

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TROVE BRANDS, LLC,
Petitioner,

v.

CAMELBAK PRODUCTS, LLC,
Patent Owner.

IPR2025-00140
U.S. Patent No. 11,851,250

**DECLARATION OF MICHAEL JOBIN IN SUPPORT OF PATENT
OWNER'S RESPONSE**

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I, Michael Jobin, do hereby declare as follows:

I. INTRODUCTION

1. I am making this declaration at the request of Patent Owner CamelBak Products, LLC (“CamelBak”) in the matter of this *Inter Partes* Review of U.S. Patent No. 11,851,250 (“the ’250 patent”).

2. I am being compensated for my work on this matter and for reasonable and customary expenses associated with my work and testimony in this proceeding. My compensation is not contingent on the outcome of this matter or the specifics of my testimony, and I have no other interest in this case or the parties thereto.

3. I have been asked to provide my opinions regarding whether claims 1–18 (the “Challenged Claims”) of the ’250 patent are unpatentable insofar as they would have been anticipated and/or obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art, based on the grounds of unpatentability set forth by Petitioner in its Petition in this matter. It is my opinion that none of the Challenged Claims are unpatentable in that they would not have been obvious to a POSITA based on the grounds of unpatentability set forth in the Petition.

4. In the preparation of this declaration, I have reviewed the below as well as any other documents cited herein that are not listed below:

- Paper 1 - Petition for *Inter Partes* Review of U.S. Patent No. 11,851,250

- Paper 14 – Institution Decision in IPR2024-01137, dated June 6, 2025
- Ex. 1001 - U.S. Patent No. 11,851,250 (“the ’250 patent”)
- Ex. 1002 - Declaration of Glenn E. Vallee, Ph.D.
- Ex. 1003 - Japanese Patent Publication No. 2002-211613
- Ex. 1004 - Certified English Translation of Japanese Patent Publication No. 2002-211613 (“Nakajima”)
- Ex. 1005 - International Publication No. WO 2004/063042
- Ex. 1006 - Certified English Translation of International Publication No. WO 2004/063042 to Ribarits (“Ribarits”)
- Ex. 1007 - U.S. Patent No. 4,485,963 (“Panicci”)
- Ex. 1008 - U.S. Patent No. 6,523,711 (“Hughes”)
- Ex. 1009 - Excerpts from the File History of the ’250 patent
- Ex. 1010 - U.S. Patent Application Publication 2005/0029271 (“McDonough”)
- Ex. 1011 - CamelBak’s Amended Infringement Contentions for the ’250 patent dated May 5, 2024, in Trove Brands, LLC v. CamelBak Products, LLC, et al., No. 5:23-cv-04267-PCP
- Ex. 2001 - Declaration of Michael Jobin (dated March 14, 2025)
- Ex. 2002 - File history of Ex Parte Reexamination Control No. 90/015,192 regarding U.S. Patent No. 10,676,255
- Ex. 2003 - Japanese Patent App. Pub. No. 2001-294252 (“Toudou”)
- Ex. 2005 – Merriam-Webster Dictionary – “mouthpiece”
- Ex.2006 – Institution Decision in IPR2024-01137 regarding U.S. Patent No. 10,676,255
- Ex. 2007 - American Heritage Dictionary – “pivot”
- Ex. 2008 - Cambridge Dictionary – “pivot”
- Ex. 2009 - Oxford Concise English Dictionary – “pivot”
- Ex. 2010 - McGraw-Hill Dictionary of Scientific and Technical Terms – “pivot”

- Ex. 2011 - Merriam-Webster Dictionary – “pivot”
- Ex. 2012 - Science Facts – “Rotational Motion”
- Ex. 2013 – Halliday & Resnick – Fundamentals of Physics Textbook
- Ex. 2014 – U.S. Patent No. 10,676,255 (“the ’255 patent”)
- Ex. 2015 - Ex. 2008 - U.S. Patent Application Publication No. 2005/0029271 (“McDonough”)
- Ex. 2017 – Merriam-Webster Dictionary - “with”
- Ex. 2018 – Transcript of the Deposition of Dr. Glenn Vallee, dated April 4, 2025, in IPR2024-01137 regarding the ’255 patent
- Ex. 2019 - Young & Freedman – University Physics Textbook
- Ex. 2020 - Sciencing – “Rotational Motion (Physics): What Is It & Why It Matters”
- Ex. 2021 – Transcript of Deposition of Dr. Glenn Valle (IPR2025-00140), dated September 12, 2025

5. In forming the opinions expressed below, I have considered: the documents listed above, the relevant legal standards, including the standards for anticipation and obviousness; any additional documents or authorities as cited in the body of this declaration; and my own knowledge and experience based upon my background, education, training, and work experience.

6. I may rely upon these materials, my knowledge and experience, and/or additional materials to rebut arguments raised by the patent owner. Further, I may also consider additional documents and information in forming any necessary opinions, including documents that may not yet have been provided to me. Unless otherwise noted, all emphasis in any quoted material has been added.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

7. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a current copy of which can be found in **Exhibit 2004**. The following is a brief summary of my relevant qualifications and professional experience.

A. Educational Background

8. I received two degrees from the University of Michigan in 1991, a Bachelor of Science in Engineering with a focus on mechanical engineering, and a Bachelor of Fine Arts in Industrial Design with a focus on product development, both cum laude. I was the recipient of the Kiefer Award for excellence in Industrial Design.

B. Career History

9. I am currently the Director of Product Development at 908 Devices, Inc. in Boston, Massachusetts. I have more than 33 years of experience in product and technology development as a mechanical engineer, consultant and entrepreneur. I have worked in various product development companies throughout my 33-year career, and have I developed many products that demonstrate knowledge and experience relevant to the subject matter at issue in this case, including numerous fluid-containing and dispensing devices, such as those for beverages and other liquids. I have summarized below this relevant work experience, as well as some relevant project examples.

10. After my undergraduate degrees, I was hired as a program manager by Design 4 Plastics, Inc. I leveraged my industrial design and engineering education to develop a wide range of products. My projects included a heavy emphasis on plastic part design (including injection molding, rotational molding, vacuum and pressure forming) and sheet metal fabrication (stamping, forming). While there, I designed fluid pumps for laboratory and industrial fluid dispensing applications and a custom impeller pump for insufflation of the abdomen during laparoscopic surgery. I also developed garden hose accessories such as hose reels and sprayers that used quick disconnect fittings and valves. For Coca-Cola, I developed a disposable valve for a bag-in-box syrup dispensing system.

11. Next, in 1996, I joined Proteus, Inc. as Senior Mechanical Engineer. There, I focused on product design and engineering of products for consumer, medical, and laboratory applications. For example, I developed a disposable cartridge for laboratory analysis of blood samples. For PUR, I developed a faucet-mounted water filter with a replaceable cartridge and a rotary actuated valve, as well as filtered water pitchers.

12. I founded Boston Innovation in 1998, focusing on developing precision fluidic dispensing instruments for pharmaceutical research applications that leveraged a novel pressure activated valve technology that I invented. In these instruments, sample fluid was stored in small sealed reservoirs, and precision low

volumes dispensed by the translation of a needle and application of a rinse fluid and/or air pressure. *See, e.g.*, U.S. Pat. Nos. 6,085,773 and 6,706,538.

13. During this time, I developed and licensed novel valve technology to Delta Faucet. This project was focused on a high flow tub fill valve for residential plumbing use. For Gillette, I designed a disposable shaving cream dispenser.

14. In 2000, I joined Arthur D. Little, where I led mechanical engineering of a next-generation network storage product, integrating contributions of mechanical, software, hardware and industrial designers.

15. I founded MicroBioSciences in 2001. There, I invented and developed novel disposable fluid handling cartridges for high throughput screening in pharmaceutical research.

16. Later in 2001, I joined Altitude, Inc., a product development consulting firm, first as Engineering Manager, and then I was promoted to Director of Engineering in 2005. I performed design and engineering activities, and I led a team of designers and engineers to develop a wide range of consumer products, medical devices and instrumentation.

17. I developed coffee makers for Sunbeam and Mr. Coffee, as well as a coffee carafe with a refined pour spout to minimize drips. I also developed a wide range of home humidifiers for Honeywell, Kaz, and Vicks. These included water reservoirs with removable caps and elastomer valves. In addition, I developed a

bottled water dispenser for PUR with chilled and heated water and dispensing valves. This included a refillable water reservoir with a wide mouth threaded cap and valve for easy cleaning. For Exact Sciences, I designed a custom cylindrical sample collection and shipping vessel with a large diameter threaded lid and gaskets.

18. I developed the first integrated ice shaving and blending frozen drink appliances designed for home use for Margaritaville. These products included a reservoir for ice, a robust motor and rotary ice shaving blade, a blender, and electronic controls. I also developed a wine preservation and dispensing system for home use. The product stored multiple wine bottles at the user-selected optimum temperature using thermoelectric chiller technology and used valves and air pressure for dispensing, and vacuum for preservation.

19. I developed a handheld eye medication dispenser for Optimyst. This product included a custom disposable fluid reservoir and ultrasonic dispensing technology. *See, e.g.,* U.S. Patent Nos. D597,206; 8,545,463; 8,012,136.

20. I developed commercial carpet cleaning extraction technology for Tennant Company. This included fluid reservoirs, valves and plumbing connections.

21. I also developed pressure washers for Briggs and Stratton and a range of safety eyewear for UVEX. These included adjustable features leveraging

advanced injection molding techniques, such as in-mold assembly. *See, e.g.*, U.S. Patent Nos. 7,758,789; 7,246,901; 7,237,892; 7,210,777; 7,175,270.

22. In 2008, I founded Aston Technology Advisors and continued with product development and consulting activities. There, I developed an instrument that uses sound to measure wind. This included a novel hydronic heating system for melting snow. *See* U.S. Patent Nos. 8,958,269 and 9,279,821.

23. I worked with a major beer company on a home keg dispenser, including work on a plastic recyclable vessel for beer.

24. I developed a custom, portable container and dispenser for hand sanitizer.

25. In 2012, I co-founded 908 Devices Inc. to develop portable chemical detection instrumentation based on mass spectroscopy. Here, I have developed various instruments with applications in pharmaceutical research, forensics and hazardous material identification at the point of need. These instruments include complex fluid handling, fluidic and pneumatic connectors, custom vacuum pumps, pressure regulators and pressure sensors. *See* U.S. Patent Nos. D703,074; D703,075; 9,093,253; 9,502,226; 9,698,000; 9,978,574; 10,438,787.

26. At 908 Devices, I have also developed various customized fluid vials, bottles, caps, gaskets and packaging for shipping chemical reagents.

27. Throughout my professional career, I have designed products that have won various awards, including: Industrial Designers Society of America (IDSA) IDEA Awards, R&D 100, The Scientist Top 10 Innovations, and The Instrument Business Outlook Industrial Design Gold Award.

28. I have served as an expert witness in numerous patent cases, including cases relating to fluid-containing and fluid-dispensing devices, such as single-serve coffee makers, liquid dispensing valves, and elastomeric dispensing valves for water bottles, among others. For example, I was hired on behalf of the United States Patent & Trademark Office as a technical expert witness in a case related to a USPTO Examiner's rejection of patent claims relating to single-serve coffee pods for single-serve coffee systems. My work in that case involved technical analysis of relevant prior art. Key issues in that matter included high volume manufacturing of thermoformed plastic pods, forming and assembly of filter baskets, and fluidics technology for fluid flow through the system under high pressure. Ultimately, the USPTO Examiner's rejection was affirmed on appeal.

C. Patents

29. I am a named inventor on nineteen issued utility patents and six issued design patents, listed below. These patents range in technologies from consumer products to medical devices to instrumentation and address technical issues like precision fluid handling, injection molding, and compact mass spectroscopy.

- U.S. D932,046 Fluidic cartridge assembly
- U.S. 10,438,787 Integrated mass spectrometry systems
- U.S. 9,978,574 Sample collection in compact mass spectrometry systems
- U.S. 9,698,000 Integrated mass spectrometry systems
- U.S. 9,502,226 Sample collection in compact mass spectrometry systems
- U.S. 9,279,821 Deicing system in sodar systems
- U.S. 9,093,253 High pressure mass spectrometry systems and methods
- U.S. 8,958,269 Transducer for phased array acoustic systems
- U.S. D703,074 Handheld sensor
- U.S. D703,075 Sensor device
- U.S. 8,545,463 Ophthalmic fluid reservoir assembly for use with an ophthalmic fluid delivery device
- U.S. 8,525,111 High pressure mass spectrometry systems and methods
- U.S. 8,012,136 Ophthalmic fluid delivery device and method of operation
- U.S. 7,758,789 Temple bar assembly for eyeglasses
- U.S. D597,206 Ophthalmic misting device
- U.S. 7,246,901 Adjustable length upper frame member for eyeglasses
- U.S. 7,237,892 Temple bar with ball and socket hinge and method of making same
- U.S. 7,210,777 Floating lens brow bar attachment for eyeglasses
- U.S. 7,175,270 Flexible frame assembly for eyeglasses
- U.S. D534,446 Handheld instrument
- U.S. 7,080,904 One piece spectacle with temple pre-load
- U.S. 6,706,538 Microvolume liquid dispensing array
- U.S. 6,085,773 Automatic fluid switching valve

- U.S. D425,979 Window fan
- U.S. 5,794,897 Transmission line hanger, a method of attaching the hanger and the resulting assembly

III. RELEVANT LEGAL STANDARDS

30. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '250 patent, I am relying on certain basic legal principles that counsel have explained to me. These principles are discussed below. I have been informed that a party challenging a claim's patentability in an inter partes review bears the burden to show by a preponderance of the evidence that the claim is unpatentable in view of the prior art. I understand that a "preponderance" means "more likely than not."

31. I understand that prior art to the '250 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the '250 patent. As noted, here, I have been instructed to assume April 11, 2005, is the priority date of the '250 patent.

32. I have been informed and understand that a patent claim is unpatentable as "anticipated" under 35 U.S.C. § 102 if each element of that claim is disclosed either explicitly or inherently in a single prior art reference. I understand that the question of anticipation is whether a POSITA would have reasonably understood or inferred from the prior art reference's teachings that every claim element was disclosed in that single reference. I further understand that for an element that is not

explicitly disclosed by a prior art reference to be deemed inherently disclosed by the reference, the element must be “necessarily present” in the reference. For anticipation by a prior art patent or printed publication, I further understand that the reference’s description must enable a POSITA to practice the claimed invention without undue experimentation.

33. I have been informed that a patent claim is unpatentable as “obvious” under 35 U.S.C. § 103 if the differences between the claimed invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I have also been informed by counsel that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

34. I understand that for a claim to be unpatentable as obvious, the party asserting unpatentability must identify prior art references that alone or in combination with one or more other prior art references would have rendered the claim obvious to one of ordinary skill in the art at the time of the invention. I understand that a single prior art reference can render a claim obvious if it would have been obvious to modify that reference to arrive at the patented invention. I understand that it is appropriate to look to the knowledge of a POSITA in assessing

whether it would have been obvious to modify a single prior art reference to produce the claimed invention.

35. I have been informed that where, as here, an obviousness defense is based on a combination of prior art references, a patent claim is not obvious unless a POSITA would have been motivated to combine or modify prior art elements to obtain the invention as set forth in the claim with a reasonable expectation of success. I understand that a motivation to combine prior art references can come from the references themselves or from the understanding of a POSITA.

36. I have been informed that references must be considered in their entirety from the view of a POSITA at the time of the invention, but that viewing the art through hindsight is impermissible.

37. I have been informed that in considering obviousness, it is relevant to consider whether the prior art includes references that “teach away” from the claimed invention. I understand that a reference teaches away from the claimed invention if a POSITA, reading the reference, would be discouraged from following the path of the claimed invention or would be led in a divergent direction.

38. I have been informed that a claim can recite elements using functional language. Such elements are known as “means-plus-function” elements and are construed according to a particular set of rules. When construing a means-plus-function element, the function recited in the claim must be identified. The element

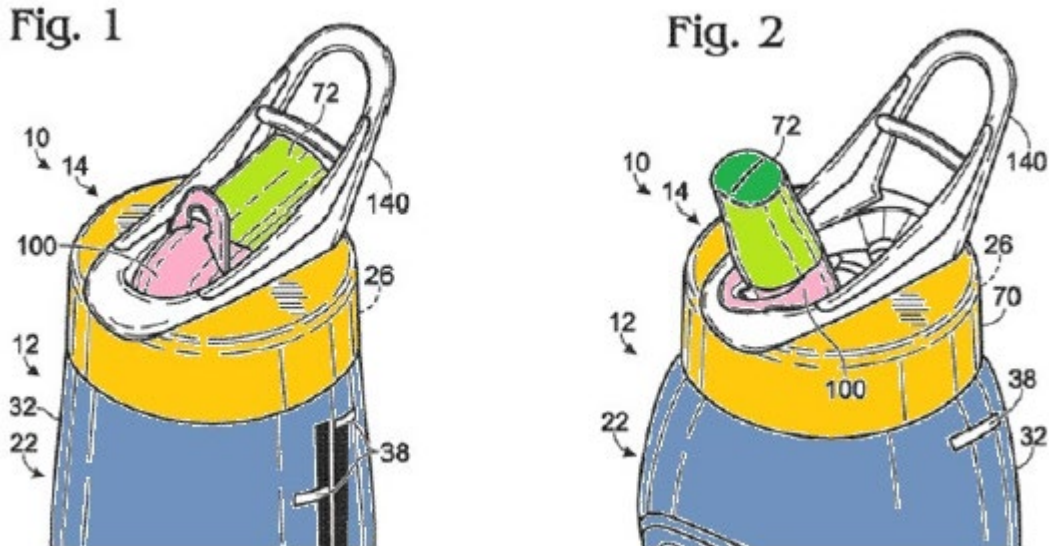
is then construed to cover the corresponding structure disclosed in the specification for performing the recited function, as well as any equivalent structures known at the time of the invention. I have been further informed that a prior art structure is equivalent to the corresponding structure in the specification if the prior art structure performs the same function—the one recited in the claim—in substantially the same way and with substantially the same results.

39. I understand that claim construction is a matter of law. I understand that claim construction should be based upon the claim language itself and that a claim term should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art at the effective filing date of the patent, unless the inventors expressed a clear intent to redefine the term. I further understand that claim terms must be read in light of the entire specification and other intrinsic evidence such as the file history. I also understand that the intrinsic record, including the claims, specification, and file history are the most important evidence to consider during claim construction. I understand that extrinsic evidence, such as dictionaries in the relevant art around the time of the patent's filing or other documents and testimony, can also help explain the meaning of claim terms.

