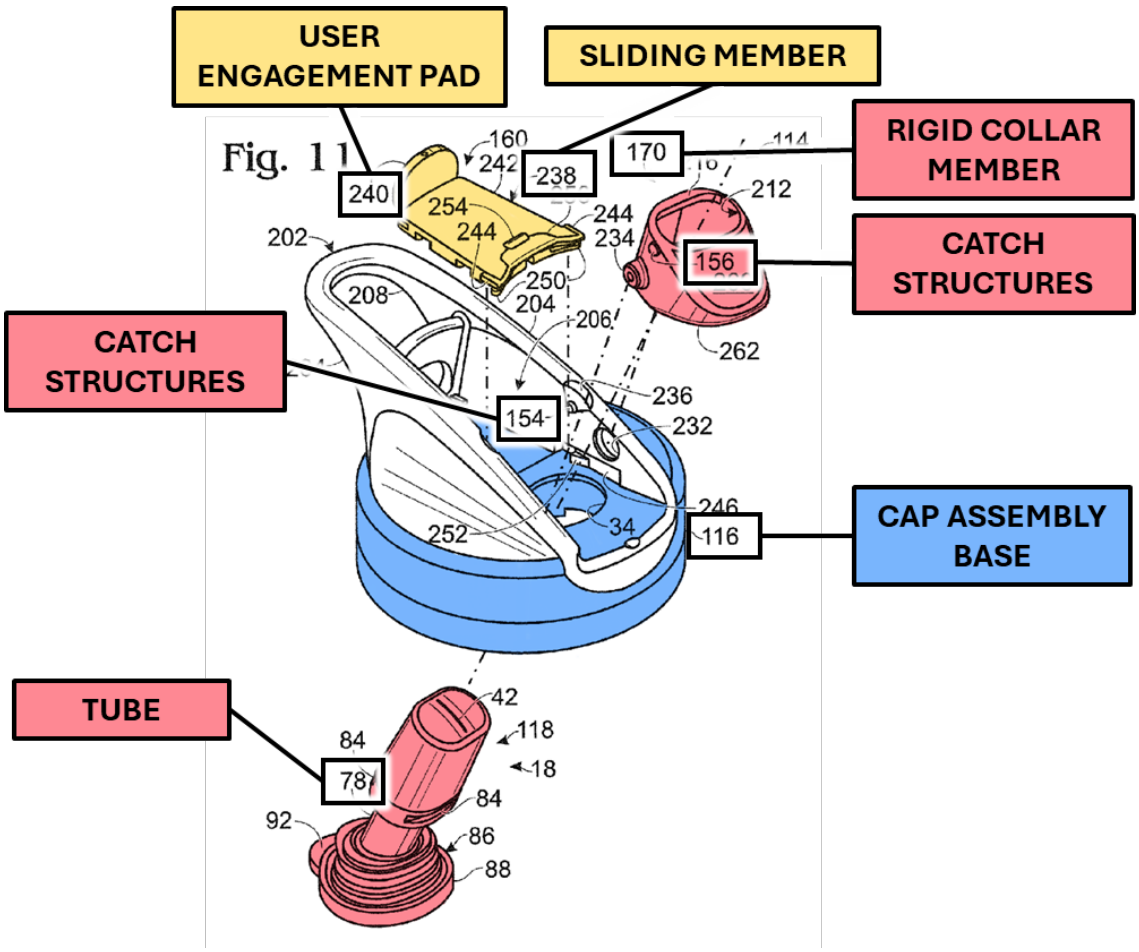
d. <u>1[B][4] User Release Mechanism</u>

258. Limitation 1[B][4] recites the cap assembly comprises "a user release mechanism" that comprises four sub-parts. The first sub-part recites "a user release mechanism adapted to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration … ." As discussed above, I understand this sub-part is a means-plus-

function limitation, and is thus governed by 35 U.S.C. § 112, ¶6.

259. As recited in this sub-part, the function of the "user release mechanism" is "to automatically disengage the first and second catch structures upon actuation of the user release mechanism and thereby release the mouthpiece assembly to move via its bias from the stowed configuration to the dispensing configuration." Ex. 1001, Claim 1. As discussed above, the '187 Patent specification discloses two embodiments of the user release mechanism. As I explain below, it is my opinion that Park discloses a user release mechanism that is equivalent at least to the first of these two embodiments.

260. In the first embodiment described in the '187 Patent, the user release mechanism includes a "user engagement pad 240" and "sliding member 238," as shown below.

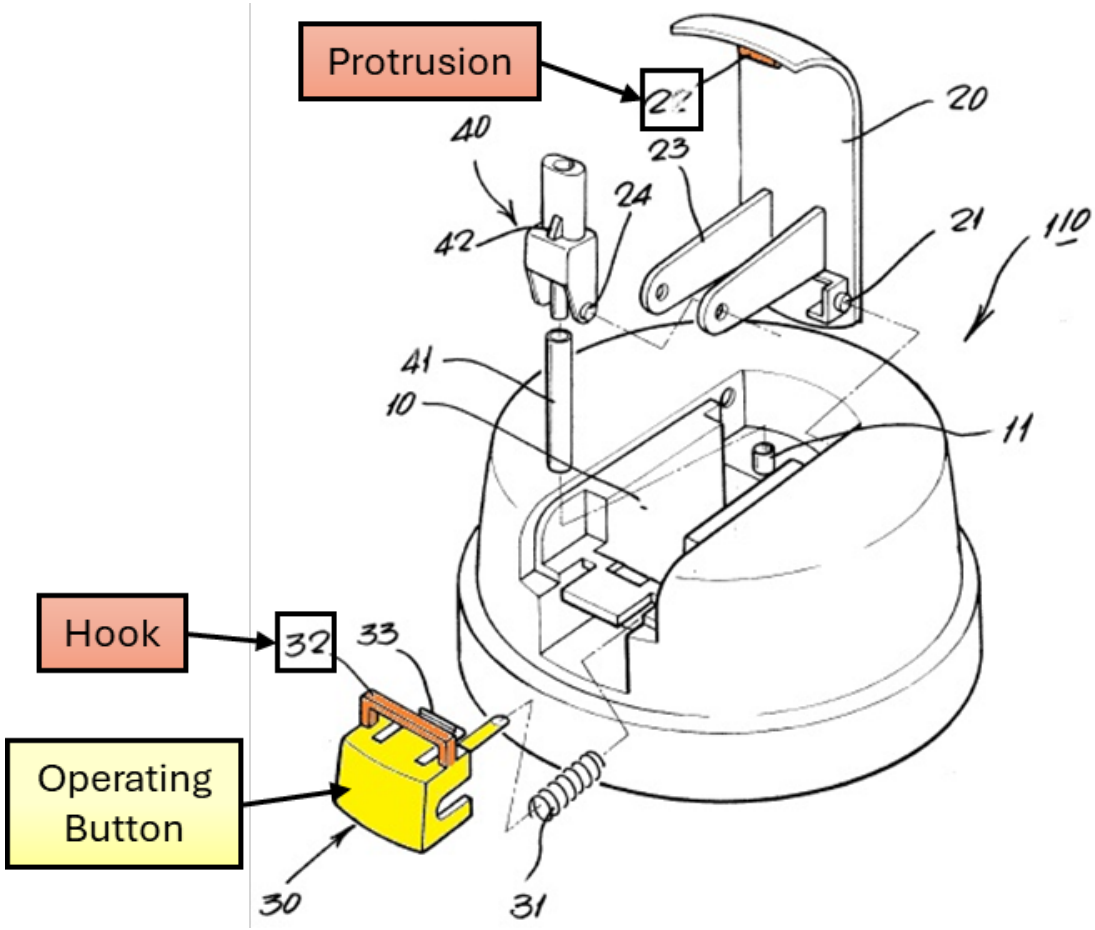


Ex. 1001, Fig. 11.

