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(54) **FLUID CONTAINER**

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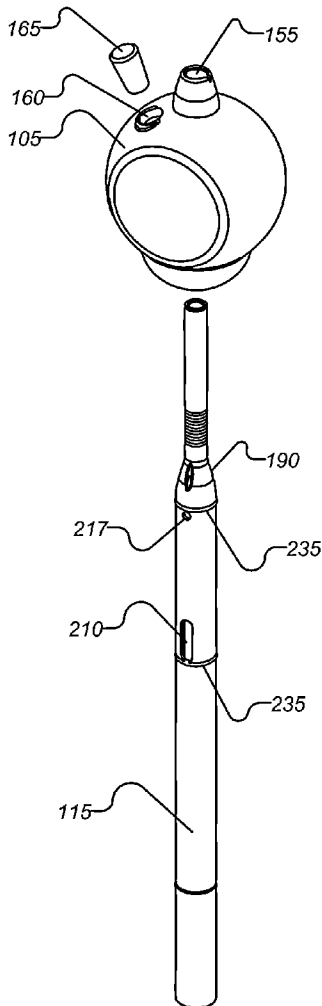
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(57) **ABSTRACT**

A fluid container (100, 200) includes a fluid reservoir (105) filled with a mixing fluid and a hollow tube (110) operable as a drinking straw. The fluid container is server to a consumer with a diluent beverage provided in a beverage container. The mixing fluid is dispensed from the fluid reservoir into the beverage container and mixed with the diluent beverage. The fluid container is configured to convey a branding message which is displayed during the time the mixed beverage is consumed through the drinking straw. In one example embodiment the fluid reservoir includes a single serving. Preferably the mixing fluid comprises a distilled spirit beverage and the fluid reservoir is sealed until it is sold to a consumer.



