a seal: (1) the spout's outer surface, (2) the spout's upper lip, or (3) the spout's inner surface. One skilled in the art would have knowledge of all three options at the time of the '252 patent invention. Any of the three options would have been obvious, given this limited number of options. The '252 patent claims 16-18 recite option (3) of sealing the inside surface of the spout. This option was particularly well known—indeed, it was ancient. From using a cork to seal a wine bottle or a stopper or plug to seal a test tube, this option has been known for centuries. Two examples of plug seal/spout arrangements, in analogous art to the '252 patent, are addressed below.

A. Overview of Gorskey and Johnson

1. Gorskey

132. Gorskey (Ex. 1011) discloses an assembly for sealing a container of food stuffs. The disclosed container includes a lid or cap that is inserted into the opening of the container to seal the container. (Ex. 1011, Abstract; Fig. 8.)

133. As shown in Figures 6 and 8, a collar 110 is first applied to the food container 204. (Ex. 1011, [0032], Fig. 6). A lid collar 104 is then fitted around the collar 110, and the lid 102 can be flipped (arrow B) to close collar 110. (*Id.*, [0035] ("Thereafter, the lid 102 may be moved in the direction of arrow B and rotated into the lid collar 104 to engage the same to provide a frictional fit thereto.")).

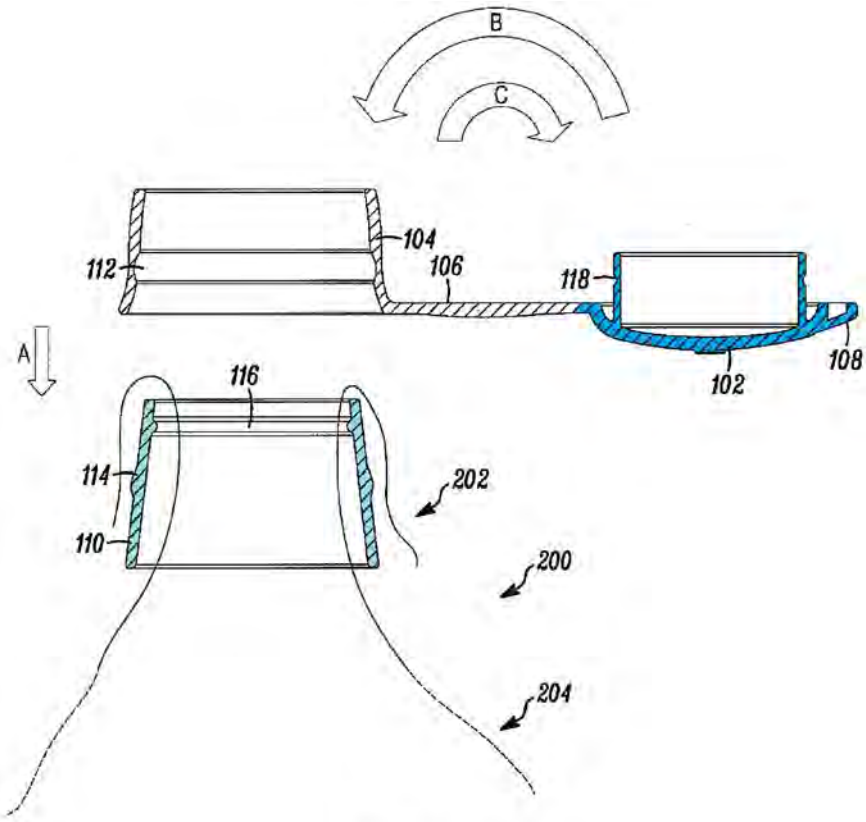

B
C
104
112
106
118
108
102
A
116
114
202
110
200
204

FIG. 6

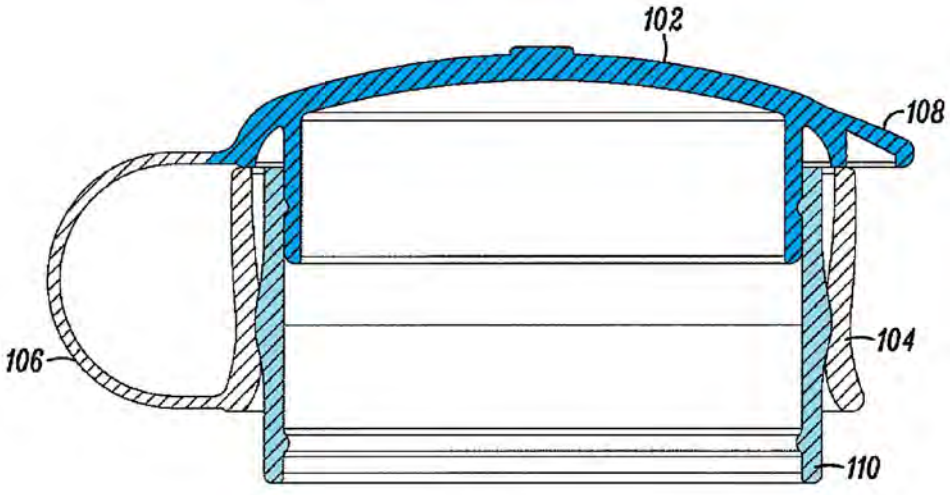

102
108
106
104
110

FIG. 8

(Ex. 1011, Figs. 6 and 8).

134. The lid 102 includes a locking groove 118 on its outer surface to engage a complementary locking ridge 116 on the inner surface of the collar 110. (Ex. 1011, [0034] ("As further shown in Figure 6, the internal collar 110 may include a locking ridge 116. When the lid 102 is inserted into the internal collar 110 the locking groove 118 may engage the locking ridge 116 and form a frictional fit connection therebetween.")). The lid is highlighted in blue and the collar is highlighted in light blue. Figure 8 shows the lid 102 in a closed configuration. (*Id.*, [0019]).

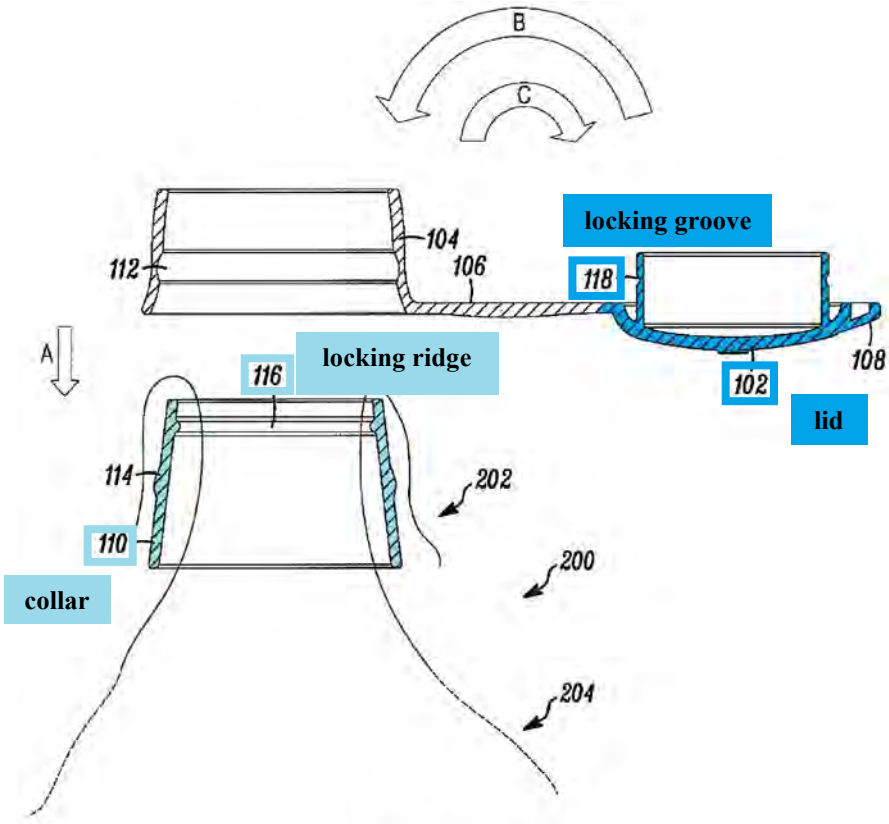


FIG. 6

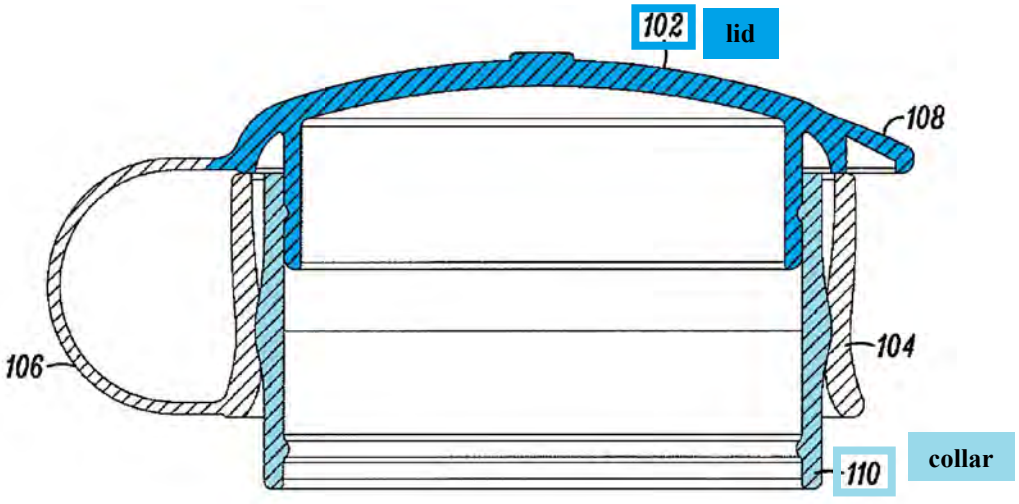


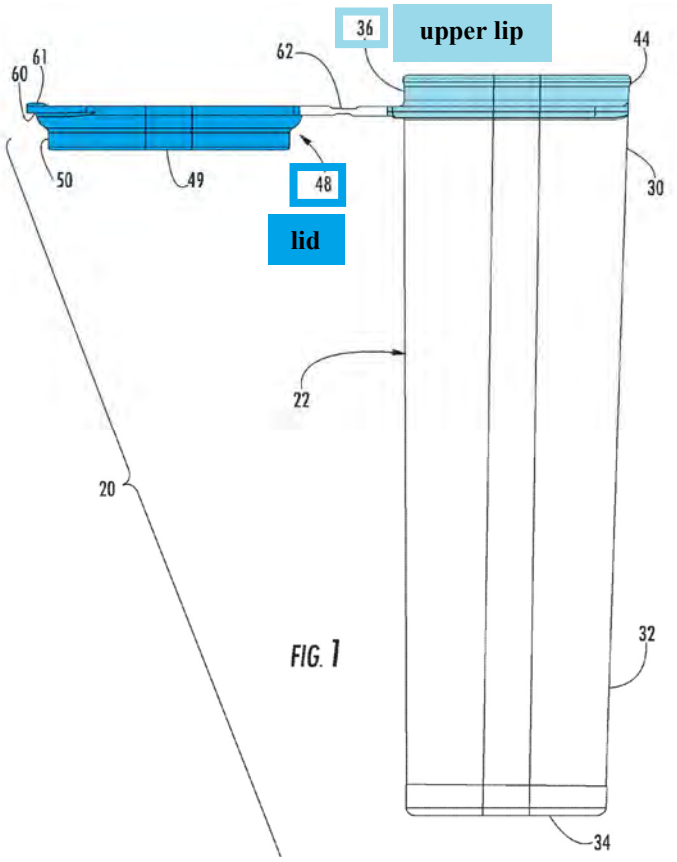
FIG. 8

(Ex. 1011, Figs. 6 and 8).

2. Johnson

135. Johnson (Ex. 1012) discloses a spout/closure engagement to provide a leak-proof seal for a dispensing orifice of a container. (Ex. 1012, [0005] ("The main body typically includes an 'orifice' for dispensing of the product, while the lid usually includes a 'spud' which is received in friction fit into the orifice to form a seal and prevent unwanted dispensing of the product.").) Johnson's invention "relates to containers and vials having hinged closures that maintain a seal." (*Id.,* [0003]; *see also* [0005] (provides leak-proof seal for the orifice of a container for food products such as ketchup and syrups).

136. As shown in Figure 1 below, the container, referred to as vial body 22, includes an opening at its upper end defined by upper lip 36. (Ex. 1012, [0044]). A lid 48 is connected to the container by living hinge 62. (*Id.*).



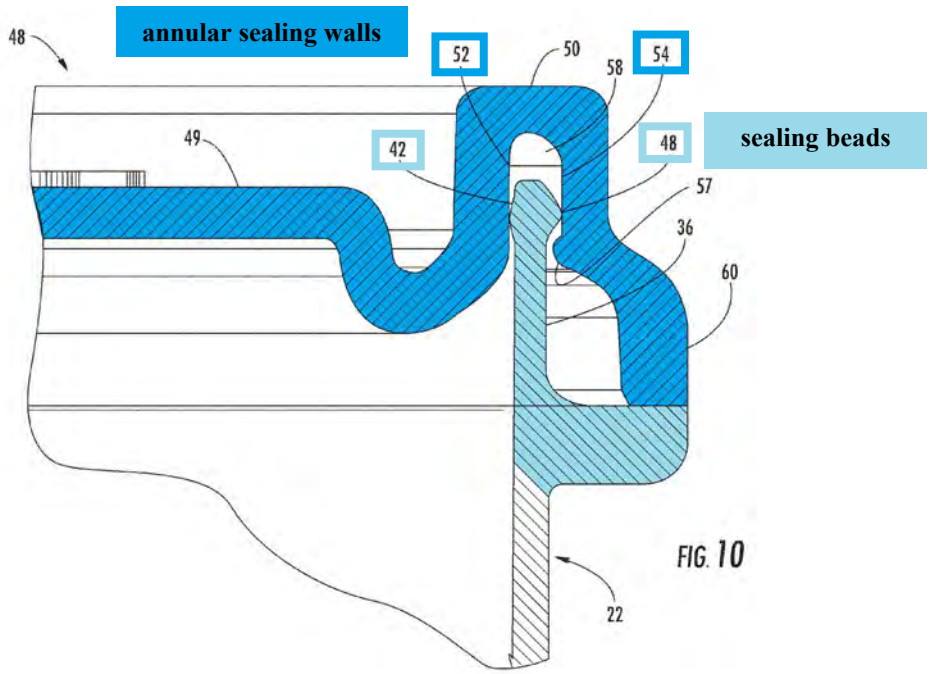
(Ex. 1012, Fig. 1.)

137. Figure 10 below shows an enlarged cross-section of the lid 48 engaging the opening of the vial body 22.

138. The lid 48 includes annular sealing walls 52 and 54,[2] which seal against the inner and outer surface of the upper lip 36 that defines the opening of the container. (*Id.*, [0047] ("The upper lip 36 of the vial body 22 is not received entirely

[2] The annular sealing walls 52, 54 are mislabeled 42 and 44, respectively, in several places in Paras. [0045]-[0047].

into the U-shaped sealing channel 50 leaving a small gap (See FIG. 10) above the upper edge of the upper lip 36. The first sealing engagement occurs at the contact of the inner annular sealing bead 52 [sic] against the inner annular sealing wall 52 of the U-shaped sealing channel 50. The second sealing engagement occurs at the contact of the outer annular sealing bead 44 and the outer annular sealing wall 54."). The upper lip 36 includes sealing beads 42 and 44.[3] (*Id.*):



(Ex. 1012, Fig. 10).

[3] The outer sealing bead 44 is mislabeled "48" in Figure 10. The inner sealing bead is mislabeled "52" in Para [0047].