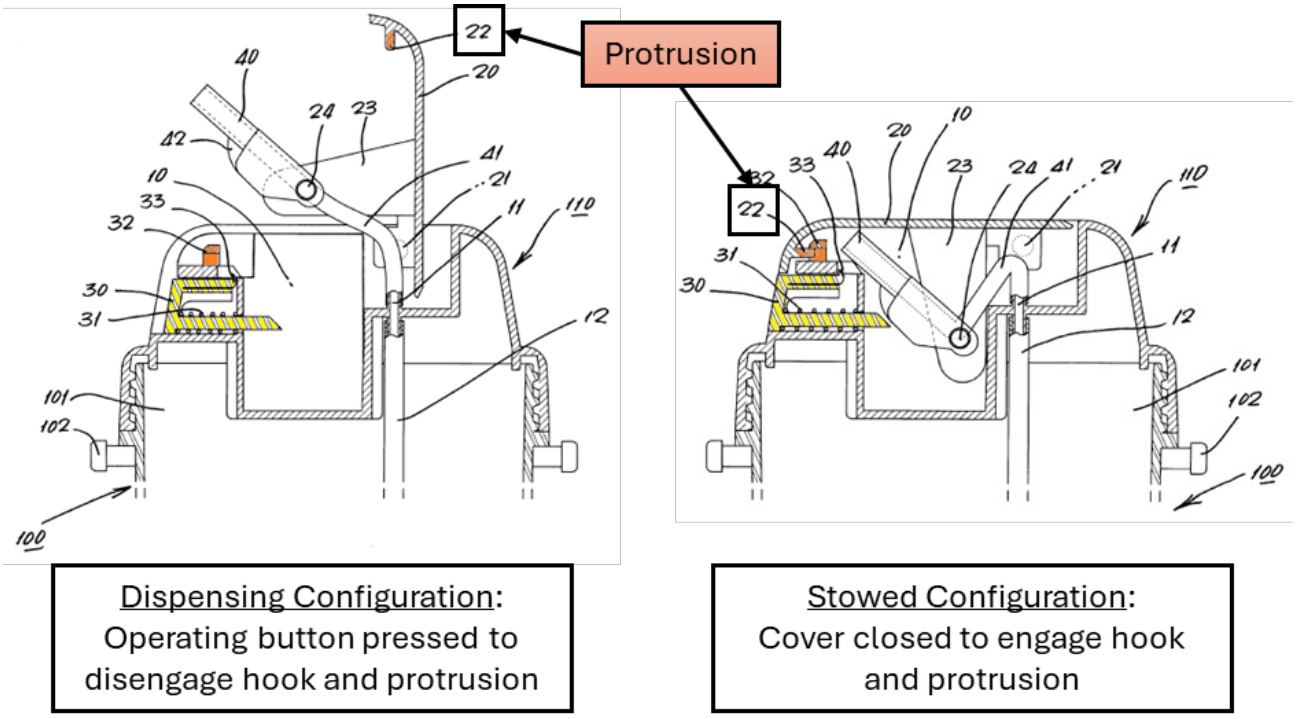
261. In this embodiment, the mouthpiece is held in its closed configuration by catch structures 156 on rigid collar member 170 which engage with catch structures 154 on handle 202. The user activates the user release mechanism by pressing "user engagement pad 240," which forces the "sliding member 238" to move between "base 116" and "rigid collar member 170," which pressing the collar upwards with suffiient force to disengage catch structures 154 and 156. With the catch structures disengaged, the mouthpiece pivots into its dispensing configuration

due to the bias created by the bend in tube 78. Ex. 1001, 12:50-13:39 (describing first embodiment).

262. Park discloses an equivalent structure to the embodiment described above. Specifically, Park discloses a "locking means" comprising "hook 32" on the upper surface of "operation button 30," which slides within the "operating chamber 10" to engage or disengage "protrusion 22" on the underside of "cover 20." The "locking means" is shown in Figure 3 below:



Ex. 1006, Fig. 3.



Ex. 1006, Figs. 5-6. Park describes the operation of "locking means," as shown in Figures 5 and 6 above, as follows:

> [W]hen a user wishes to drink the contents of the water bottle 100, the operating button 30 … is pressed, and the operating button 30 is reciprocated by compressing the rear spring 31.
>
> As a result, the hook 32 … is disengaged from the protrusion 22 of the cover 20, and at this moment, the cover 20 is unfolded by the elastic force of the connecting hose 41 … .
>
> …
>
> On the contrary, when the cover 20 is closed, a protrusion 22 formed on the lower surface of the cover 20 is coupled with the hook 32 of the operating button 30 and inserted and fastened into the operating chamber 10.

Ex. 1006, 5.

263. Park's "locking means" is equivalent to the first embodiment of user release mechanism described in the '187 Patent. That is because it performs the same function, in the same way, to achieve the same result. For example, in the first embodiment of the '187 Patent, the user presses on the "user engagement portion 260" of the mouthpiece assembly, which causes the catch structures to disengage and the mouthpiece to move to the dispensing configuration. Park's "locking means" functions in substantially the same way: a user presses directly on the exterior surface of the "operation button 30," which causes the button to slide, which disengages "hook 32" and "protrusion 22," which in turn causes the mouthpiece assembly to move into the dispensing configuration.

264. I understand that in co-pending litigation, the Patent Owner contends the "user release mechanism" limitation should not be construed as a means-plus-function claim term. Although I disagree with Patent Owner's contention, it is my opinion that Park nonetheless discloses a structure that performs the function recited in the claim.

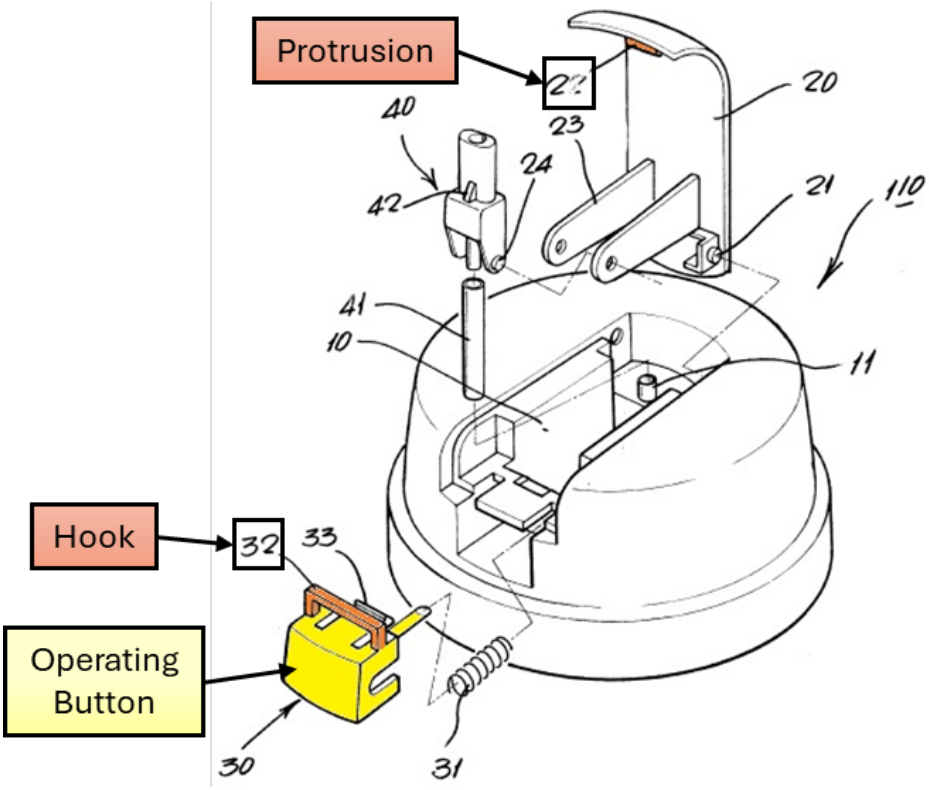
265. As explained below, it is also my opinion that Park discloses each of the remaining sub-parts of the "user release mechanism" limitation. The second and third sub-parts of limitation 1[B][4] recite "wherein the user release mechanism comprises a displacement mechanism with a user engagement pad, wherein the

displacement mechanism is configured to displace the first catch structure to selectively disengage the first and the second catch structures." Park discloses each of these sub-parts.

266. As an initial matter, I note that these sub-parts are consistent with the structure of the first embodiment of "user release mechanism," as described in the '187 Patent. That structure includes a "sliding member 238" with a "user engagement pad 240" that is displaced by the user to selectively disengage catch structures 154 and 156 and allow the mouthpiece assembly to move via its bias to the dispensing configuration.

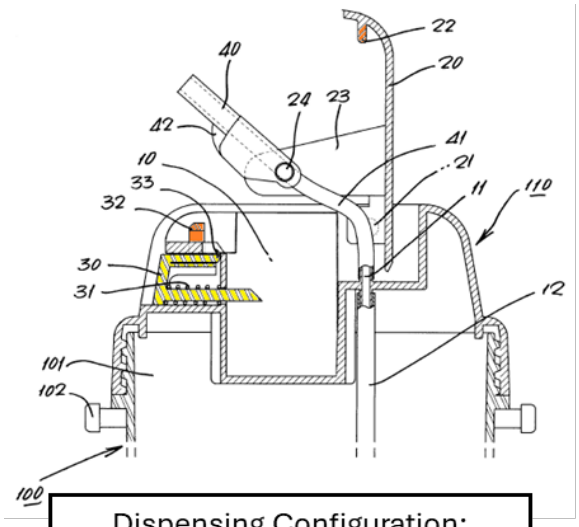
267. As explained above, Park discloses a "locking means" comprising "an operating button 30 fastened at the front surface of the operating chamber 10" that "is configured to be moved forward and backward, and a hook 32 … for locking and unlocking the cover 20 … ." Ex. 1006, 4.