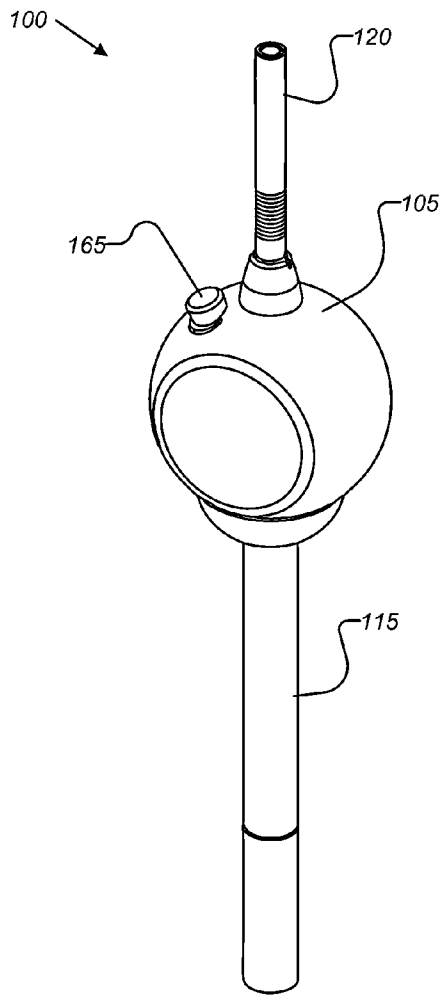


FIGURE 1

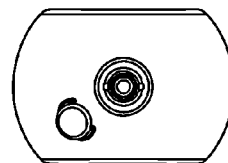


FIGURE 4

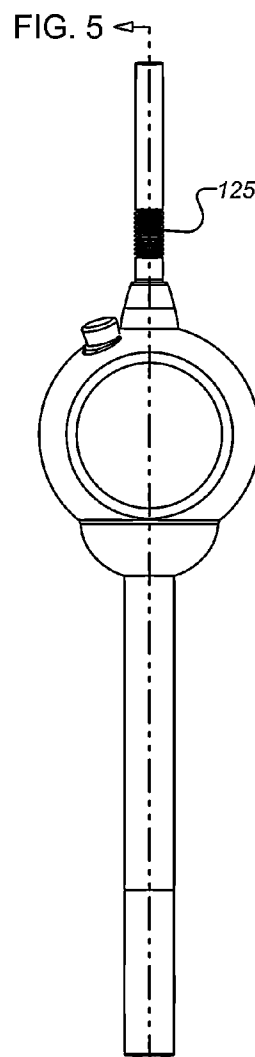


FIG. 5

FIGURE 2

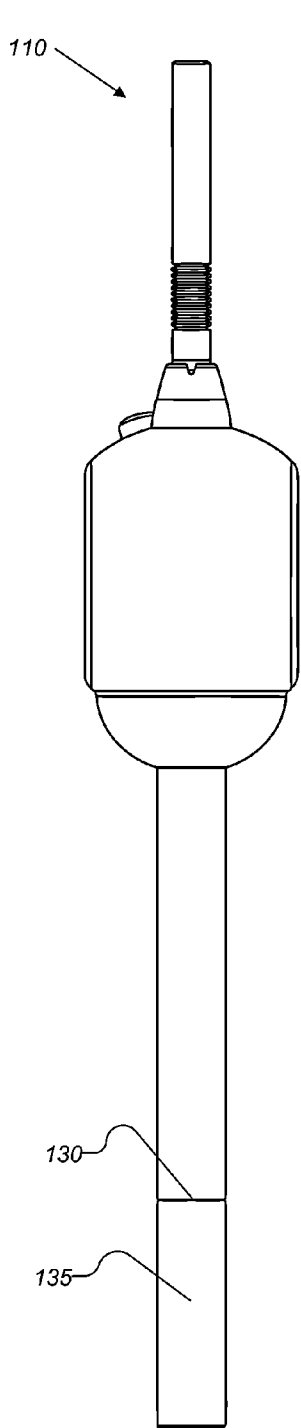


FIGURE 3

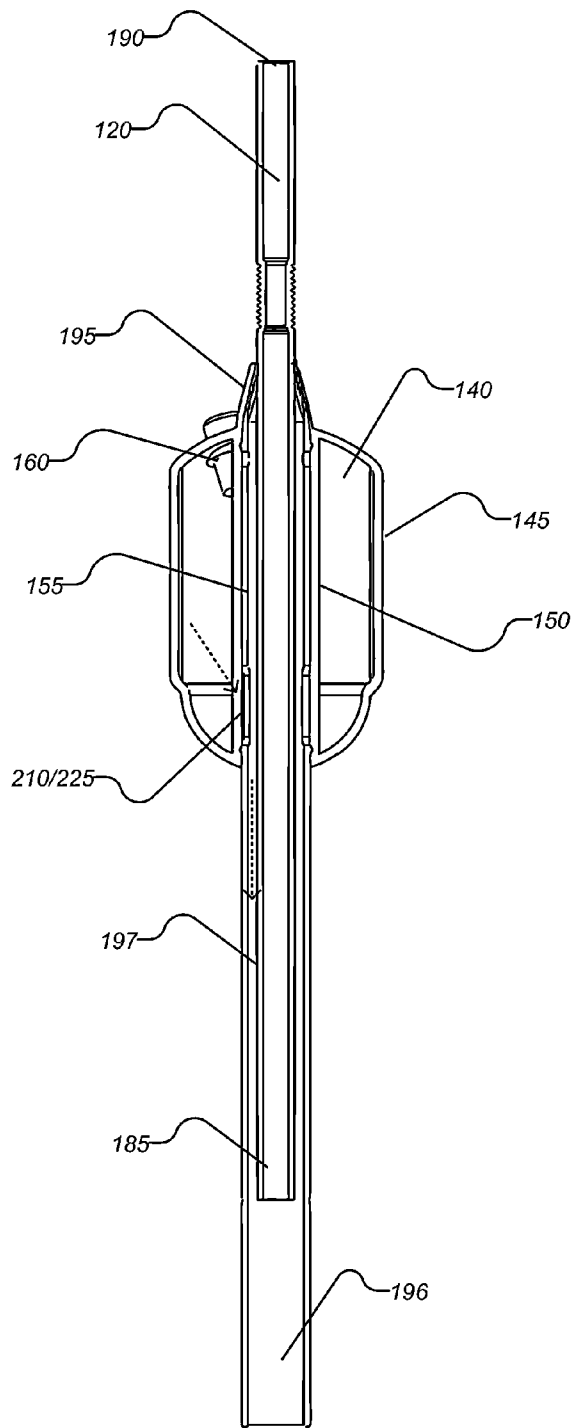


FIGURE 5

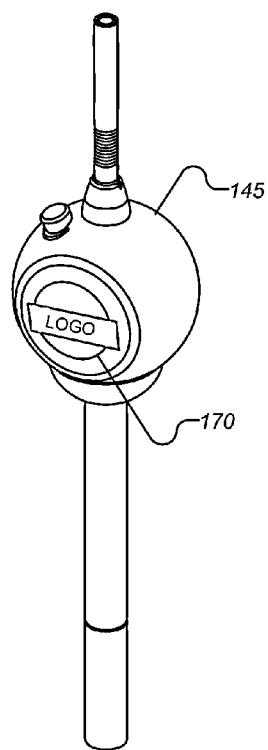


FIGURE 7

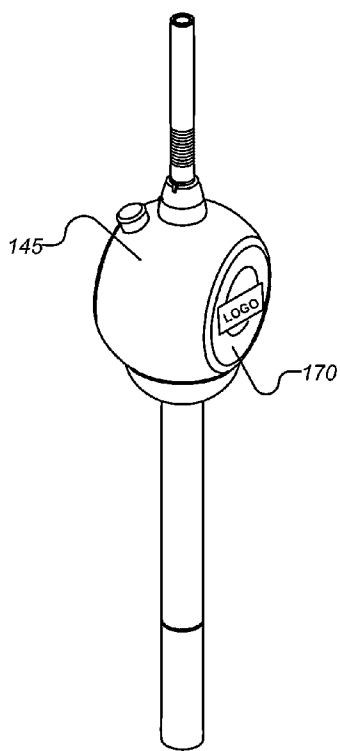


FIGURE 8

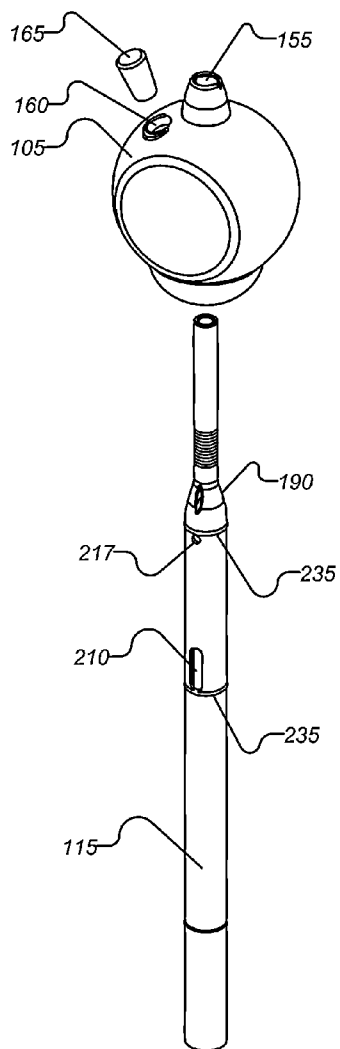


FIGURE 6

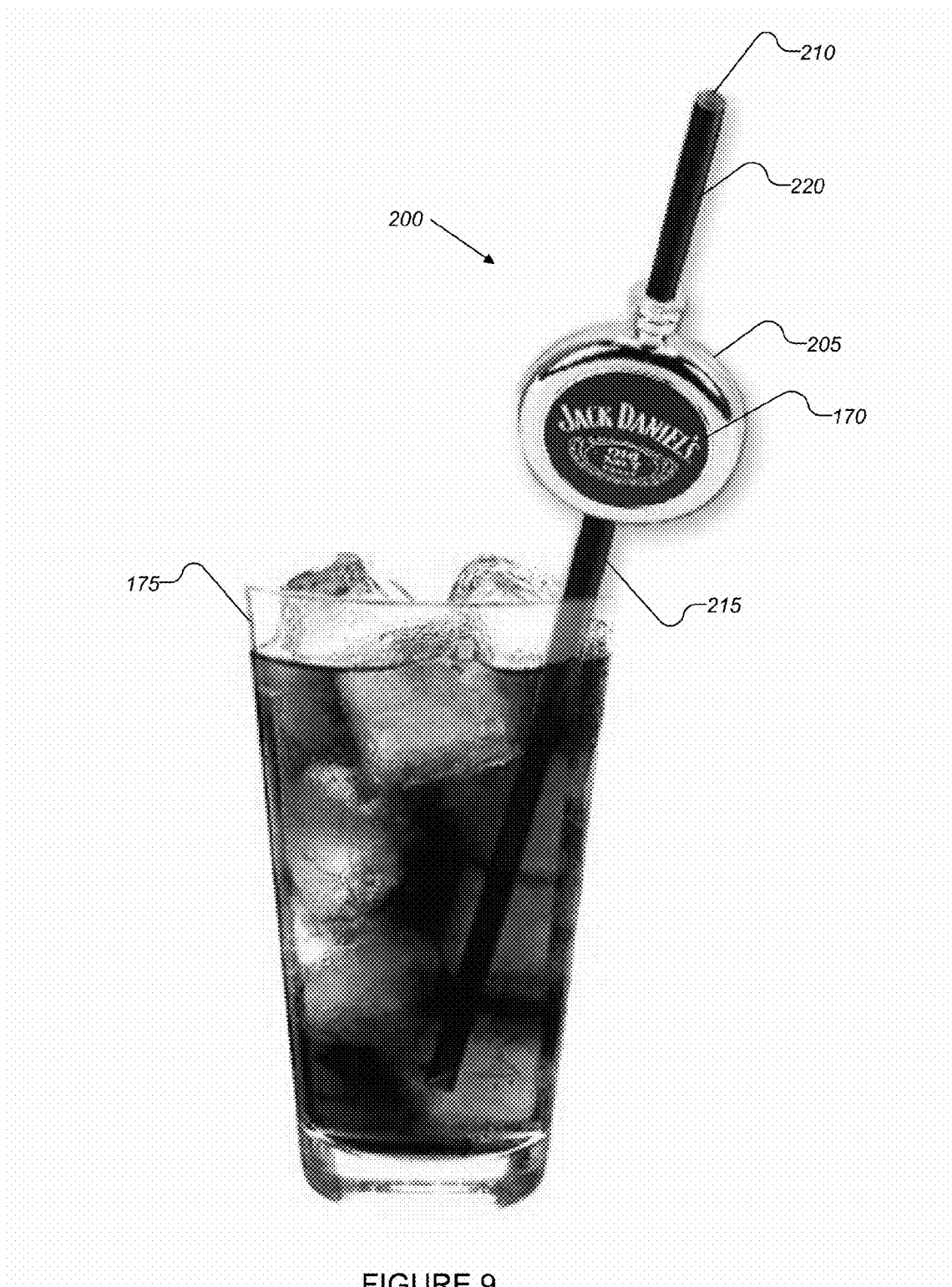


FIGURE 9

FLUID CONTAINER

CROSS REFERENCE TO RELATED U.S. PATENT APPLICATIONS

[0001] The present application claims priority under 35 U.S.C. §119(e) to provisional U.S. Patent Application Ser. No. 61/737,542 (Docket No. STY-P1-STRAW) filed Dec. 14, 2012, which is incorporated herein by reference in its entirety and for all purposes.