IV. OVERVIEW OF THE '250 PATENT

40. The '250 patent discloses several embodiments of drink bottles (10) each with cap assemblies (14) including mouthpieces (70) attached to a pivotal

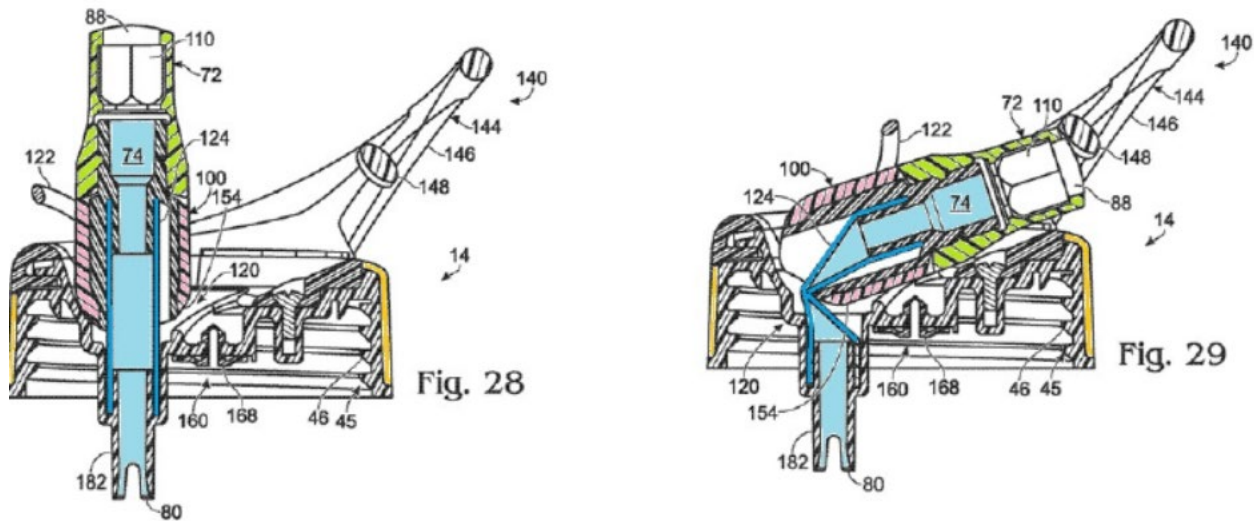
mount (100). Ex.1001 at Abstract, 2:57–61, 3:2–10, 6:32–36, 6:59–62. The '250 patent describes that the pivotal mounts with attached mouthpieces may be pivoted over an axis from a stowed position to a dispensing position, such that a user can drink from the mouthpiece. *Id.* at 3:11–20, 7:18–41.



Ex.1001, Figs. 1–2 (annotated); Pet. at 9.

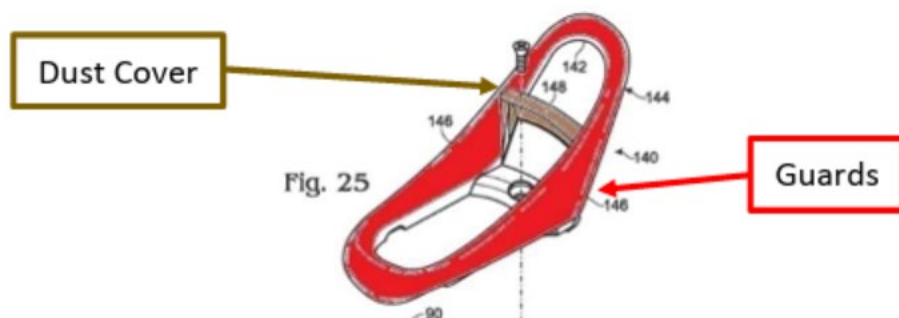
41. The patent further describes that the cap assembly (including the pivotal mount and mouthpiece) defines a fluid conduit. *Id.* at Abstract, 3:2–14, 6:29–39. The fluid conduit may further include an on-off shutoff valve, which is “crimped” (i.e., the flow of drink liquid is selectively restricted) when the mouthpiece and pivotal mount are pivoted from a dispensing to a stowed position. *Id.* An embodiment of this valve is shown below in the dispensing position (Fig. 28) and stowed position (Fig. 29). In this embodiment, the valve is implemented via a

flexible tube 124 that is crimped when in the stowed configuration and opened when in the dispensing configuration. Ex.1001 at 18:14–29, Figs. 28–29.



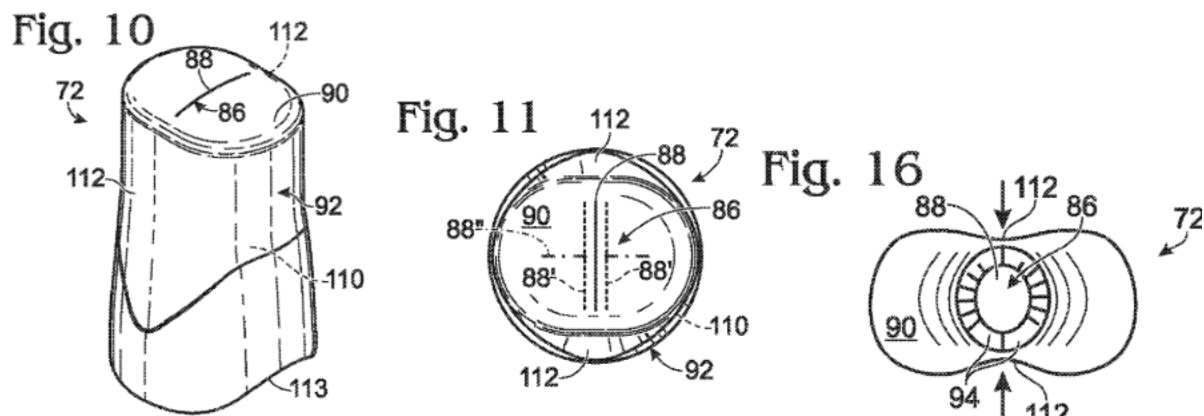
Ex.1001, Figs. 28–29 (annotated); Pet. at 9.

42. In certain embodiments of the drink bottles, the cap assembly is described as having a guard or guards 100 and a dust cover 148. The dust cover is described as partially covering the dispensing outlet of the mouthpiece (coupled to the pivotal mount) when the pivotal mount is in the stowed position. *Id.* at Abstract, 17:1-11.



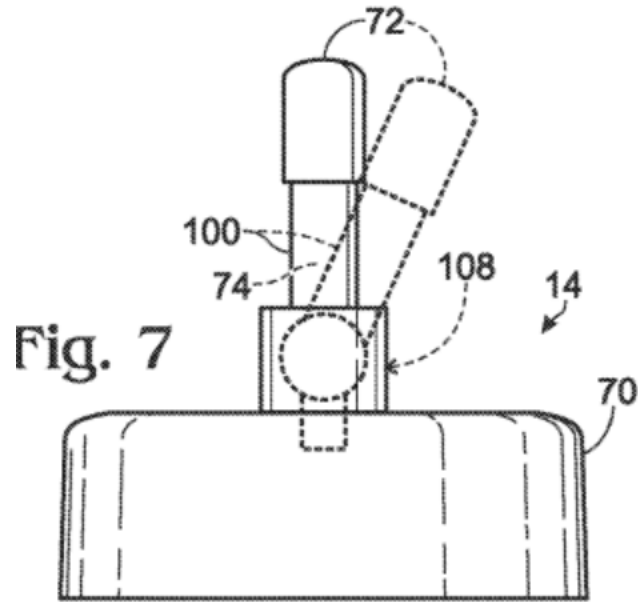
Ex.1001, Fig. 25 (annotated); Pet. at 10.

43. The '250 patent describes some embodiments including a mouthpiece described as a “bite-actuated” mouthpiece, which prevents liquid from being dispensed in the drinking orientation until a user bites the mouthpiece. *Id.* at 10:4–21. The “bite-actuated” mouthpiece works by allowing fluid to flow in response to a user’s biting on the mouthpiece to deform an opening, such as a slit, to the “dispensing configuration.” Ex.1001 at 8:7–12, 8:44–67. Otherwise, the mouthpiece is biased to a closed configuration, to prevent unwanted dispensing of the liquid. *Id.*

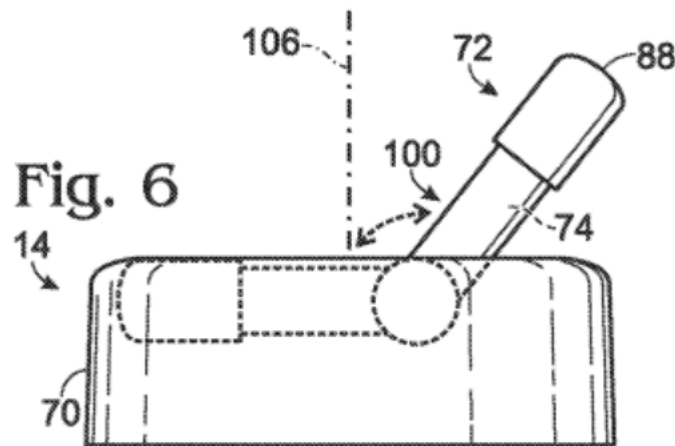


Ex.1001, Figs. 10, 11 & 16.

44. An important aspect of the invention in the '250 patent is the relationship between the pivotal mount coupled to the mouthpiece, and the cap assembly base. The pivotal mount is coupled to the cap assembly base at an adjustable joint or joints, shown as 108 in Figure 7 below. *Id.* at 7:42–53.



45. These joints “define a pivotal axis” about which the pivotal mount (and correspondingly the mouthpiece), rotate together in the same direction from the stowed to the dispensing position. The axis is shown, for example as 106 in Figure 6 below, where the mount 100 is shown “extending at an inclined angle relative to the long, or central, axis 106 of the cap assembly.” *Id.* at 7:14-17. Because the ’250 patent describes the mouthpiece as either “coupled to” or “disposed on” the pivotal mount for “pivotal movement with the pivotal mount,” both the pivotal mount and mouthpiece rotate about the axis of rotation defined by the joints.



Ex.1001, Fig. 6.

V. LEVEL OF ORDINARY SKILL IN THE ART

46. I understand that my assessment of the claims of the '250 patent must be undertaken from the perspective of a person having ordinary skill in the art reading the '250 patent as of its priority date and in light of the specification and file history of the '250 patent. I also understand that my assessment of the prior art is to be done from the perspective of what would have been known or understood by a person having ordinary skill in the art and the teachings of the prior art understood from that perspective. I refer to such a person having ordinary skill in the art as a "POSITA."

47. I was asked to determine the level of ordinary skill in the art that a POSITA would have had in the field of the '250 patent as of its priority date.

48. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including: (1) the levels of education and

experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems. I have considered and analyzed each of these factors in arriving at my opinion regarding the level of ordinary skill in the art.

49. I have been instructed to assume that April 11, 2005, the filing date of the U.S. Provisional Application (No. 60/670,828) to which the '250 patent claims priority, is the correct priority date for the '250 patent. I have not been asked to offer any opinion on whether the '250 patent is properly entitled to this priority date.

50. In my opinion, a POSITA in the field of the '250 patent, as of April 11, 2005, would have had a bachelor's degree in mechanical engineering or the equivalent coursework and approximately one year of experience with liquid-containing devices, with more work experience substituting for less education and vice versa.

51. I note that Petitioner's declarant, Dr. Vallee, opined that, in his opinion, "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." Ex.1002, ¶25.

52. I do not discern any meaningful difference between my opinion and Dr. Vallee's opinion as to the level of ordinary skill in the art that would have any impact on my opinions in this proceeding, and my opinions would be the same applying either definition.

53. I note that I met at least these minimum qualifications set forth in my proposed definition and set forth in Dr. Vallee's proposed definition to be considered a POSITA as of the assumed priority date of the '250 patent of April 11, 2005. And while my qualifications at that time exceeded that of a POSITA, I nonetheless placed myself back in the shoes of the hypothetical POSITA having the education and experience level set forth in these proposed definitions as of April 11, 2005 (rather than my own shoes) when performing my analysis and arriving at my opinions in this matter.

54. I understand that a person of ordinary skill in the art is not a specific real individual, but rather a hypothetical individual having the qualities reflected by the factors above. This hypothetical person has knowledge of all prior art in the relevant field and takes from each reference what it would teach to a person having the education and experience of a POSITA.

55. Even if not expressly stated below, all of my opinions expressed herein are offered from the perspective of this hypothetical POSITA, as provided in the definitions set forth above and as of April 11, 2005. Further, I may in some cases

use the present tense (e.g., “a POSITA would understand”) instead of the past tense (e.g. “a POSITA would have understood”) for simplicity and brevity, but all opinions below are given from the perspective of what a POSITA would have understood as of April 11, 2005.

VI. CLAIM CONSTRUCTION

56. I have been instructed to assume certain claim constructions apply to certain claim terms, and for other claim terms, I have also been asked to offer my opinion regarding the correct claim construction of those terms. I discuss these claim constructions below. For those claim terms not addressed with express constructions below, I have been instructed to apply the plain and ordinary meaning of those claim terms as would have been understood by a POSITA as of the assumed priority date of the '250 patent after reviewing the patent and its file history, including the file history of any related patents.

A. “mouthpiece” (all claims)

57. I was asked to offer my opinion regarding the correct claim construction of this claim term. In my opinion, a POSITA would have understood a “mouthpiece” to be “a part designed for a user to put his or her mouth on to draw liquid from the container.” This is consistent with the intrinsic and extrinsic evidence.

58. As an initial matter, a POSITA would understand that the term “mouthpiece” is commonly known in the art as a part designed for a user’s mouth.

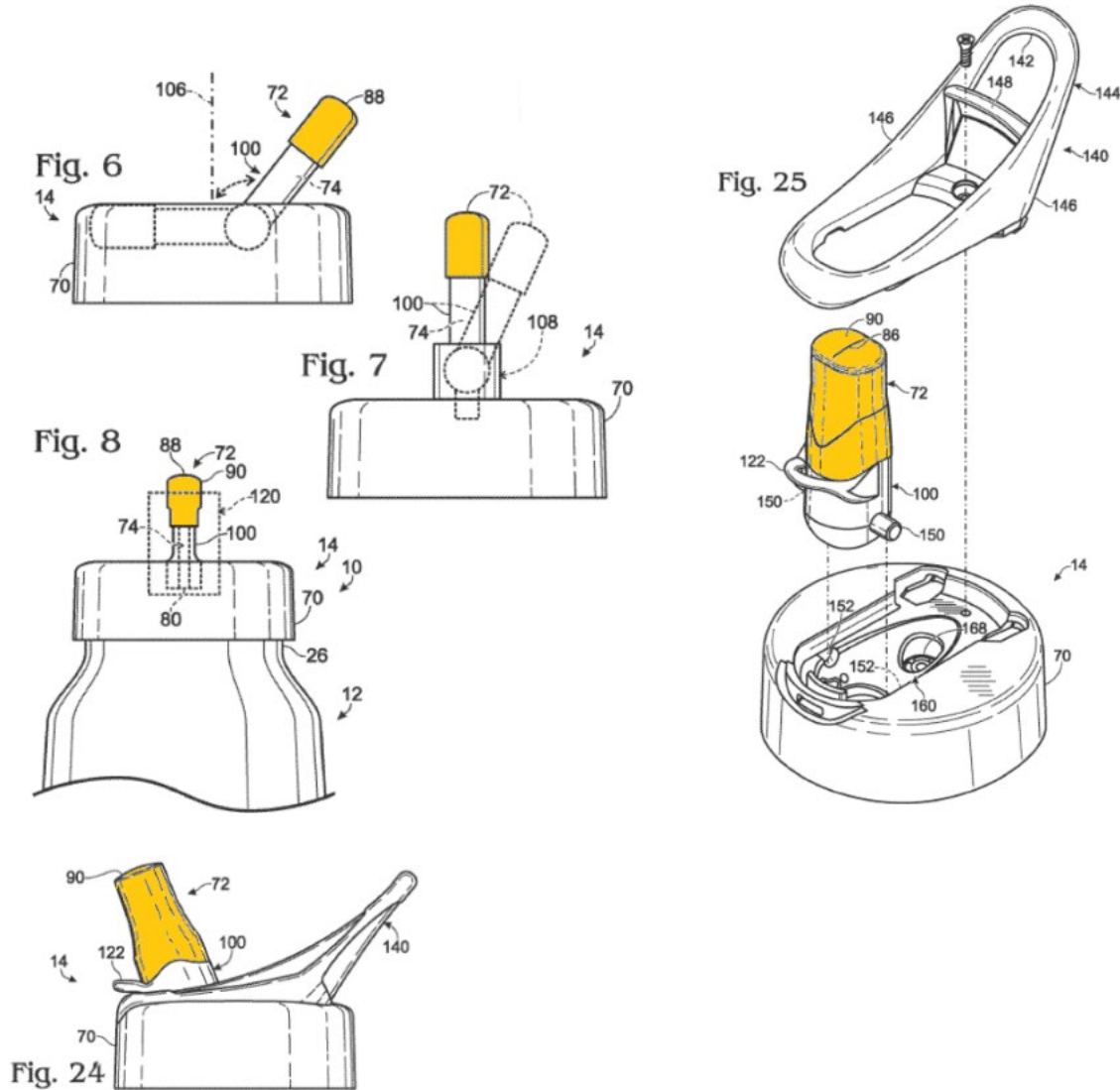
See, e.g., Ex.2005 (Meriam-Webster, defining “mouthpiece” as “a part (as of an instrument) that goes in the mouth or to which the mouth is applied.”). I note that the Board made a finding in its Institution Decision that it has adopted Patent Owner’s proffered dictionary definition from Meriam-Webster, which defines a “mouthpiece” as “a part (of an instrument) that goes in the mouth or to which the mouth is applied.” Paper 14, 12 (citing Ex.2005).

59. Claims 1, 7, and 13 each recite that the claimed “mouthpiece” “defines a portion of the fluid conduit, including the dispensing outlet” “through which drink fluid in the fluid conduit may be dispensed from the cap assembly to a user.” Ex.1001 at 19:12–14, 19:30–31, 20:27–29, 20:43–44, 21:42–44, 21:58–59; Pet. at 11. A POSITA reading the ’250 patent specification would understand these claim limitations to be describing the piece where the user puts their mouth to dispense drink liquid. For example, the specification describes that the mouthpiece “is oriented in a suitable position from which a user may draw drink fluid from the drink bottle through mouthpiece 72.” *Id.* at 3:14–20.