268. The "operating button 30 is elastically installed by a spring 31 and is configured to be moved forward and backward" within the "operating chamber 10," as shown in Figure 3 below:

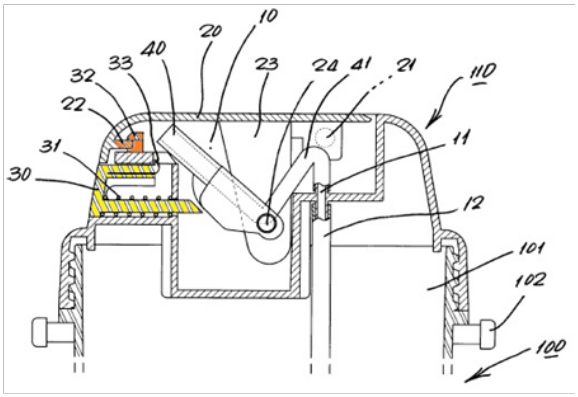


Ex. 1006, Fig. 3.

269. During operation, a user presses the exterior surface of "operating button 30," which causes the button to slide relative to the base of the lid within the channel, as shown in Figures 5 and 6:



Dispensing Configuration: Operating button pressed to slide inward and disengage hook and protrusion



Stowed Configuration: Cover closed to engage hook and protrusion; operating button slides outward

Ex. 1006, Figs. 5-6. Because a user interacts with Park's "operation button" by pressing its exterior surface, a person of ordinary skill in the art would have understood the exterior surface of Park's "operating button" to constitute a "user engagement pad," as claimed.

270. The sliding movement of the "operating button 30" causes "hook 32" to disengage from "protrusion 22," which causes "cover 20" to be "unfolded by the elastic force of the connecting hose 41" and "straw 40" to be opened into the dispensing configuration. Ex. 1006, 5. Thus, a person of ordinary skill in the art would have understood Park's "operating button" to constitute a "displacement mechanism" configured to displace the first and second catch structures, as claimed.

271. The fourth sub-part of limitation 1[B][4] recites "wherein the user

release mechanism is biased to urge the displacement of mechanism away from a position where the displacement mechanism disengages the first and second catch structures." Park also discloses this sub-part.

272. Park's "locking mechanism" includes "spring 31," which biases "operating button 30" (i.e. the claimed displacement mechanism) away from the dispensing configuration, such that when "cover 20" is closed, "hook 32" engages "protrusion 22" on the underside of "cover 20" to retain the mouthpiece assembly in the stowed configuration.

273. For the reasons stated above, it is my opinion that the limitations of claim 1 are either disclosed in Park or would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

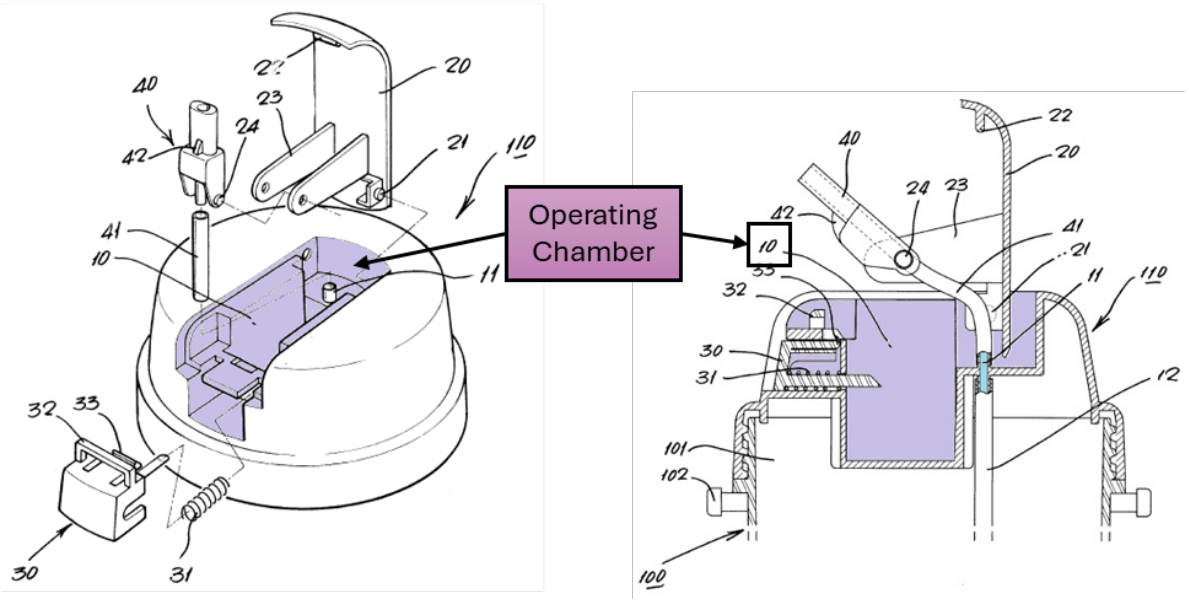
B. Claim 3 is Obvious over Park, in view of Ribarits

274. Claim 3 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

275. Claim 3 further recites, "wherein the cap assembly defines a stowing region sized to receive at least a portion of the mouthpiece assembly when the mouthpiece assembly is in the stowed configuration." As I explain below, each of

Park and Ribarits discloses this additional limitation.

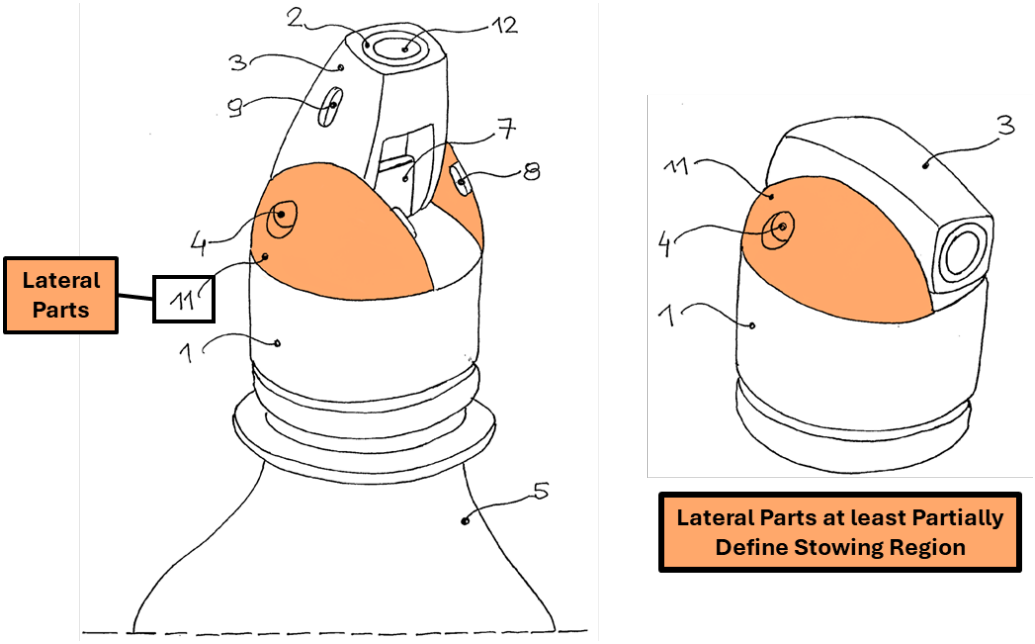
276. Park discloses "operating chamber 10," which is shown in Figures 3 and 5 below:



Ex. 1006, Figs. 3, 5.

277. Park discloses: "In the process of closing the cover 20 … the straw 40 … is pivoted using the hinge shaft 24 … and is securely accommodated into the operating chamber." Ex. 1006, 5. Thus, a person of ordinary skill in the art would have understood "operating chamber 10" to constitute a stowing region, as claimed.

278. Ribarits also discloses a stowing region. Specifically, Ribarits discloses a pair of "lateral parts 11" that define a stowing region that receives at least a portion of the mouthpiece assembly, namely the "drinking spout," when the mouthpiece assembly is in the stowed configuration, as shown below:



Ex. 1009, Fig. 1.

279. Because each of Park and Ribarits discloses the additional limitation of claim 3, it is also my opinion that claim 3 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits.

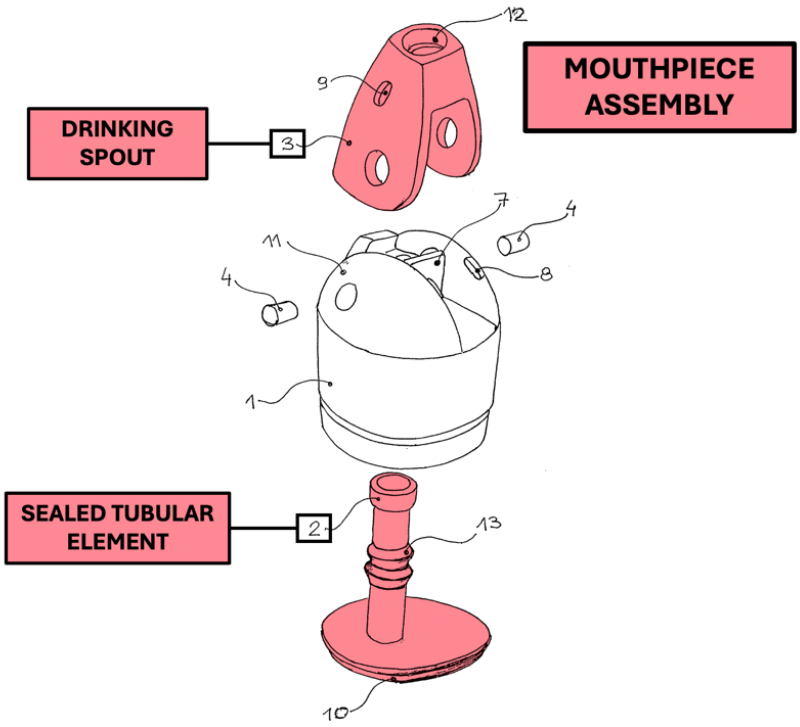
C. Claim 4 is Obvious over Park, in view of Ribarits

280. 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

281. Claim 4 further recites, "wherein the rigid collar member comprises a collar aperture and wherein the mouthpiece portion extends past the collar aperture." As I explain below, this additional limitation would have been obvious over Park, in

view of Ribarits.