B. Combining Samartgis with Gorskey and/or Johnson

139. One skilled in the art would have understood that various spout sealing mechanisms could be used with the container of Samartgis, including the plug/spout sealing mechanisms disclosed in Gorskey (Ex. 1011) and/or Johnson (Ex. 1012). One skilled in the art would have been motivated to make this substitution for several reasons. Adopting the plug/spout configuration of Gorskey and/or Johnson would result in a more secure, robust defense against inadvertent spills or leaking. In Gorskey the lid includes a locking groove on its outer surface to engage a complementary locking ridge on the inner surface of the collar, making the seal more secure than surface contact alone. In adopting the plug/spout configuration of Gorskey, a POSITA would have been motivated to maintain the air gap, or void, above the upper lip of the spout to ensure sufficient room to adjust the lid up or down to properly seat the locking groove into the locking ridge. In Johnson, the plug seals the spout on both the inside and outside. This double seal would provide a backup in the event of failure to either the internal or external seal. In adopting the plug/spout configuration of Johnson a POSITA would have been motivated to maintain the air gap, or void, above the upper lip of the spout to reduce vacuum locking between the plug and spout in the double-sealed arrangement.

140. The combination involves the simple substitution of one known

element (the plug/spout seal of Gorskey and/or Johnson) for another known element (Samartgis's plug/spout seal) to obtain predictable results.

141. Persons skilled in the art would understand how to seal a spout using a plug closure. Thus, this is not surprising that Samartgis does not include extensive discussion of the seal. (Ex. 1004, 3:52-57). Gorskey and Johnson each disclose specifics of simple plug seal arrangements for sealing a spout or dispensing orifice of a container, which one of skill would have recognized as suitable for use in the Samartgis cap assembly.

142. The combination also represents the use of a known technique (the plug/spout seal of Gorskey and/or Johnson) to modify or improve a similar device, namely Samartgis' cap assembly, which also used a plug to seal the spout of a container.

143. Moreover, using external coupling structures on a plug to cooperatively mate with internal coupling structures on a spout to seal the spout was well known, as reflected in Gorskey, Johnson and Samartgis, which would lead one skilled in the art to reasonably expect success in the combination.

144. Finally, the combination applies a known technique (using the Gorskey and/or Johnson plug/spout seal) to a known device (Samartgis' cap assembly, which also used a plug and spout with a seal) that is ready for improvement (such as by

including a more robust seal using both inner AND outer sealing surfaces, and a gap above the upper lip to reduce vacuum locking) and yields predictable results, namely a sealed closure for the Samartgis spout.

C. Claim 16

145. Claim 16 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Samartgis discloses each limitation of claim 5. Claim 16 further recites, "wherein the drink spout includes an internal coupling structure, wherein the closure includes a plug structure that is configured to extend within the passage when the closure is in the closed position, and wherein the plug structure includes an external coupling structure that is configured to operatively mate with the internal coupling structure of the drink spout when the closure is in the closed position." (Ex. 1001, 20:9-11). As explained below, Gorskey and Johnson each disclose this additional limitation.

146. Gorskey discloses a spout (collar 110) having an internal coupling structure (locking ridge 116). (Ex. 1011, [0034]). Gorskey discloses a plug structure (lid 102) that is configured to extend within the passage of the spout when the closure (lid 102) is in the closed position. The plug structure (lid 102) includes an external coupling structure (locking groove 118) configured to operatively mate with the internal coupling structure of the spout (locking ridge 116) when the lid is in the

closed position. (*Id.*)

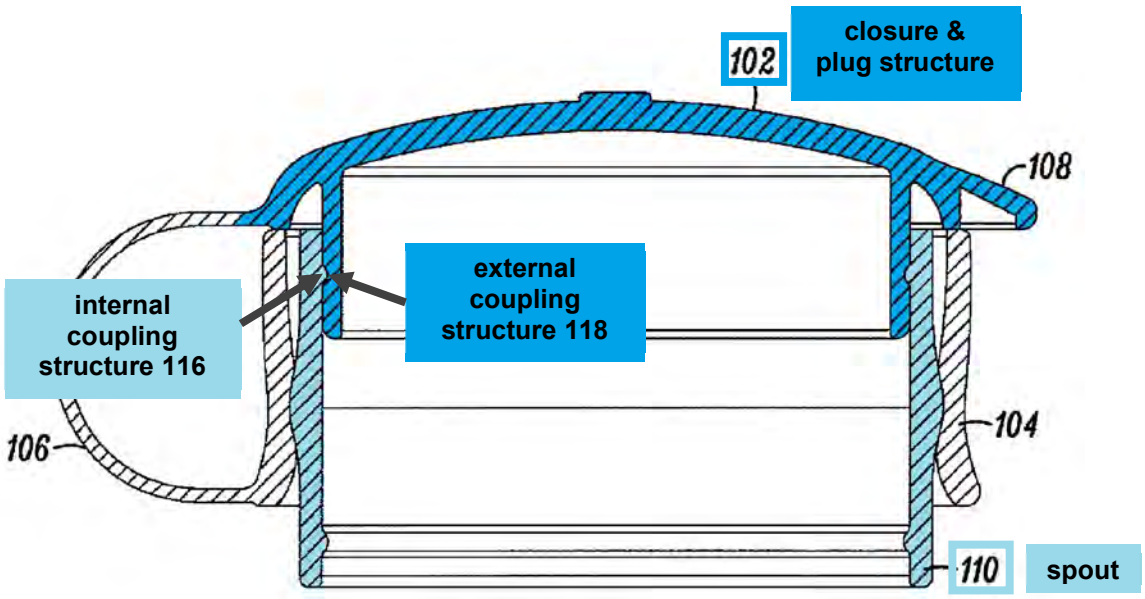
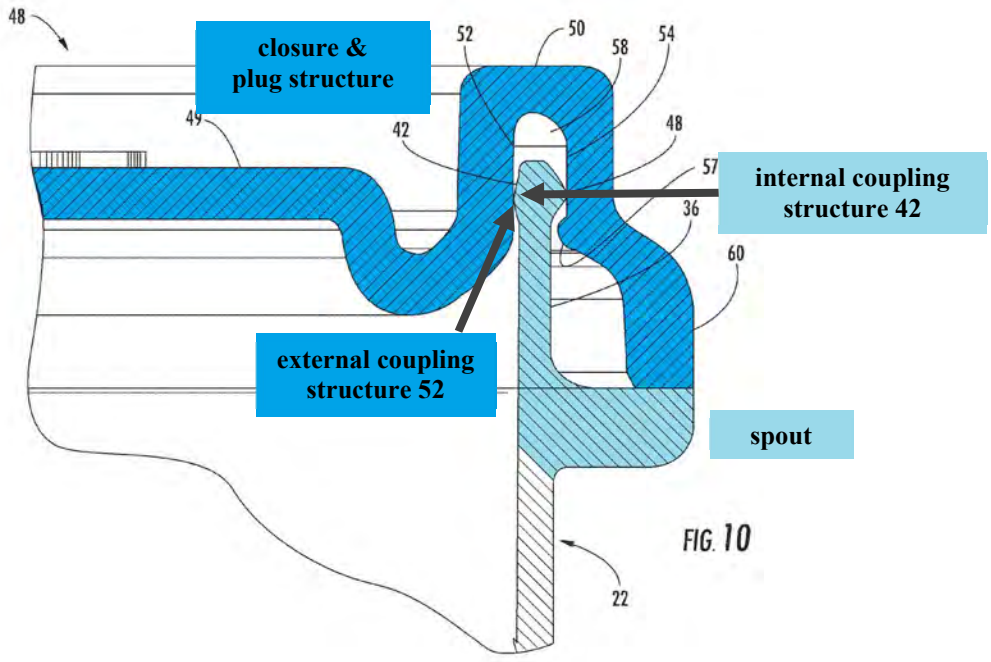


FIG. 8

(Ex. 1011, Fig. 8, [0034] ("As further shown in Figure 6, the internal collar 110 may include a locking ridge 116. When the lid 102 is inserted into the internal collar 110 the locking groove 118 may engage the locking ridge 116 and form a frictional fit connection therebetween.").)

147. Johnson discloses a spout (vial body 22 with upper lip 36) having an internal coupling structure (sealing wall with sealing bead 42). (Ex. 1012, [0047]). Johnson discloses a plug structure (vial lid 48) that is configured to extend within the passage of the spout when the closure (vial lid 48) is in the closed position. (*Id.*) The plug structure (vial lid 48) includes an external coupling structure (annular

sealing wall 52) configured to operatively mate with the internal coupling structure of the spout (sealing bead 42) when the lid is in the closed position. (*Id.*)



(Ex. 1012, Fig. 10, [0046]-[0047] ("The inner annular sealing wall 42 of the U-shaped sealing channel 40 effectively forms a 'spud' that is received into the inside of the upper lip 36 of the vial body 22. … The upper lip 36 of the vial body 22 is not received entirely into the U-shaped sealing channel 50 leaving a small gap (See FIG. 10) above the upper edge of the upper lip 36. The first sealing engagement occurs at the contact of the inner annular sealing bead [42][4] against the inner annular sealing wall 52 of the U-shaped sealing channel 50.").)

[4] The inner annular sealing bead 42 is mislabeled "52" in this sentence.

148. Because Gorskey and Johnson each disclose the additional limitation of claim 16, claim 16 would have been obvious to one skilled in the art, in view of Samartgis in combination with Gorskey and/or Johnson.

D. Claim 17

149. Claim 17 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Samartgis discloses each limitation of claim 5. Claim 17 further recites, "wherein the drink spout defines an upper lip, and wherein the upper lip does not engage the closure when the closure is in the closed position." (Ex. 1011, 20:9-11). As explained below, Gorskey and Johnson each discloses this additional limitation.

150. Gorskey (Ex. 1011, Fig. 8) and Johnson (Ex. 1012, Fig. 10) each disclose the additional limitation of claim 17. As illustrated below, the closures of Gorskey and Johnson do not engage the upper lip, i.e. top surface, of the spout when in the closed configuration, resulting in an open space above the upper lip.

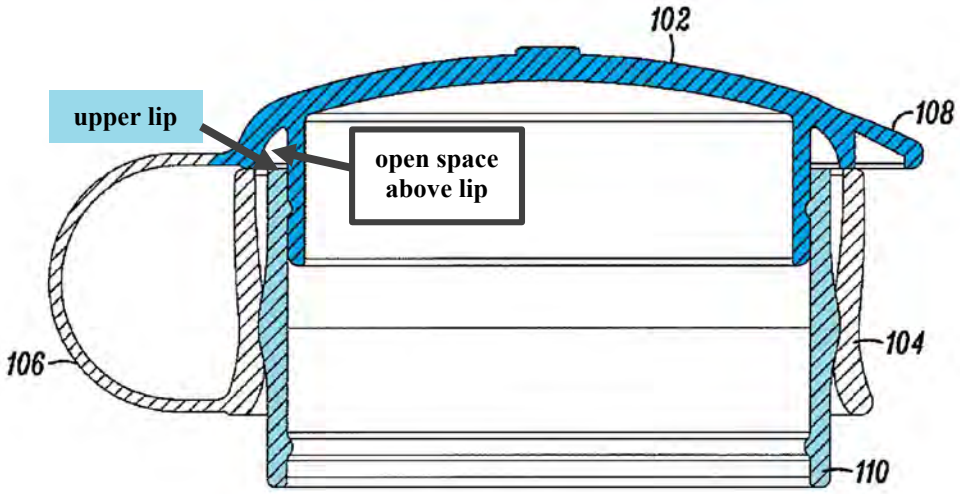
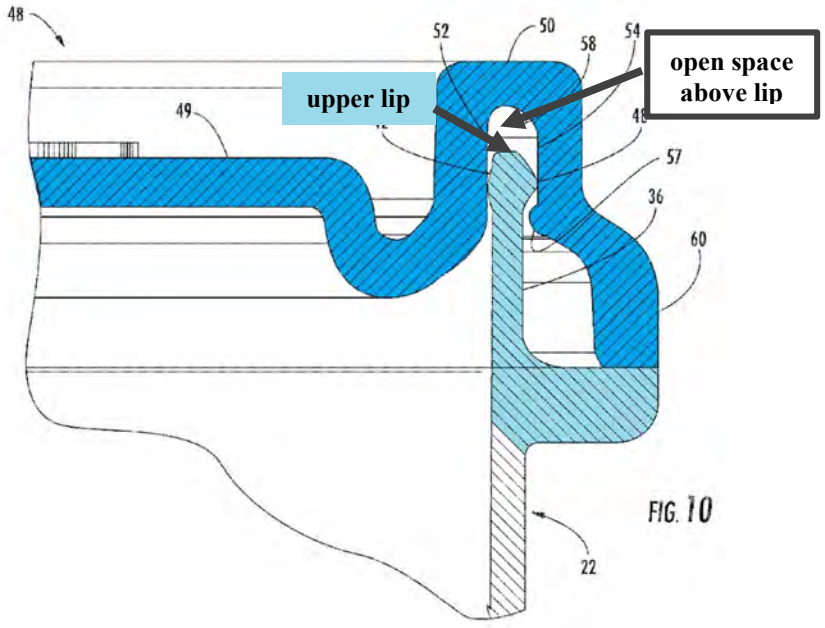


FIG. 8



(Ex. 1011, Fig. 8; Ex. 1012, Fig. 10.)

151. Because Gorskey and Johnson each disclose the additional limitation of claim 17, claim 17 would have been obvious to one skilled in the art, in view of Samartgis in combination with Gorskey and/or Johnson.

E. Claim 18

152. Claim 18 depends from claim 17, and thus incorporates the limitations of claim 17 and claim 5. As explained above, Samartgis discloses each limitation of claim 17 and claim 5. Claim 18 further recites, "wherein the closure and the drink spout define a void between the closure and the drink spout above the upper lip when the closure is in the closed position." As explained below, Gorskey and Johnson each disclose this additional limitation.

153. Each of Gorskey and Johnson define a void between the closure and the spout above the upper lip of the spout when the closure is in the closed position; the void is indicated by the open space above the upper lip:

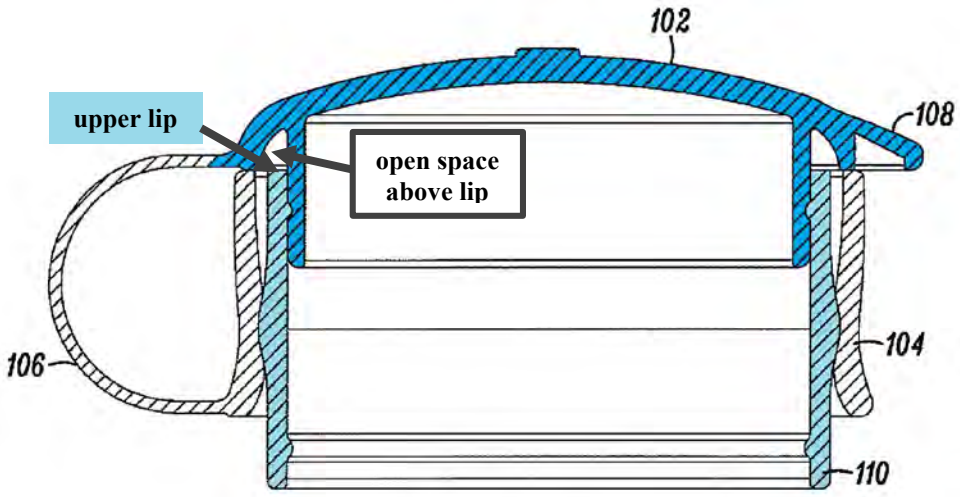
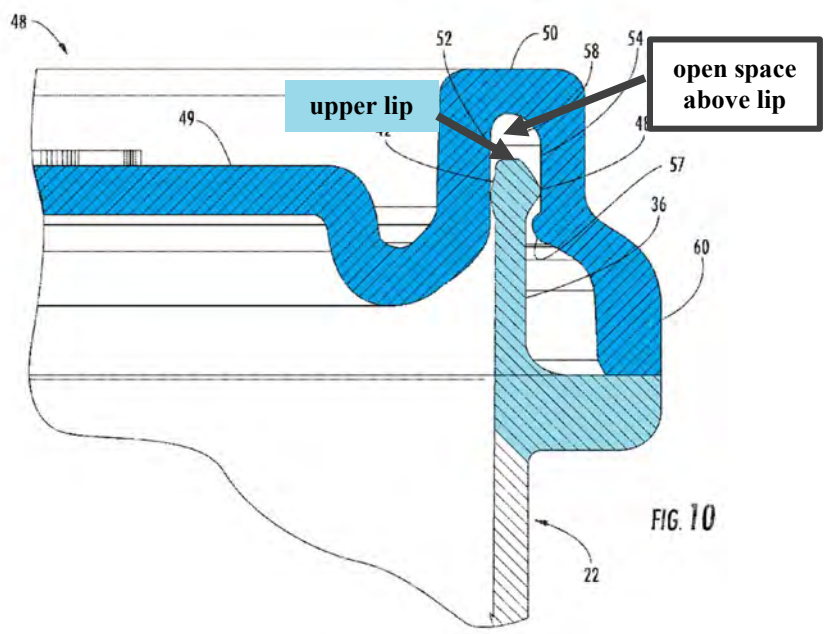


FIG. 8



(Ex. 1011, Fig. 8; Ex. 1012, Fig. 10.)