60. In addition, the fact that various embodiments of the invention described in the ’250 patent include a “bite-actuated” mouthpiece further supports my understanding of “mouthpiece.” To use a “bite-actuated” mouthpiece, the user must put their mouth on the mouthpiece. *Id.* at 3:4–10 (a user “may bite to configure the mouthpiece from a closed configuration to a dispensing configuration.”), 8:45–

53 (“[i]n use, the mouthpiece is adapted to be configured to the dispensing configuration by a user placing the mouthpiece in the user’s mouth . . .”), 5:17–24 (describing the user “drinking from the mouthpiece”), Fig. 2, 6:59–62 (describing drink fluid being dispensed through mouthpiece 72), 7:23–26 (discussing “adjustable positioning of the mouthpiece” to “permit a user to adjust the orientation of the mouthpiece to a user-selected drinking orientation”).

61. In fact, there is no recitation in the specification of any “mouthpiece” which is not designed for a user to put his or her mouth on to draw liquid from the container. Each disclosed mouthpiece has a straw-like design, wherein a user drinks from the mouthpiece as they would from the end of a straw. I have annotated Figures 6–8, 24, and 25 in yellow below, demonstrating that the mouthpiece 72 is the place where the user puts their mouth.



Ex.1001, Figs. 6–8, 34, 35 (annotated).

62. A POSITA, therefore, would have understood that a “mouthpiece” is a “part designed for a user to put his or her mouth on to draw liquid from the container.” Therefore, I have applied this construction in my analysis: “a resilient mouthpiece engaged with the mount outlet and removably coupled to the pivotal mount for pivotal movement with the pivotal mount”

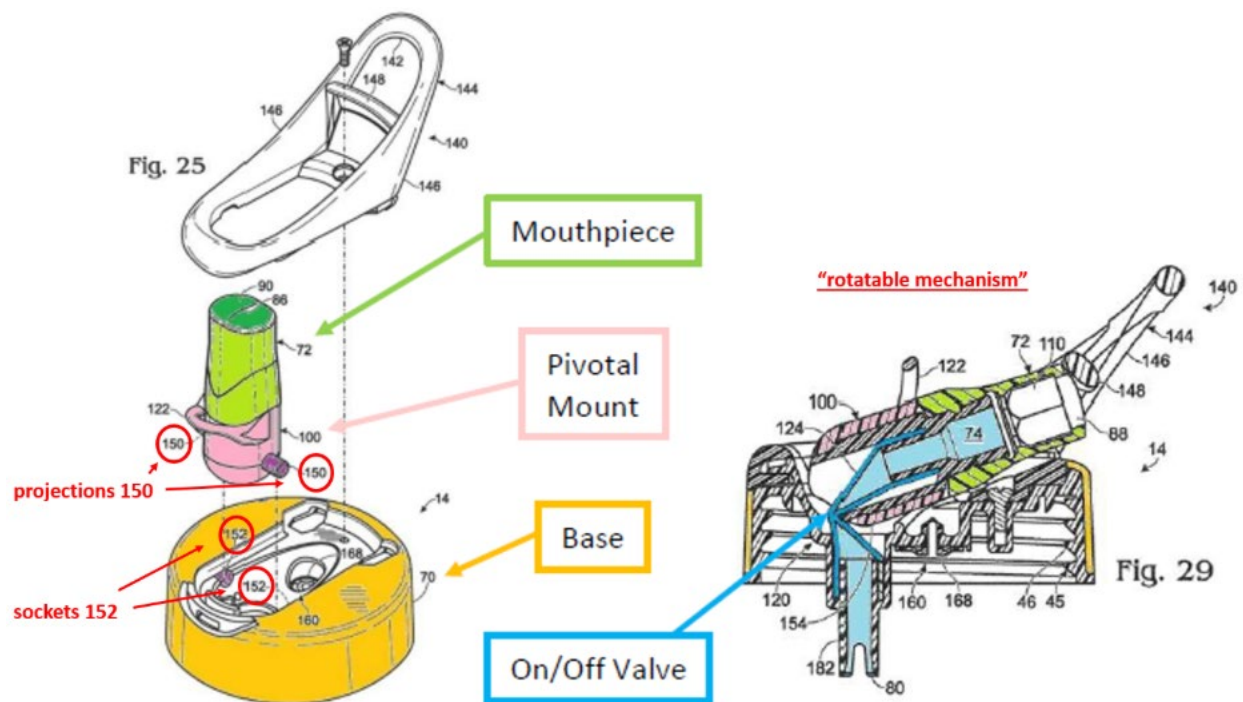
B. “two joints that define a pivotal axis for pivotal movement of the pivotal mount” (claims 1, 7, 13)

63. I was asked to offer my opinion regarding the correct claim construction of this claim term. In my opinion, a POSITA would have understood “two joints that define a pivotal axis for pivotal movement of the pivotal mount” to mean “two joints that define an axis of rotation for rotational motion of the pivotal mount about the axis such that a constant distance/radius from the pivotal mount to the axis is maintained.” This is consistent with the intrinsic and extrinsic evidence. I note that the Board made a finding in its Institution Decision that it has adopted Patent Owner’s proposed construction of this limitation to mean “two joints that define an axis of rotation for rotational motion of the pivotal mount about the axis.” *See* Paper 14, 13. The Board agreed that “[t]his construction is consistent with the Specification, which describes pivoting in the context of rotating” *Id.*

64. A POSITA reading the ’250 patent would have understood that “pivotal movement” means ***rotation*** of the mouthpiece and pivotal mount about the pivotal axis. Specifically, the “pivotal movement” is effectuated via the “joints” (which may be implemented in the form of lateral projections that are received by sockets) which connect the pivotal mount to the cap assembly base. The specification describes these joints functioning via rotation: “The projections are *rotatable* within the sockets, and thereby function as *rotatable supports, or axles, upon which the mount and any attached mouthpiece may be pivotally moved* relative to the base of the cap

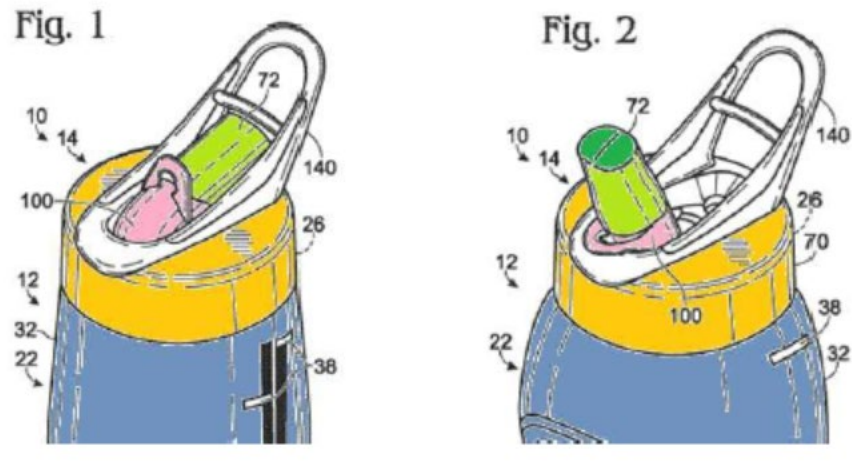
assembly, such as between stowed and dispensing configurations and/or otherwise within the previously discussed range of positions.” Ex.1001 at 16:50-60.

65. The mechanism effectuating this rotational movement can be seen in Petitioner’s annotated Figures 25 and 29, with my additional annotations in red. The projections 150 rotate within the sockets 152 of the cap assembly base, allowing for the pivotal movement of the mouthpiece 72 and pivotal mount 100.



Pet., 3; Ex.1001, Figs. 25 & 29 (annotated).

66. This rotation of the projections 150 in sockets 152 allows for the pivotal movement shown below in Petitioner’s annotated Figures 1 and 2, wherein Figure 1 shows a stowed position and Figure 2 shows a dispensing position.



Pet., 9; Ex.1001, Figs. 1–2 (annotated).

67. The specification refers to “rotation” throughout when describing the movement of the pivotal mount and mouthpiece. It describes the ability of the mouthpiece and pivotal mount to be adjusted as “rotational” orientation, for example, they “may be coupled to the base of the cap assembly by a joint (and/or valve) 108, such as may take the form of a pivotal joint, a ball joint, or other suitable structure that provides for adjusting the angular and/or *rotational orientation* of the mount relative to the base of the cap assembly.” Ex.1001 at 7:47-53; *see also* 5:9-17 (referring to the position of the mouthpiece as the “*rotational* position”).

68. The claimed on/off valve is also described as being a “rotatable mechanism” such that the fluid conduit is selectively crimped or obstructed due to the rotation, stating that: “a portion of the fluid conduit upstream from the internal chamber of the mouthpiece (such as the inlet, outlet, or an intermediate portion of the mount) is selectively obstructed until the mouthpiece . . . is *rotated* to a position

in which the obstruction no longer prevents drink fluid from passing through the fluid conduit.” *Id.*, at 12:13-21.

69. The concept of rotational movement occurring about an axis of rotation would have been well understood by a POSITA at the time of the ’250 patent. An undergraduate physics course (a prerequisite to a bachelor’s degree in mechanical engineering or the equivalent as set forth in my description of a POSITA above) would have taught the concept of rotational motion about an axis of rotation, wherein rigid body would rotate in circular path about a common axis with a common velocity. In this case, all points of a rigid body (such as the mouthpiece and pivotal mount) maintain a constant distance from the axis of rotation, because if they did not maintain a constant distance from the axis, the path would not be circular and therefore the motion would be translational instead of rotational.

70. This concept is described in various educational textbooks and websites. For example, the website at Ex. 2012 describes the basic concepts of rotational motion that a POSITA would have been taught in an undergraduate physics course, wherein “[R]otational motion . . . is a type of motion in which all points of a rigid body maintain a constant distance from an imaginary axis and rotate in circulate paths about a common axis with a common velocity.” Ex.2012, at 1. The textbook at Ex. 2013 similarly describes that “an “axis of rotation” as requiring that “every point of the body moves in a circle whose center lies on the axis of

rotation, and every point moves through the same angle during a particular time interval.” Ex.2013 at 258-259.

71. While the Board adopted Patent Owner’s proposed construction of “two joints that define a pivotal axis for pivotal movement of the pivotal mount” as requiring “two joints that define an axis of rotation for rotational motion of the pivotal mount about the axis,” as I discussed above, the Board also noted that “Patent Owner makes some further arguments that where there is a ‘rigid body,’ it would maintain a constant distance from an imaginary axis when it rotates, but does not explain whether a ‘rigid body’ is required here.” Paper 14, at 13. Based on the Board’s construction, which requires rotational motion about an axis of rotation, a “rigid body” is indeed required, because it is part of the definition of rotational motion in physics. A “rigid body” is an assumption required by physics for the definition of rotational motion, because “a rigid body” maintains a constant distance from an axis of rotation and rotates in a circular path about a common axis under the definition of rotational motion in physics. *See e.g.*, Ex.2012, at 1; Ex.2013 at 258-259. A POSITA would have understood that, in the ’250 patent, the pivotal mount and mouthpiece coupled to it would have been understood to be sufficiently rigid to constitute a “rigid body” such that the definition of rotational motion from physics applies. The ’250 patent describes the mouthpiece as being “resilient” and as automatically returning to and maintaining its original shape without permanent

deformation. Ex.1001, at 8:50-51, 8:64-9:6. This is confirmed by Petitioner's expert, Dr. Vallee, who testified that "the mouthpiece is constructed to automatically return to a closed or sealed configuration." Ex.2021, 21:22-22:2. Furthermore, when describing the mouthpiece as "resilient," the '250 patent explains that "the mouthpiece is constructed to automatically return to its closed, or sealed, configuration when the compressive forces, such as may be applied by a user's teeth or mouth, are no longer applied" and that "unless forces are being exerted to the mouthpiece to deform the mouthpiece to a dispensing configuration, the mouthpiece will be in its closed, or sealed, configuration." *Id.*, at 8:50-51, 8:64-9:6. The '250 patent describes the pivotal mount in a manner such that a POSITA would also understand that it can be assumed to be a rigid component. The pivotal mount, as claimed, includes "two *joints* that define a pivotal axis for pivotal movement of the pivotal mount relative to the cap assembly base." The patent describes that these joints can be in the form of the mount having two lateral projections that rotate within two sockets formed in the cap assembly base. Ex.1001, 16:50-63, Fig. 25. And the patent describes with reference to Figure 5 that "mount 100 extends in a *fixed orientation* relative to base 70, thereby defining the orientation of the mouthpiece 72 relative to the base (and fluid container) during use of the drink bottle." Ex.1001, 7:5-9. This pivotal mount that extends from the base and maintains a fixed orientation relative to it can be pivoted via its pivotal coupling to it within a range

of positions between a stowed configuration and a dispensing configuration. Ex.1001, 15:67-16:15, Figs. 21-27. All of this indicates the pivotal mount is a rigid structural component that maintains its shape sufficiently to allow it to be assumed by a POSITA to constitute a “rigid body.”

72. Therefore, a POSITA would have understood the pivotal mount and its coupled mouthpiece are a “rigid body” such that the definition of rotational motion from physics applies. Thus, because the mouthpiece maintains its shape absent application of force from the user, it can be assumed to be a “rigid body” such that the definition of rotational motion from physics applies, and it, therefore, maintains a constant radius from the axis of rotation. That is, in the absence of external force from the user to compress the mouthpiece, the mouthpiece constitutes a “rigid body” that “maintain[s] a constant distance from an imaginary axis and rotate[s] in circulate paths about a common axis with a common velocity.” Ex.2012, at 1; *see* Ex.1001, Figs. 1–2. And the pivotal mount, as a rigid component that maintains a fixed orientation relative to the rigid base, also maintains a constant distance from the axis of rotation such that it rotates in a circular path. A POSITA would have understood the pivotal mount to be a “rigid body” because it is a rigid component that maintains its shape. A POSITA also would have understood the mouthpiece to be a “rigid body” such that the definition of rotational motion from physics applies, because the mouthpiece maintains its shape absent application of force from the user. *See*

Ex.1001at 8:50-51, 8:64-9:6. Because the mouthpiece and pivotal mount each maintain a constant radius from the axis of rotation, a POSITA would have understood the mouthpiece and pivotal mount to be sufficiently rigid to constitute a “rigid body” such that the rigid body assumption would apply to the mouthpiece.

73. Rotational motion is distinct from translational motion, “in which an object moves along a straight or curved line.” Ex.2013 at 258. If a rotating body does not maintain a constant distance from the axis of rotation, then its path will cease to be circular and its motion will be translational, not rotational.

C. “a mouthpiece [coupled to the mount outlet of] / [disposed on] the pivotal mount for pivotal movement with the pivotal mount” (claims 1, 7, 13)

74. I was asked to offer my opinion regarding the correct claim construction of this claim term. In my opinion, a POSITA would have understood “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount for pivotal movement with the pivotal mount” to be “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount that moves with rotational motion about the same axis of rotation defined by the two joints as the pivotal mount in the same direction as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained.” This is consistent with the intrinsic and extrinsic evidence.

75. This term is related to the term discussed above, wherein the “pivotal mount” moves about a “pivotal axis.” A POSITA would have understood that the claimed mouthpiece which is “coupled to the mount outlet of” (claim 1) or “disposed on” (claims 7 and 13) the pivotal mount also moves with rotational motion about the same pivotal axis in the same direction, because the mouthpiece engages in “pivotal movement *with* the pivotal mount.” Ex.1001, 19:27–29, 20:40–42, 21:51–54 (emphasis added).

76. All the claims of the '250 patent recite a mouthpiece that is either “coupled to the mount outlet of” or “disposed on” the pivotal mount “for pivotal movement *with* the pivotal mount.” Ex.1001, 19:27–29, 20:40–42, 21:51–54 (emphasis added). Therefore, the “pivotal movement” of the pivotal mount and the mouthpiece is *the same, i.e.*, the movement of both elements occurs together about the same claimed “pivotal axis” defined by two joints at which the pivotal mount is “coupled to the cap assembly base.” And the pivotal movement of the pivotal mount and the pivotal movement of the mouthpiece occur together in the same direction because the mouthpiece engages in pivotal movement *with* the pivotal mount.

77. While the preceding claim limitation discussed in Section VI.B above specifies that the pivotal mount engages in “pivotal movement” about a “pivotal axis,” this limitation is directed to how the *mouthpiece* coupled to or disposed on the pivotal mount engages in “pivotal movement.” Specifically, the plain claim

language indicates that the mouthpiece engages in “pivotal movement *with* the pivotal mount.” Because, as construed above in Section VI.B, the “pivotal axis for pivotal movement of the pivotal mount” means “an axis of rotation for rotational motion of the pivotal mount about the axis such that a constant distance/radius from the pivotal mount to the axis is maintained,” the mouthpiece also must move with rotational motion about the same axis of rotation as the pivotal mount in order to engage in “pivotal movement *with* the pivotal mount.” *See* Section VI.B above. And, as discussed above, rotational motion, as defined in physics and as understood by a POSITA, requires maintaining a constant distance/radius from the mouthpiece to the axis of rotation. *See* Section VI.B above.

78. First, the claim language supports this construction. As noted, the claims recite a “pivotal axis for pivotal movement of the pivotal mount.” Ex.1001, 19:21–24, 20:36–41, 21:51–54. And the “pivotal axis” is defined by the “two joints” at which the “pivotal mount [is] coupled to the cap assembly base.” *Id.* No other pivotal axis for pivotal movement is described in the claims. In addition, the claims also recite “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount “for *pivotal movement with* the pivotal mount.” Ex.1001, 19:27–29, 20:40–42, 21:51–54 (emphasis added). The claim language thus requires that the pivotal movement of the mouthpiece mirrors the pivotal movement of the pivotal mount, which must occur about the “pivotal axis.” Thus, to move pivotally “with” the

pivotal mount, the mouthpiece must also engage in rotational motion about the same axis of rotation, i.e., the claimed “pivotal axis” that is “defined by” the two joints, in the same direction.