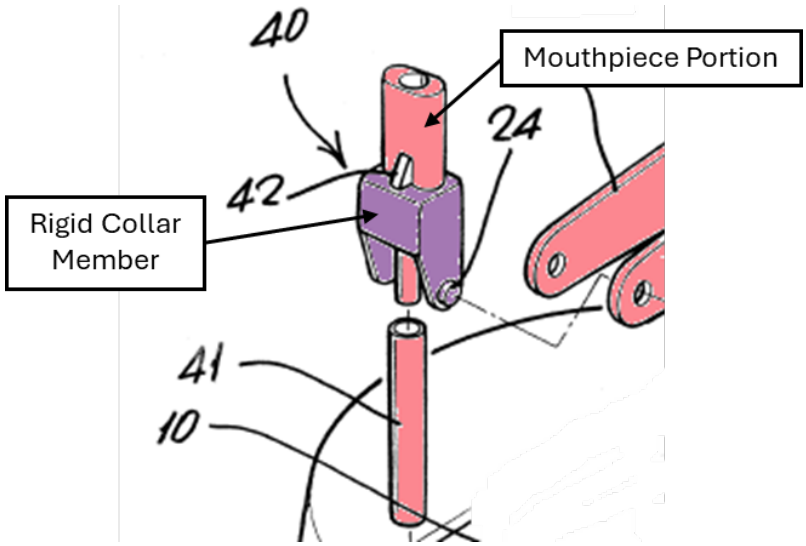
282. As discussed in limitation 1[B][3][a], a person of ordinary skill in the art would have understood Ribarits' "drinking spout" to constitute a "rigid collar member." As shown below, Ribarits' "drinking spout" includes an "outlet opening 12" into which the mouthpiece portion of the "sealed tubular element" fits:



Ex. 1009, Claim 7, Fig. 2. A person of ordinary skill in the art would have understood the "outlet opening" of Ribarits' "drinking spout" to constitute a "collar aperture," as claimed.

283. As discussed in limitation 1[B][3][b], in modifying Park to include Ribarits' "drinking spout" and "sealed tubular element," it would have been obvious

to a person of ordinary skill in the art to replace the bracket portion of Park's "straw 40" with a rigid collar member, as in Ribarits. As represented in the colored Figure below, this modification would have resulted in a configuration in which Park's "straw 40" was comprised of mouthpiece tube (shown in red) extending through a rigid collar member (shown in purple).



Ex. 1006, Fig. 3. This configuration would ensure proper positioning of, and facilitate user access to, the mouthpiece portion of the mouthpiece assembly during use.

284. Thus, it is also my opinion that claim 4 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

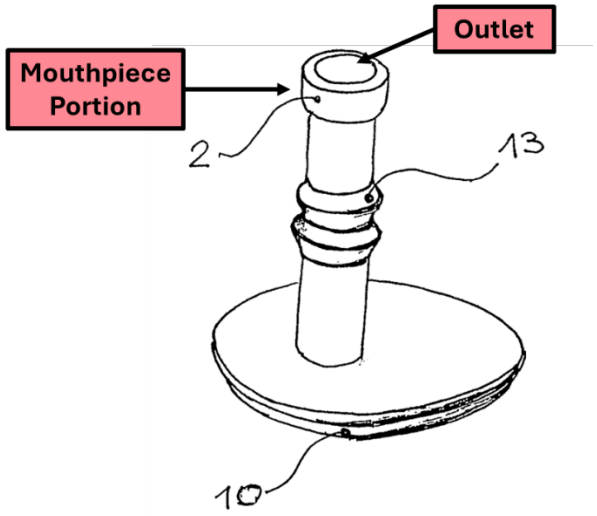
D. <u>Claim 5 is Obvious over Park, in view of Ribarits</u>

285. 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

286. Claim 5 further recites, "wherein the mouthpiece portion is constructed of a resiliently deformable material." As I explain below, Ribarits discloses this additional limitation.

287. As explained in claim 1 above, Ribarits' "sealed tubular element" includes a mouthpiece portion, which I have identified below:



Ex. 1009, Fig. 2. As shown above, the mouthpiece portion includes the outlet of Ribarits' mouthpiece assembly and is constructed of the same "rubber or latex" material as the rest of the "sealed tubular element." A person of ordinary skill in the art would have understood such elastic material to be "resiliently deformable," as claimed.

288. Because Ribarits discloses the additional limitations of claim 5, it is

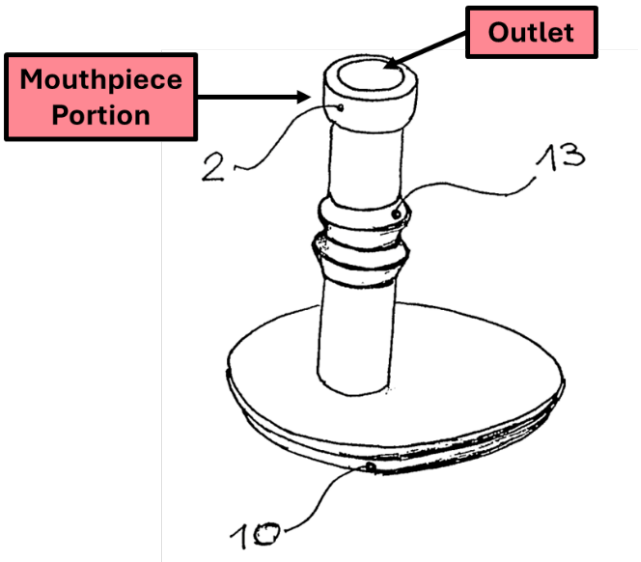
also my opinion that claim 5 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits.

E. Claim 6 is Obvious over Park, in view of Ribarits

289. Claim 6 depends from Claim 5, and thus incorporates the limitations of Claim 5. As explained above, it is my opinion that Claim 5 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

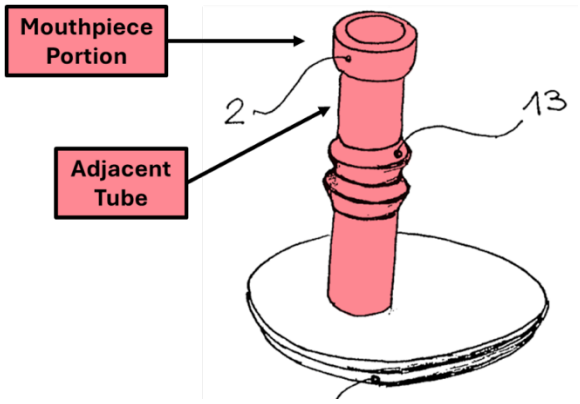
290. Claim 6 further recites, "wherein the mouthpiece assembly includes mouthpiece-securing structure that secures the mouthpiece portion to the rigid collar member and restricts relative movement between the mouthpiece portion and the rigid collar member." As I explain below, Ribarits discloses this additional limitation.

291. Ribarits' "sealed tubular element" includes a mouthpiece portion:

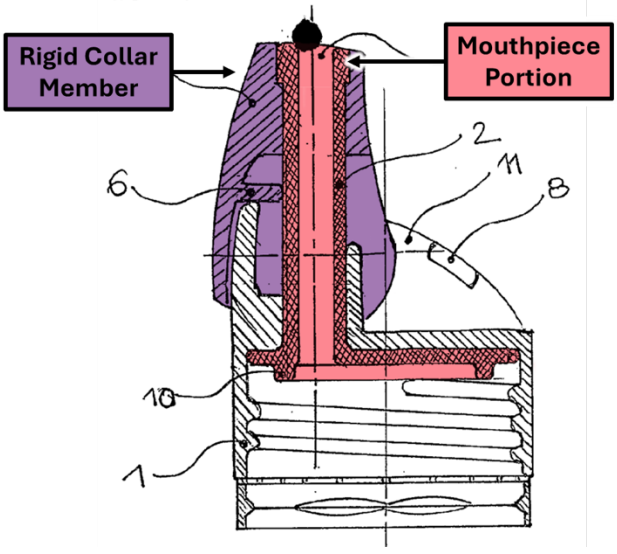


Ex. 1009, Fig. 2.