154. Because Gorskey and Johnson each disclose the additional limitation of claim 18, claim 18 would have been obvious to one skilled in the art, in view of Samartgis in combination with Gorskey and/or Johnson.

VI. GROUND 3: CLAIMS 5-7, 16, AND 19 ARE ANTICIPATED BY AND/OR WOULD HAVE BEEN OBVIOUS OVER LEONCAVALLO.

155. As I explain below, Leoncavallo discloses each element of claims 5-7, 16, and 19. To the extent Leoncavallo does not expressly disclose each element of claims 5-7, 16, and 19, Leoncavallo at least suggests each element. Accordingly, in my opinion, Leoncavallo anticipates and/or renders obvious each of claims 5-7, 16, and 19.

A. Claim 5 is Anticipated And/Or Obvious in View of Leoncavallo

156. I address below how Leoncavallo discloses each element/limitation of claim 5.

1. Preamble: "A drink container"

157. The preamble recites a "drink container." I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the claim 5 preamble is limiting. Regardless, as I explain below, Leoncavallo discloses a drink container.

158. Leoncavallo discloses, for example, that it relates to a "closure for a liquid container." (Ex. 1005, Title.) Leoncavallo refers to a user "drink[ing]" from the container. *See* (*id.*, 1:27, 7:9.) Thus, one skilled in the art would understand Leoncavallo to disclose a drink container.

2. 5[a]: "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid"

159. Limitation 5[a] recites, "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid." As I explain below, Leoncavallo discloses this limitation.

160. Leoncavallo discloses a liquid container (container 12):

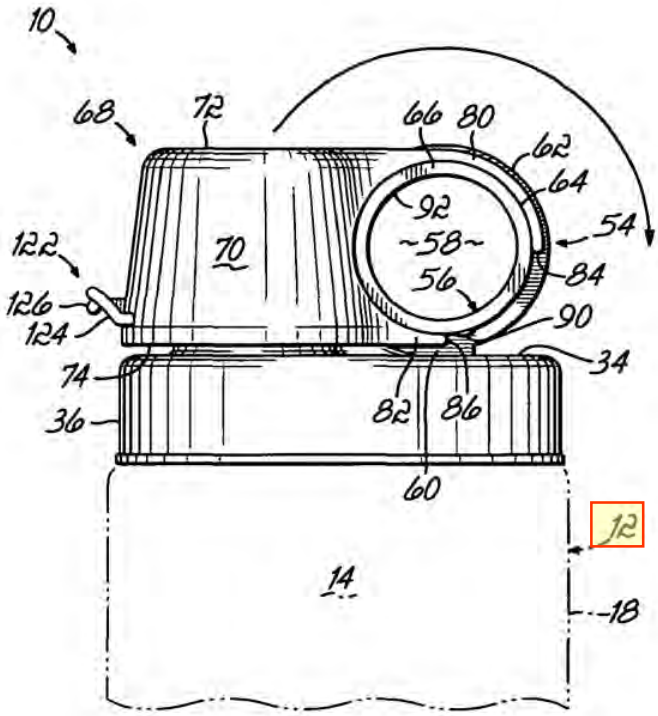


FIG. 2

(Ex. 1005, Fig. 2). Leoncavallo explains that the container 12 includes a neck 20, an opening 24, and a container body 14 that defines an interior reservoir for receiving and storing liquids. (Ex. 1005, 3:10-16 ("Container 12 … includ[es] a container body 14 having a base 16 and an upwardly extending sidewall 18 defining an interior reservoir for receiving and storing liquids therein. The container 12 further includes a neck 20 opposite the base 16 and has a top edge 22 defining an opening 24 into the reservoir of the container 12 as shown in FIG.1.")).

3. 5[b]: "a cap assembly removably coupled to the liquid container"

161. Limitation 5[b] recites, "a cap assembly removably coupled to the

liquid container." As I explain below, Leoncavallo discloses this limitation.

162. Leoncavallo discloses a cap assembly (closure 10):

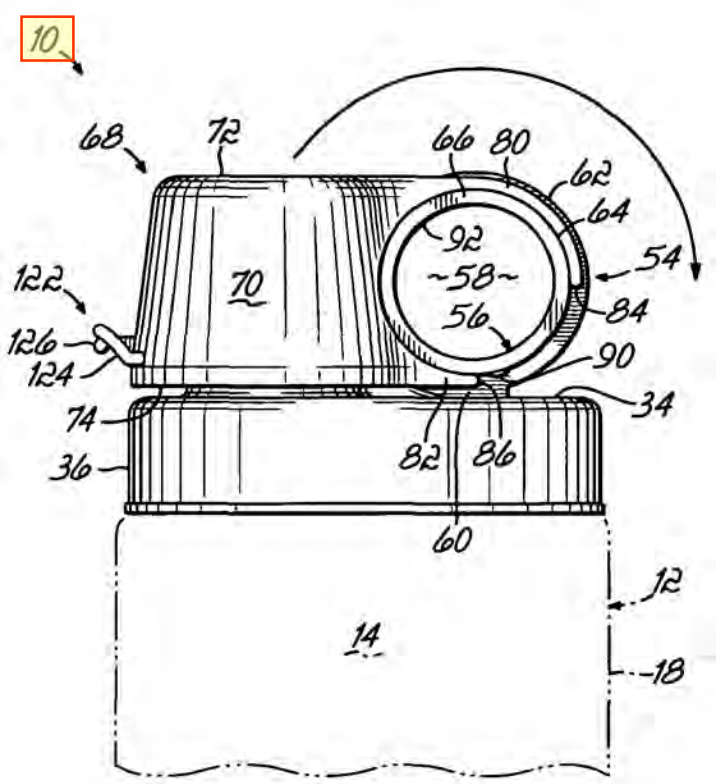


FIG. 2

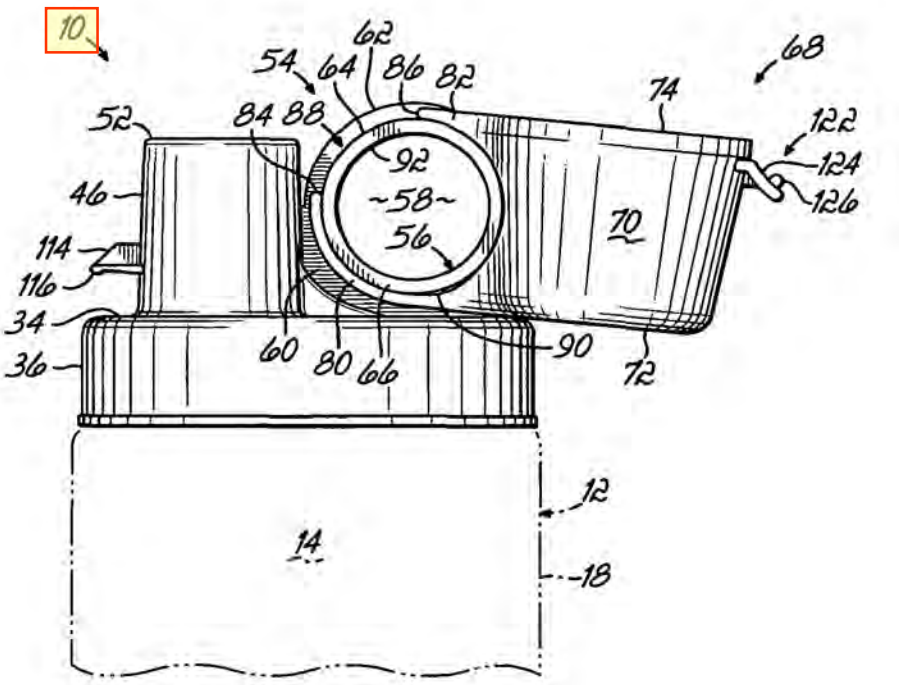


FIG. 3

(Ex. 1005, Figs. 2-3.) The closure 10 is "removably secured" to the liquid container. (Ex. 1005, 3:42-43 ("The closure 10 is configured to be removably secured to the neck 20 of the container 12.")). This is accomplished, for example, with threads 25 and 26 on the closure 10 and the container neck 20:

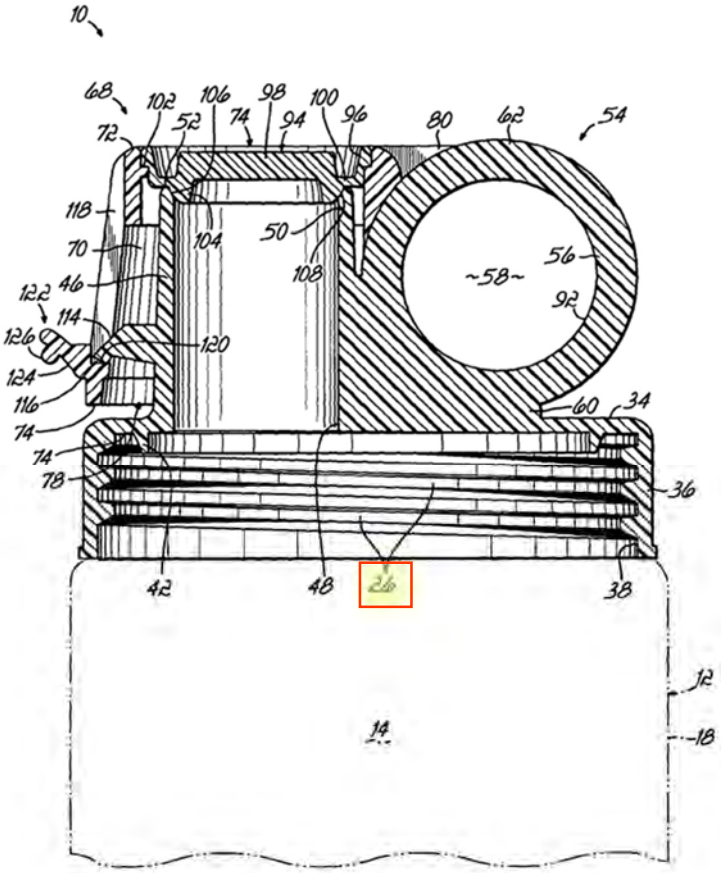


FIG. 4

(Ex. 1005, Fig. 4, 3:16-19 ("the container neck 20 has external threads 25 (FIG. 1) for engaging cooperating internal threads 26 (FIG. 4) provided on the closure 10 as will be described in detail below").).

4. 5[b][i]: "a base removably coupled to the neck of the liquid container"

163. Limitation 5[b][i] recites that the cap assembly that comprises "a base removably coupled to the neck of the liquid container." As I explain below, Leoncavallo discloses this limitation.

164. Leoncavallo discloses that the cap assembly (closure 10) includes a base (end wall 34 and annular skirt 36):

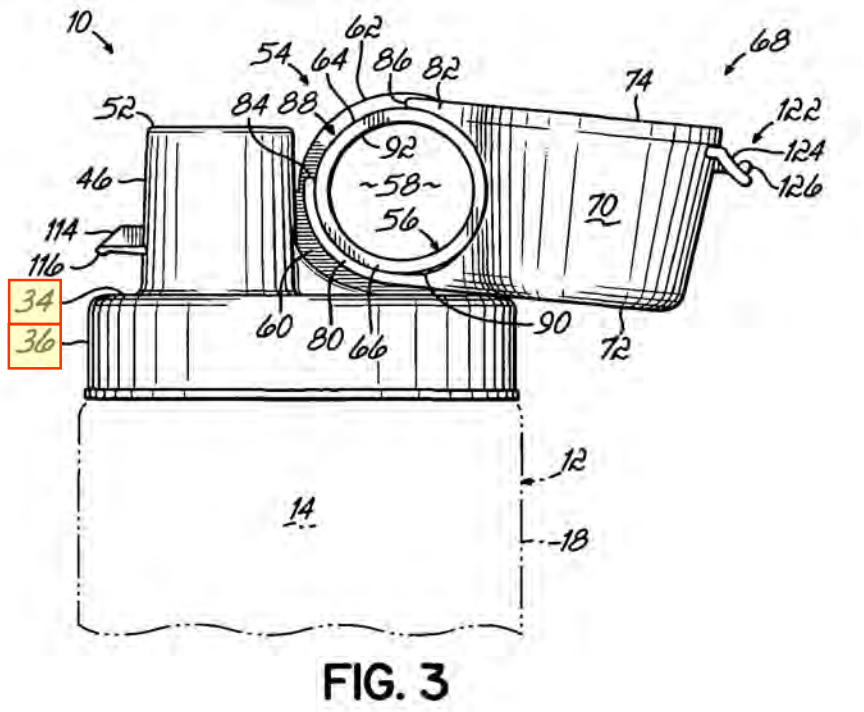


FIG. 3

(Ex. 1005, Fig. 3, 3:45-47 ("The closure 10 includes a generally circular-shaped end wall 34 and an annular skirt wall 36 depending from the end wall 34.")). As described above, Leoncavallo's base structure is removably secured to the neck of the liquid container via a threaded section on the base, specifically the skirt 36, that interacts with the container neck. (Ex. 1005, 3:16-19 ("the container neck 20 has external threads 25 (FIG. 1) for engaging cooperating internal threads 26 (FIG. 4) provided on the closure 10")); *see also* (*id*., 3:42-53 (describing threaded interior surface of annular skirt wall 36 screwing onto threaded container neck 20)).

5. 5[b][ii]: "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed"

165. Limitation 5[b][ii] recites that the cap assembly comprises "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed." As I explain below, Leoncavallo discloses this limitation.

166. Leoncavallo discloses that the cap assembly (closure 10) includes a drink spout (spout 46):

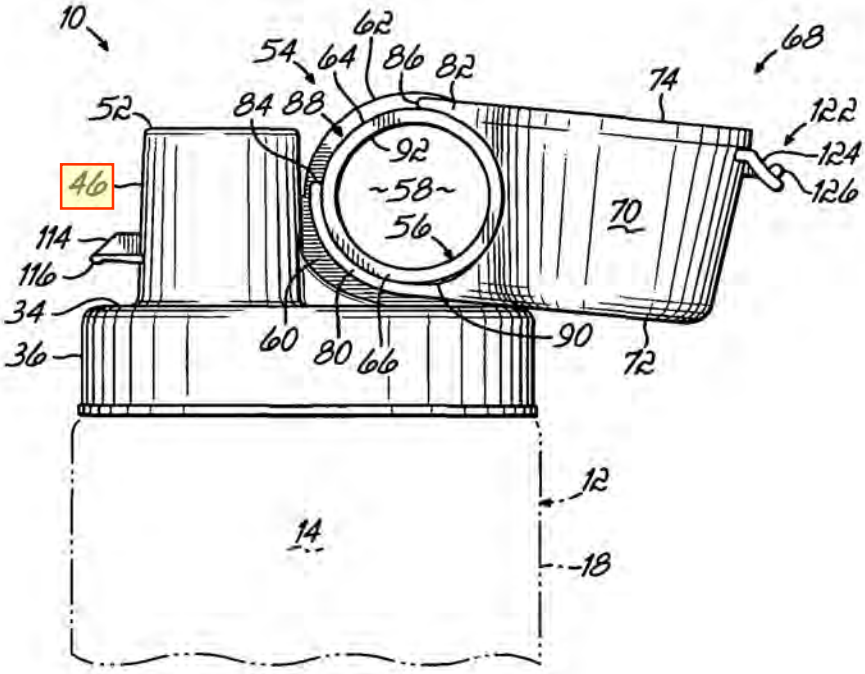


FIG. 3

(Ex. 1005, Fig. 3). The spout 46 extends from the base (i.e., end wall 34). (Ex.