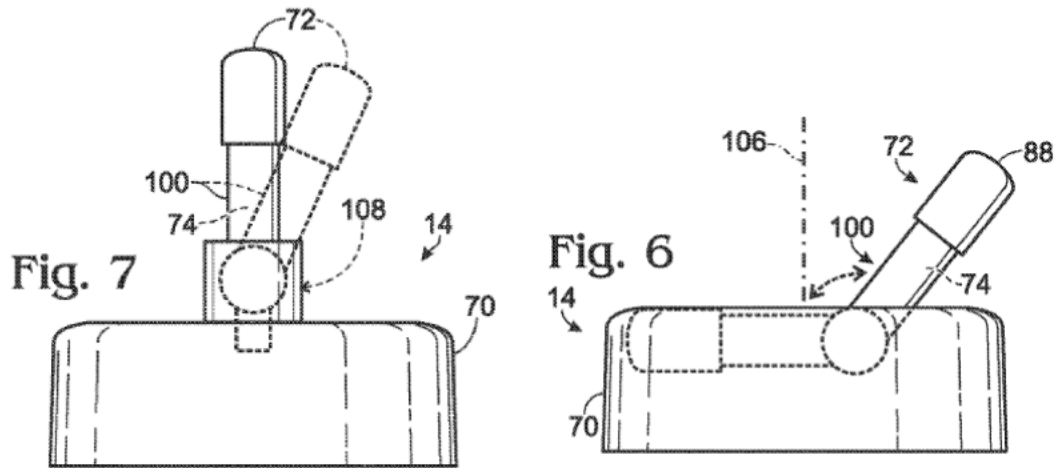
79. The extrinsic and intrinsic evidence further supports that to move pivotally “with” the pivotal mount, the mouthpiece must also engage in rotational motion about the same axis of rotation in the same direction. For example, Meriam-Webster defines “with” in this context as meaning “**in the direction of**,” “to indicate a participant in an action, transaction, or arrangement,” or “to indicate combination, accompaniment, presence, or addition.” Ex.2017. Accordingly, the term “with” confirms that the mouthpiece’s motion is not merely contemporaneous motion, but rather requires that its pivotal movement “with” the pivotal mount be the same rotational motion as the pivotal mount, i.e., rotational motion about the **same axis in the same direction** as the pivotal mount, consistent with the specification’s depiction of a mouthpiece carried by the pivotal mount and rotating about the mount’s same axis. Ex.1001, 19:27–29, 20:40–42, 21:51–54, Figs. 1-2, 6-7. The Board has already construed “two joints that define a pivotal axis” to require rotational motion about an axis of rotation. Paper 14, at 14. Consistent with that construction and the specification, “with” should be construed to mean “about the same axis in the same direction,” not merely motion that happens at the same time. This construction conforms to ordinary usage of “with” to denote participation in the

same action and in the same direction. *See* Ex.2017. In my opinion, a POSITA would have understood that to move pivotally “with” the pivotal mount means the mouthpiece “moves with rotational motion about the same axis of rotation defined by the two joints as the pivotal mount in the same direction as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained.” The term “with” reinforces that a POSITA would interpret the claim to require rotational motion of the mouthpiece *and* the pivotal mount about the same axis in the same direction, rather than independent or unrelated motion.

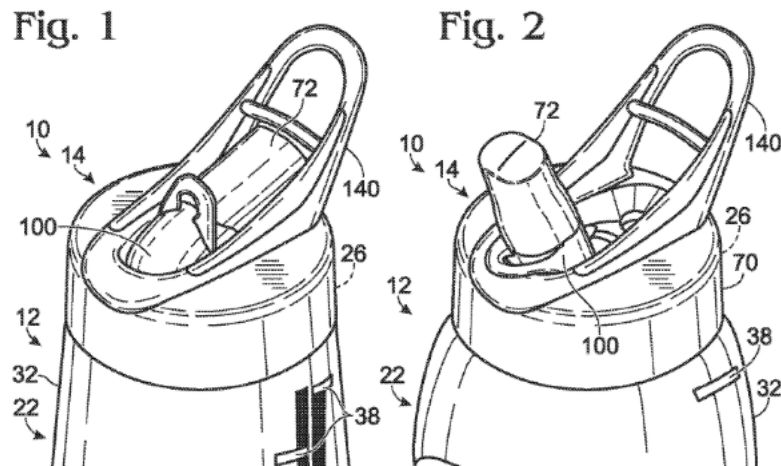
80. In addition, to move pivotally “with” the pivotal mount, the mouthpiece must move in the same direction as (not away from) the pivotal mount, because moving in an opposite direction away from the pivotal mount would not be moving pivotally “with” the pivotal mount. As such, to move pivotally “with” the pivotal mount, the mouthpiece must move in the same direction as (not away from) the pivotal mount, because moving in an opposite direction away from the pivotal mount would not be moving pivotally “with” the pivotal mount. This is also consistent with the ordinary meaning of “with” as meaning “in the direction of.” Ex.2017.

81. The ’250 specification further supports Patent Owner’s proposed construction. Indeed, in every embodiment, the pivotal mount and the mouthpiece pivot together in the same direction about the same pivotal axis defined by the two joints. *See, e.g.,* Ex.1001, at 7:47–53; *see also id.*, at 3:11–13, 7:18–23, 7:59–62,

9:30–33. The figures likewise depict in every embodiment that the pivotal mount and mouthpiece engage in rotational motion together about the same axis in the same direction.



Id., Fig. 7 (showing mouthpiece 72 and pivotal mount 100 rotating about the same pivotal axis defined by joint 108 in the same direction); Fig. 6.



Id., Figs. 1-2 (showing mouthpiece 72 and pivotal mount 100 rotating together in the same direction about the same joint where mount 100 attaches to cap).

Fig. 21

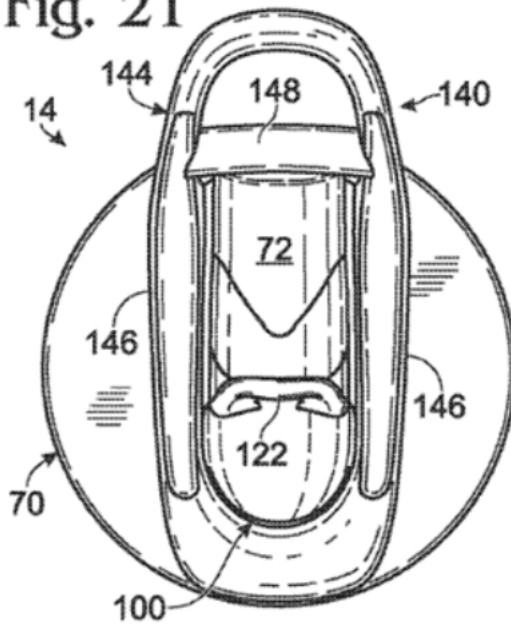


Fig. 22

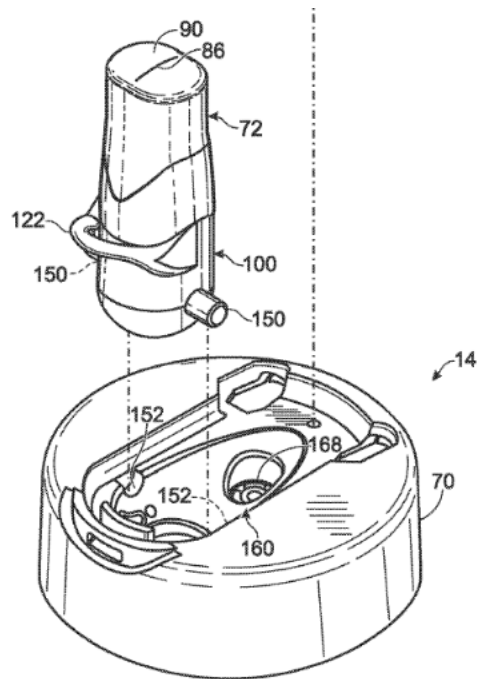
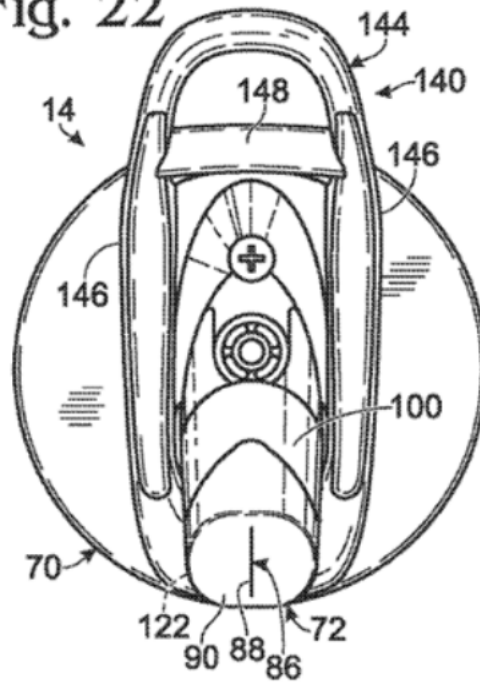
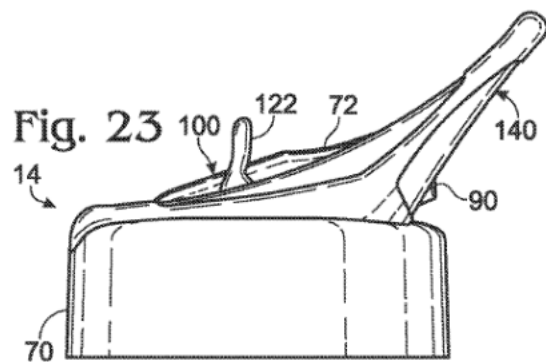
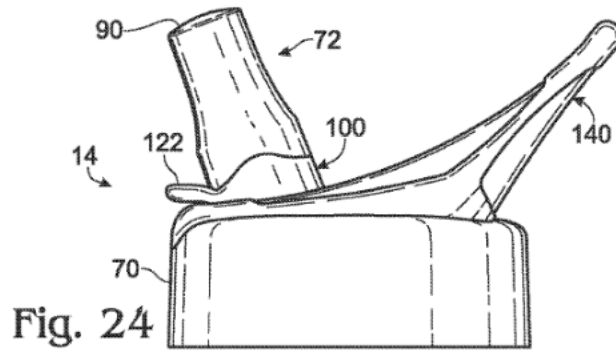


Fig. 23





Id., Figs. 21–25; *see also id.*, Figs. 26–29.

82. Furthermore, the specification describes every embodiment as comprising a “mouthpiece” coupled to or disposed on a “pivotal mount” that rotates together with the “pivotal mount” in the same direction. For instance, the ’250 patent states that the pivotal mount is “*rotatable* within the sockets, and thereby function as rotatable supports, or axles, upon which the mount and any attached mouthpiece may be pivotally moved relative to the base of the cap assembly, such as between stowed and dispensing configurations.” *Id.*, 16:54–60 (emphasis added).

83. This construction is further supported by the prosecution history of a parent patent to the ’250 patent—specifically, the ’192 reexamination history of the ’255 patent. Patent Owner’s arguments overcoming the rejection of claim 1 over McDonough during the parent ’255 patent reexamination support this construction. In particular, Patent Owner distinguished the up-and-down translational movement of McDonough’s alleged “mouthpiece” from the pivotal movement required by the

claims. *See* Ex.2002 at 638; *see also id.* at 588-89 (setting forth ground of rejection for claim 1). As shown below, a POSITA would have understood from Patent Owner’s arguments that the mouthpiece and the pivotal mount rotate together about the same axis of rotation in the same direction, rather than engaging in up and down translational movement.

84. Referring to the annotated figures (below) from McDonough, Patent Owner argued that “portion 16 of the straw” of McDonough—mapped to the mouthpiece by the Reexamination Specialist and highlighted by Patent Owner’s annotations—“is not pivotal about an axis defined by the pair of lateral projections.” Ex.2002 at 638. The Specialist had mapped the pivotal axis to the “axle projections 30” of McDonough about which the straw positioning mechanism 20 rotates. *Id.* at 588-89. As illustrated in the below annotated versions of Figure 2 and 3 provided by patentee during the reexamination, the straw’s end 16 (mapped to the mouthpiece) “is not pivotal about an axis defined by the pair of lateral projections,” as argued by Patent Owner. *Id.* at 638 (emphasis in original).

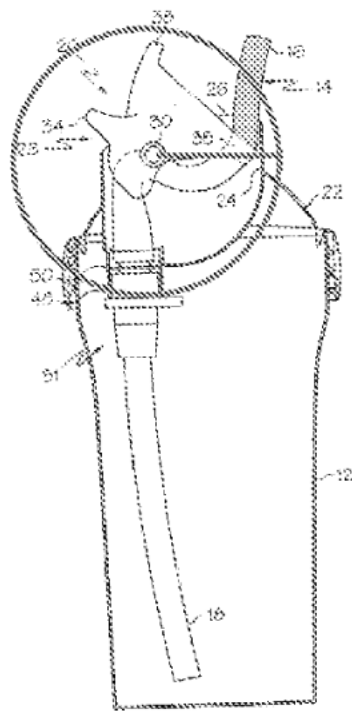


FIG. 2

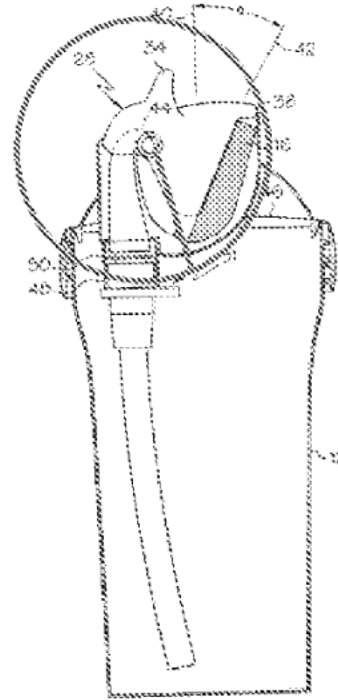
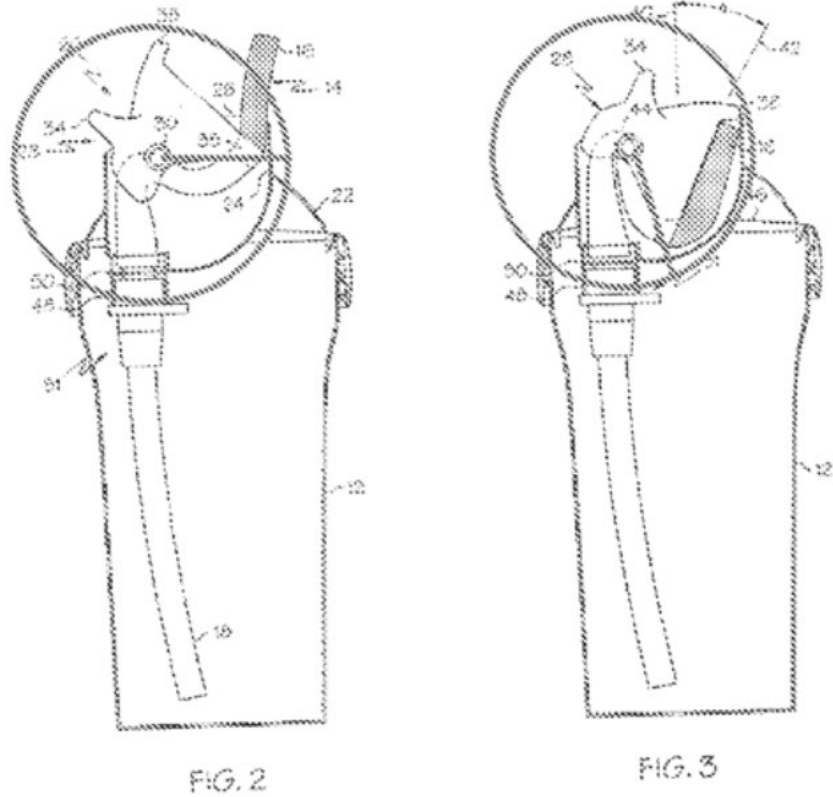


FIG. 3

Ex.2002 at 180.

85. Instead, the Patent Owner argued that “when the straw positioning member 20 is pivoted about a pivotal axis [i.e. axes 30], the portion 16 of straw 14 is pulled downwards.” *Id.* (underline added). Thus, Patent Owner was distinguishing the upward and downward translational movement of the alleged mouthpiece (i.e., portion 16 of the straw) in McDonough from the claimed pivotal movement about an axis, which would have required rotational movement of the mouthpiece about the alleged pivotal axis (i.e., axes 30), not mere upward and downward translational movement.



Ex.2002 at 638; *see* Ex.2015, Figs. 2–3. The below annotated version of Figures 2 and 3 of McDonough, which provides a clearer reproduction of its reference numerals, shows that the alleged *mouthpiece* (upper portion 16 of the straw) merely engages in up and down translational motion (red arrows), rather than rotational motion about the axis defined by the axes 30.

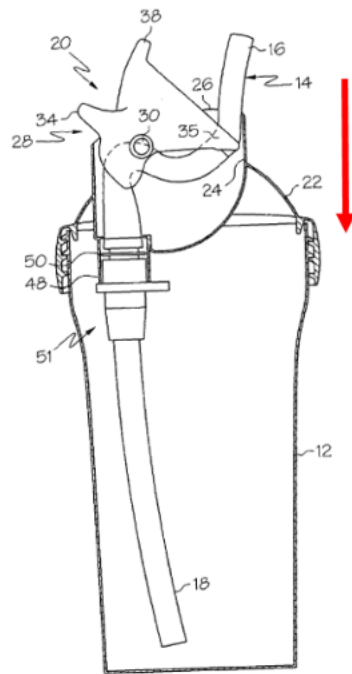


FIG. 2

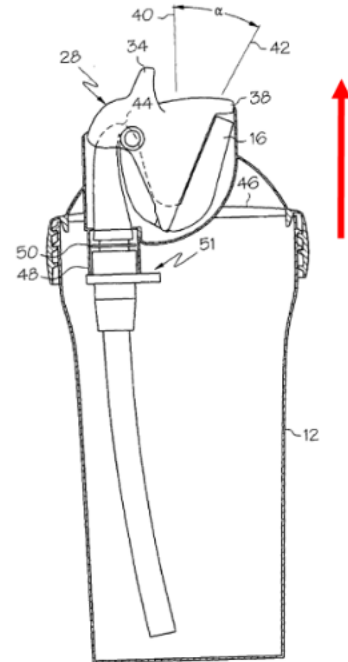


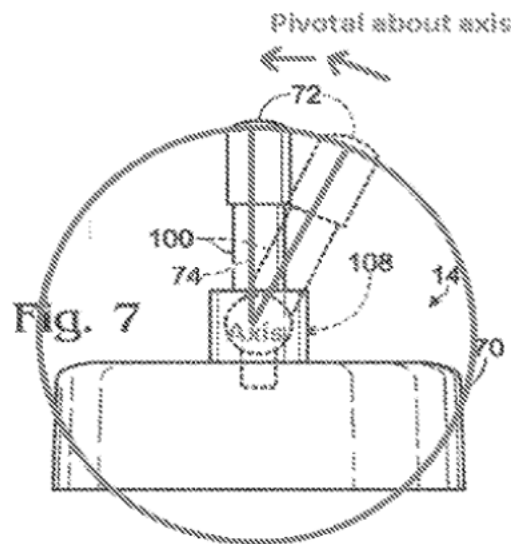
FIG. 3

Ex.2015, Figs. 2–3 (annotated). Thus, Patent Owner’s arguments distinguished the identified *mouthpiece*—straw portion 16—as not having pivotal movement about the same identified *pivotal axis* as the element mapped to the *pivotal mount*—straw positioning member 20—which rotates about the axles 30 (alleged *pivotal axis*). A POSITA would have understood from these arguments distinguishing McDonough that the *mouthpiece* must exhibit the same kind of pivotal movement about the same *pivotal axis* as the *pivotal mount*. That is, the mouthpiece must rotate about the same axis of rotation as the pivotal mount, and it is not enough for the mouthpiece to have mere translational movement relative to the axis of rotation of the pivotal mount.

