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Laurita(10) **Pub. No.: US 2012/0160800 A1**(43) **Pub. Date: Jun. 28, 2012**(54) **METHOD AND APPARATUS FOR BEVERAGE BOTTLE**(52) **U.S. Cl. 215/395; 53/473**(57) **ABSTRACT**(76) Inventor: **Joseph N. Laurita**, Wayne, NJ
(US)(21) Appl. No.: **13/414,038**(22) Filed: **Mar. 7, 2012****Publication Classification**(51) **Int. Cl.**
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B65B 3/04 (2006.01)

An apparatus is provided, which may include a beverage bottle having a spout having an opening, and a body portion having a cavity in which liquid can be stored. Liquid can be pored through the opening in the spout and thereby into the body portion. The spout and the body portion may be integrated together, formed from the same mold, and formed from the same material, such as the same kind of plastic. The spout may be angled with respect to the body portion, such as about a forty-five degree angle with respect to the body portion. The apparatus may further include means for holding the beverage bottle so that the body portion is tilted with respect to a track. The means for holding the beverage bottle, may hold the beverage bottle so that an end of the spout is parallel to the track.

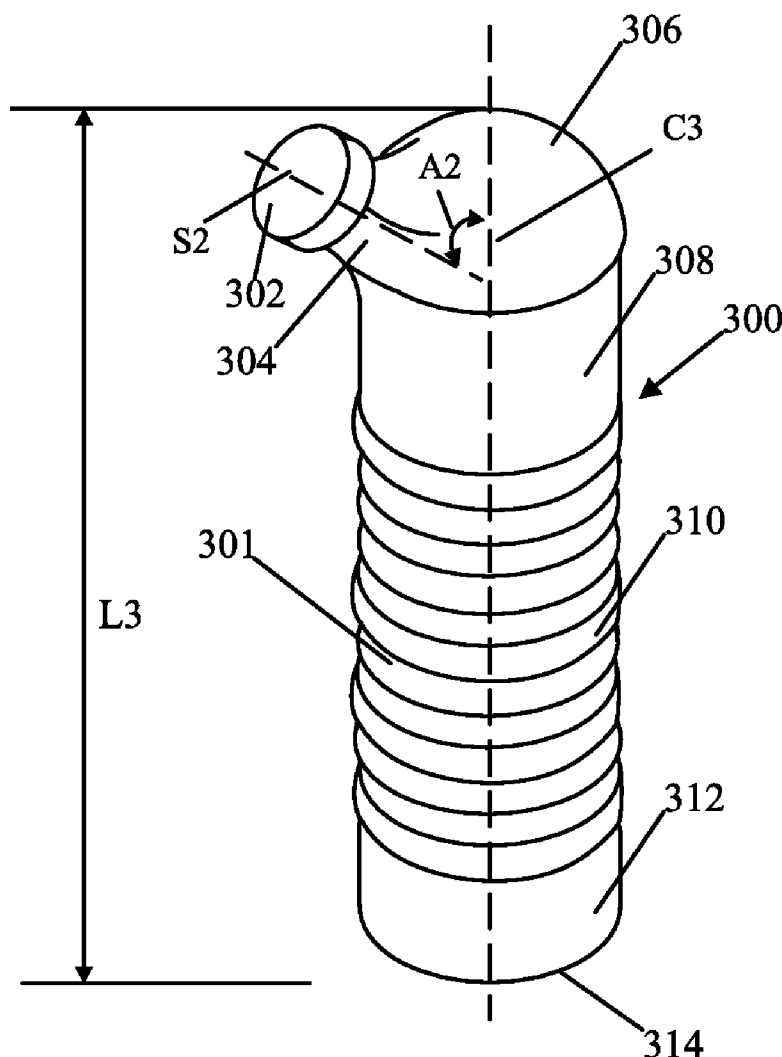


Fig. 1A
(Prior Art)