292. Ribarits' mouthpiece portion has a larger diameter than the adjacent portion of the tube, as shown below:



Ex. 1009, Fig. 3. This structure fits within the outlet end of Ribarits' "drinking spout" and secures the "sealed tubular element" within the rigid collar member:



Ex. 1009, Fig. 3. The mouthpiece portion is fit within the rigid collar member via a friction fit, and thus restricts relative movement between the tube and the collar

during use.

293. For the reasons I explained in claim 1 above, it would have been obvious to combine replace Park's "straw" and "connection hose" with Ribarits' "drinking spout" and "sealed tubular element." In implementing that modification, a person of ordinary skill in the art also would have recognized the desirability of implementing a structure for securing the tube portion of the mouthpiece assembly to the rigid collar member, similar to that disclosed in Ribarits.

294. That is because, as in Ribarits, such structure ensures correct positioning of the tube portion within the rigid collar member, and prevents relative movement of the components during use of the device. A person of ordinary skill in the art would have also understood that, when seated in the rigid collar member, the mouthpiece portion would extend past the collar aperture. Thus, a person of ordinary skill in the art would have recognized that a securing structure would ensure the intended crimping functionality of the device when pivoted to the stowed configuration.

295. A person of ordinary skill in the art would have also understood that, when seated in the rigid collar member, the mouthpiece portion would extend past the collar aperture.

296. Because Ribarits discloses the additional limitations of claim 6, it is

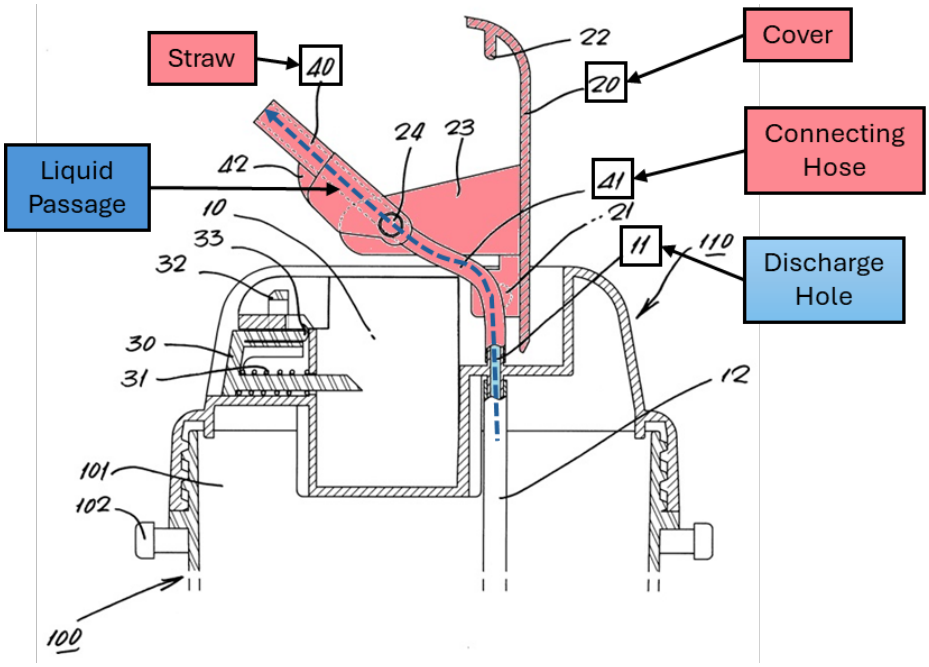
also my opinion that claim 6 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits.

F. Claim 7 is Obvious over Park, in view of Ribarits

297. Claim 7 depends from Claim 5, and thus incorporates the limitations of Claim 5. As explained above, it is my opinion that Claim 5 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

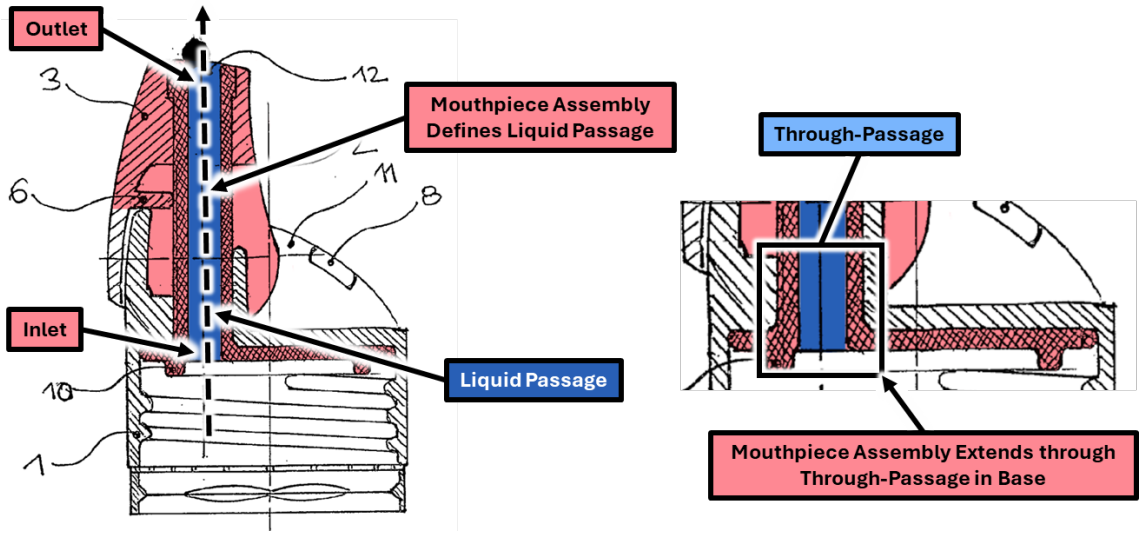
298. Claim 7 further recites, "wherein the mouthpiece assembly comprises a tube portion that defines at least a portion of the liquid passage for drink liquid to flow from the internal compartment to the mouthpiece portion." As I explain below, each of Park and Ribarits discloses this additional limitation.

299. Park discloses "connection hose 41" which defines part of the liquid passage between the inlet at the base of the lid and the outlet at the opposite end of "straw 40," as shown below:



Ex. 1006, Fig. 6.

300. Ribarits discloses "sealed tubular element," which defines a liquid passage from the fluid container, through the mouthpiece assembly, and to the user, as shown below:



Ex. 1009 at 2, Fig. 3.

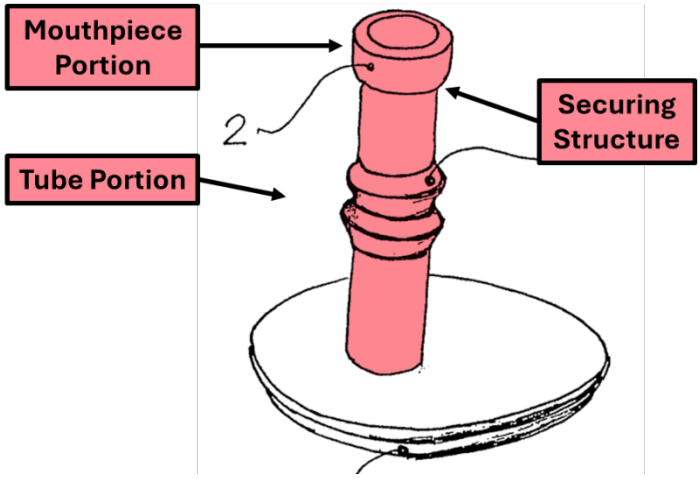
301. Because each of Park and Ribarits discloses the additional limitation of claim 7, it is also my opinion that claim 7 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits.

G. Claim 8 is Obvious over Park, in view of Ribarits

302. 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

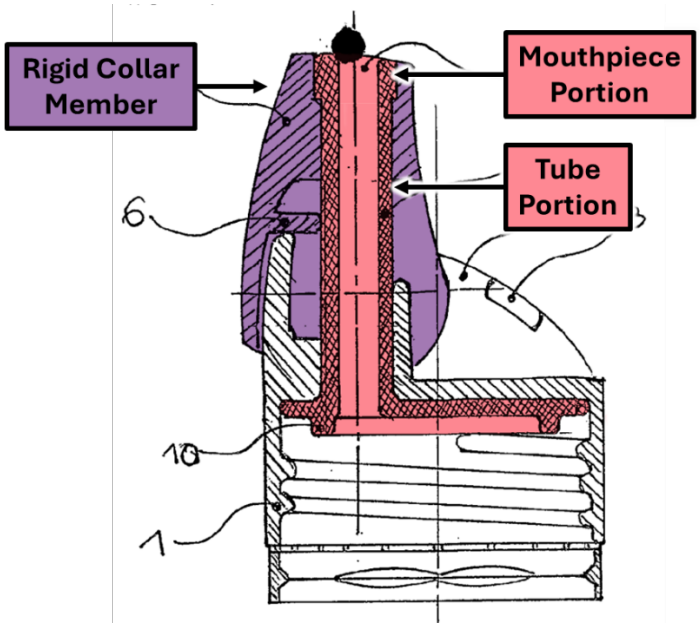
303. Claim 8 further recites, "wherein the tube portion includes structure for securing the tube portion to the rigid collar member and restricting relative movement between the tube portion and the rigid collar member." As explained below, Ribarits discloses this additional limitation.