1005, 3:61-63 ("[T]he closure 10 includes a generally tubular spout 46 extending upwardly from the end wall 34 of the closure 10.")). The spout 46 defines a fluid passage through which liquid from the internal compartment of the container 12 may be poured. (*Id.*, 2:4-8, 3:63-4:3 ("The spout 46 includes an inlet opening 48 provided in the end wall 34 of the closure 10 and an outlet opening 50 (FIG. 4) defined by a top edge 52 of the spout 46. The outlet opening 50 is in fluid communication with the reservoir when the closure 10 is secured to the container neck 20 so that liquid within the container 12 pours out of the spout 46 when a user tilts the container 12.")).

6. 5[b][iii]: "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout"

167. Limitation 5[b][iii] recites that the cap assembly comprises "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout." As I explain below, Leoncavallo discloses this limitation.

168. Leoncavallo discloses that the cap assembly (closure 10) includes a closure (flip cap 68):

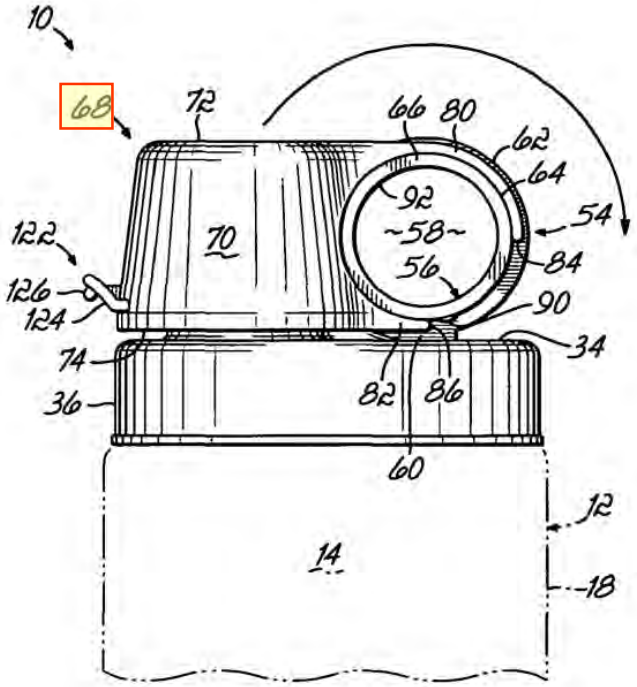

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FIG. 2

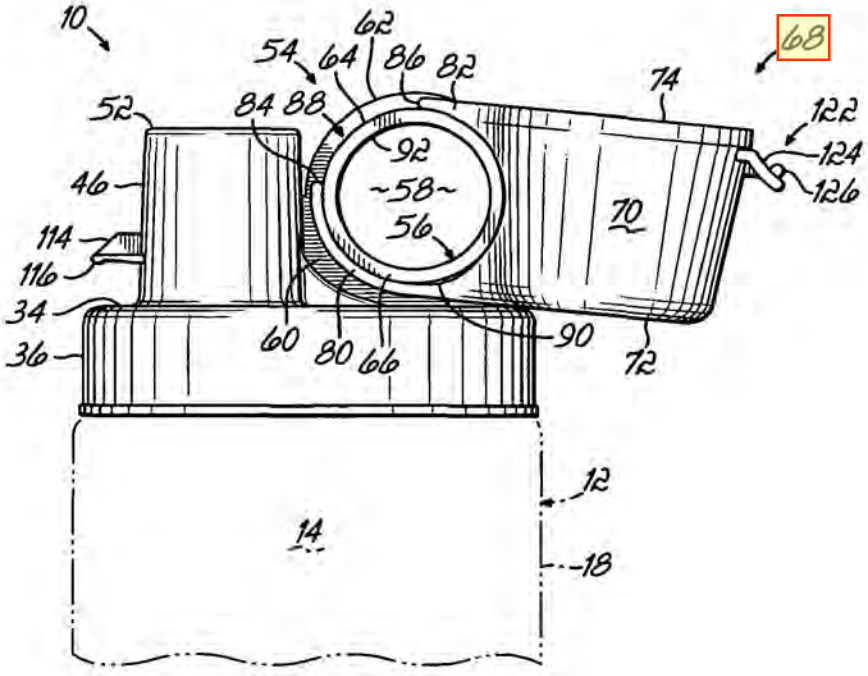

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FIG. 3

(Ex. 1005, Figs. 2-3.) Leoncavallo's flip cap 68 is configured to removably cover the drink spout 46 in a closed position. (Ex. 1005, 4:59-65 ("a flip cap 68 is provided on the closure 10 to selectively cover the spout 46 when the spout is not in use. . . . and is movable between a closed position in which the spout 46 is covered (FIGS. 1, 1B, 2 and 4) and an open position in which the spout 46 is exposed (FIGS. 1A and 3).").)

169. Leoncavallo discloses that a user flips up Leoncavallo's flip cap 68, which is secured in place with a latch, to open the spout and moves the closure back into engagement with the latch to close the spout. (Ex. 1005, 6:40-56 ("As the flip cap 68 is moved to the closed position, the chamfered surface 116 of the latch member 114 is brought into releasable locking engagement with the locking surface 120 of the flip cap 68 as shown in FIG. 4. The flip cap 68 includes a finger tab 122 for enabling a user to lift the flip cap 68 out of engagement with the latch member 114 to open the spout 46. …").) The closure is therefore configured to selectively restrict or permit dispensing of drink liquid. (*Id.*;6:7-12 ("The flip cap 68 and spout 46 are configured so that as the flip cap 68 is moved to the closed position as shown in FIGS. 1, 1B, 2 and 4, the central plug seal body 98 automatically sealingly engages with the spout 46 to prevent undesired leakage of liquid from the outlet opening 50.").)

7. 5[b][iv]: "a handle extending from the base"

170. Limitation 5[b][iv] recites that the cap assembly comprises "a handle extending from the base." As I explain below, Leoncavallo discloses this limitation.

171. Leoncavallo discloses that the cap assembly (closure 10) includes a handle (loop member 54):

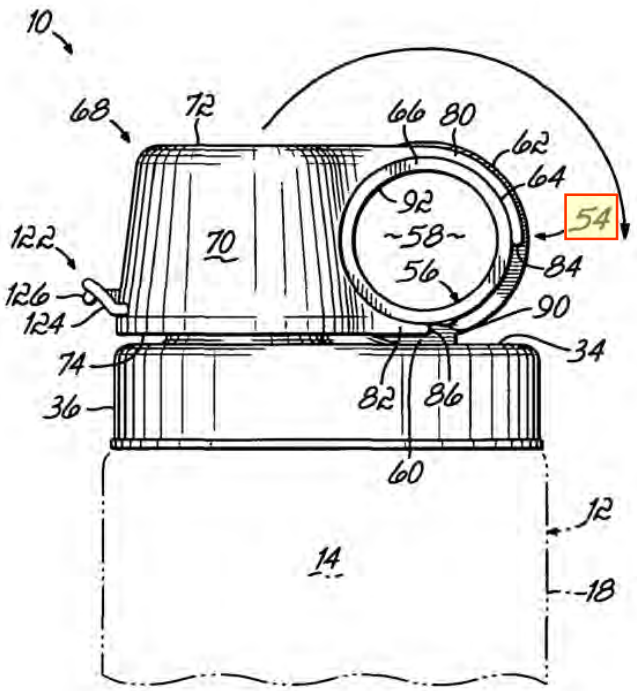


FIG. 2

(Ex. 1005, Fig. 2). One skilled in the art would understand Leoncavallo's loop member 54 to be a handle because it "may be sized to receive a user's finger or, alternatively, attachment hardware such as a clip, hook or strap (not shown) extending through the loop 54 for grasping the container 12 and/or securing the container 12 to an article of clothing or a backpack, for example." (Ex. 1005, 4:18-

41, 2:9-18.) Leoncavallo's handle extends from the base (i.e., from end wall 34). (Ex. 1005, 4:19-20 ("[T]he closure includes a loop member 54 extending upwardly from the end wall 34 of the closure 10.").)

8. 5[b][iv][a]: "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism"

172. Limitation 5[b][iv][a] recites, "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." As I explain below, Leoncavallo discloses this limitation.

173. Leoncavallo discloses that the handle (loop member 54) includes detents 90, which are a closure retention mechanism as recited in limitation 5[b][iv][a]:

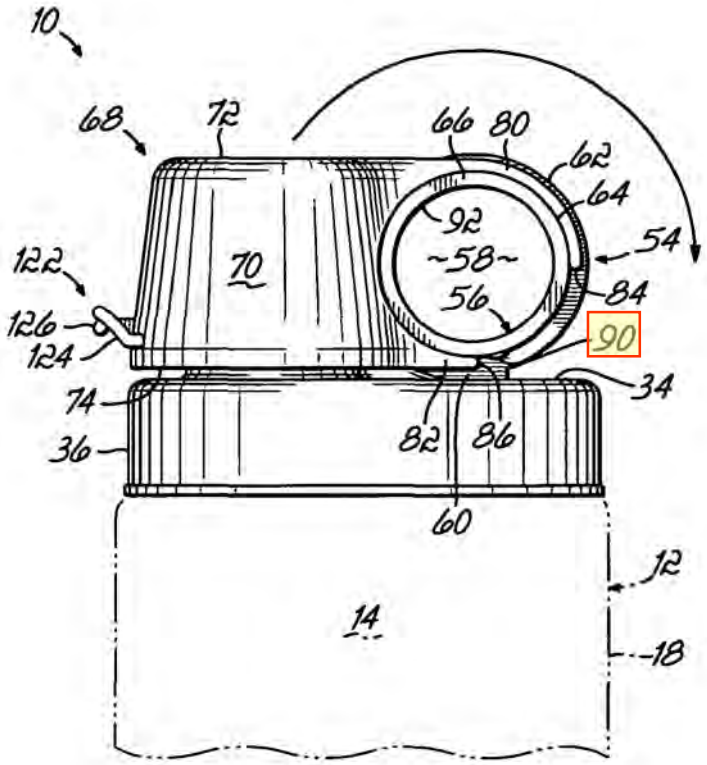

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FIG. 2

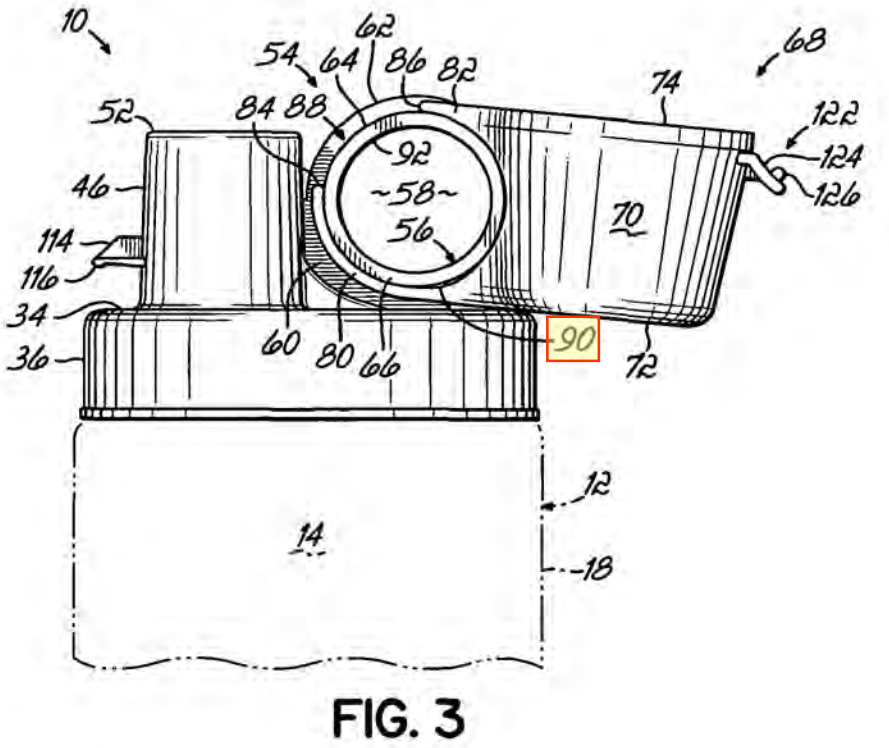


FIG. 3

(Ex. 1005, Figs. 2-3.)

174. Leoncavallo discloses that detents 90 are designed to, and do, perform the claimed function of retaining the closure (flip cap 68) in a stowed position relative to the handle (loop member 54) when the closure is removed from the drink spout:

> As shown in FIG. 2, one or more detents 90 (one shown) in the form of a rib or other suitable structure project outwardly from the outer arcuate surface 64 of the loop 54 on opposite sides of the annular rib 62. The detents 90 are configured to frictionally engage the connector member 80 as it travels about the loop 54 when the flip cap 68 is

> moved to the open position as shown in FIG. 3. The frictional engagement of the detents 90 with the connector member 80 aid in keeping the flip cap 68 in the open position when the user desires access to the spout 46.

(Ex. 1005, 5:33-42; *see also id*., Figs. 2-3, 2:21-24 ("The flip cap is supported for rotational movement on the loop and is movable between a closed position in which the spout is covered and an open position in which the spout is exposed."), 4:58-5:32 (describing the structure and rotational function of the flip cap).) In other words, Leoncavallo discloses that a user removes the closure (flip cap 68) from the drink spout and stows it relative to the handle by rotating the flip cap 68 into a position where it is retained in a stowed position relative to the handle by the frictional engagement of the connector member 80 with the detents 90.

175. Leoncavallo discloses this limitation when interpreting the "closure retention mechanism" as a means plus function limitation. One skilled in the art would have understood Leoncavallo's detents 90 to disclose, or at least disclose something equivalent to, the corresponding structure identified in the '252 patent specification (*i.e.*, the two or more spaced-apart tabs on the handle) for accomplishing the above function. *See supra* ¶¶45-50 (Claim Construction of "Closure Retention Mechanism"). Like the opposed tabs of the '252 patent, the detents 90 are projections that extend from the handle to engage the closure.

(*Compare* Ex. 1005, Figs. 2, 3 *with* Ex. 1001, Figs. 7, 12.) Also like the opposed tabs of the '252 patent, the detents 90 retain the closure (flip cap 68) in a stowed position relative to the handle via frictional engagement when the user removes the closure from the drink spout and moves flip cap 68 into the open position. (*Id.*) One skilled in the art would recognize the detents 90 of Leoncavallo perform the claimed function in the same way to achieve the same result as the as the opposed tabs of the '252 patent.

176. As explained in the preceding paragraphs, Leoncavallo discloses each element of claim 5, and thus anticipates claim 5.

177. Additionally, claim 5 would have been obvious to one skilled in the art in view of Leoncavallo. I see no difference between the disclosure of Leoncavallo and that which is recited in claim 5. However, to the extent one were to discern a difference, the claim would have been obvious to one of skill in the art in view of the information in the preceding paragraphs and the knowledge of one skilled in the art at the time of the '252 patent invention. As I have explained, the claimed invention of claim 5 is directed to a beverage container with a removable cap assembly having the conventional features of 1) a base, 2) a drink spout extending from the base, 3) a closure for closing the drink spout, and 4) a handle with a retention mechanism to stow the closure when it is removed from the spout. These

features were well known in the art as demonstrated by Leoncavallo and the other prior art beverage containers relied upon herein. To the extent one were to somehow identify a difference between the features as recited in Claim 5 and the teachings of Leoncavallo, which I do not see, it would have been within the knowledge of one skilled in the art to modify the Leoncavallo device to achieve such features because the claimed features were well known in the art and represented simple, known techniques for beverage containers having removable cap assemblies. The existence of other pieces of prior art such as Samartgis and Miller that disclose the claimed features demonstrates that these features were a well known in the art, and one skilled in the art would use these known techniques to modify Leoncavallo in the same way. Further, one skilled in the art would have a reasonable expectation of success in making these modifications based on Leoncavallo and one skilled in the art's knowledge. Accordingly, claim 5 also would have been obvious to one skilled in the art in view of Leoncavallo.