86. In my opinion, Patent Owner’s proffered claim construction gives the term “for pivotal movement with the pivotal mount” its full plain and ordinary

meaning in light of the intrinsic evidence of requiring rotational motion of the mouthpiece *and* the pivotal mount about the same axis (e.g., an axis of rotation). Patent Owner's construction is confirmed by all of the intrinsic evidence, including:

- 1) the plain claim language, which uses the terms, "pivotal movement" and "with,"
- 2) the specification, all of whose embodiments depict motion in a circular path (i.e., constant radius), and
- 3) the reexamination history, in which the patentee annotated the '255 patent's Figure 7 (below) with a circular path (i.e., constant radius) and labeled it "pivotal about axis" while distinguishing that from McDonough's upward and downward translational movement.



Ex.2001, at 637. In my opinion that "pivotal movement with the pivotal mount" requires rotational motion about an axis of rotation, which means the mouthpiece moves in a circular path (i.e., a constant radius/distance to the axis) and does not merely move in an upward/downward translational manner relative to the

projections. As such, in my opinion that the reexamination statements confirm the plain meaning of “pivotal movement with the pivotal mount” as reflected in the claim language and specification.

87. Furthermore, Patent Owner’s proposed claim construction is also consistent with the plain and ordinary meaning of the base term “pivot” as revealed by common and technical dictionaries, which all support that a “pivot” is a point about which something rotates or turns. Ex.2007 (“A short rod or shaft on which a related part rotates or swings . . . The act of turning on or as if on a pivot . . . To cause to rotate, revolve or turn.”); Ex.2008 (“a fixed point supporting something that turns or balances . . . to turn or twist”); Ex.2009 (“the central point, pin, or shaft on which a mechanism turns or oscillates”); Ex.2010 (“A short, pointed shaft forming the center and fulcrum on which something turns, balances, or oscillates”); Ex.2011 (“a shaft or pin on which something turns”).

88. Accordingly, in my opinion, “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount for pivotal movement with the pivotal mount” recited in claims 1, 7, and 13 means “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount that moves with rotational motion about the same axis of rotation defined by the two joints as the pivotal mount in the same direction as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained.”

VII. THE PETITION DOES NOT ESTABLISH THE UNPATENTABILITY OF ANY OF THE CHALLENGED CLAIMS

A. Nakajima Does Not Render Obvious Any of the Challenged Claims (Ground 1)

89. In my opinion, Nakajima fails to disclose certain limitations of the three challenged independent claims challenged under Ground 1, which is based on Nakajima—claims 1, 7, and 13. As I explain below, it’s my opinion that Nakajima does not disclose a “pivotal mount” that pivots about a “pivotal axis” defined by the “two joints” of the pivotal mount and a “mouthpiece” that engages in “pivotal movement with the pivotal mount” as required by claims 1, 7, and 13.

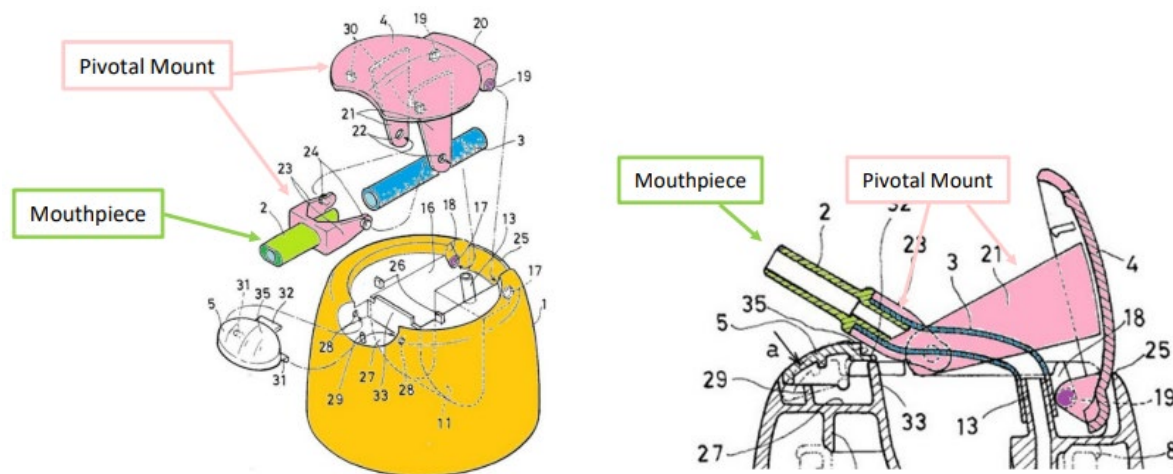
90. I have been asked to provide my opinions under both: i) the plain claim language and also ii) based on applying the express claim constructions I set forth above in Sections VI.B and VI.C. I apply the plain claim language first and the express constructions second.

1. Nakajima does not have a “mouthpiece” that satisfies the requirement of “pivotal movement with the pivotal mount” required by the plain claim language of claims 1, 7, and 13

91. In my opinion, Nakajima’s alleged *mouthpiece* identified by Petitioner does not engage in the required “*pivotal movement with the pivotal mount*” as required by the plain claim language of claims 1, 7, and 13. Further, the plain claim language requires “a pivotal axis for pivotal movement of the pivotal mount” that is defined by “two joints” at which the pivotal mount is “coupled to the cap assembly base.” Based on this requirement for the pivotal movement of the pivotal mount,

Nakajima fails to teach that the alleged *mouthpiece* engages in *pivotal movement with the pivotal mount* in the manner that the pivotal mount is required to engage in *pivotal movement about a pivotal axis*.

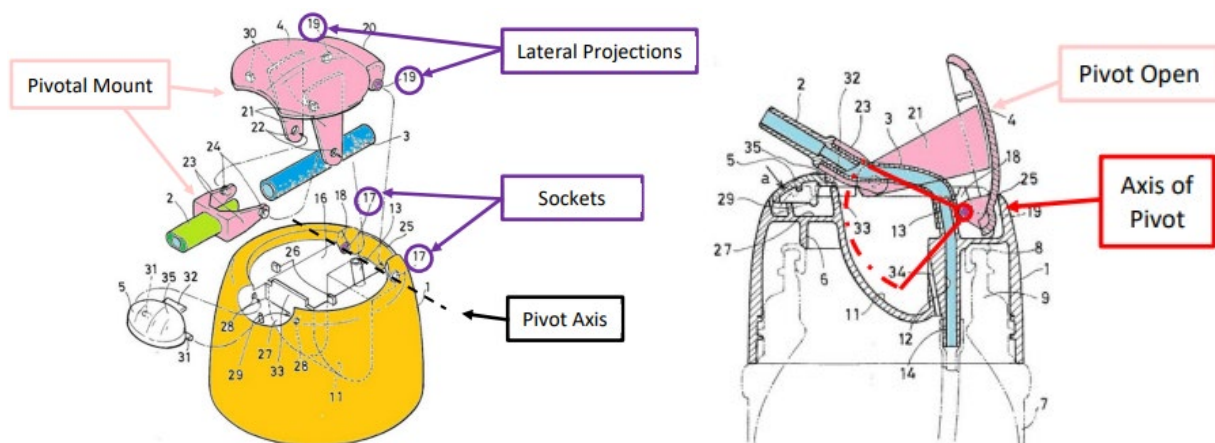
92. Petitioner contends the *mouthpiece* of the claim is disclosed by one particular portion of Nakajima’s “mouthpiece 2.” See Pet., 24–26. As indicated by the annotations reproduced below, Petitioner contends that the green annotated portion of Nakajima’s “mouthpiece 2” is the claimed *mouthpiece*. *Id.*, 24–26. Petitioner further identifies the arms 23 and their protrusions 24 of Nakajima’s “mouthpiece 2” as being part of the *pivotal mount*, along with “lid 4” (collectively annotated pink), not part of the claimed *mouthpiece* (annotated green). Pet., 21.



Pet., 21 (citing Ex.1004, Fig. 1, [0003]; Ex.1002 ¶74); *id.*, 25 (citing Ex.1004, Fig. 3). Petitioner argues that the pink annotated portion of Nakajima’s “mouthpiece 2,” which includes “arms 23” and “protrusions 24,” is part of the *pivotal mount* to which the *mouthpiece* must be coupled. *Id.*, 23; see *id.*, 25 (arguing that Nakajima discloses

or renders obvious the claimed coupling). Thus, Petitioner maps part of “mouthpiece 2” to the claimed *mouthpiece* and part of it to the claimed *pivotal mount*. This is further confirmed by Petitioner’s expert, Dr. Vallee, who confirmed that Nakajima describes its “mouthpiece 2” and “arms 23” as two portions of a single component that is rotatably fitted into leg pieces 21. Ex.2021, 8:6-10.

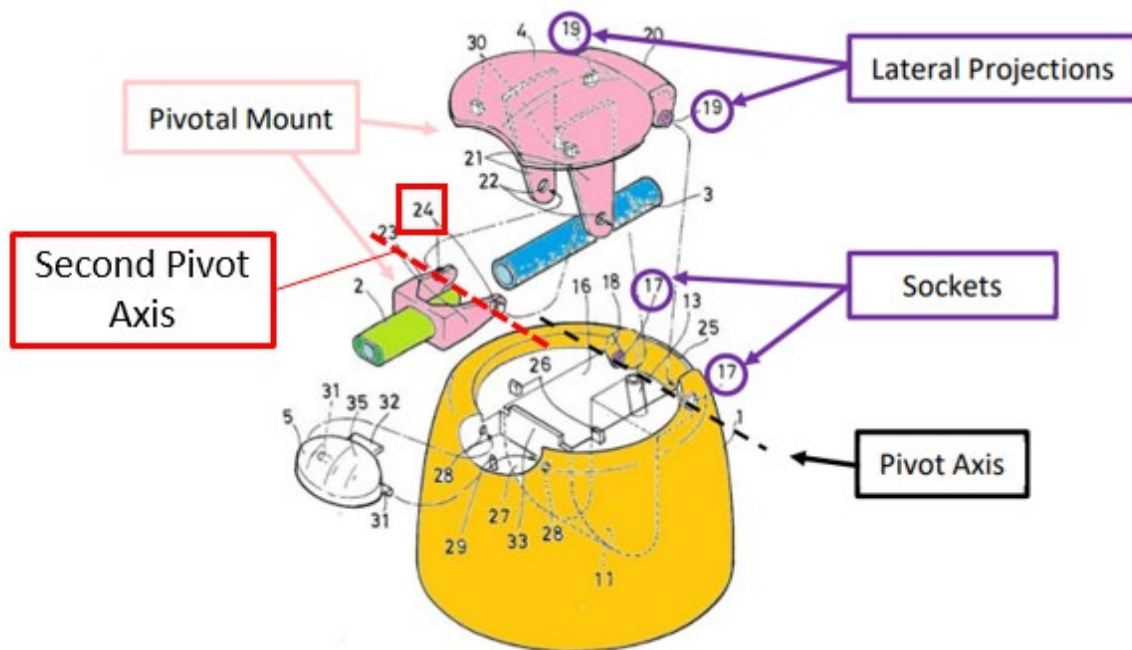
93. The green highlighted part of Nakajima’s mouthpiece 2 does not, however, pivot about the “pivotal axis.” According to Petitioner, the “pivotal axis” is defined by hinge shafts 19 rotating within the recesses 17. Pet., 22–23. In Figure 1, Petitioner identifies the “Pivot Axis” in black on the left. In Figure 3, Petitioner labels this same axis as the “axis of pivot” in red.



Pet., 26-27 (citing Ex.1004, Figs. 1 & 3).

94. The alleged *mouthpiece* in Nakajima does not exhibit *pivotal movement* with the *pivotal mount*, i.e., about the alleged *pivotal axis* that the alleged *pivotal mount* engages in *pivotal movement* about. Pet., 22–23. In particular, lid 4 pivots in a clockwise direction about the axis defined by the hinge shafts 19 (the alleged

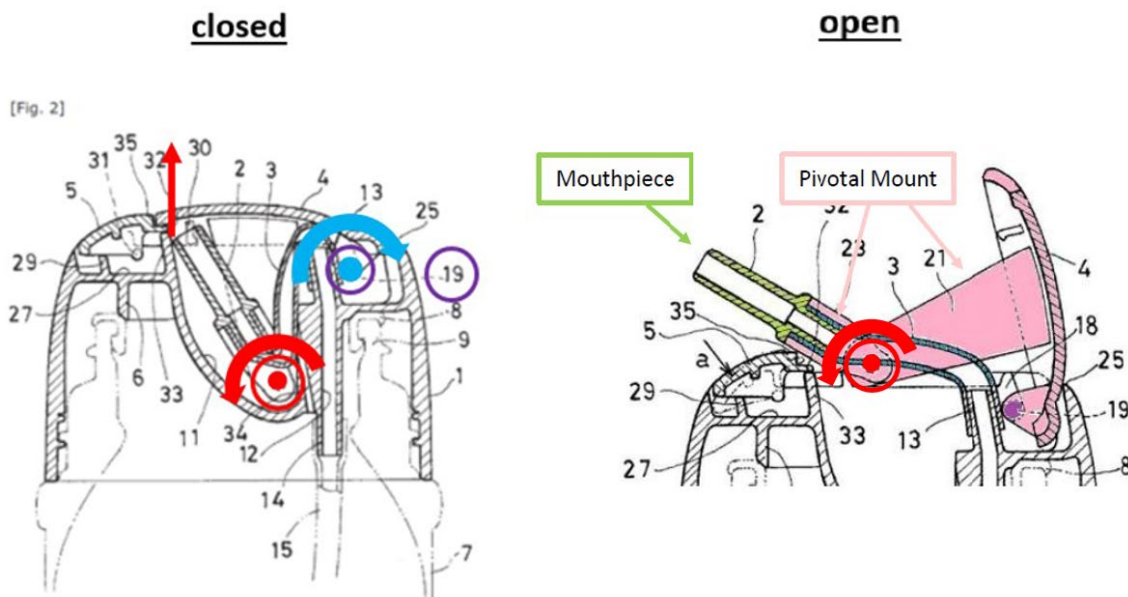
pivotal axis) when it opens, but the alleged *mouthpiece* (green portion of mouthpiece 2) does not pivot with the lid (i.e., part of alleged *pivotal mount*) about the alleged *pivotal axis*. Instead, Nakajima discloses that the alleged *mouthpiece* moves up, and then forward, when the lid 4 pivots to the open position. *Id.*; see Ex.1004 ¶3 (“[T]he mouthpiece moves up and down in conjunction with the opening and closing of the lid.”). To the extent the alleged *mouthpiece* exhibits pivotal movement, it only pivots about a different axis—one defined by protrusions 24 rotating in holes 22 (identified by the red annotations above), not the alleged *pivotal axis* defined by hinge shafts 19. Ex.1004, [0016] (“[A] protrusion 24 on [each of] the arms 23 of the mouthpiece 2 is *rotatably fitted* into a hole 22 at the bottom end of each leg piece 21.”) (emphasis added).



Pet. 22 (citing Ex.1004, Fig. 1) (red annotations added). As shown, the alleged *mouthpiece*, which Petitioner colors green, only pivots about the axis labeled the second pivot axis colored red in the annotation added above. Thus, the alleged *mouthpiece* does not engage in *pivotal movement with the pivotal mount*.

95. In my opinion, to move pivotally “with” the pivotal mount, the mouthpiece must engage in rotational motion about the same axis of rotation, i.e., the claimed “pivotal axis” that is “defined by” the two joints (e.g., not a second pivot axis). As stated above, the term “with” reinforces that a POSITA would interpret the claim to require rotational motion of the mouthpiece *and* the pivotal mount about the same axis (i.e., about a circular path), rather than independent or unrelated motion. *See also* Sec. VI.C. In my opinion, the alleged *mouthpiece* of Nakajima pivots about an independent and unrelated pivot axis: the axis Patent Owner has labeled the second pivot axis colored red above. The *mouthpiece* of Nakajima engages in independent motion about a second pivot axis that is unrelated to the alleged *pivotal axis* defined by hinge shafts 19. *See* Ex.1004, [0016]. In my opinion, to move pivotally “with” the pivotal mount, the mouthpiece must move in the same direction as (not away from) the pivotal mount, because moving in an opposite direction away from the pivotal mount would not be moving pivotally “with” the pivotal mount. *See* Section VI.C above.

96. The annotated versions of Nakajima's Figures 2 and 3 below illustrate the differences between the alleged *mouthpiece*'s pivotal movement and the pivotal movement of the alleged *pivotal mount* about the *pivotal axis*. The **red** annotations indicate how the alleged *mouthpiece* moves as the lid opens, including the mouthpiece's counterclockwise rotation about the axis defined by protrusions 24. The **blue** annotations indicate the lid's clockwise movement about a different axis, i.e., the alleged *pivotal axis* defined by the hinge shafts 19.



Ex.1004, Figs. 2–3 (annotated).

97. A POSITA would have understood that the green portion of “mouthpiece 2” that Petitioner contends is the claimed *mouthpiece* pivots freely (e.g., in response to the force of gravity) about the red axis defined by protrusions 24. A POSITA would have understood that the movement of the alleged *mouthpiece*

would never be pivotal about the axis defined by hinge shafts 19 about which the alleged *pivotal mount* pivotally moves, because the *mouthpiece* freely pivots under operation of gravity in the opposite direction about an entirely different axis instead and nothing ever holds it in alignment with the lid (i.e., part of the *pivotal mount*) such that it engages in *pivotal movement with the pivotal mount*. In my opinion, Nakajima's *mouthpiece* does not move pivotally "with" the *pivotal mount*, because the *mouthpiece* rotates about a different axis and in the opposite direction.

98. Petitioner's mapping of Nakajima parallels the Reexamination Specialists' attempted mapping of the McDonough reference during the reexamination of the '250 patent's parent patent, the '255 patent, which further confirms that the movement of Nakajima's *mouthpiece* is not *pivotal movement with the pivotal mount* in a manner that constitutes *pivotal movement* about the *pivotal axis*. See Section VI.C above (describing Patent Owner's arguments distinguishing McDonough from the claimed *pivotal movement* about a *pivotal axis*).