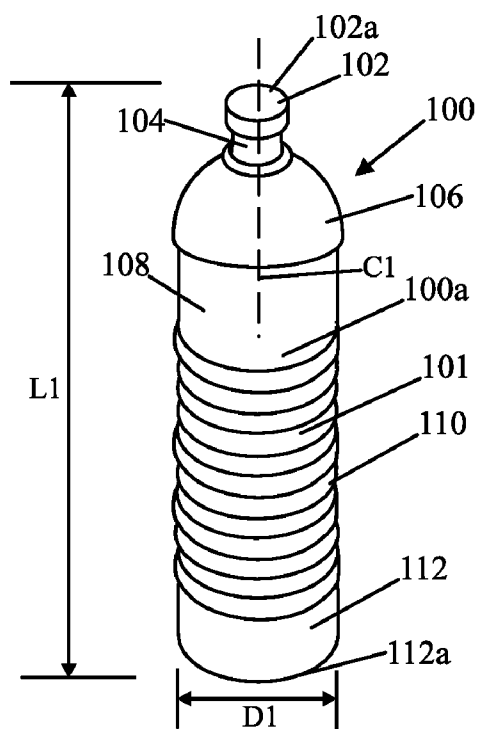


Fig. 1B
(Prior Art)

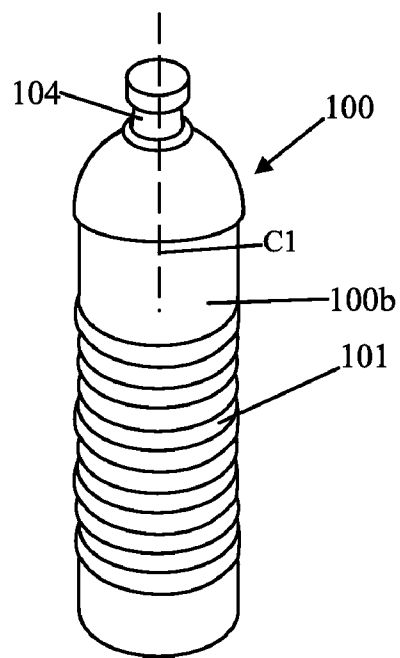


Fig. 1C
(Prior Art)

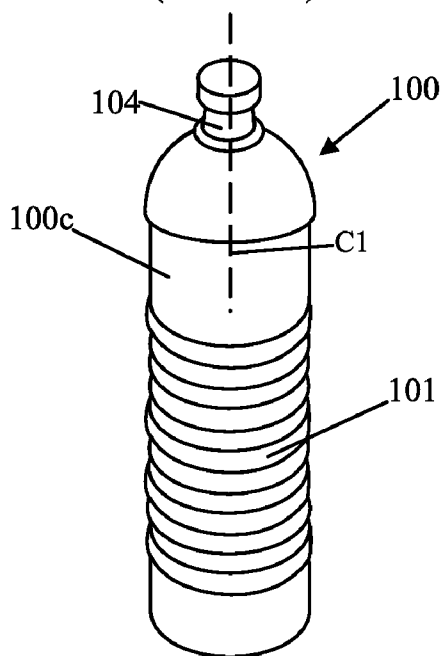


Fig. 1D
(Prior Art)

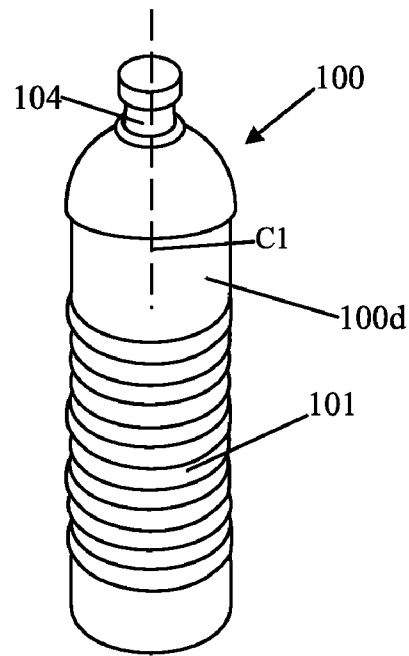


Fig. 2
(Prior Art)