B. Claim 6 is Anticipated And/Or Obvious in View of Leoncavallo

178. Claim 6 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Leoncavallo discloses each limitation of claim 5. Claim 6 further recites, "wherein the handle defines a closed perimeter, and wherein the closure retention mechanism defines at least a portion of the closed perimeter."

(Ex. 1001, 19:1-3). As I explain below, Leoncavallo discloses this additional limitation.

179. Leoncavallo discloses that "the loop 54 is a closed loop in the form of a cylinder and has a generally circular cross-sectional shape." (Ex. 1005, 4:30-32). The figures make clear that loop 54 defines a closed perimeter, as highlighted below:

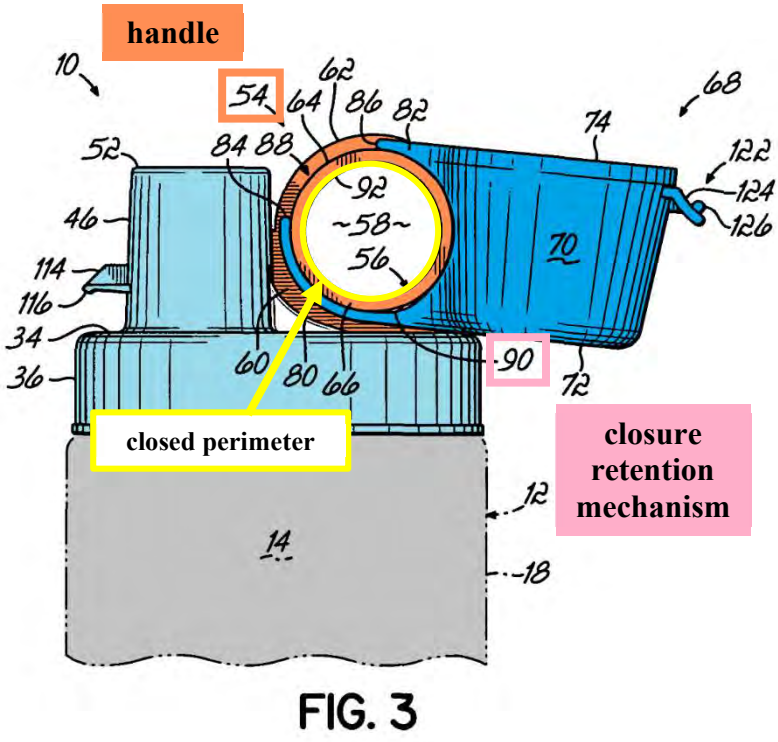


FIG. 3

(*Id.*, Fig. 3.) One skilled in the art would recognize that the detents 90 are on the outside of loop 54 and as part of the loop 54 they form part of the perimeter defined by the loop. (*Id.*)

180. Even if the detents 90 on the outside of the loop did not "define at least

a portion of the closed perimeter," Leoncavallo discloses this limitation in an alternative embodiment. In the above depicted embodiment, the connector members are located on the outside of loop 54, and therefore the detents 90 that frictionally engage the connector members to retain the cap in the open position are also on the outside of loop 54. However, Leoncavallo describes an alternative embodiment wherein the connector members are located on the inside of the loop 54. (Ex. 1005, 5:50-55 ("one or more connector members … on the flip cap 68 that engage the inner arcuate surface 92 of the loop 54. . .") One skilled in the art would have understood that the detents 90 would likewise be located on the inside of loop 54 in order to frictionally engage the connector members to retain the cap in the open position in this alternative embodiment. Leoncavallo therefore teaches locating the detents 90 on the inner surface of loop 54, where the connector members are located, in this alternative embodiment. (*Id.*) These detents on the inner surface of loop 54 would define at least a portion of the closed perimeter formed by loop 54 if one were to consider only the inner surface of the loop as defining the closed perimeter. (*Id.*)

181. Even if Leoncavallo did not disclose including detents on the inner surface of loop 54 in the alternative embodiment, one skilled in the art would have been motivated to modify Leoncavallo's alternative embodiment to include detents on the inner surface of the loop, and would have had a reasonable expectation of

success in doing so, for several reasons:

182. First, Leoncavallo suggests the modification and leads one skilled in the art to reasonably expect success because Leoncavallo discloses detents as a suitable structure for frictionally engaging the connector members to retain the cap in the open position. (Ex. 1005, 5:33-42). One skilled in the art would have expected the detents to be equally successful at retaining the cap in the open position when placed outside or inside loop 54, so long as the detents were placed in a location that would frictionally engage the connector members when the cap was rotated open.

183. Second, providing detents on the inside surface of the loop is a simple addition of one known element (detents 90) to another known element (the inside of Leoncavallo's loop 54) to obtain predictable results (frictional engagement between the connector members and detents to the cap in the open position).

184. Third, providing detents on the inside surface of the loop represents the use of a known technique (using detents to frictionally engage the connector members) to improve a similar device (Leoncavallo's alternative embodiment with the connector members located inside the loop) in the same way as using detents on the outside of the loop to frictionally engage connector members positioned on the outside of the loop.

185. Fourth, providing detents on the inside surface of the loop applies a

known technique (using detents to frictionally engage a cap to retain the cap in the open position) to a known device (Leoncavallo's alternative embodiment) that is ready for improvement and yields predictable results (a closure as in Leoncavallo's alternative embodiment with detents on the inside of the loop for retaining the cap in the open position).

186. Therefore, because Leoncavallo discloses, or at least suggests, the additional limitation of claim 6, it anticipates claim 6. Claim 6 also would have been obvious to one skilled in the art in view of Leoncavallo.

C. Claim 7 is Anticipated And/Or Obvious in View of Leoncavallo

187. Claim 7 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Leoncavallo discloses each limitation of claim 5. Claim 7 further recites, "wherein the handle defines a closed perimeter, and wherein in the stowed position, the closure is positioned at least partially within the closed perimeter." As I explain below, Leoncavallo discloses this additional limitation.

188. Leoncavallo's "loop 54 is a closed loop in the form of a cylinder and has a generally circular cross-sectional shape." (Ex. 1005, 4:30-32). As previously discussed, Leoncavallo's loop 54 defines a closed perimeter when the flip cap 68 is in the stowed position, as depicted below:

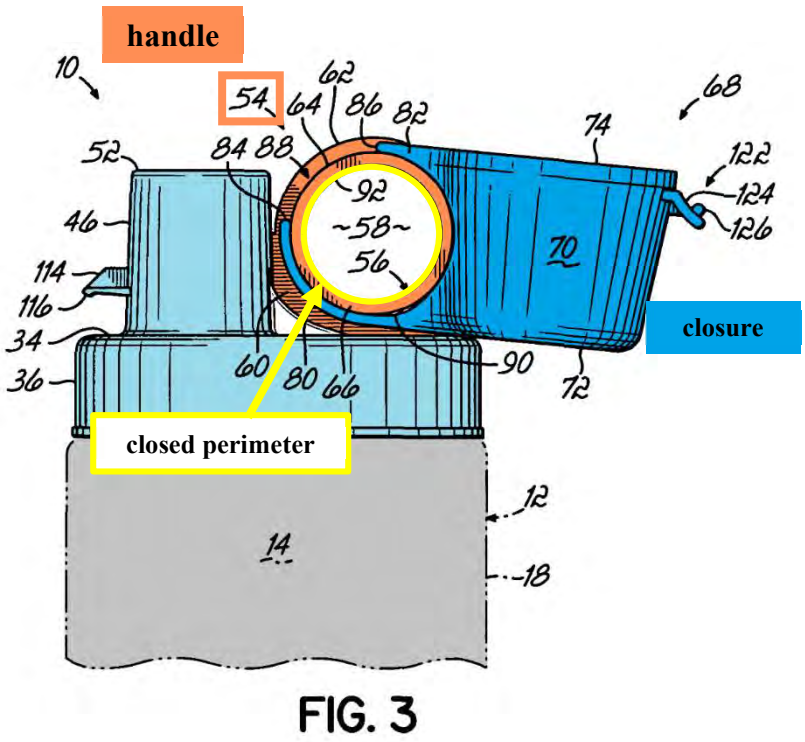


FIG. 3

(Ex. 1005, Fig. 3.).

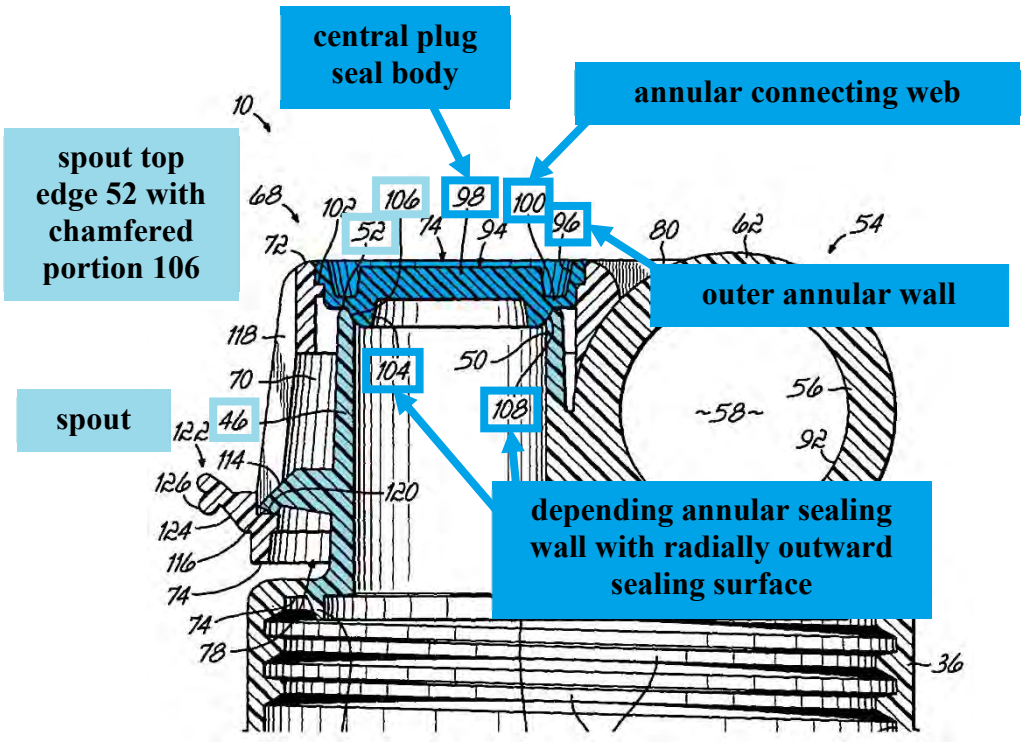
189. As discussed above in connection with claim 6, Leoncavallo discloses an alternative embodiment in which the connector members are located on the inner surface of the loop rather than the outer surface. In that embodiment, the closure (flip cap 68, and specifically the connector members on flip cap 68) is positioned at least partially within the closed perimeter. (Exhibit 1005, 5:50-59).

190. Therefore, because Leoncavallo discloses, or at least suggests, the additional limitation of claim 7, it anticipates claim 7. Claim 7 also would have been obvious to one skilled in the art in view of Leoncavallo, in light of the above.

D. Claim 16 is Anticipated And/Or Obvious in View of Leoncavallo

191. Claim 16 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Leoncavallo discloses each limitation of claim 5. Claim 16 further recites, "wherein the drink spout includes an internal coupling structure, wherein the closure includes a plug structure that is configured to extend within the passage when the closure is in the closed position, and wherein the plug structure includes an external coupling structure that is configured to operatively mate with the internal coupling structure of the drink spout when the closure is in the closed position." As I explain below, Leoncavallo discloses this additional limitation.

192. Leoncavallo's disclosed closure (flip cap 68) includes "a plug seal 94." The plug seal extends into, and seals against, the inside of the spout when the container is closed. (Ex. 1005, 5:60-6:12.) Features of the plug seal and spout are highlighted below:



(Ex. 1005, Fig. 4.) Leoncavallo describes the engagement of the plug seal and spout as follows:

> The top edge 52 of the spout 46 may have a chamfered portion 106 that sealingly engages with a radially outward sealing surface 108 of the annular sealing wall 104. The flip cap 68 and spout 46 are configured so that as the flip cap 68 is moved to the closed position as shown in FIGS. 1, 1B, 2 and 4, the central plug seal body 98 automatically sealingly engages with the spout 46 to prevent undesired leakage of liquid from the outlet opening 50.

(Ex. 1005, 6:4-12.). Thus, Leoncavallo discloses a spout that includes an internal

coupling structure (chamfered portion 106), which mates with an external coupling structure of a plug seal closure (radially outward sealing surface 108 of the annular sealing wall 104) when the closure is in the closed position. (Ex. 1005, 5:60-6:12).

193. Therefore, because Leoncavallo discloses the additional limitation of claim 16, it anticipates claim 16. Claim 16 also would have been obvious to one skilled in the art in view of Leoncavallo, in light of the above.

E. Claim 19 is Anticipated And/Or Obvious in View of Leoncavallo

194. As discussed above, independent claim 19 recites the same limitations as claim 5. I provide below cross-references to my discussion of the corresponding limitations of claim 5.

195. Claim 19[preamble] recites "[a] cap assembly for use with a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid, the cap assembly." Claim 5[a] and [b] recite "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid" and "a cap assembly removably coupled to the liquid container," respectively. Thus, Leoncavallo discloses the limitations of claim 19[preamble] for the same reasons Leoncavallo discloses the limitations of claim 5[a] and [b].

196. Claim 19[a] recites "a drink spout extending from the base and defining

a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed when the cap assembly is operatively coupled to the liquid container[.]" Claim 5[b][i] recites "a base removably coupled to the neck of the liquid container[.]" Thus, Leoncavallo discloses the limitations of claim 19[a] for the same reasons Leoncavallo discloses the limitations of claim 5[b][i].

197. Claim 19[b] recites "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed when the cap assembly is operatively coupled to the liquid container." Claim 5[b][ii] recites "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed." Thus, Leoncavallo discloses the limitations of claim 19[b] for the same reasons Leoncavallo discloses the limitations of claim 5[b][ii].

198. Claim 19[c] recites "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of liquid through the passage and to selectively permit dispensing of liquid through the passage when removed from the drink spout." Claim 5[b][iii] recites "a closure configured to be removably coupled relative to the drink spout in a closed position

to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout." Thus, Leoncavallo discloses the limitations of claim 19[c] for the same reasons Leoncavallo discloses the limitations of claim 5[b][iii].

199. Claim 19[d] recites " a handle extending from the base[.]" Claim 5[b][iv] recites "a handle extending from the base[.]" Thus, Leoncavallo discloses the limitations of claim 19[d] for the same reasons Leoncavallo discloses the limitations of claim 5[b][iv].

200. Claim 19[d][i] recites "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." Claim 5[b][iv][a] recites "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." Thus, Leoncavallo discloses the limitations of claim 19[d][i] for the same reasons Leoncavallo discloses the limitations of claim 5[b][iv][a].

201. Claim 19 is anticipated and/or obvious for the reasons I describe above for claim 5.

VII. GROUND 4: CLAIMS 17 AND 18 WOULD HAVE BEEN OBVIOUS OVER LEONCAVALLO IN VIEW OF GORSKEY AND/OR JOHNSON.

202. Claims 17 and 18 each depend from claim 5 (claim 18 depends from claim 17, which in turn depends from claim 5). These claims recite features of the drink spout/closure engagement. In particular, the claims recite an engagement where the upper lip of the spout does not engage the closure (claim 17) and the closure and spout define a void above the upper lip of the spout (claim 18). Although Leoncavallo discloses a seal that engages the top lip of the spout, the features recited in claims 17 and 18 were conventional by the 2013 priority date of the '252 patent. Claims 17 and 18 therefore would have been obvious in view Leoncovallo and these known spout/closure engagements.

203. One skilled in the art would understand that, in a conventional spout/closure engagement, there would be three locations for creating a seal: (1) the spout's outer surface, (2) the spout's upper lip, or (3) the spout's inner surface. One skilled in the art would have knowledge of all three options at the time of the '252 patent invention. Any of the three options would have been obvious, given this limited number of options. And providing a sealing engagement on the inside surface of the spout was particularly common and well known, e.g. using a plug to seal a test tube. I addressed two examples of such plug seal/spout arrangements in paragraphs 130-54 above, namely Gorskey (Ex. 1011) and Johnson (Ex. 1012).