304. Ribarits' "sealed tubular element" includes a mouthpiece portion and a tube portion:



Ex. 1009, Fig. 2.

305. The mouthpiece portion has a larger diameter than the tube portion, which forms a structure that secures both the mouthpiece portion and tube portion within the "drinking spout" (i.e. rigid collar member), as shown below:



Ex. 1009, Fig. 3. The mouthpiece portion is fit within the rigid collar member via a friction fit, and thus restricts relative movement between the tube and the collar

during use.

306. For the reasons I explained in claim 1 above, it would have been obvious to replace Park's "straw" and "connection hose" with Ribarits' "drinking spout" and "sealed tubular element." In implementing that modification, a person of ordinary skill in the art also would have recognized the desirability of implementing a structure for securing the tube portion of the mouthpiece assembly to the rigid collar member, similar to that disclosed in Ribarits.

307. That is because, as in Ribarits, such structure ensures correct positioning of the tube portion within the rigid collar member, and prevents relative movement of the components during use of the device. Thus, a person of ordinary skill in the art would have recognized that a securing structure would ensure the intended crimping functionality of the device when pivoted to the stowed configuration.

308. Because Ribarits discloses the additional limitations of claim 8, it is also my opinion that claim 8 would have been obvious to a person of ordinary skill in the art over Park, in view of Ribarits.

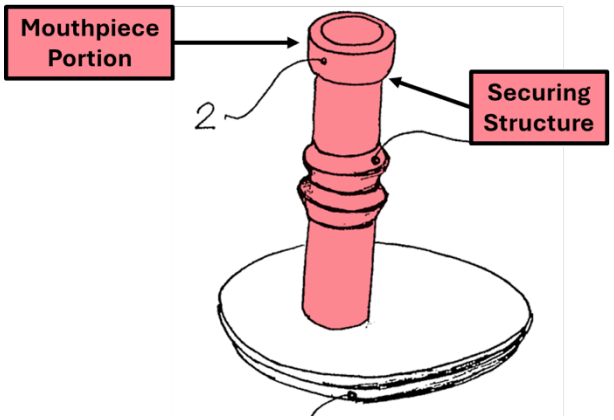
H. Claim 9 is Obvious over Park, in view of Ribarits

309. Claim 9 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 Park in

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

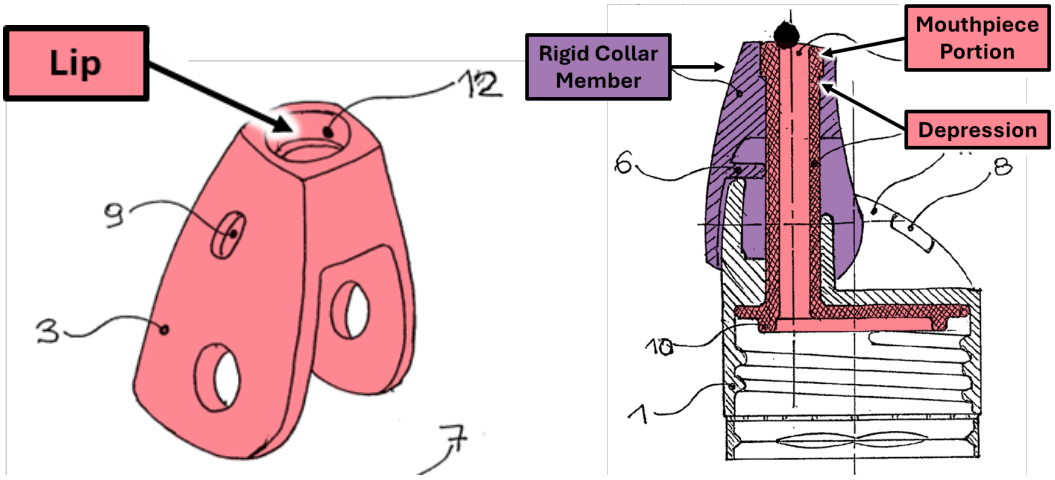
310. Claim 9 further recites, "wherein one of the mouthpiece portion and the tube portion includes the mouthpiece-securing structure; wherein the mouthpiece-securing structure includes one or more of a channel and a depression; wherein the rigid collar member includes one or more of a lip, a flange, and a protrusion; and wherein the one or more of the channel and the depression defines a seat that engages and mates with the one or more of the lip, the flange, and the protrusion." As explained below, Ribarits discloses this additional limitation.

311. As I explained in claim 6 above, the mouthpiece portion of Ribarits' "sealed tubular element" includes a mouthpiece-securing structure. As shown below, that structure includes a circumferential depression:



Ex. 1009, Figs. 2-3.

312. The circumferential depression forms a seat that engages with a corresponding circumferential lip on Ribarits' "drinking spout," as shown below:



Ex. 1009, Figs. 2-3.

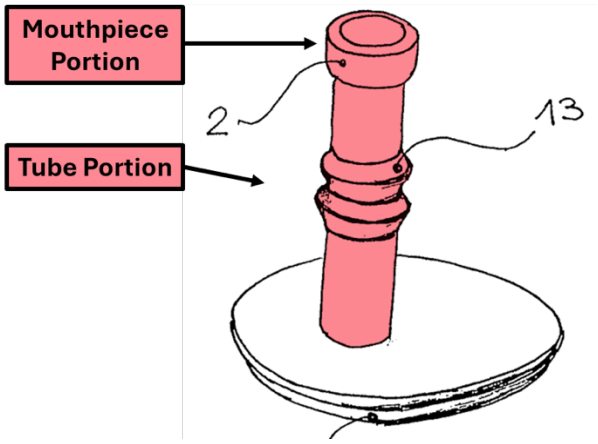
313. For the same reasons I explained in claim 6 above, it would have been obvious to a person of ordinary skill in the art to include a securing structure, such as that disclosed in Ribarits, in the proposed modification of Park. Accordingly, it is also my opinion that claim 9 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

I. Claim 11 is Obvious over Park, in view of Ribarits

314. 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

315. Claim 11 further recites, "wherein the mouthpiece portion and the tube portion are constructed as a unitary assembly of the resiliently deformable material." As I explain below, Ribarits discloses this additional limitation.

316. Ribarits' "sealed tubular element" is made from a resilient elastic material, such as "rubber or latex," and is constructed as a unitary assembly that includes both the mouthpiece portion and the tube portion, as shown below:



Ex. 1009, 2, Fig. 2.

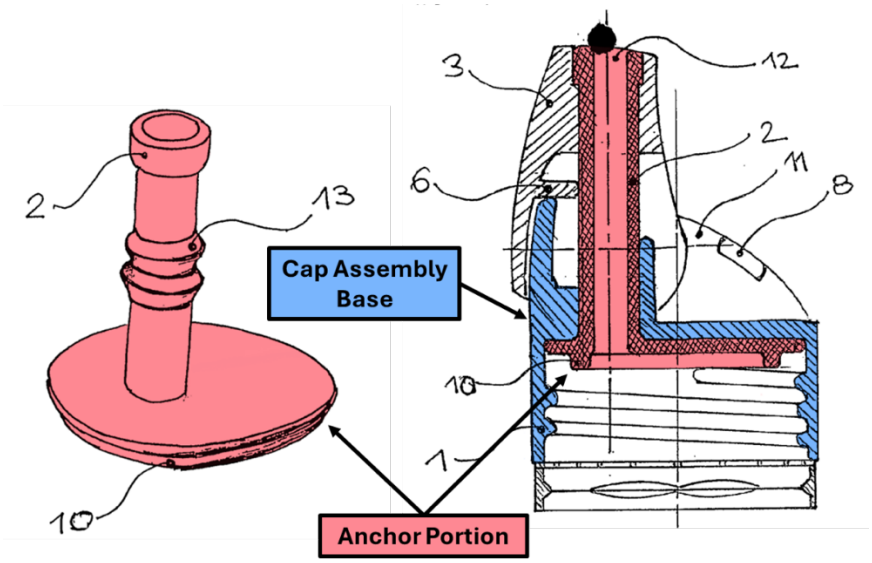
317. Because Ribarits discloses the additional limitations of claim 11, it is also my opinion that claim 11 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

J. Claim 12 is Obvious over Park, in view of Ribarits

318. 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

319. Claim 12 further recites, "wherein the mouthpiece assembly further includes an anchor portion that extends from the tube portion." As I explain below, Ribarits discloses this additional limitation.

320. Ribarits discloses "sealing rings 10" at the base of its "sealed tubular member," as shown below:



Ex. 1009, Figs. 2-3. As shown above, the sealing rings extend from the base of the tube portion, and form a tight seal with the base of the cap assembly.