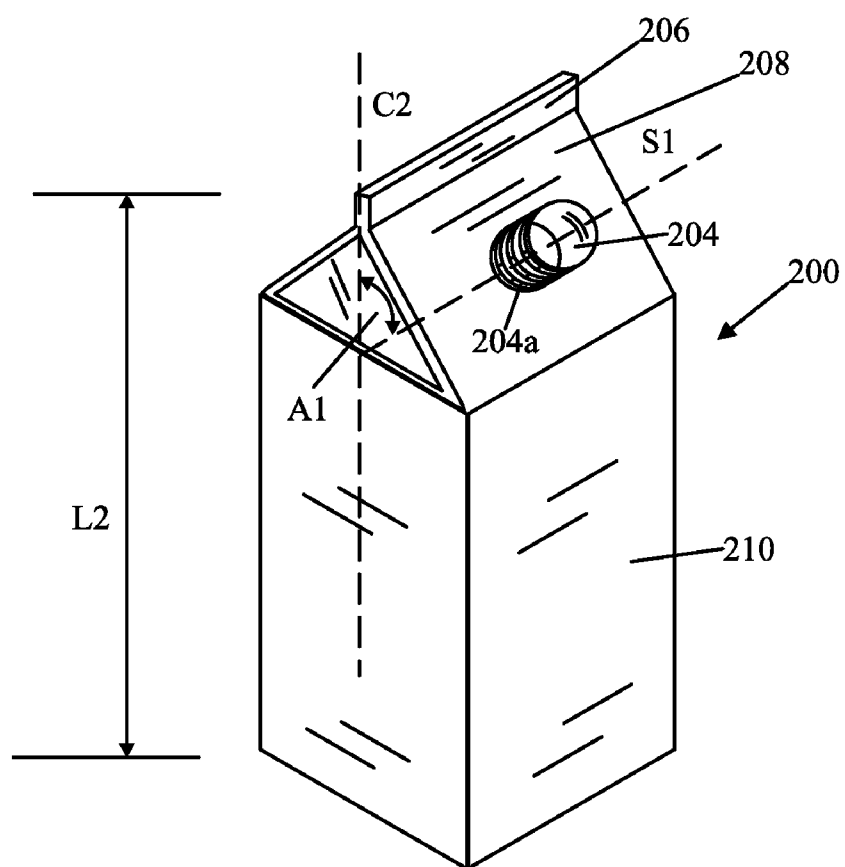


Fig. 3A

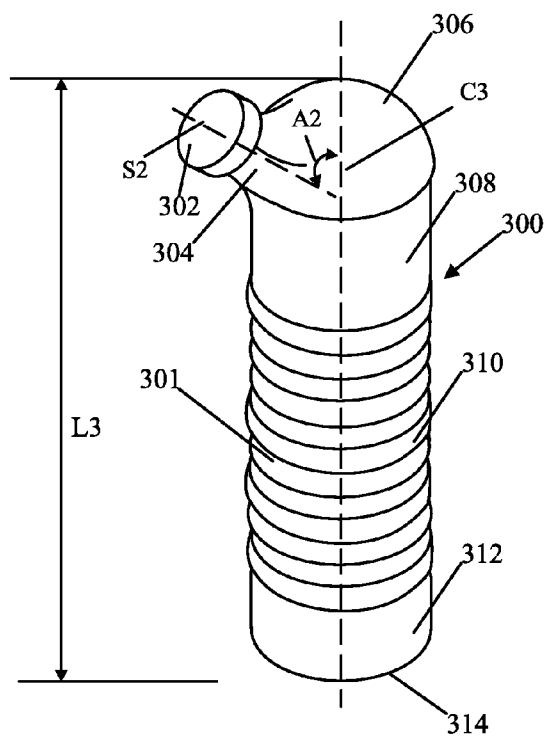


Fig. 3B