Each of these include the features recited in claims 17 and 18.

204. One skilled in the art would have understood that various spout sealing mechanisms could be used with the container of Leoncavallo, including the plug/spout sealing mechanisms of Gorskey (Ex. 1011) and/or Johnson (Ex. 1012). One skilled in the art would have been motivated to make this substitution for several reasons. Adopting the plug/spout configuration of Gorskey and/or Johnson would result in a more secure, robust defense against inadvertent spills or leaking. In Gorskey the lid includes a locking groove on its outer surface to engage a complementary locking ridge on the inner surface of the collar, making the seal more secure than surface contact alone. In adopting the plug/spout configuration of Gorskey, a POSITA would have been motivated to maintain the air gap, or void, above the upper lip of the spout to ensure sufficient room to adjust the lid up or down to properly seat the locking groove into the locking ridge. In Johnson, the plug seals the spout on both the inside and outside. This double seal would provide a backup in the event of failure to either the internal or external seal. In adopting the plug/spout configuration of Johnson a POSITA would have been motivated to maintain the air gap, or void, above the upper lip of the spout to reduce vacuum locking between the plug and spout in the double-sealed arrangement.

205. The combination represents nothing more than the simple substitution

of one known element (the plug/spout seal of Gorskey and/or Johnson) for another known element (Leoncavallo's plug/spout seal) to obtain predictable results.

206. The combination also represents the use of a known technique (the plug/spout seal of Gorskey and/or Johnson) to modify or improve a similar device (namely Leoncavallo's container, which also used a plug to seal the spout of a container).

207. Moreover, using external coupling structures on a plug to cooperatively mate with internal coupling structures on a spout to seal the spout was well known, which would lead one skilled in the art to reasonably expect success in the combination.

208. Finally, the combination applies a known technique (using the Gorskey and/or Johnson plug/spout seal) to a known device (Leoncavallo's closure for a liquid container, which also used a plug seal and spout) that is ready for improvement (such as by including a more robust seal using both inner AND outer sealing surfaces, and a gap above the upper lip to reduce vacuum locking) and yields predictable results, namely a sealed closure for the Leoncavallo spout.

209. I explained above in paragraphs 149-154 how Gorskey and Johnson each disclose the additional limitations of claim 17 and 18. Accordingly, these claims would have been obvious to one skilled in the art, in view of Leoncavallo in

combination with Gorskey and/or Johnson

VIII. GROUND 5: CLAIMS 5-7 AND 16, 19 WOULD HAVE BEEN OBVIOUS OVER MILLER IN VIEW LEONCAVALLO.

210. As I explain below, Miller discloses and/or suggests, alone or in view of Leoncavallo, each element of claims 5-7, 16, and 19. Accordingly, in my opinion, claims 5-7, 16 and 19 would have been obvious in view of Miller, either alone or in combination with Leoncavallo.

A. Claim 5

211. Below, I address how Claim 5 would have been obvious over Miller, either alone or in view of Leoncavallo.

1. Preamble: "A drink container"

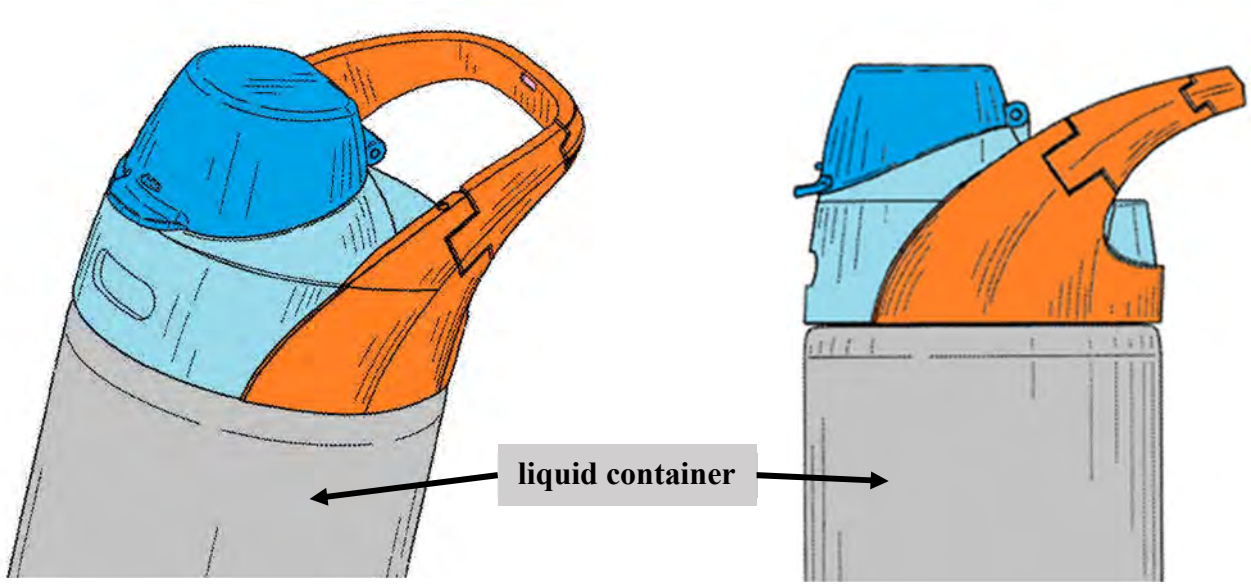
212. The preamble recites a "drink container." I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the claim 5 preamble is limiting. Regardless, Miller discloses a drink container. Miller is titled "Beverage Container," which one skilled in the art would understand to be a different term for "drink container." (Ex. 1006, Title.)

2. 5[a]: "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid"

213. Limitation 5[a] recites, "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink

liquid[.]" As I explain below, Miller discloses, or at least suggests, this limitation. To the extent it did not, however, it would have been obvious to incorporate into Miller this conventional feature in view of Leoncavallo.

214. One skilled in the art would have understood that a beverage container necessarily includes a liquid container with an internal compartment sized to hold a volume of a beverage.



(Ex. 1006, Figs. 1, 5.) As I discussed above, one skilled in the art would have understood from the shape of the depicted beverage container that it is made of a removable cap assembly connected to the liquid container, and therefore that the liquid container would have a neck with an opening to allow fluid to flow from the internal compartment into the cap assembly for dispensing to the user. Indeed, beverage containers with the claimed liquid container as recited in limitation 5[a]

were conventional at the time of the invention. *See, e.g.*, Ex. 1004, 1005, and 1007.

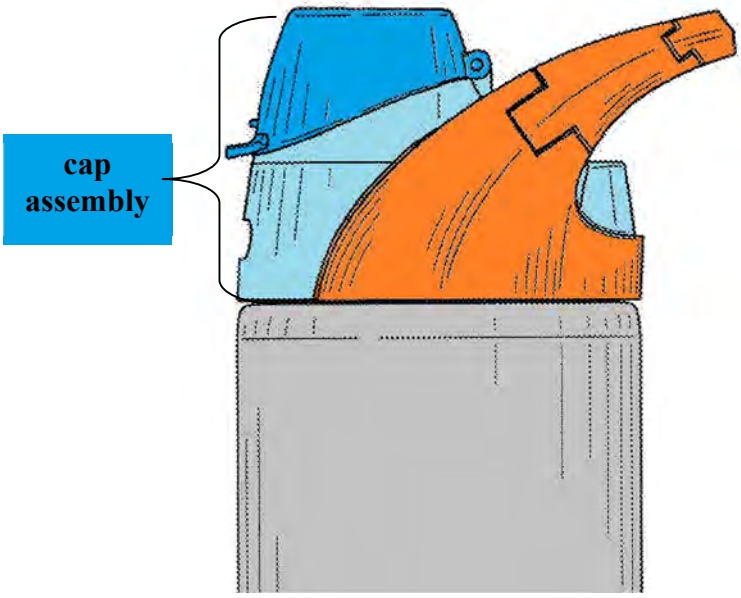
215. To the extent Miller alone does not disclose or suggest this limitation, it would have been obvious to one skilled in the art to modify Miller to include the claimed liquid container having a neck and an opening in view of Leoncavallo. This would have been well known to one skilled in art based upon conventional beverage containers such as discussed herein. (*See, e.g.*, Ex. 1004, 1005, and 1007). Drink containers utilizing a liquid container with a neck and an internal compartment sized to hold a volume of potable drink liquid were (and are) preferred in the art, in part because they allow for easier filling, emptying, and cleaning of the drink container by permitting access to the interior of the liquid container via a larger neck opening than a conventional drinking spout. These are preferable because the neck is often configured to receive a removably coupled cap assembly. This is and was preferred in the art because of a variety of advantages to both the maker and user. Manufacturing costs and techniques are considerably simplified by manufacturing cap assemblies that can be removably coupled to the neck of a drink container. Such an assembly allows sellers and/or users of reusable bottles to mix and match different sized, shaped, colored, and designed liquid containers and/or cap assemblies to one another as long as they can be coupled together. It also allows easier and more thorough cleaning of the cap assembly by permitting access to the underside of the

cap assembly when it is uncoupled from the neck of the liquid container. To the extent one skilled in the art would not recognize features such as the liquid container with a neck portion and opening from the figures of Miller, it would have been obvious to incorporate such conventional features of Leoncavallo where a particular feature was not depicted in the drawings of Miller.

3. 5[b]: "a cap assembly removably coupled to the liquid container"

216. Limitation 5[b] recites, "a cap assembly removably coupled to the liquid container[.]" As I explain below, Miller discloses, or at least suggests, this limitation. To the extent it did not, however, it would have been obvious to incorporate into Miller this conventional feature in view of Leoncavallo.

217. As I discussed above, one skilled in the art would have understood from the shape of the depicted beverage container that the disclosed beverage container includes a removable cap assembly. This is apparent from the way the Miller figures depict the cap assembly engaging the liquid container of the beverage container.



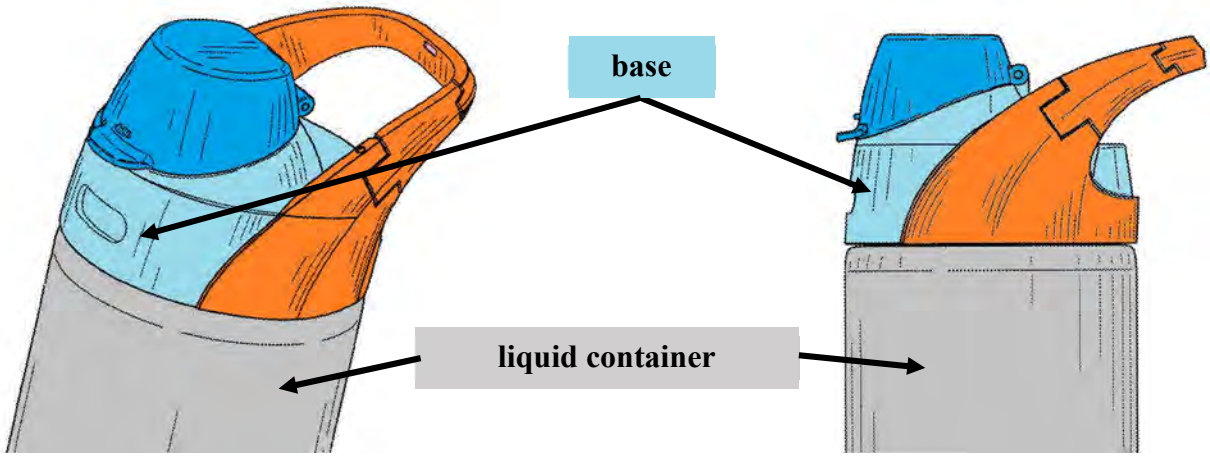
(Ex. 1006, Figs. 1, 5.) Moreover, beverage containers with a removable cap assembly were conventional at the time of the invention. *See, e.g.*, Ex. 1004, 1005, and 1007.

218. To the extent Miller alone does not disclose or suggest this limitation, it would have been obvious to one skilled in the art to incorporate this conventional feature of limitation 5[b] in Miller in view of Leoncavallo. As described above in paragraph 215, drink containers with cap assemblies that are removably coupled to necks of liquid containers were (and are) preferred in the art because of a variety of advantages to both the maker and user.

4. 5[b][i]: "a base removably coupled to the neck of the liquid container"

219. Limitation 5[b][i] recites that the cap assembly comprises "a base removably coupled to the neck of the liquid container." As I explain below, Miller discloses, or at least suggests, this limitation. To the extent it did not, however, it would have been obvious to incorporate into Miller this conventional feature in view of Leoncavallo.

220. One skilled in the art would have understood that any removable cap assembly would require a base for removably attaching the cap to the liquid container. One skilled in the art would have recognized from the figures that Miller's cap assembly includes the claimed base removably coupled to the neck of the liquid container, given the clear demarcation between the cap assembly and liquid container.



(Ex. 1006, Figs. 1, 5.) Moreover, cap assemblies with the claimed removable base

were conventional at the time of the invention. *See, e.g.*, Ex. 1004, 1005, and 1007.

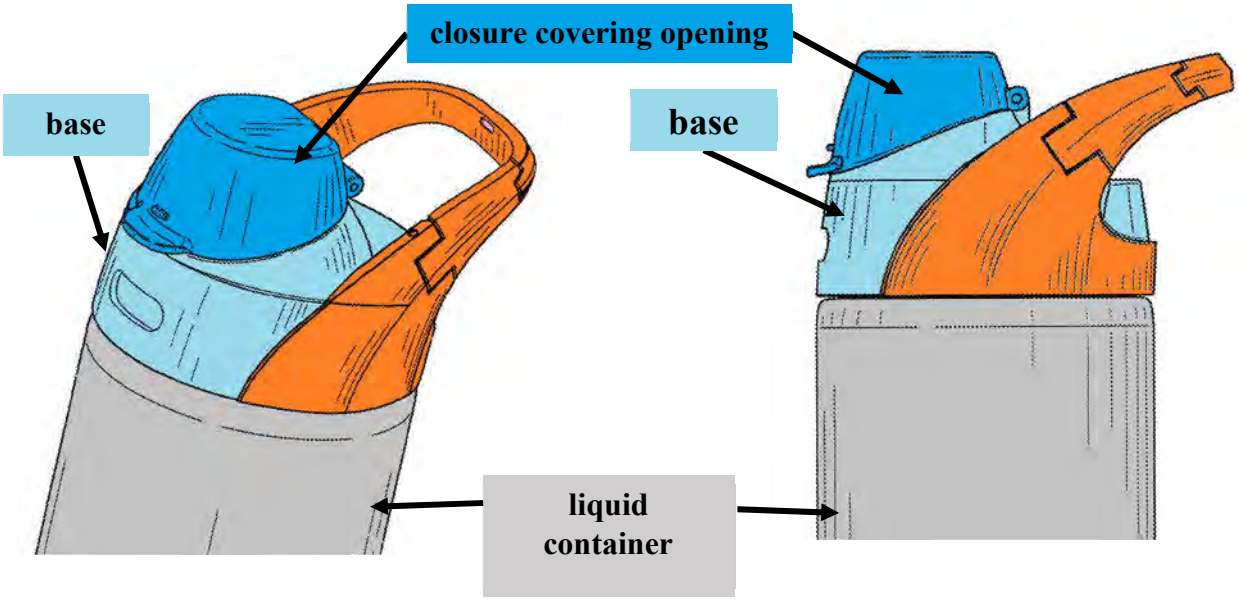
221. To the extent Miller alone does not disclose or suggest this limitation, it would have been obvious to one skilled in the art modify Miller to include the claimed limitation in view of Leoncavallo. As described above in paragraph 215, drink containers with cap assemblies that are removably coupled to necks of liquid containers were (and are) preferred in the art because of a variety of advantages to both the maker and user. This is most easily accomplished by a base part of the cap assembly being removably coupleable to the neck of the liquid container.