99. Like McDonough, Nakajima's "mouthpiece" merely moves translationally "up and down" relative to the hinge shafts 19 (alleged *pivotal axis*) when the lid (mapped by Petitioner to the *pivotal mount*) opens and closes. Ex.1004 ¶3. Petitioner quotes directly from Nakajima's disclosure when Petitioner states that "Nakajima's mouthpiece 'moves up and down in conjunction with the opening and closing of the lid.'" Pet., 26 (quoting Ex.1004 ¶3). But Petitioner then asserts

(without explanation) that Nakajima’s up-and-down movement of its mouthpiece somehow constitutes “pivoting movement of the mouthpiece” that Petitioner contends is shown in Figures 2 and 3 of Nakajima. Pet., 26. Neither Petitioner nor its declarant, Dr. Vallee, offer any support or explanation for their conclusion that the up-and-down translational movement expressly described by Nakajima constitutes the pivotal movement required by the claim. *See id.* at 23-24; Ex.1003 ¶¶89, 103. And the record from the reexamination (discussed in Section VI.C above) shows that up-and-down translational movement relative to the alleged *pivotal axis* is not, in fact, “pivotal movement,” because it is merely translational up-and-down movement like that in McDonough, which Patent Owner distinguished as not being pivotal movement about a pivotal axis.

100. Thus, in my opinion, the alleged *mouthpiece* does not engage in “pivotal movement with the pivotal mount” under the plain claim language.

2. Nakajima does not have a “mouthpiece” that satisfies the requirement of “pivotal movement with the pivotal mount” of claims 1, 7, and 13 under the proper express claim constructions

101. I was also asked to apply the express claim constructions set forth in Sections VI.B and VI.C above and offer my opinions.

102. Specifically, the claimed “two joints that define a pivotal axis for pivotal movement of the pivotal mount” recited in claims 1, 7, and 13 mean “two joints that define an axis of rotation for rotational motion of the pivotal mount about

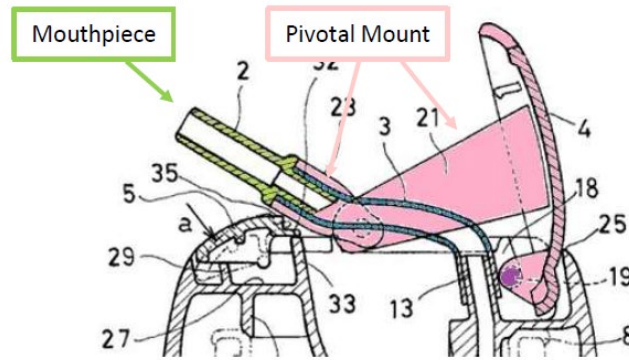
the axis such that a constant distance/radius from the pivotal mount to the axis is maintained” for the reasons set forth above. *See* Section VI.B above. Further, the limitation of “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount for pivotal movement with the pivotal mount” recited in claims 1, 7, and 13 means “a mouthpiece [coupled to the mount outlet of]/[disposed on] the pivotal mount that moves with rotational motion about the same axis of rotation defined by the two joints as the pivotal mount in the same direction as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained.” *See* Section VI.C above.

103. As explained below, Nakajima, in my opinion, fails to satisfy these constructions because its alleged *mouthpiece* does not: i) move with rotational motion about the same axis of rotation as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained, nor does it ii) move with rotational motion in the same direction as the pivotal mount. As such, in my opinion, Nakajima fails to disclose a mouthpiece “for pivotal movement with the pivotal mount” under the proper claim constructions set forth in Sections VI.B and VI.C above.

104. First, as construed, for Nakajima’s alleged *mouthpiece* to engage in “pivotal movement with the pivotal mount,” Nakajima’s alleged *mouthpiece* must move with rotational motion about the same axis of rotation defined by the two joints

as the pivotal mount in the same direction as the pivotal mount such that a constant distance/radius from the mouthpiece to the axis is maintained. But Nakajima's alleged *mouthpiece* does not. Specifically, it does not move with rotational motion about the same axis of rotation as the pivotal mount and, thus, does not exhibit the claimed "pivotal movement with the pivotal mount," as construed. As set forth above, Nakajima's alleged *mouthpiece* (the green portion of the mouthpiece 2) does not engage in rotational motion about the same axis of rotation as the alleged *pivotal mount* (i.e., about hinge shafts 19). As explained in Section VI.B, a POSITA would have understood that rotational motion about a rotational axis requires that all points of a rigid body maintain a constant distance/radius from an imaginary axis (i.e. an axis of rotation) and rotate in circular paths about a common axis with a common velocity. Ex.2012, at 1; Ex.2013, at 259. If they do not, then the motion will be translational, rather than rotational.

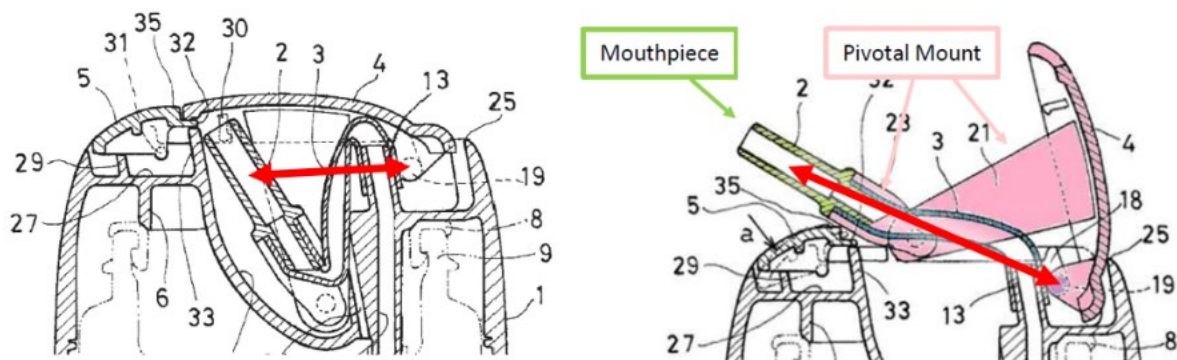
105. Petitioner only contends the green portion of mouthpiece 2 constitutes the alleged *mouthpiece* and Petitioner contends that the arm 23 and protrusions 24 of Nakajima's mouthpiece 2 are part of the *pivotal mount*, not part of the claimed *mouthpiece*, as shown below:



Pet., 25 (citing Ex.1004, Fig. 3; Ex.1002 ¶79). It is worth noting that, at institution, the Board similarly determined that the green portion of mouthpiece 2 constitutes the alleged *mouthpiece* and that the arm 23 and protrusions 24 of Nakajima's mouthpiece 2 are part of the *pivotal mount*. Paper 14, 23-24.

106. The green alleged *mouthpiece* does not engage in rotational motion about the hinge shafts 19 about which the lid (part of the *pivotal mount*) rotates, because, as discussed, rotational motion requires maintaining a constant distance between the rotating body and the axis of rotation, and the green alleged *mouthpiece* never maintains a constant distance from the axis of rotation defined by the hinge shafts 19 about which the alleged pivotal mount rotates. As discussed, a POSITA would have understood, as a matter of physics, that a constant distance must be maintained for the motion to constitute rotational motion about an axis of rotation. Otherwise, the motion is not rotational and is instead translational motion, which is not pivotal movement about a pivotal axis (such as confirmed by Patent Owner's argument distinguishing McDonough's up and down translational motion). This is

illustrated by the below annotations showing how the distance changes between the alleged *mouthpiece* and the alleged *pivotal axis* and is, thus, not maintained constant. Because a constant distance is not maintained, the alleged mouthpiece does not move with rotational motion about the alleged *pivotal axis* and instead moves translationally relative to that *pivotal axis*.



Ex.1004, Figs. 2-3 (annotated).

107. Thus, a POSITA would have understood that the alleged *mouthpiece* is merely engaged in translational upward and downward motion relative to the hinge shafts 19 (not rotational motion about the hinge shafts 19 as an axis of rotation), like the McDonough reference that the Patent Owner distinguished as not disclosing pivotal movement about a pivotal axis. Indeed, when the Board found that Petitioner had made a showing sufficient for institution, the Board merely noted that it appears the alleged *mouthpiece* (green portion) “also moves about hinge shaft 19” in addition to its counterclockwise rotation about the protrusions 24. Paper 14, at 27. But importantly, the Board did not find that the *mouthpiece* engages in *rotational* motion

about the hinge shaft 19 nor that the *mouthpiece* ever maintains a constant distance/radius to the hinge shaft 19 such that it engages in rotational motion about the hinge shaft 19. When the proper construction and proper definition of “rotational motion” as defined in physics and as understood by a POSITA are applied, it is clear that the *mouthpiece* never maintains such a constant distance/radius such that it never engages in rotational motion about the hinge shaft 19.

108. Finally, Petitioner’s expert, Dr. Vallee, appeared to take the position during his deposition in IPR2024-01137 that the claimed mouthpiece (and thus Nakajima’s alleged *mouthpiece*) need only have a “rotational component” to be “pivotal about an axis,” stating that only a “component of the motion of the object must be at a fixed radius” such that “you can rotate in a noncircular manner” and can “rotate around but not in a fixed – fixed radius.” Ex.2018 at 60:18-22, 62:5-64:7. That is, Dr. Vallee contends that “you could have a rotational component and a translational component,” *id* at 64:8-19, though he agreed the rotational component must have a “fixed radius” to be rotational, rather than translational. *Id.* at 64:4-18. Dr. Vallee appears to concede that a noncircular path would require a combination with at least “some translation.” *Id.* at 114:17-115:3. While it is correct that it is possible to have “combined rotation and translation” when “the axis of rotation moves,” “every possible motion of a rigid body can be represented as a combination

of *translational motion of the center of mass* and *rotation about an axis through the center of mass*.” Ex.2019, at 308.

109. For example, a tossed baton whose center of mass translates in a parabola and which also rotates about its center of mass (shown in Figure 10.11 below) is an example, while a rolling ball or wheel (shown in Figure 10.13 below) is another. Ex. 2019, at 308-310.

Figure 10.11 The motion of a rigid body is a combination of translational motion of the center of mass and rotation around the center of mass.

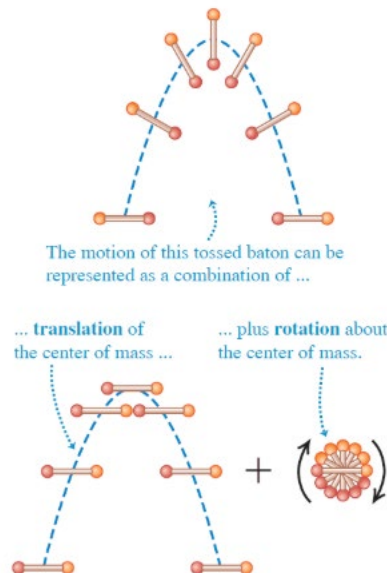
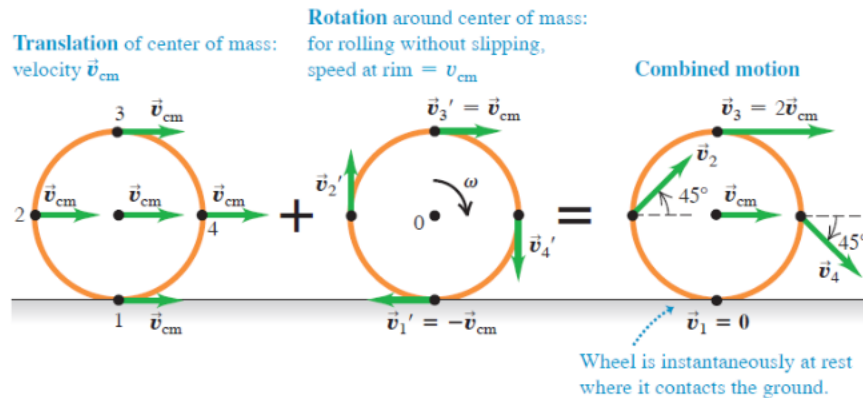


Figure 10.13 The motion of a rolling wheel is the sum of the translational motion of the center of mass and the rotational motion of the wheel around the center of mass.



Ex. 2019, at 308-310. Accordingly, in my opinion, even in combined translation and rotation, any rotational component must still have a fixed distance/radius to the axis of rotation to be considered rotational, as Dr. Vallee conceded. Ex. 2019, at 308; Ex.2018 at 64:4-18. Such combined motion, therefore, such as the rolling motion of a wheel “is a combination of purely translational and purely rotational motions,” where “pure rotation” requires that “every point of the body moves in a circle whose center lies on the axis of rotation, and every point moves through the same angle during a particular time interval.” Ex.2013, at 296; Ex.2020 (“Rotational motion . . . has to be circular An object can be rotating while also experiencing linear motion Scientists consider these kinds of motion separately because separate equations (but again, tightly analogous) are required to interpret and explain them.”).

110. Dr. Vallee contends that “there is a component that’s rotational in Nakajima” and specifically that “there is a pure rotational component in that assembly.” Ex.2018, 118:4-8. Specifically, Dr. Vallee contends that there is a pure

rotational component in that the protrusion 24 rotates about the hinge 19 and that the alleged mouthpiece rotates about the protrusion 24. Ex.2018, 118:17-22 (“Well, direction two, yes. 24 with respect to 19, and then there's the mouthpiece with respect to 24.”). However, in my opinion, neither of these alleged rotational components is relevant to the claims. The rotation of the protrusions 24 (part of the alleged *pivotal mount*) (in pink) about the hinges 19 (alleged *axis*) is **not** rotation of any part of the alleged green mouthpiece about the hinges 19 (alleged *axis*). Similarly, the rotation of the alleged green *mouthpiece* about the protrusions 24 (part of the alleged *pivotal mount*) is **not** rotation about the alleged axis (hinges 19). Thus, in my opinion, none of the alleged rotational components of motion identified by Dr. Vallee in Nakajima constitutes rotational motion of any portion of the alleged green *mouthpiece* about the alleged *axis* (hinges 19), which is the specific rotation required by the claims.

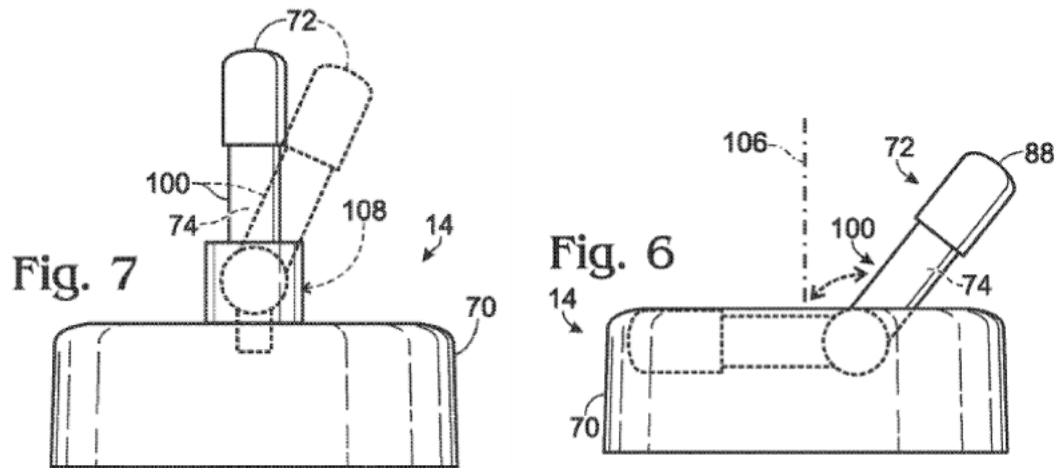
111. Furthermore, Dr. Vallee concedes that Nakajima’s alleged *mouthpiece* (green) never maintains a fixed radius with respect to hinge 19 (the alleged *axis*), Ex.2018, 126:7-127:2, and, thus, the alleged *mouthpiece* (green) never engages in pure rotational motion about hinge 19 (alleged *axis*). *Id.*, 115:4-116:4 (“Q. Okay. So would you agree with me, then, that the green portion of Nakajima's mouthpiece does not engage in pure rotational motion about hinge 19? . . . A. **And that's correct.** It pivots about 19, it rotates about 19, but because of axis – that goes through 24, it had that additional component of rotation.”). While Dr. Vallee contended that “[i]t is still

in pure rotation because it has a pure rotational component,” *id.* at 126:15-16, neither pure rotational component identified by Dr. Vallee is relevant to the claims, as discussed above, because neither constitutes rotation of the *mouthpiece* about the *axis defined by the pair of lateral projections*.

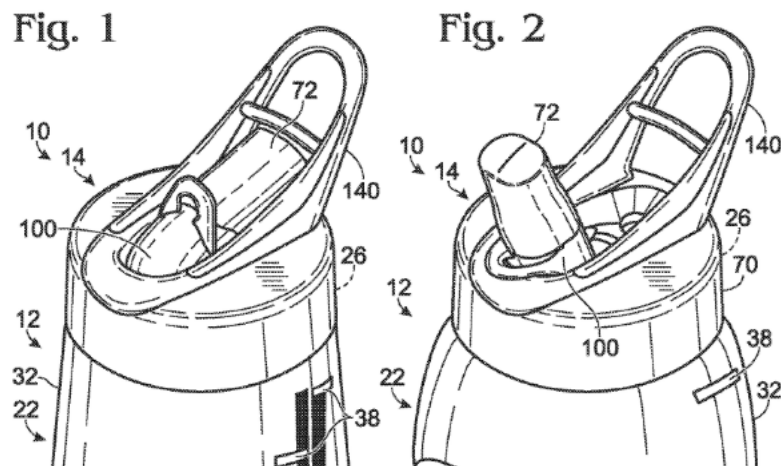
112. Second, as set forth above Nakajima’s alleged *mouthpiece* does not ever rotate in the **same direction** as the pivotal mount, as also required by Patent Owner’s construction of “pivotal movement with the pivotal mount.” *See* Section VI.C above. Thus, Nakajima’s alleged *mouthpiece* does not engage in pivotal movement “*with*” the pivotal mount, as properly construed.

113. As stated above, to move pivotally “with” the pivotal mount, the mouthpiece must also engage in rotational motion about the same axis of rotation, i.e., the claimed “pivotal axis” that is “defined by” the two joints, in the same direction. *See* Section VI.C above. In my opinion, a POSITA would understand the term “with” to require rotational motion of the mouthpiece **and** the pivotal mount about the same axis in the same direction, not mere simultaneous independent, unrelated motion. *See* Section VI.C above. To move pivotally “with” the pivotal mount, the mouthpiece must move in the same direction as (not away from) the pivotal mount, because moving in an opposite direction away from the pivotal mount would not be moving pivotally “with” the rotational mount. In every embodiment of the ’250 specification, the pivotal mount and the mouthpiece pivot together in the

same direction about the same pivotal axis defined by the two joints. *See, e.g.,* Ex.1001, at 7:47–53; *see also id.*, at 3:11–13, 7:18–23, 7:59–62, 9:30–33. The figures likewise depict in every embodiment that the pivotal mount and mouthpiece engage in rotational motion **together** about the same axis in the same direction (i.e., the mouthpiece engages in pivotal movement **with** the pivotal mount).