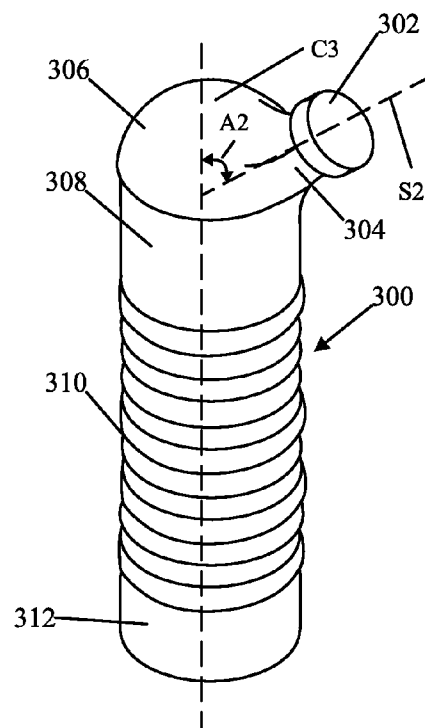


Fig. 3D

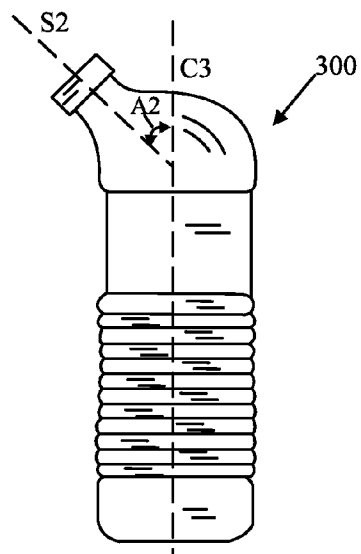
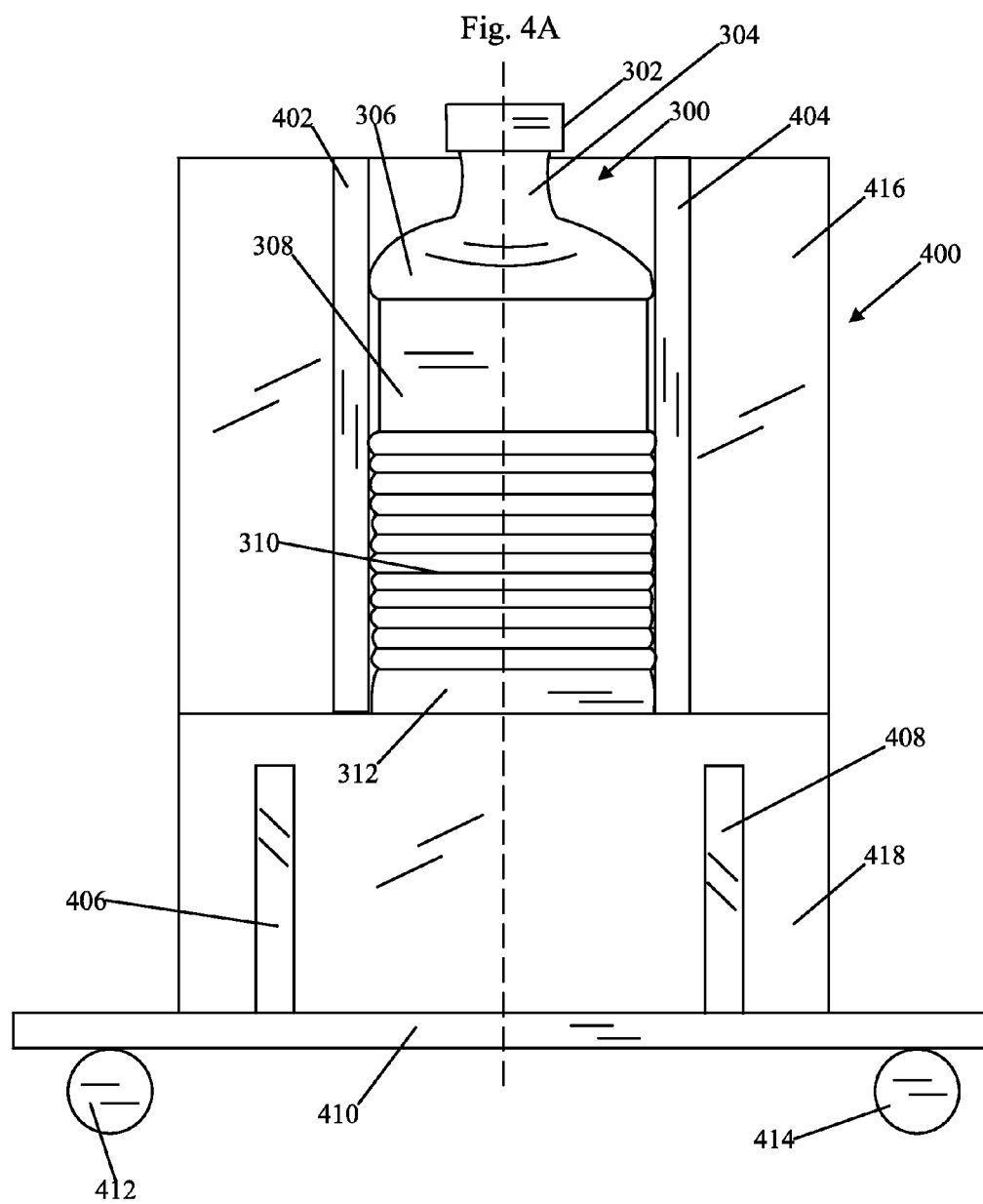