5. 5[b][ii]: "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed"

222. Limitation 5[b][ii] recites that the cap assembly comprises "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed." As I explain below, Miller discloses, or at least suggests, this limitation. To the extent it did not, however, it would have been obvious to incorporate into Miller this conventional feature in view of Leoncavallo.

223. One skilled in the art would have understood that any cap assembly would necessarily include an opening forming a passageway for dispensing the beverage. One skilled in the art would have recognized from the figures that Miller's

beverage container would include a passageway covered by the depicted closure.



(Ex. 1006, Figs. 1, 5.) The shape of the closure would have communicated to one skilled in the art that Miller includes a spout. Cap assemblies with a flip open closure (like the one depicted in Miller) to cover a spout were conventional at the time of the invention. *See, e.g.*, Ex. 1004, 1005, and 1007.

224. To the extent Miller alone does not disclose or suggest this limitation, it would have been obvious to one skilled in the art to modify Miller to include a drink spout extending from the base and defining a passage through which beverage could be dispensed in view of Leoncavallo. This would have been well known to one skilled in art based upon conventional beverage containers such as discussed herein. (*See, e.g.*, Ex. 1004, 1005, and 1007). To the extent one skilled in the art

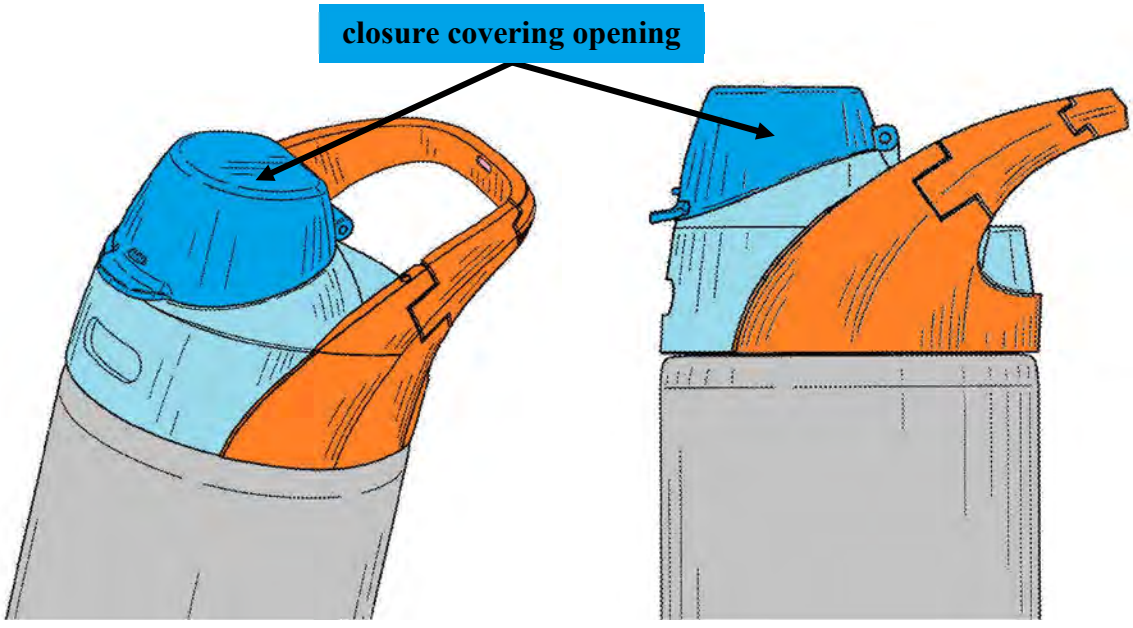
would not recognize features such as the drink spout extending from the base with a passage for dispensing the beverage from the figures of Miller, it would have been obvious to incorporate such conventional features of Leoncavallo where a particular feature was not depicted in the drawing. It would have been natural for one skilled in the art to do so where a particular, necessary feature of a beverage container was not depicted in the drawings of Miller. Such an extending spout configured to be covered by a removable closure and selectively dispense liquid was known to impart a number of advantages, including allowing a user to wrap their lips around the opening to create suction, a better seal, or an interface less likely to spill when drinking, to permit structure for the attachment of an interior (or exterior) straw, to allow for easy cleaning of the mouth interface, and to allow for a mouth interface that can be easily enclosed by a closure, which may have included a seal, to protect from accidental spillage and block contaminants.

6. 5[b][iii]: "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout."

225. Limitation 5[b][iii] recites that the cap assembly comprises "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to

selectively permit dispensing of drink liquid through the passage when removed from the drink spout." As I explain below, Miller discloses, or at least suggests, this limitation. To the extent it did not, however, it would have been obvious to incorporate into Miller this conventional feature in view of Leoncavallo.

226. One skilled in the art would have understood that any cap assembly including a spout would necessarily need a closure that is removably coupled relative to the spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout. One skilled in the art would recognize this as necessary to allow the user to close the spout and prevent spills or leakage when not in use. One skilled in the art would have recognized from the figures that Miller's beverage container includes the claimed closure:



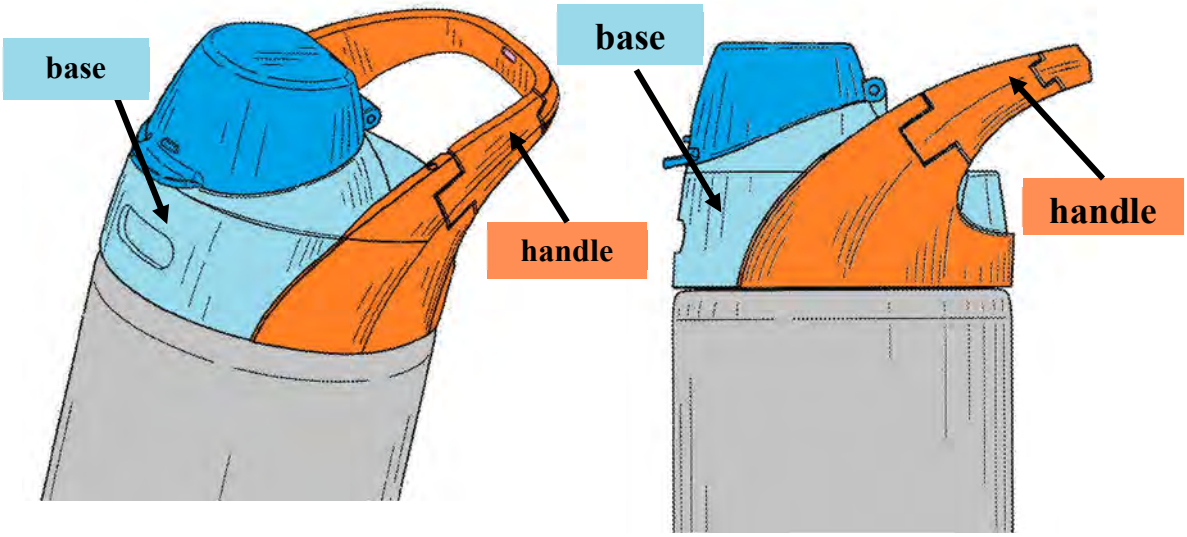
(Ex. 1006, Figs. 1, 5.). One skilled in the art would have understood the depicted closure to be pivotally connected to the base, to flip open to expose a passageway for drinking. Cap assemblies with a pivotally connected closure were conventional at the time of the invention. *See, e.g.*, Ex. 1004, 1005, 1007, 1011, 1012.

227. To the extent Miller alone does not disclose or suggest this limitation, it would have been obvious to one skilled in the art to modify Miller to include a closure configured to be removably coupled to a drink spout to open/close the spout in view of Leoncavallo. This would have been well known to one skilled in art based upon conventional beverage containers such as discussed herein. (See, e.g., Ex. 1004, 1005, and 1007). To the extent one skilled in the art would not recognize features such as a closure configured to be removably coupled to a drink spout from the figures of Miller, it would have been obvious to incorporate such conventional features of Leoncavallo where a particular feature was not depicted in the drawing. It would have been natural for one skilled in the art to do so where a particular, necessary feature of a beverage container was not depicted in the drawings of Miller. This is true including for the reasons mentioned in paragraph 224 above.

7. 5[b][iv]: "a handle extending from the base"

228. Limitation 5[b][iv] recites that the cap assembly comprises "a handle extending from the base." Miller plainly discloses this limitation as highlighted

below.



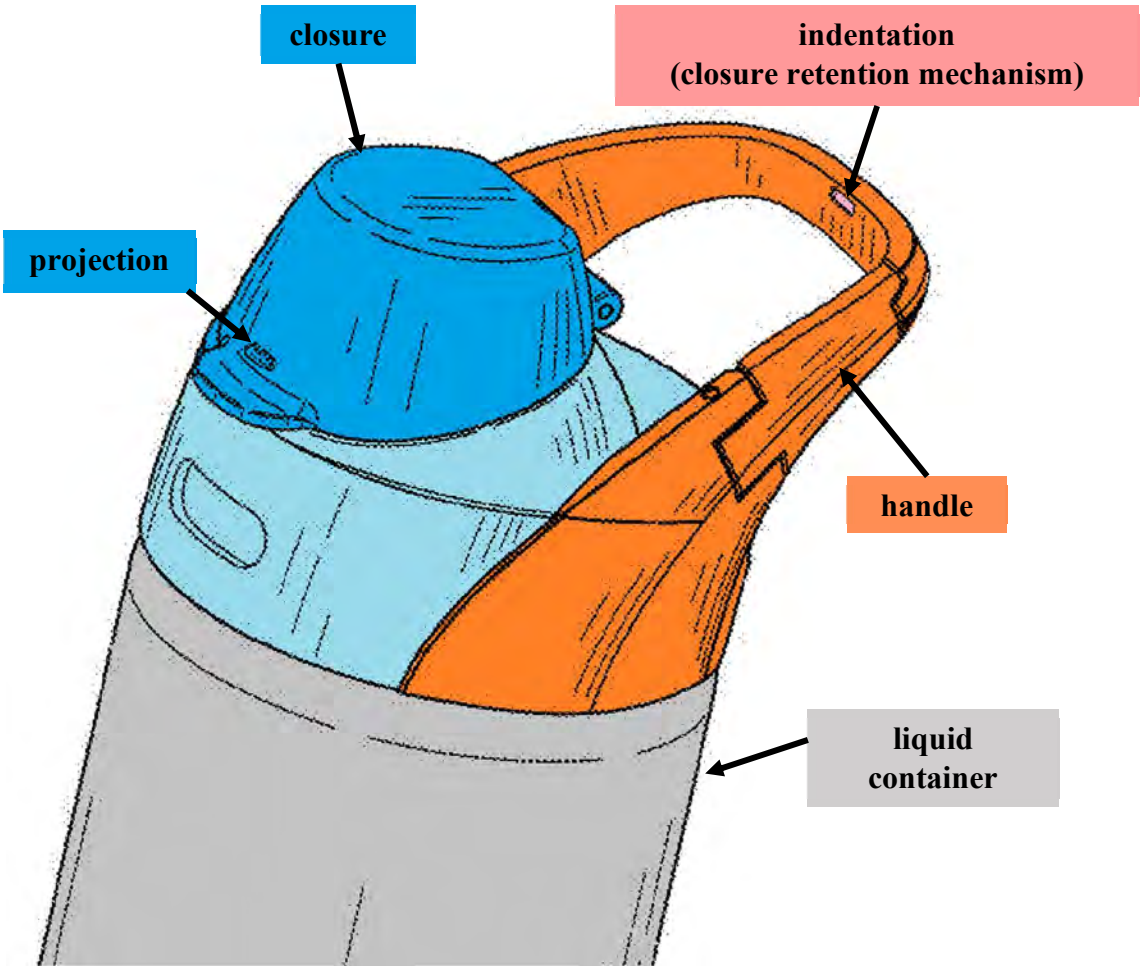
(Ex. 1006, Figs. 1, 5.)

8. 5[b][iv][a]: "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism"

229. Limitation 5[b][iv][a] recites, "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." As I explain below, Miller discloses, or at least suggests, this limitation.

230. One skilled in the art would have recognized from the figures that Miller's beverage container handle includes a closure retention mechanism

configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism. The closure and closure retention mechanism are identified below.

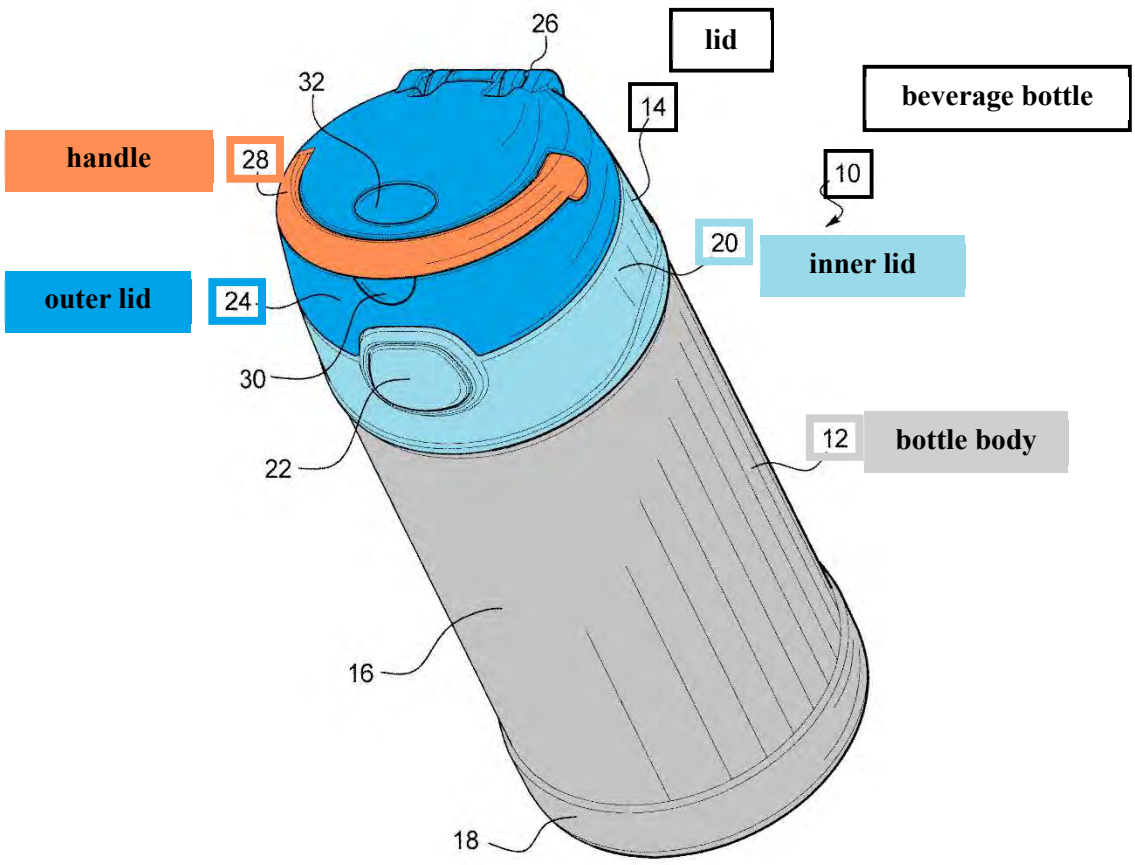


(Ex. 1006, Fig. 1) As shown above, the cap assembly of Miller's beverage container has a pivotal closure with a projection. It also includes a handle with an indentation. One skilled in the art would have understood that the projection on the closure is sized and positioned to align with the indentation on the inside of the handle when

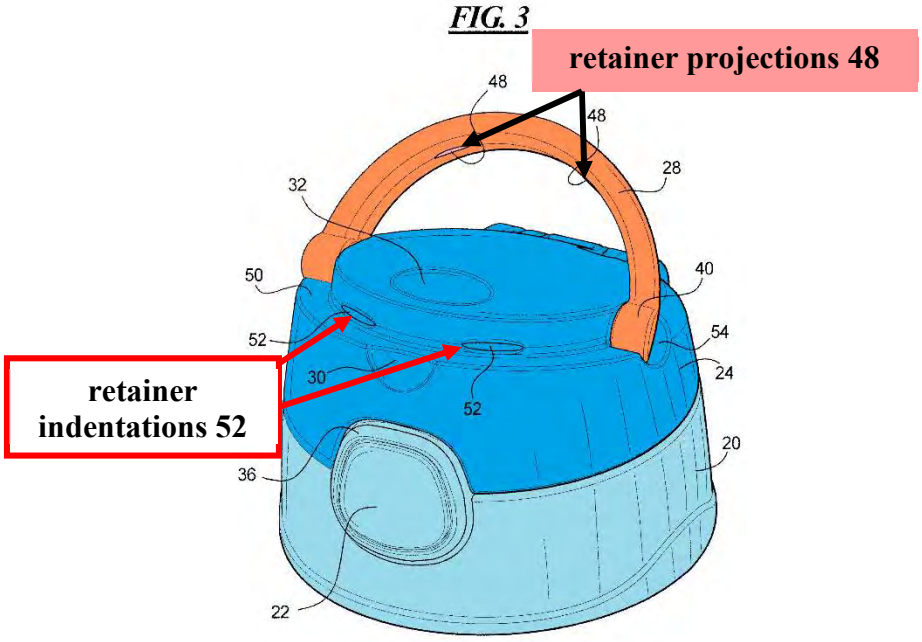
the pivotal closure on the beverage container is opened. Specifically, the projection would snap into the indentation to retain the closure in the open position.