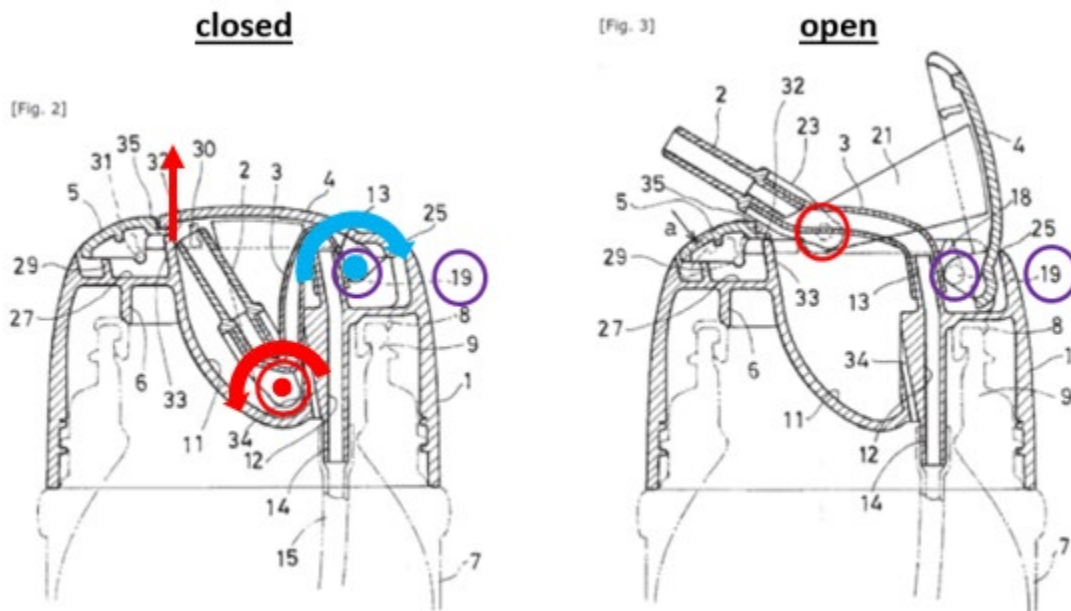


Id., Fig. 7 (showing mouthpiece 72 rotating with pivotal mount 100 about the same pivotal axis defined by joint 108 in the same direction); Fig. 6.



Id., Figs. 1-2 (showing mouthpiece 72 rotating with pivotal mount 100 in the same direction about the same joint where pivotal mount 100 attaches to cap).

114. In my opinion, instead of rotation of the *mouthpiece* with the *pivotal mount*, as shown again below, Nakajima's alleged *mouthpiece* rotates about a different axis of rotation than the alleged *pivotal mount* in a direction opposite the direction of rotation of the alleged *pivotal mount*, as shown by the **red** and **blue** circular arrows below.



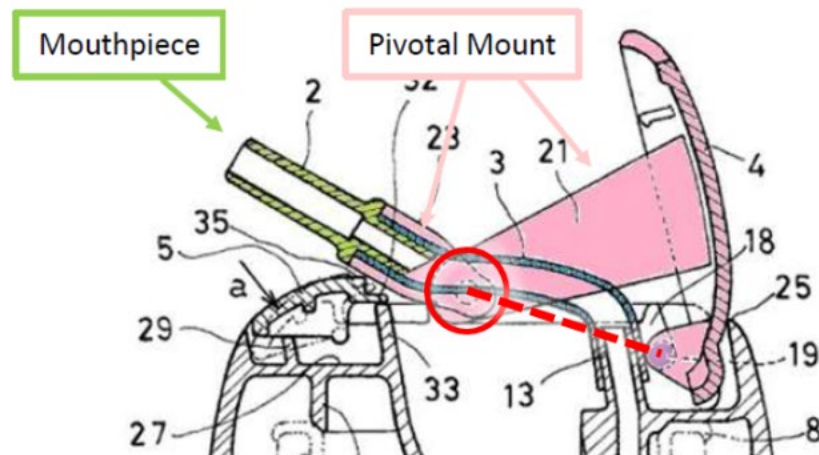
Ex.1004, Figs. 2–3 (annotated).

115. Therefore, in my opinion, Nakajima's alleged *mouthpiece* does not ever engage in “pivotal movement with the pivotal mount,” as construed.

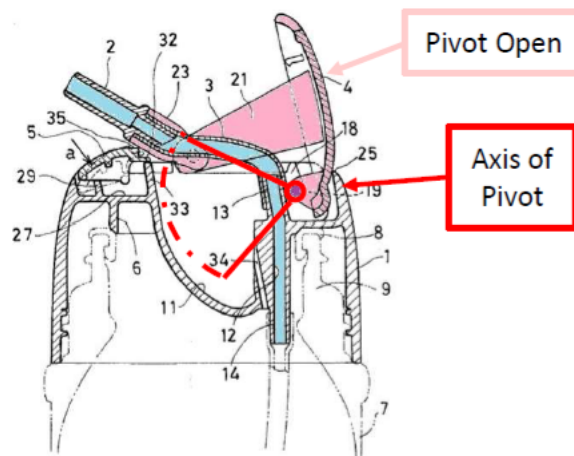
116. I note that, at institution, the Board stated that “Patent Owner’s argument that the center of protrusion 24 appears to potentially rotate clockwise

about hinge shaft 19 does not negate our preliminary finding that the mouthpiece connected to protrusion 24 also moves about hinge shaft 19 and additionally moves counterclockwise relative to lid 4.” Paper 14, at 27. In my opinion, I respectfully submit that any movement of the *mouthpiece* connected to protrusion 24 about hinge shaft 19 is mere translational movement relative to the hinge shaft 19 and not rotational movement about the hinge shaft 19 as an axis of rotation. The movement of the *mouthpiece* cannot be considered rotational motion under the basic principles of physics as understood by a POSITA, because a POSITA would have understood that, as defined by physics, rotational motion is a type of motion in which all points of a rigid body maintain a constant distance from an imaginary axis (i.e. an axis of rotation) and rotate in circular paths about a common axis with a common velocity. *See* Ex.2012, at 1 (“[R]otational motion . . . is a type of motion in which all points of a rigid body maintain a constant distance from an imaginary axis and rotate in circulate paths about a common axis with a common velocity”); Ex.2013, at 259 (describing rotation about an “axis of rotation” as requiring that “every point of the body moves in a circle whose center lies on the axis of rotation, and every point moves through the same angle during a particular time interval”). As stated above, a “rigid body” is required for rotational motion, because a “rigid body” is necessary to maintain a constant distance from an axis of rotation and to maintain a circular paths about a common axis. *See* Sec. VI.B.

117. The Board suggested construction of a very similar claim term (e.g., similar to the claim term “two joints that define a pivotal axis for pivotal movement of the pivotal mount”) would be helpful in its Institution Decision in IPR2024-01137 regarding the ‘255 patent, which is the parent to the ‘250 patent at issue here. Ex.2006, at 14-15. In its Institution Decision in IPR2024-01137 regarding the ‘250 patent’s parent ‘255 patent, the Board stated the following: “As cited by Petitioner, from the closed position, for example, the Nakajima’s mouthpiece would appear to move based on clockwise rotation about hinge shaft 19.” Ex.2006 at 15. Here, it is my belief that the Board may have been referring to the movement of Nakajima’s entire “mouthpiece 2,” including its arm 23 and protrusions 24, when making this statement. That is, I do not believe that the Board was referring to just the portion of mouthpiece 2 that Petitioner colors green and labels as the alleged *mouthpiece* of the claims when the Board referred to “Nakajima’s mouthpiece” in that sentence, because, as discussed, Nakajima’s mouthpiece 2 includes the arm 23 and protrusions 24 that Petitioner contends are part of the claimed *pivotal mount* and not part of the claimed *mouthpiece*. If I am correct in this belief, then the Board may have been merely referring to the fact that the very center of the protrusions 24 appears to potentially rotate in a clockwise direction about the hinge shafts 19 when moved from the closed position.



Pet., 25 (citing Ex.1004, Fig 3 (annotated)) (with Patent Owner's annotations added in red). In my opinion, this movement of the very center of protrusions 24 appears to be what Petitioner attempts to convey with its somewhat confusing and inaccurate annotated version of Figure 3 showing a red arc below:



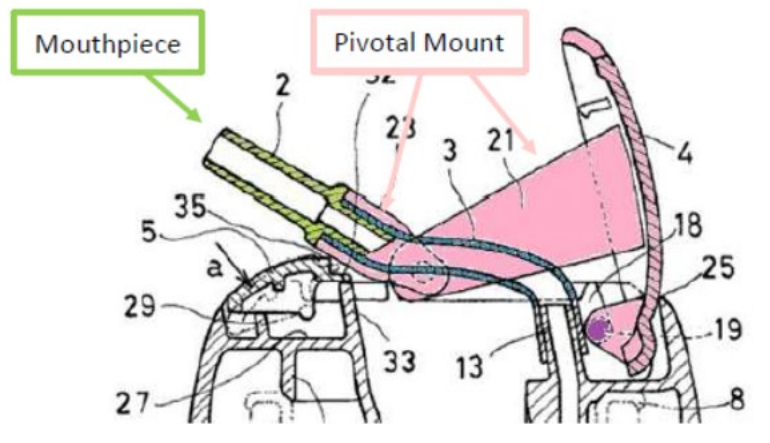
Pet., 26 (citing Ex.1004, Fig. 3). However, any such potential clockwise rotation of the very center of protrusions 24 about hinge shafts 19, as found by the Board and as illustrated with Petitioner's red arc annotation, only shows potential *rotational*

motion of the alleged *pivotal mount* about the hinge shafts 19, not the alleged *mouthpiece*.

118. Furthermore, regarding the Board’s institution decision in this proceeding, it is my opinion that the Board’s statement that “Patent Owner’s argument that the center of protrusion 24 appears to potentially rotate clockwise about hinge shaft 19 does not negate our preliminary find that the mouthpiece connected to protrusion 24 also moves about hinge shaft 19 and additionally moves counterclockwise relative to lid 4,” Paper 14, at 27, does not negate the fact that the *mouthpiece* does not move with rotational motion (i.e., pivotal movement) about the hinge shaft 19. As noted above, the Board merely notes that the mouthpiece “also moves about hinge shaft 19,” which is merely noting the translational movement of the mouthpiece relative to hinge shaft 19. As mentioned above, the Board did not find that the mouthpiece actually engages in *rotational* motion about the hinge shaft 19 as an axis of rotation nor did it find that the mouthpiece ever maintains a constant distance/radius to the hinge shaft 19 as would be required for such rotational motion.

119. Thus, in my opinion, Petitioner’s alleged rotational movement of the protrusion 24 is irrelevant to showing whether Petitioner’s alleged green *mouthpiece* moves with rotational motion about the axis defined by the hinge shafts 19 because the alleged *mouthpiece* does not include any of the portions of Nakajima’s mouthpiece 2 colored pink, including the protrusions 24. This is because Petitioner

relies on only the green-colored portion of Nakajima's mouthpiece 2 as being the claimed *mouthpiece* and Petitioner relies on the protrusions 24 as being part of the claimed *pivotal mount*, as shown again below:



Pet., 25. As discussed above, the green portion of mouthpiece 2 of Nakajima only ever rotates about the axis of rotation defined by the protrusions 24 rotating within the holes 22 and never engages in *rotational motion* about the axis of rotation defined by the hinge shafts 19. Therefore, in my opinion, it is irrelevant whether any part of arm 23, such as the very center of protrusions 24, of mouthpiece 2 of Nakajima ever rotates about the hinge shafts 19 when opening from the closed position, as shown by Petitioner's red arc annotation above, and as noted by the Board at page 27 of the institution decision here (Paper 14) (as well as by the Board at page 15 of the Institution Decision for the '255 Patent (Ex.2006)), because the arm 23 and protrusions 24 are not part of the green alleged *mouthpiece* and are instead part of the pink alleged *pivotal mount*.

120. Alternatively, to the extent the Board in the Institution Decision for the '255 Patent was referring to the fact that the green portion of mouthpiece 2 (that Petitioner contends is the claimed *mouthpiece*) may move translationally up and out relative to the hinge shafts 19, albeit not rotationally about the hinge shafts 19, when moved from the closed position, then it is my opinion that this, too, would be irrelevant because such translational motion does not constitute ***rotational motion*** of the *mouthpiece* about an axis of rotation, as is required by the basic principles of physics and as required under the proper construction. *See* Ex.2012, at 1; Ex.2013, at 259.

121. Finally, I note that the Board attempted to analogize the movement of Nakajima's *mouthpiece* "to the movement of [the] sun, the earth and the moon, where the earth revolves around the sun, and the moon additionally revolves around the earth." Paper 14, at 27, fn. 11. The Board continues by saying, "[i]n this analogy, the question would be whether the moon pivots 'with' the earth 'relative' to the sun." *Id.* This analogy is similar to the analogy proffered by Petitioner's expert, Dr. Vallee, during his deposition in IPR2024-01137 regarding the related '255 Patent. *See* Ex.2018, 124:7-125:14. For example, Dr. Vallee answered the question posed by the Board in the present institution (e.g., does the moon pivot "with" the earth "relative" to the sun) when Dr. Vallee admitted that the moon ***never*** maintains a fixed radius to the sun and, thus, ***never*** engages in pure rotational motion about the sun. *Id.* Thus,

in my opinion, even if we assumed their orbits were circular rather than elliptical (which they are in reality), it nonetheless cannot be said that the moon engages in rotational motion about the sun merely because the moon rotates about the earth and the earth rotates about the sun. This is because, as admitted by Dr. Vallee, the moon never maintains a constant distance/radius from the sun. In my opinion, while Nakajima might show the *mouthpiece* moving translationally relative to the hinge shaft 19, this motion is never rotational motion about the hinge shaft 19 with the hinge shaft 19 serving as an axis of rotation, because the *mouthpiece* never maintains a constant distance/radius to the hinge shaft 19. Thus, the *mouthpiece* never engages in pivotal movement with the pivotal mount, which engages in pivotal movement about the axis defined by the two joints, as properly construed. See Section VI.C above. At most, it is my opinion that this movement is a translational movement, which is not rotational movement. See *id.*

122. Petitioner, therefore, has failed to show the Nakajima's alleged *mouthpiece* engages in "pivotal movement with the pivotal mount," as required by all independent claims, whether under the plain claim language or whether under Patent Owner's express constructions. Further, while Petitioner asserts obviousness, its only obviousness argument with regard to the mouthpiece limitations is that it would have been obvious for a POSITA to form the mouthpiece and pivotal mount components in two parts removably coupled to each other, in the event the

mouthpiece and pivotal mount must be formed of two separable parts. *See* Pet., 25. Petitioner makes no obviousness argument with regard to the mouthpiece's requirement of "pivotal movement with the pivotal mount." Ground 1, therefore, fails as to the independent claims.

B. The Ribarits Grounds Do Not Establish the Obviousness of Any of the Challenged Claims (Grounds 2 and 3)

123. In my opinion, Ribarits does not disclose all of the elements of the three challenged independent claims, claims 1, 7, and 13. As I explain below, it's my opinion that Ribarits does not disclose a "mouthpiece" that: (1) defines a portion of the fluid conduit, including the dispensing outlet; and (2) is "coupled to the mount outlet of" or "disposed on" the pivotal mount. Specifically, in my opinion, Ribarits does not disclose "a mouthpiece" that defines the "dispensing outlet" and is "coupled to the mount outlet" of the pivotal mount (claim 1) or "disposed on the pivotal mount" (claims 7 and 13). Ex.1001 at 19:27-29, 20:40-42, 21:55-57. First, the structure in Ribarits that allegedly defines the "dispensing outlet" is not a "mouthpiece." Second, Ribarits's alleged "mouthpiece" is neither "coupled to the mount outlet" nor "disposed on the pivotal mount."

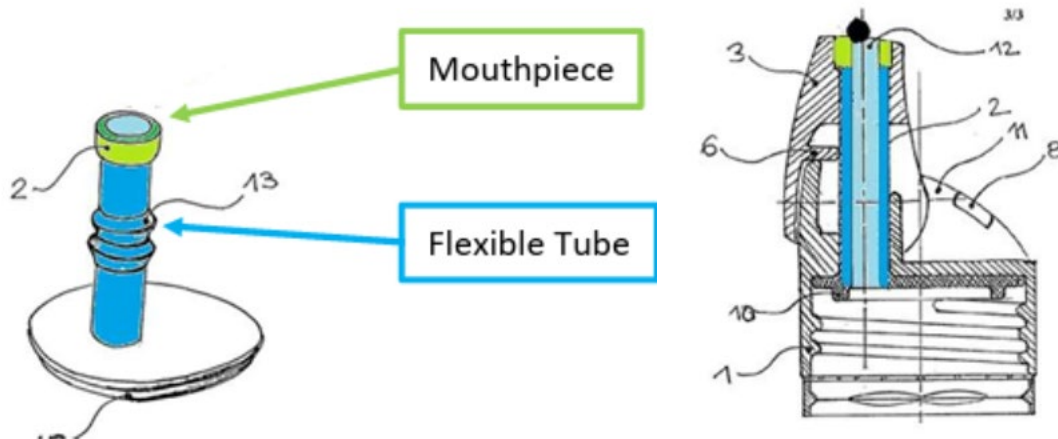
1. Ribarits does not disclose that the "mouthpiece" "defines a portion of the fluid conduit, including the dispensing outlet" as recited in the independent claims

124. As I discussed above, a POSITA at the time of the '250 patent would have understood the word "mouthpiece" to mean a "part designed for a user to put

his or her mouth on to draw liquid from the container,” consistent with the ’250 specification and prosecution history, including the ’255 patent reexamination. *See, e.g.,* Ex.1001, at 3:14–20 (“the mouthpiece is oriented in a suitable position from which a user may draw drink fluid from the drink bottle through mouthpiece 72”). In addition, the challenged claims require that the mouthpiece “defines a portion of the fluid conduit, including the dispensing outlet.” Ex.1001, 19:30–31, 20:43–44, 21:58–59; Pet. at 11.