Fig. 3C





METHOD AND APPARATUS FOR BEVERAGE BOTTLE

FIELD OF THE INVENTION

[0001] This invention relates to improved methods and apparatus concerning beverage bottles.

BACKGROUND OF THE INVENTION

[0002] There are various devices known in the prior art for beverage bottles.

SUMMARY OF THE INVENTION

[0003] In at least one embodiment of the present invention, an apparatus is provided, which may include a beverage bottle having a spout having an opening, and a body portion having a cavity in which liquid can be stored. In at least one embodiment the liquid can be pored through the opening in the spout and thereby into the body portion. The spout and the body portion may be integrated together, formed from the same mold, and formed from the same material. For example the spout and the body portion may be made of the same kind of plastic and formed from the same mold. The spout may be angled with respect to the body portion. The spout may be angled at about a forty-five degree angle with respect to the body portion. The apparatus may further include means for holding the beverage bottle so that the body portion is tilted with respect to a track. The track may be a conveyor belt. The means for holding the beverage bottle, may hold the beverage bottle so that an end of the spout is parallel to the track.

[0004] In at least one embodiment of the present invention a method of making a beverage bottle comprising tilting a body portion of the beverage bottle at an angle, and inserting liquid into the beverage bottle. The beverage bottle may be configured as previously described.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1A shows a front perspective view of a prior art water bottle;

[0006] FIG. 1B shows a back perspective view of the prior art water bottle of FIG. 1A;

[0007] FIG. 1C shows a left side perspective view of the prior art water bottle of FIG. 1A;

[0008] FIG. 1D shows a right side perspective view of the prior art water bottle of FIG. 1A;

[0009] FIG. 2 shows a perspective view of a prior art orange juice carton;

[0010] FIG. 3A shows a front perspective view of a water bottle in accordance with an embodiment of the present invention;

[0011] FIG. 3B shows a back perspective view of the water bottle of FIG. 3A;

[0012] FIG. 3C shows a bottom surface of the water bottle of FIG. 3A;

[0013] FIG. 3D shows a front view of the water bottle of FIG. 3A;

[0014] FIG. 4A shows a right side view of the water bottle of FIG. 3A, with the water bottle held in a tilted state in a device in accordance with an embodiment of the present invention; and

[0015] FIG. 4B shows a right side view of the water bottle of FIG. 3A in the tilted state and held by the device of FIG. 4A.

DETAILED DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1A shows a front perspective view of a prior art water bottle **100**. FIG. 1B shows a back perspective view of the prior art water bottle **100**. FIG. 1C shows a left side perspective view of the prior art water bottle **100**. FIG. 1D shows a right side perspective view of the prior art water bottle **100**. FIG. 1A shows a front portion **100a**, FIG. 1B shows a rear portion **100b**, FIG. 1C shows a left portion **100c**, and FIG. 1D shows a right portion **100d**. The portions **100a-d**, have an identical appearance because the bottle **100** is symmetrical from back to front and from right to left.

[0017] Referring to FIGS. 1A-D, the water bottle **100** is symmetric from back to front and from left side to right side. The water bottle **100** includes a cap **102**, a spout **104**, a portion **106**, a portion **108**, a portion **110**, and a portion **112**. The portions **108**, **110**, and **112** may form a body **101** which may be in the shape of a hollow cylinder or substantially in the shape of a hollow cylinder. The portion **106** may be domed shaped. The portions **108** and **112** may be smooth, while the portion **110** may have ridges. The water bottle **100** may have a length **L1** from a top surface **102a** of cap **102** to a bottom surface **112a** of portion **112**. The body **101** may have a diameter **D1**, which may be about two and one half inches.