231. Additionally, one skilled in the art would have recognized that using cooperating projections and indentations on a closure and handle to removably connect the two together was conventional at the time of the invention. This background knowledge and common sense is reflected, for example, in Lane (Ex. 1007), which discloses a drink bottle with a removable cap assembly or lid. The lid includes (1) an inner lid, (2) an outer lid or cover pivotably mounted on the inner lid, and (3) a handle on the outer lid. (Ex. 1007, Abstract).

FIG. 1



(Ex. 1007, Fig. 1.) The handle 28 extends from the outer lid 24, and is movable from a stowed position (*e.g.*, Fig. 1, above) to a deployed position (*e.g.*, Fig. 3, below). (Ex. 1007, 3:26-43.)



(Ex. 1007, Fig. 3.) The inner surface of handle 28 includes two retainer projections 48 that extend inwardly. (Ex. 1007, 3:30-43). The outer lid 24 includes a recess channel 50 with two retainer indentations 52 for receiving handle 28 when in the stowed position, as shown in Figure 1. The handle 28 snaps into the stowed position in the recess channel 50 and is held in place by the retainer projections 48 and retainer indentations 52 (*Id.*).

232. With respect to the "closure retention mechanism" element of claim 5, Miller's indentation is designed to, and does, perform the claimed function of retaining the closure in the stowed position relative to the handle when the closure is removed from the spout. One skilled in the art would understand from Miller's disclosures that a user removes the closure from the spout by rotating it about its

hinge and the projection on the pivotal closure would snap into the indentation on the handle—thus, retaining the closure in a stowed position relative to the handle.

233. Miller's indentation is also equivalent to the corresponding structure of the '252 patent for performing the claimed function of limitation 5[b][iv][a]. In particular, the indentation performs the claimed function in substantially the same way to achieve substantially the same result as the opposed tabs of the '252 patent. Like the opposed tabs of the '252 patent, the indentation provides an engagement feature on the inside surface of the handle to engage the closure when it is in the open configuration. Whereas the opposed tabs of the '252 patent project out from the handle, using an indent on the handle to receive a corresponding projection on the closure is plainly equivalent. The '252 patent describes that some embodiments of the closure retention mechanism can be configured to retain the closure "in a snap-fit arrangement" (Ex. 1001, 8:49-52) and also describes that the closure can include a corresponding structure to engage the closure retention mechanism:

> [C]losure 20 optionally may define corresponding structure 58 that is configured to … cooperate with the optional tabs 56 or other closure retention structure 55. … [S]uch corresponding structure 58 may include one or more of a depression, a channel, and/or a concave region that defines part of the outer surface of the closure and that is configured to cooperate with the closure retention mechanism ….

(*Id.*, 9:45-55). Therefore, the '252 patent contemplates that the opposing tabs may be retained in a corresponding depression on the outer surface of the closure. This is the structure disclosed in Miller, except that Miller's protrusion is on the closure and Miller's indentation is on the handle. One skilled in the art would understand that Miller discloses a structure equivalent to that of the '252 patent.

234. Additionally, it would have been obvious to one skilled in the art to modify Miller to construct Miller with the protrusion on the handle and the indentation on the closure because it is one of a set of limited options with an expectation of success in view of the knowledge of one skilled in the art and the commonality of closure retention mechanisms appearing as protrusions on handles (such as in Leoncavallo).

235. In sum, Miller discloses, or at least suggests, every limitation of claim 5 and thus renders the claimed invention obvious. Furthermore, to the extent one skilled in the art would not recognize features of claim 5 from the figures of Miller, it would have been obvious to incorporate such conventional features of Leoncavallo. It would have been natural for one skilled in the art to do so where a particular, necessary feature of a beverage container was not depicted in the drawings of Miller. For example:

- Including a liquid container as disclosed in Leoncavallo would provide

a functional reservoir for storing the beverage;

- Including a cap assembly base as disclosed in Leoncavallo would provide a convenient way for the user to temporarily remove the cap assembly to access the inside of the liquid container to refill or clean it;
- Including a drink spout disclosed in Leoncavallo would provide a convenient way for the user to drink the beverage contained in the liquid container; and
- Including a closure and plug seal as disclosed in Leoncavallo would provide the user with a way to securely close the spout to prevent leakage or spills when not in use, and to open the spout to take a drink.

236. One skilled in the art would reasonably expect success in the combination, in part because liquid container and cap assemblies comprising a base, drink spout, and closure and handle such as those disclosed in Leoncavallo were well known at the time of the ’252 patent invention (*See* Exs. 1004, 1005, 1007).

237. Moreover, combining Leoncavallo with Miller represents nothing more than the simple addition of known elements (conventional liquid container and cap assembly features of Leoncavallo) to another known element (Miller’s beverage container with handle and closure retention mechanism) to obtain predictable results.

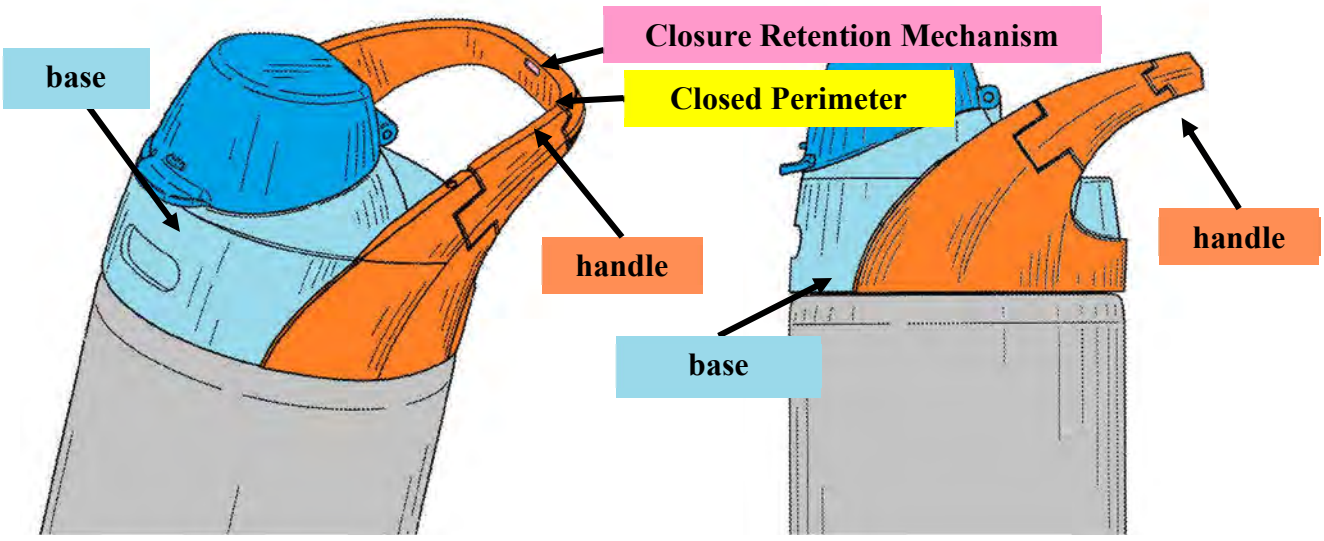
238. For all these reasons, claim 5 would have been obvious in view of

Miller in combination with Leoncavallo.

B. Claim 6

239. Claim 6 depends from claim 5, and thus incorporates the limitations of claim 5. Claim 6 further recites, "wherein the handle defines a closed perimeter, and wherein the closure retention mechanism defines at least a portion of the closed perimeter." As I explain below, Miller discloses this additional limitation.

240. As depicted below, Miller's handle, alone or in conjunction with the base (which, as noted above, is how the Patent Owner interprets the scope of this claim), defines a closed perimeter.

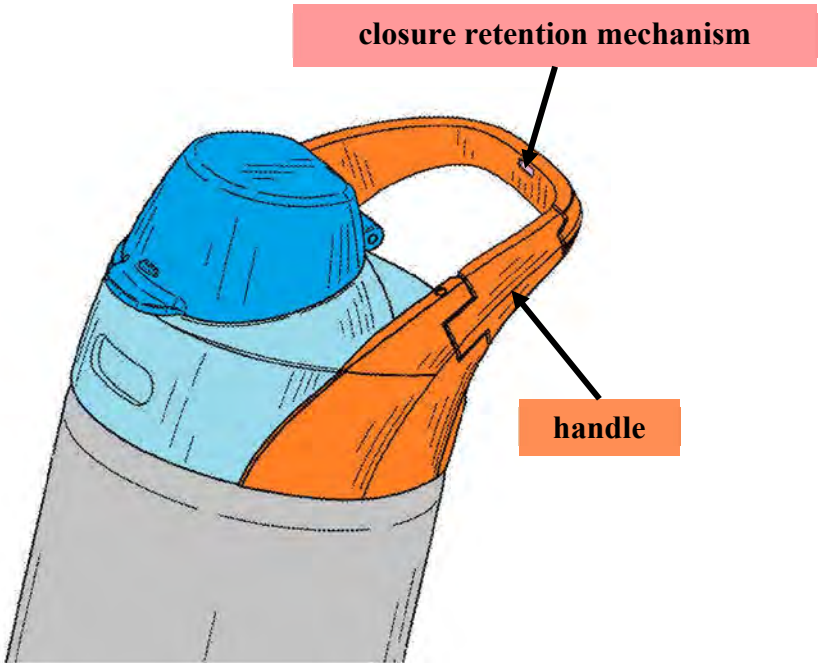


(Ex. 1006, Figs. 1, 5.) Thus, claim 6 would have been obvious over Miller alone and/or in view of Leoncavallo.

C. Claim 7

241. Claim 7 depends from claim 5, and thus incorporates the limitations of claim 5. Claim 7 further recites, "wherein the handle defines a closed perimeter, and wherein in the stowed position, the closure is positioned at least partially within the closed perimeter." As I explain below, Miller discloses, or at least suggests, this additional limitation.

242. Miller discloses that its handle defines a closed perimeter. Furthermore, the closure retention mechanism in Miller (*i.e.*, indentation on the inside of Miller's handle) is positioned on the inside surface of the handle and thus would at least partially define the closed perimeter.



(Ex. 1006, Fig. 1.)

243. Therefore, because Miller discloses the additional limitation of claim 7, the claim would have been obvious over Miller, either alone or in view of Leoncavallo.

D. Claim 16

244. Claim 16 depends from claim 5, and thus incorporates the limitations of claim 5. As explained above, Miller, either alone or in view of Leoncavallo, discloses each limitation of claim 5. Claim 16 further recites, "wherein the drink spout includes an internal coupling structure, wherein the closure includes a plug structure that is configured to extend within the passage when the closure is in the closed position, and wherein the plug structure includes an external coupling structure that is configured to operatively mate with the internal coupling structure of the drink spout when the closure is in the closed position."

245. Miller in view of Leoncavallo renders claim 16 obvious. Leoncavallo discloses the additional limitation of claim 16 as described above in paragraphs 191-193. It would have been obvious to modify Miller to include the plug seal and spout disclosed in Leoncavallo, including for the reasons discussed above in paragraphs 235-237.

E. Claim 19

246. As discussed above, independent claim 19 recites the same limitations

as claim 5. I provide below cross-references to my discussion of the corresponding limitations of claim 5.

247. Claim 19[preamble] recites "[a] cap assembly for use with a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid, the cap assembly[.]" Claim 5[a] and [b] recite "a liquid container having a neck with an opening and having an internal compartment sized to hold a volume of potable drink liquid" and "a cap assembly removably coupled to the liquid container," respectively. Thus, Miller, alone and/or in view of Leoncavallo, discloses or suggests the limitations of claim 19[preamble] for the same reasons Miller discloses or suggests the limitations of claim 5[a] & [b].

248. Claim 19[a] recites "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed when the cap assembly is operatively coupled to the liquid container[.]" Claim 5[b][i] recites "a base removably coupled to the neck of the liquid container[.]" Thus, Miller, alone and/or in view of Leoncavallo, discloses or suggests the limitations of claim 19[a] for the same reasons Miller discloses or suggests the limitations of claim 5[b][i].

249. Claim 19[b] recites "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid

container may be selectively dispensed when the cap assembly is operatively coupled to the liquid container[.]" Claim 5[b][ii] recites "a drink spout extending from the base and defining a passage through which drink liquid from the internal compartment of the liquid container may be selectively dispensed[.]" Thus, Miller, alone and/or in view of Leoncavallo, discloses or suggests the limitations of claim 19[b] for the same reasons Miller discloses or suggests the limitations of claim 5[b][ii].

250. Claim 19[c] recites "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of liquid through the passage and to selectively permit dispensing of liquid through the passage when removed from the drink spout[.]" Claim 5[b][iii] recites "a closure configured to be removably coupled relative to the drink spout in a closed position to selectively restrict dispensing of drink liquid through the passage and to selectively permit dispensing of drink liquid through the passage when removed from the drink spout[.]" Thus, Miller, alone and/or in view of Leoncavallo, discloses or suggests the limitations of claim 19[c] for the same reasons Miller discloses or suggests the limitations of claim 5[b][iii].

251. Claim 19[d] recites " a handle extending from the base[.]" Claim 5[b][iv] recites "a handle extending from the base[.]" Thus, Miller, alone and/or in

view of Leoncavallo, discloses or suggests the limitations of claim 19[d] for the same reasons Miller discloses or suggests the limitations of claim 5[b][iv].

252. Claim 19[d][i] recites "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." Claim 5[b][iv][a] recites "wherein the handle includes a closure retention mechanism configured to selectively retain the closure in a stowed position relative to the handle when the closure is selectively removed from the drink spout and received by the closure retention mechanism." Thus, Miller, alone and/or in view of Leoncavallo, discloses or suggests the limitations of claim 19[d][i] for the same reasons Miller discloses or suggests the limitations of claim 5[b][iv][a].

253. In sum, Claim 19 is obvious for the reasons I describe above for claim 5.

IX. GROUND 6: CLAIMS 17-18 WOULD HAVE BEEN OBVIOUS OVER MILLER IN VIEW OF LEONCAVALLO AND IN FURTHER VIEW OF GORSEY AND/OR JOHNSON.

254. Leoncavallo in view of Gorskey and/or Johnson discloses the additional limitations of Claims 17-18, as discussed above. *See supra* ¶¶202-09 (Ground 4). For the same reasons as discussed above, one skilled in the art would have been

motivated to use the spout and plug seal disclosed in Leoncavallo, as modified by Gorskey and/or Johnson, with Miller. *See id.*; *supra* ¶¶235-37, 244-45 (on combining Miller and Leoncavallo).

255. Thus, claims 17-18 would have been obvious to one skilled in the art over Miller in view of Leoncavallo and in further view of Gorskey and/or Johnson.

X. CONCLUSION

256. For the above reasons, it is my opinion that claims 5-7 and 16-19 of the '252 patent are anticipated by and/or would have been obvious to one of ordinary skill in the art.

***

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

Dated: April 26, 2024 By: Glenn E Vallee

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