321. Because the sealing rings are larger than the diameter of the tube portion, a person of ordinary skill would have understood the sealing rings to prevent the tube from slipping vertically through the "drinking spout." Thus, a person of ordinary skill in the art would have understood the "sealing rings 10" to constitute an "anchor portion," as claimed.

322. As discussed in connection with claim 1 above, it is my opinion that it would have been obvious to a person of ordinary skill in the art to replace Park's straw and connecting hose with Ribarits' drinking spout and sealed tubular element.

In implementing that modification, a person of ordinary skill in the art also would have been motivated to include an anchor, such as that disclosed in Ribarits, to secure the tube portion of the mouthpiece assembly on the inlet side of Park's "discharge hole."

323. For example, in replacing Park's "connecting hose" with Ribarits' "sealed tubular element, a person of ordinary skill in the art would have been motivated to design the tube to be easily inserted from the underside of Park's "lid 110" and through "discharge hole 11." In view of the teachings of Ribarits, a person of ordinary skill in the art would have understood that a simple circumferential flange could be incorporated on either side of the through-passage to ensure a tight fit between the tube and the through-passage, and to maintain the position of the mouthpiece assembly within the through-passage. A person of ordinary skill in the art also would have recognized that such a design could be readily inserted into or removed from the through-passage, which would have the added benefit of facilitating cleaning, maintenance, or replacement of the mouthpiece assembly.

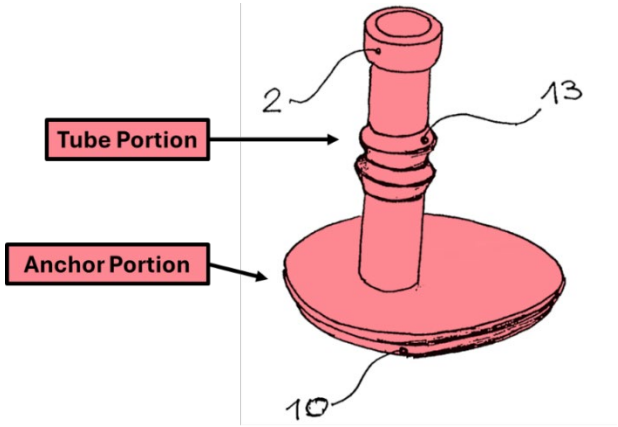
324. Accordingly, it is also my opinion that claim 12 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

K. Claim 13 is Obvious over Park, in view of Ribarits

325. Claim 13 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Claim 12 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

326. Claim 13 further recites, "wherein the anchor portion has a greater exterior perimeter than the tube portion." As I explain below, Ribarits discloses this additional limitation.

327. As explained in claim 12 above, Ribarits' "sealing rings 10," which a person of ordinary skill in the art would have understood to constitute the claimed "anchor portion," have a greater perimeter than the tube portion of the mouthpiece assembly:



Ex. 1009, Fig. 2.

328. Because Ribarits discloses the additional limitation of claim 13, it is also my opinion that claim 13 would have been obvious over Park, in view of

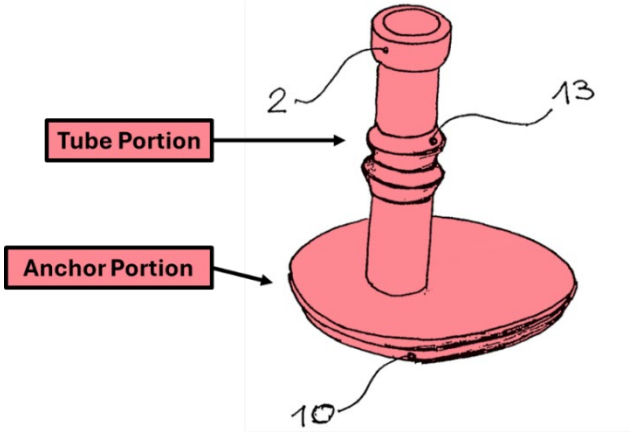
Ribarits and the knowledge of a person of ordinary skill in the art.

L. Claim 14 is Obvious over Park, in view of Ribarits

329. Claim 14 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Claim 12 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

330. Claim 14 further recites, "wherein the anchor portion and tube portion are constructed as a unitary assembly of the resiliently deformable material." As I explain below, Ribarits discloses this additional limitation.

331. Ribarits' "sealed tubular element" is made from a resilient elastic material, such as "rubber or latex," and is constructed as a unitary assembly that includes both the "sealing rings 10," which a person of ordinary skill in the art would have understood to be the claimed "anchor portion," and the tube portion, as shown below:



Ex. 1009, 2, Fig. 2.

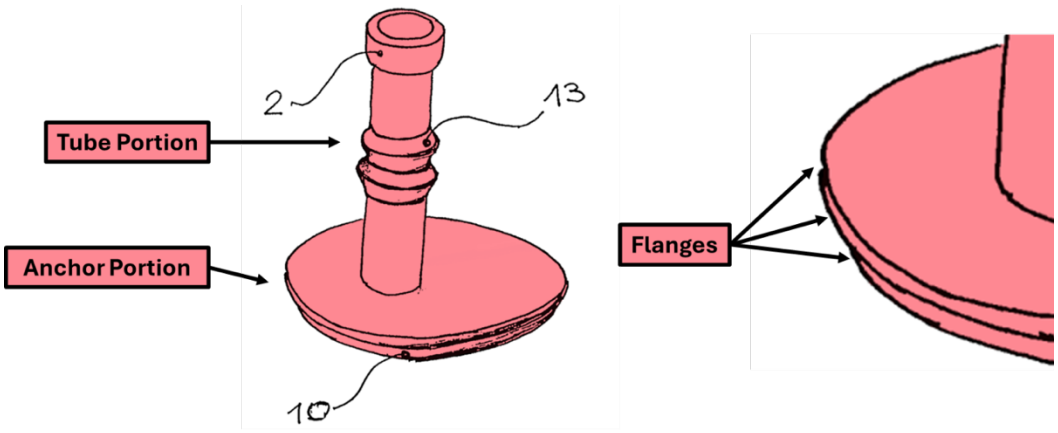
332. Because Ribarits discloses the additional limitation of claim 14, it is also my opinion that claim 14 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

M. Claim 16 is Obvious over Park, in view of Ribarits

333. Claim 16 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Claim 12 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

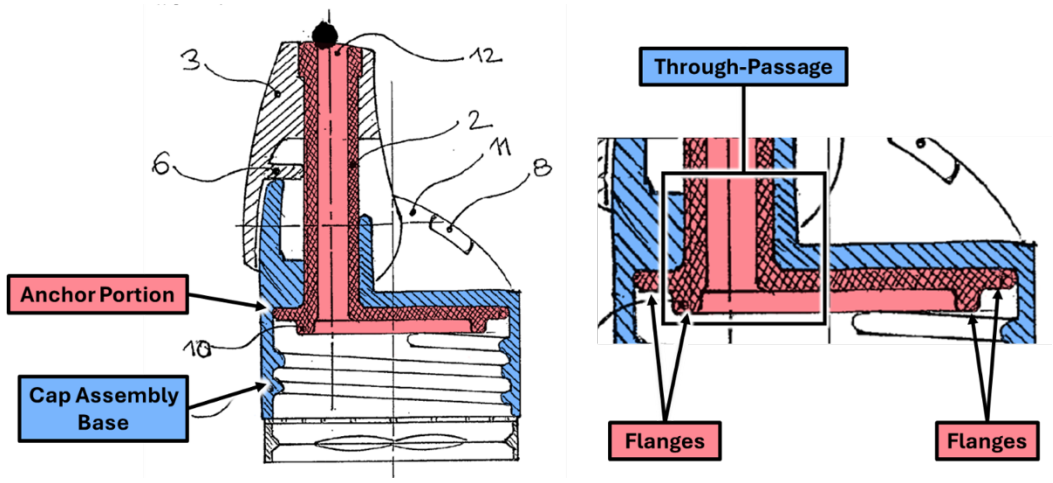
334. Claim 16 further recites, "wherein the anchor portion includes a projecting flange that provides a friction-fit arrangement with the through-passage of the base." As I explain below, Ribarits discloses this additional limitation.

335. As explained in claim 12 above, Ribarits' mouthpiece assembly includes "one or several projecting sealing rings (10)" (Ex. 1009, 3 (Claim 2)), which a person of ordinary skill in the art would have understood to be the claimed "anchor portion." These sealing rings are shown below:



Ex. 1009, Fig. 2). As shown above, the sealing rings comprise a series of flanges that project outwardly from the tube portion of Ribarits' "sealed tubular element."

336. As explained in claim 12 above and shown below, the sealing rings form a tight seal with the through-passage, by virtue of the friction fit between the sealing rings and the base of Ribarits' "closure cap" when in the cap is screwed onto the liquid container:



Ex. 1009, Fig. 3.