[0018] A dashed center line **C1**, is shown passing through the center of the water bottle **100** at a zero degree angle with respect to the length **L1** of the bottle **100**.

[0019] FIG. 2 shows a perspective view of a prior art orange juice carton **200**. The carton **200** may be made out of cardboard, paper, or some other suitable material. The carton **200** includes a portion **206**, a portion **208**, a spout **204**, and a portion **210**. The spout **204** is at an angle **A1** with respect to a center line **C2** passing through the portion **210**. The line **S1** passes through the center of the spout **204** and is parallel to the spout **204** and is also at an angle **A1** with respect to the center line **C2**. The angle **A1** may be about forty-five degrees. The spout **204** has a plurality of ridges or grooves **204a** onto which a cap (not shown) can be screwed to attach the cap to the carton **200**.

[0020] FIG. 3A shows a front perspective view of a water bottle **300** in accordance with an embodiment of the present invention. FIG. 3B shows a back perspective view of the water bottle **300**. FIG. 3C shows a bottom surface **314** of the water bottle **300**. FIG. 3D shows a front view of the water bottle **300**. The water bottle **300** includes a cap **302**, a spout **304**, a portion **306**, a portion **308**, a portion **310**, and a portion **312**. The portions **308**, **310**, and **312** make up a body or body portion **301**. The body **301** may be a hollow cylinder or may be substantially cylindrical. The portion **306** may have a dome shape. The portion **306** may be curved or have a soft curve to allow for clearance of a person's nose, when the person is drinking directly from water bottle from the spout **304**. The portion **310** may have ridges to provide a hand grip area. The spout **304** may be at an angle of **A2** with respect to a center line **C3**, wherein the centerline **C3** passes through the center of the body portion **301**, parallel to a length **L3** of the bottle **300**. The angle **A2** may about forty-five degrees. The angle **A2** may be in the range of zero to ninety degrees, however about forty-five degrees is preferred and is critical in at least one or more embodiments, because it allows a person to drink water or another beverage from the bottle **300** without

significantly tilting their head back and also allows the bottle 300 to be manufactured and filled with water or another liquid drinking product or beverage easily.

[0021] FIG. 4A shows a right side view of the water bottle 300, with the water bottle 300 held in a tilted state in a device 400 in accordance with an embodiment of the present invention. FIG. 4B shows a right side view of the water bottle 300 of FIG. 3A in the tilted state and held by the device 400.

[0022] Referring to FIGS. 4A-4B, the device 400 may include supports or posts 406, 408, 420, 422, plates or boards 416 and 418, track or belt 410, rollers 412 and 414, and retaining members 402 and 404. The supports 406 and 408 are fixed to the plate 418 and hold the plate 418 in a fixed position and at a fixed orientation with respect to the belt 410. The supports 420 and 422 are fixed to the plate 416 and hold the plate 416 in a fixed position and at a fixed orientation with respect to the belt 410. The plate 418 and the plate 416 may be fixed to each other so that they are at a fixed angle B shown in FIG. 4B, which is typically about ninety degrees. The bottle 300 sits on the plates 418 and 416, so that the bottom surface 314 of the bottle 300 lies on and is supported by the plate 418 while the body portion 301 (or parts of the body portion 301) and typically parts of the domed portion 306 lie on the plate 416. The bottle 300 is kept in place by retaining portions 402 and 404, which also prevent the bottle 300 from rotating. For example, the retainer portions 402 and 404 may be made of rubber which frictionally engages the bottle 300 to prevent the bottle 300 from rotating. This allows proper filling and capping procedures. The particular type of retainer portions 402 and 404, and/or the particular height and material for retainer or guide portions 402 and 44 may be determined by filling operations and belt manufacturers.

[0023] A line L4 which is perpendicular to the belt 410 and to the top surface 302a of the cap 302 is shown in FIG. 4B. The plate 416 is at an angle C with respect to the belt 410 so that the bottle 300 is tilted to have the top surface 302a of the cap 302 and typically the top surface of the spout 304 (not shown, underneath the cap 302), parallel to the belt 410. This allows a beverage such as water to be easily poured and/or inserted into an inner chamber within the body portion 301 through an opening in the spout 304, when the cap 302 is taken off. It also allows the cap 302 to be more easily screwed onto the spout 304 after the inner chamber of body portion 301 has been filled with water or another beverage. In at least one embodiment the angle C is about forty five degrees, corresponding to the angle A2 of the spout 304 with respect to the body portion 301 shown in FIGS. 3A, 3B, and 3D.