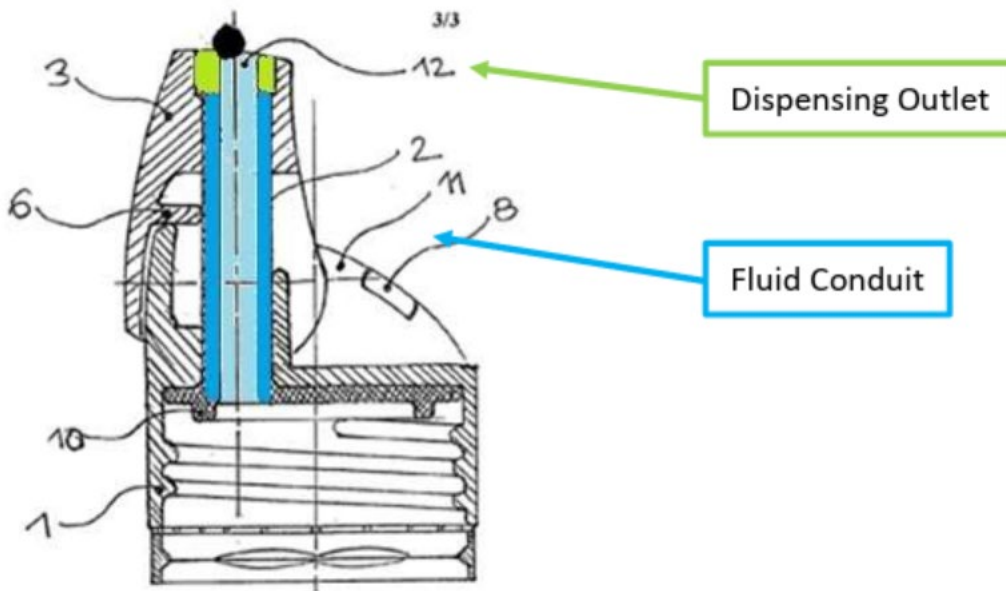
125. I note that, at institution, the Board adopted Patent Owner’s proffered dictionary definition from Meriam-Webster, which defines a “mouthpiece” as “a part (as of an instrument) that goes in the mouth or to which the mouth is applied.” Paper 14, at 12 (citing Ex.2005). I agree that “this definition is consistent with the plain and ordinary meaning of the term which is a compound of ‘mouth’ and ‘piece’” and that “this definition is consistent with the Specification,” as found by the Board. Paper 14, 12. I also agree with the Board’s preliminary determination that “Petitioner does not adequately explain how the end portion of item 2 functions as a mouthpiece where it does not contact the mouth.” Paper 14, at 37.

126. The Petition contends that the “mouthpiece” in Ribarits is the end portion of tube element 2, per Petitioner’s annotated figures below. Pet., 46, 48.



Ex.1006, Figs. 2, 3 (annotated by Petitioner).

127. Petitioner further contends that the same portion of Ribarits' tube element 2 is the “dispensing outlet.”

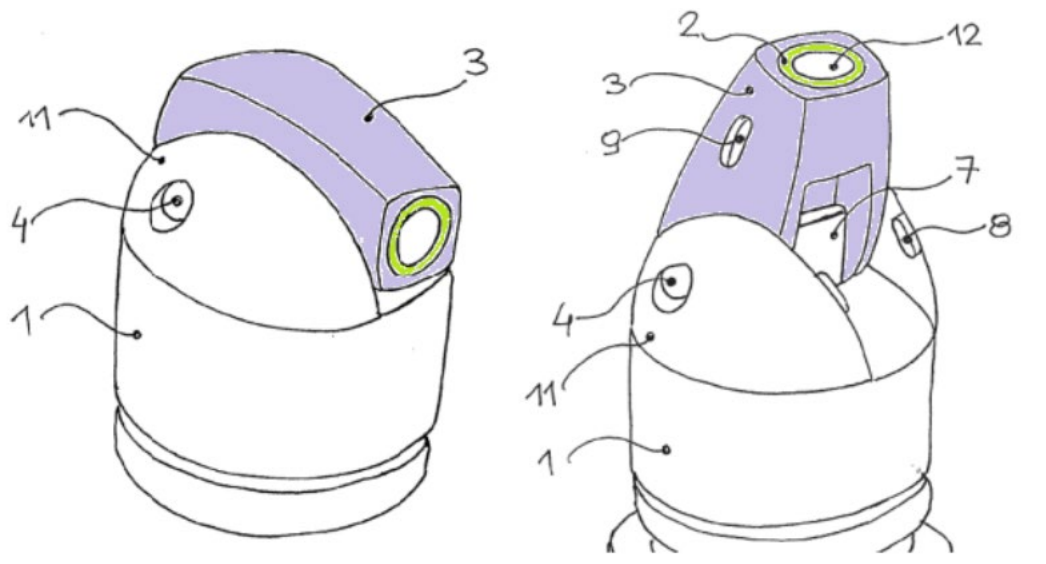


Pet., 46, 48; Ex. 1001, Fig. 3.

128. A POSITA would not understand the end portion of Ribarits' tube element 2 to constitute a “mouthpiece.” This portion of the tube element is

completely surrounded by a different component—the drinking spout 3—meaning it is inaccessible to the user’s mouth. As such, the end of tube element 2 cannot be the part designed for the user to put his or her mouth on to draw liquid from the container. Put simply, the tube is not designed for the user’s mouth. Instead, the true “mouthpiece” designed for the user to place their mouth on is the drinking spout 3, which surrounds the tube element 2, as shown in purple in my annotated figure below.

FIG.1



Ex.1006, Fig. 1 (annotated).

129. The Petition erroneously contends that tube element 2 is the “mouthpiece” as opposed to drinking spout 3. Even if Petitioner had correctly identified drinking spout 3, it does not meet the remaining “mouthpiece” limitations of the challenged claims. For example, the claims require that the mouthpiece “defines a portion of the fluid conduit, including the dispensing outlet.” Ex.1001,

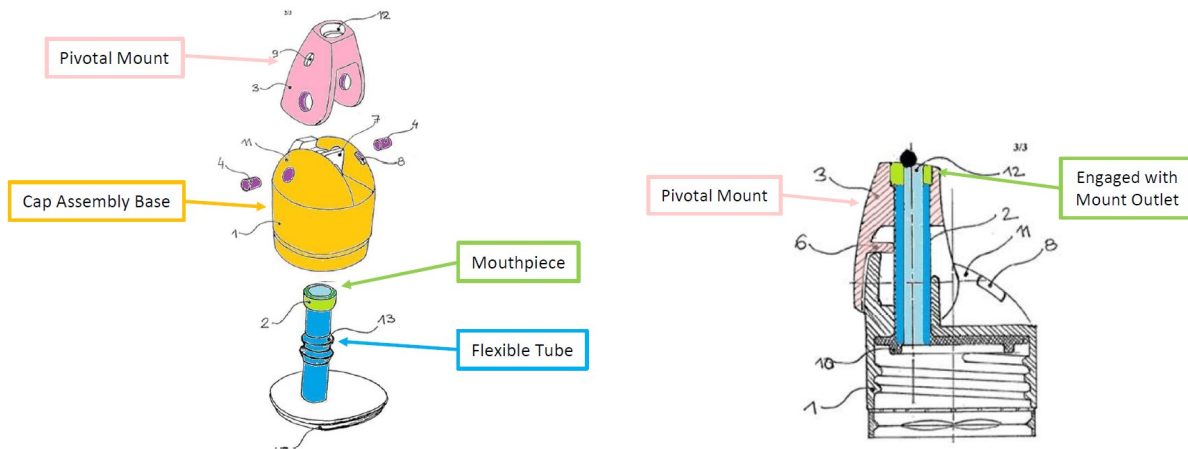
19:30–31, 20:43–44, 21:58–59. Drinking spout 3 cannot meet this limitation, as Ribarits describes fluid being “withdrawn via the tube,” (i.e., tube element 2) not the drinking spout 3. Ex.1006, at 2.

130. Instead, the Petition identifies drinking spout 3 as the claimed “pivotal mount.” Further, the claims recite the “mouthpiece” and “pivotal mount” as two separate components which work together to function and thus Petitioner could not have relied on the drinking spout 3 as being both the “mouthpiece” and the “pivotal mount” in any event. As I mentioned above, drinking spout 3 is the portion to which the user applies there mouth such that it would be a “mouthpiece,” but a POSITA would not have understood it to be able to be both the “mouthpiece” and “pivotal mount.” And Petitioner did not advance such a theory in any event. Therefore, in my opinion, Petitioner has failed to demonstrate that this limitation is met.

2. Ribarits does not disclose the “mouthpiece” being “coupled to” (claim 1) or “disposed on” (claims 7 and 13) the “pivotal mount”

131. As I stated above, I do not agree with Petitioner that the top portion of Ribarits’ tube element 2 is the “mouthpiece” as claimed in the ’250 patent. But even if the tube element 2 were assumed to be a “mouthpiece,” Petitioner has failed to show that it is “coupled to” or “disposed on” the pivotal mount as required by independent claim 1 or independent claims 7 and 13, respectively. Ex.1001, 19:27-29, 20:40–42, 21:55–56.

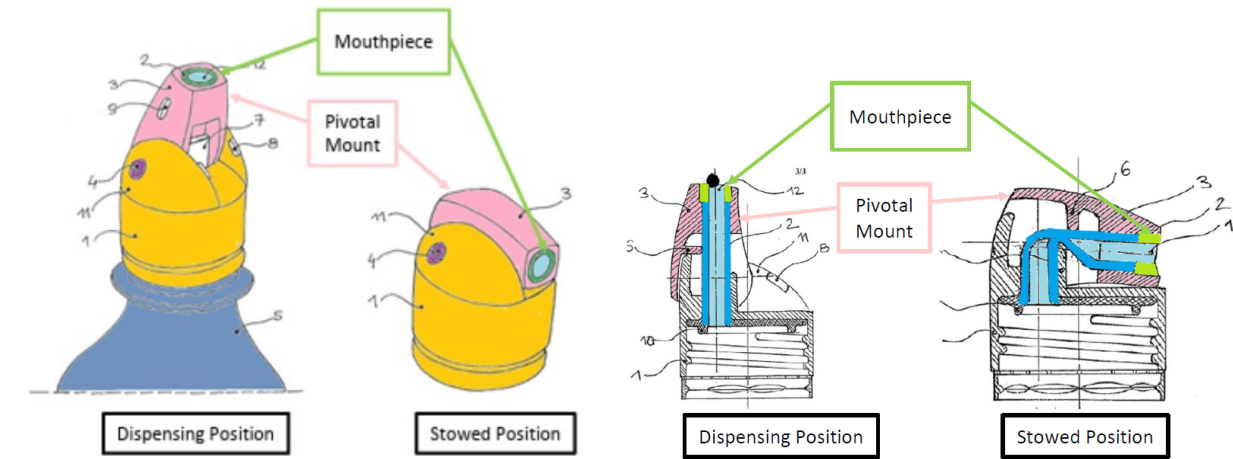
132. The Petition contends, with no support whatsoever, that the green mouthpiece portion of tubular element 2 “couples with the mount outlet to hold the tubular element in place.” Petition, 46-47.



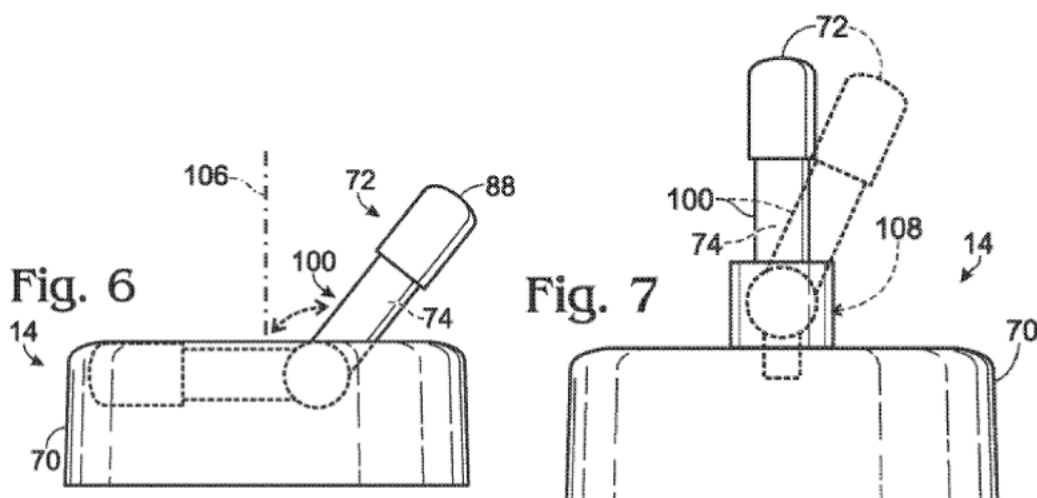
Petition, 46-47 (citing Ex.1006, Figs. 2-3 (annotated)). Petitioner’s annotation recites “engaged with mount outlet” but Petitioner provides no support for how or if any such engagement between the green portion (alleged mouthpiece) and the mount outlet of the pivotal mount exists in Ribarits. Ribarits does not describe any such engagement or that the mount outlet “holds” the green mouthpiece “in place” as asserted by Petitioner. Dr. Vallee also fails to provide any such support for his opinions that the alleged mouthpiece somehow couples to the mount outlet or is held in place by or engaged by the mount outlet. Ex.1002, ¶¶125-127. Further, his observation that the alleged mouthpiece (green portion) has “a larger diameter at the end proximate the spout outlet that corresponds to a wider section of the hollow passage through the spout (i.e., mount outlet) does nothing to support his opinion

that this would have resulted in a “coupl[ing]” between the wider tip (alleged mouthpiece) and the inside of the mount outlet to “maintain” it “in place.” This is because Ribarits does not describe any friction or other means at the points of contact between the alleged mouthpiece and mount outlet that holds it in place at those points of contact. Thus, the mere change in diameter does not establish that there is any coupling occurring at those points of contact. Petitioner, therefore, has failed to show the coupling between the mouthpiece and mount outlet of the pivotal mount required by claim 1.

133. Further, Petitioner has also failed to show that the alleged mouthpiece in Ribarits is “disposed on” its alleged pivotal mount. Petitioner provides no separate explanation as to how this “disposed on” requirement of claims 7 and 13 is met separate and apart from the “coupled to the mount outlet of the pivotal mount” requirement of claim 1. Thus, in my opinion, Petitioner has failed to show this limitation is met. Further, as shown below in Figure 2, the drinking spout (3) (shown in pink) completely surrounds the sealed tubular element (2) (shown in green). Thus, the tubular element (2) is disposed *in*, not *on* the drinking spout (3).

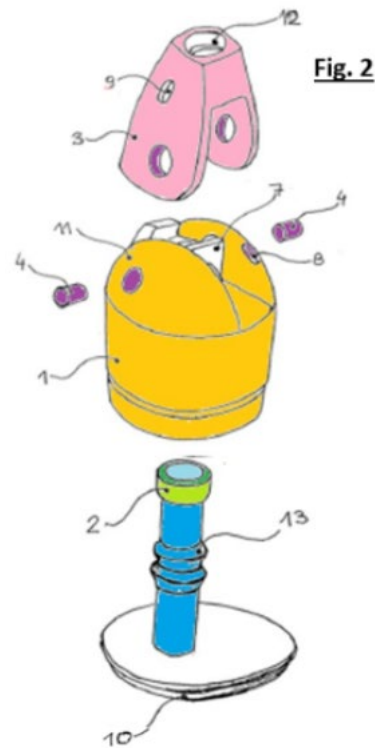


Pet., 49 (citing Ex.1006, Figs. 1 & 3 (annotated)). In the context of the '250 patent, a POSITA would understand the phrase “disposed on” to mean an element is located *on* another element rather than completely within another element. The '250 specification describes several embodiments of the drink bottle having a cap assembly with a pivotal mount and mouthpiece, and in each of these embodiments, the mouthpiece is *attached on* the end of the pivotal mount, such that the mouthpiece and pivotal mount together pivot about the axis 106:



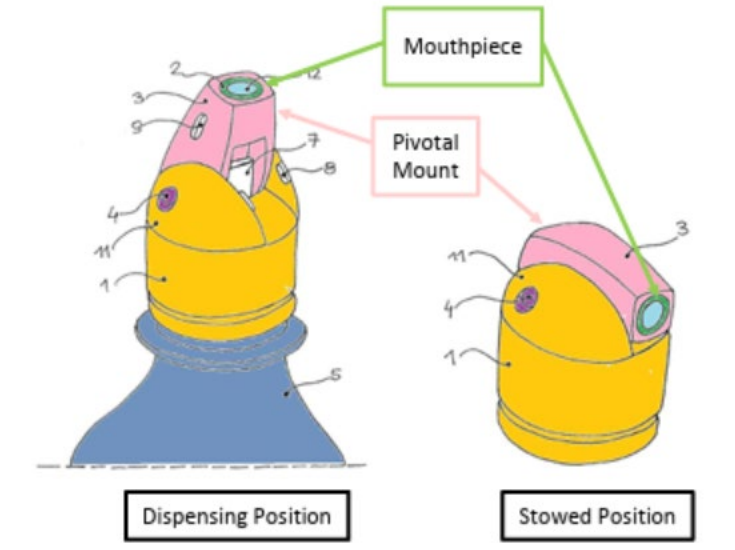
Ex.1001, Figs. 6 and 7; *see also, e.g.*, Figs. 21–24, 3:4–10, 3:14–20, 5:17–24, 7:23–26.

134. The specification states that “the mount and any *attached* mouthpiece may be pivotally moved relative to the base of the cap assembly.” Ex. 1001, 16:56–58; *see also id.* 7:26–30. The ’250 patent depicts no embodiments in which the mouthpiece is entirely inside of the pivotal mount rather than attached onto it nor does it ever describe such a possibility. Thus, in my opinion, for the mouthpiece to be disposed “on” the pivotal mount, it must be attached onto the pivotal mount rather than merely being entirely inside of it. Conversely, Ribarits’s alleged *mouthpiece* is not disposed “on” its alleged *pivotal mount*, because the *mouthpiece* is not attached onto the *pivotal mount* and is instead inserted entirely inside of it. *See* Ex.1006, at 2 (“[A] sealed tubular element of rubber or latex is *inserted* in both these parts”). At most, and as shown below, Ribarits discusses *inserting* the alleged *mouthpiece* into the alleged *pivotal mount*. *See* Ex.1006, at 2.



Ex.1006, Fig. 2 (annotated).

135. Furthermore, Petitioner identifies the “pivotal mount” as drinking spout 3 in Ribarits, as shown below in pink, which completely surrounds the tubular element 2 shown in green.



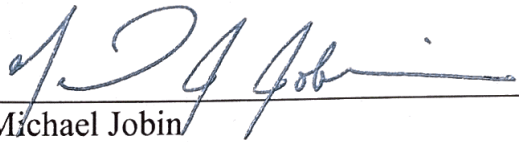
Pet., 49 (annotating Ex.1006, Fig. 1).

136. Because the tubular element 2 and its alleged green “mouthpiece” is inserted entirely inside of the drinking spout 3 rather than being attached onto it, a POSITA would not understand the tubular element 2 or its alleged “mouthpiece” as being “disposed on” the drinking spout 3.

VIII. CONCLUSION

This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on 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 or Title 18 of the United States Code.

Date: 9-16-2025



Michael Jobin