337. Because Ribarits discloses the additional limitation of claim 16, it is also my opinion that claim 16 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

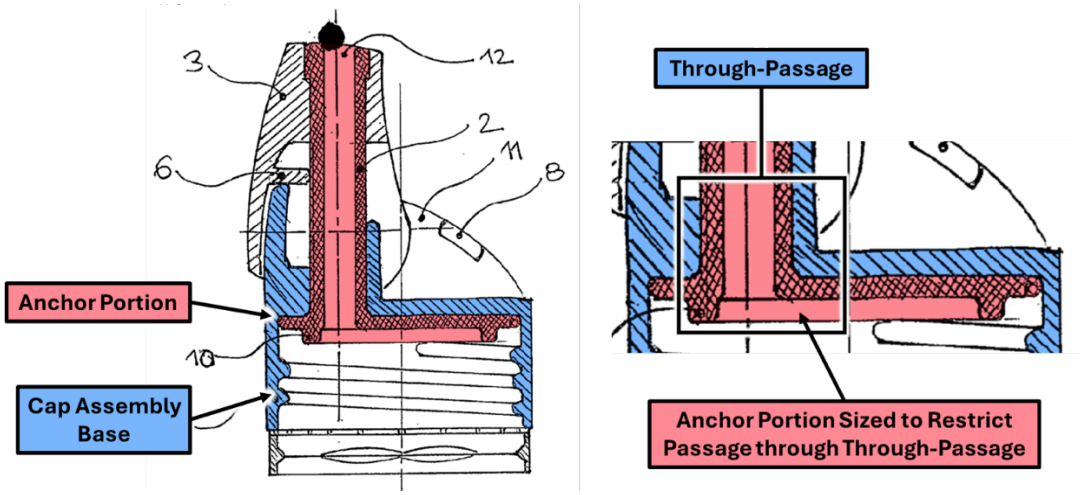
N. Claim 17 is Obvious over Park, in view of Ribarits

338. Claim 17 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 Park

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

339. Claim 17 further recites, "wherein the anchor portion is sized to restrict passage of the anchor portion through the through-passage and thus restrict removal of the mouthpiece assembly via a top side of the cap assembly." As I explain below, Ribarits discloses this additional limitation.

340. Ribarits' "sealing ring 10," which a person of ordinary skill in the art would have understood to be the claimed "anchor portion," extends outward to prevent it from passing through the through-passage at the base of the cap assembly, as shown below:



Ex. 1009, Fig. 3.

341. As explained above in claim 12, because Ribarits' sealing ring is a unitary assembly with, and has a greater diameter than, the tube portion, it prevents slippage of the tube portion through the through-passage. Likewise, because

Ribarits' "sealed tubular element" includes a mouthpiece portion that seats within Ribarits' "drinking spout," the sealing rings also restrict removal of the drinking spout from Ribarits' cap assembly.

342. Because Ribarits discloses the additional limitation of claim 17, it is also my opinion that claim 17 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

O. Claim 19 is Obvious over Park, in view of Ribarits

343. Claim 19 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 Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

344. Claim 19 further recites, "wherein the cap assembly further comprises a handle that projects away from the base." As I explain below, this additional limitation would have been obvious over Park and the knowledge of a person of ordinary skill in the art.

345. Park teaches that "a separate belt can be fastened to a loop 102 formed on the outer circumference of the water bottle 100 to facilitate portability." Ex. 1006, 5. A person of ordinary skill in the art would have understand that a "belt" fastened to the "loop" on Park's bottle would have constituted a handle for transporting the water bottle. Although Park's handle is not a component of Park's cap assembly

(i.e. "lid 110"), a person of ordinary skill in the art would have readily understood that such handle could be attached directly to the cap assembly, rather than to the water bottle. Thus, a person of ordinary skill in the art would have understood that attaching the handle to the cap assembly, as opposed to the bottle, constituted nothing more than a simple choice between two possible designs. Accordingly, the additional limitation of claim 19 would have been obvious to a person of ordinary skill in the art.

346. Because claim 19 depends from claim 1, and the additional limitation of claim 19 also would have been obvious over Park in view of the knowledge of a person of ordinary skill in the art, it is also my opinion that claim 19 would have been obvious over Park, in view of Ribarits and the knowledge of a person of ordinary skill in the art.

VI. GROUND 3: CLAIM 15 IS OBVIOUS IN VIEW OF PARK, RIBARITS AND KIYOTA

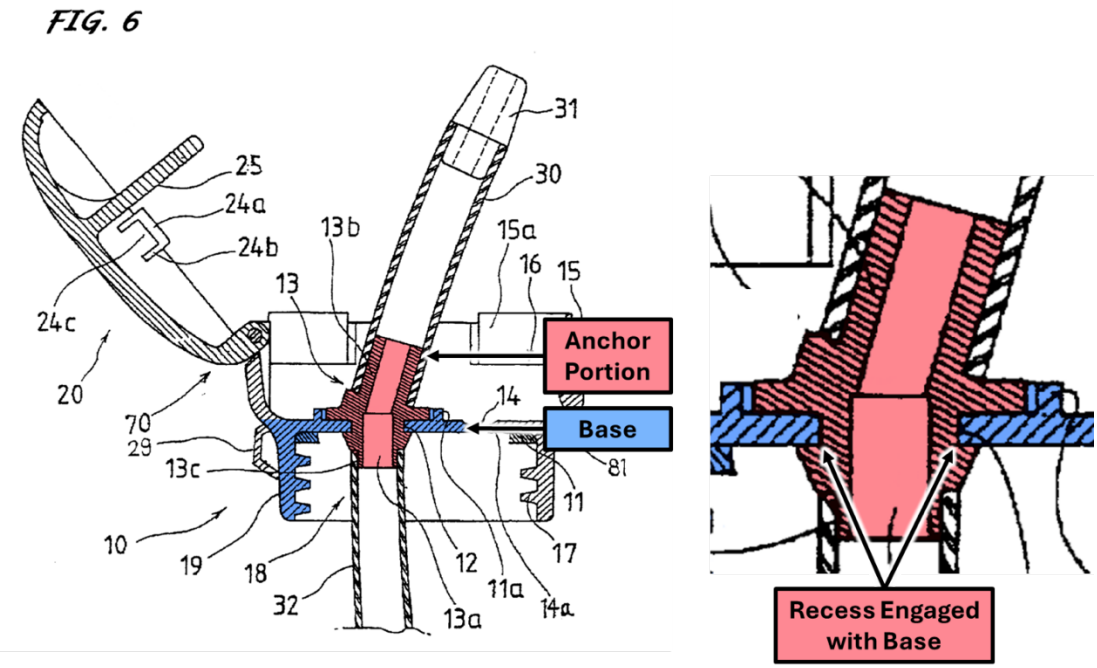
A. Claim 15 is Obvious over Park, in view of Ribarits

347. Claim 15 depends from Claim 12, and thus incorporates the limitations of Claim 12. As explained above, it is my opinion that Claim 12 is obvious over Park in view of Ribarits and the knowledge of a person of ordinary skill in the art.

348. Claim 15 further recites, "wherein the anchor portion defines a recess that is sized and shaped to engage and mate with corresponding structure of the base

of the cap assembly." As I explain below, this limitation would have been obvious over Park and Ribarits, in further view of Kiyota and the knowledge of a person of ordinary skill in the art.

349. As I explained in connection with claim 15 in ground 1, above, Kiyota discloses that "coupling tube 13," which a person of ordinary skill in the art would understand to constitute an "anchor portion," defines a recess that is sized and shaped to engage and mate with corresponding structure of the base of the cap assembly. This is shown in Kiyota's Figure 6 below:



Ex. 1004, Fig. 6.

350. As I explained above, it is my opinion that, in view of Ribarits and the knowledge of a person of ordinary skill in the art, it would have been obvious to

replace Park's "straw 40" and "connection hose 41" with Ribarits' "drinking spout" and "sealed tubular element."

351. A person of ordinary skill in the art would have looked to the teachings of Kiyota to further modify and improve Park's and/or Ribarits' design. That is because Kiyota is directed to similar subject matter to both Park and Ribarits. For example, Kiyota discloses drink containers with cap assemblies of substantially the same functionality as both Park and Ribarits. As explained above, Kiyota discloses cap assemblies having mouthpieces that can be opened and closed into dispensing and stowed configurations, and includes elastic tube elements with crimping regions that collapse in the stowed configuration to prevent leakage when the drink containers are not in use.

352. In view of the teachings of Kiyota, a person of ordinary skill in the art would have recognized the desirability of modifying the design of Ribarits' anchor portion to include a recess sized and shaped to engage and mate with the base of the cap assembly, as taught by Kiyota. That is because such a design would have ensured a tight seal between the anchor portion and the cap assembly base, and would have prevented slippage of the tube portion during use.

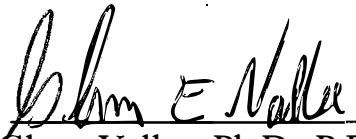
353. Accordingly, it is my opinion that it claim 14 would have been obvious to a person of ordinary skill in the art in view of Ribarits and Park, and in further

view of Kiyota.

VII. CONCLUSION

354. For the above reasons, it is my opinion that the prior art either anticipates or renders obvious claims 1, 3-9, 11-17, and 19 of the '187 patent.

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 6, 2024 By: 

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