[0024] The belt 410 may be a conveyor belt and additional plates (not shown) may be provided parallel to the belt 410 so that the supports 406, 408, 420, and 422, may be fixed to the additional plate, and the additional plate may be secured on the belt 410, parallel to the belt 410, but may be taken off of the belt 410 when not needed.

[0025] The grip area 301 of the bottle 300 can be altered. A label for the bottle 300 shown in FIG. 4A, such as showing a trademark, and company name, can be placed over the portion 308.

[0026] The bottle 300 may have a notch or indentation 309, whose location is shown by dashed lines in FIG. 4B, into which a protrusion 405 can be inserted to keep the bottle 300 from rotating during filling operations. The protrusion 405 may be fixed to the plate 416.

[0027] The bottle 300 provides advantages in neck position, product flow, ease of opening, and vision levels for

someone drinking from a beverage bottle such as a water bottle. In the prior art water bottle of FIG. 1A-D, an individual must tilt their head far back in order to directly drink from the bottle 100 from the straight spout 104. In contrast, for bottle 300, an individual does not have to tilt his or her head as far back due to the angled spout 304. Although cartons, such as 200 have been previously angled, cartons were not designed to be drank directly from the spout, such as 204. In addition, the portions 206, 208, and 210 of the carton 200 were typically made of cardboard or paper, while the spout 204 was separately manufactured from a plastic. Adding the plastic spout 204 to the cardboard or paper portions 206, 208, and 210 of the carton 200 is costly. The spout 204 of the prior art was provided because when the portion 206 of the carton 200 (without the spout 204) was separated or torn in order to pour liquid, there would be non uniform tears in the cardboard or paper of portions 206 or 208, resulting in spillage of liquids when pouring and difficulty pouring. The plastic spout 204 of the prior art is typically a separate plastic injection molding piece fixed and/or applied to the cardboard or paper portion 208 by heat or adhesive. The cardboard or paper portions 206, 208, and 210 may have a thin plastic coating placed over them. The manufacturing of container 200 of FIG. 2 is an expensive procedure.

[0028] In contrast the spout 304 of the bottle 300 of the present application is molded as part of one mold or one piece for the bottle 300. The spout 304 is thus typically an integral part of the bottle 300. The spout 304 and the bottle 300 may be made of plastic. The spout 304 and the bottle 300 may alternatively, be made of glass or some other material. The bottle 300, with the integral spout 304 thus does not require costly secondary operations.

[0029] Although the invention has been described by reference to particular illustrative embodiments thereof, many changes and modifications of the invention may become apparent to those skilled in the art without departing from the spirit and scope of the invention. It is therefore intended to include within this patent all such changes and modifications as may reasonably and properly be included within the scope of the present invention's contribution to the art.

I claim:

1. An apparatus comprising:
 - a beverage bottle having
 - a spout having an opening, and
 - a body portion having a cavity in which liquid can be stored;
 - wherein a liquid can be poured through the opening in the spout and thereby into the body portion;
 - wherein the spout and the body portion are integrated together, formed from the same mold, and formed from the same material; and
 - and wherein the spout is angled with respect to the body portion.
2. The apparatus of claim 1 wherein
 - the spout is angled at about a forty-five degree angle with respect to the body portion.
3. The apparatus of claim 1 further comprising
 - means for holding the beverage bottle so that the body portion is tilted with respect to a track.
4. The apparatus of claim 3 wherein
 - the track is a conveyor belt.

5. The apparatus of claim 3 wherein the means for holding the beverage bottle, holds the beverage bottle so that an end of the spout is parallel to the track.

6. A method of making a beverage bottle comprising tilting a body portion of the beverage bottle at an angle; and inserting liquid into the beverage bottle.

7. The method of claim 1 wherein the beverage bottle includes a spout which is angled with respect to the body portion; and further wherein the step of tilting the body portion includes tilting the body portion so that an end of the spout is parallel to a conveyor belt.

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