BACKGROUND OF THE INVENTION

[0002] 1.1 Field of the Invention

[0003] The exemplary, illustrative, technology herein relates to a fluid container comprising a hollow tube surrounded by a fluid reservoir filled with a mixing fluid. In particular the hollow tube functions as a straw for drinking a mixed beverage and the fluid reservoir is used to dispense the mixing fluid into the beverage to create the mixed beverage. The fluid container and or the fluid reservoir include branding elements suitable for conveying a branding message while the mixed beverage is consumed.

[0004] 1.2 The Related Art

[0005] Numerous example devices that provide a drinking straw or drink stirrer with a fluid reservoir are known. In some example devices the fluid reservoir is filled with a liquid or solid mixing fluid provided to mix with a diluent fluid beverage such as water or another beverage. In some combined fluid stirrer and fluid reservoir examples the mixing fluid is poured into the diluent and the stirrer is used to mix the mixing fluid with the diluent beverage before oral intake; (see e.g. US2008/0308584 by Blondeel entitled Article For Moving a Medium to be Eaten and/or Drunk). In some combined straw and fluid reservoir examples the mixing fluid remains in the fluid reservoir and is mixed with the diluent fluid inside the fluid reservoir when the diluent beverage is draw into the fluid reservoir through the straw before oral intake; (see e.g. U.S. Pat. No. 6,503,222 by Lo, entitled Oral Dosage Dispenser). In still further examples devices a unit drug dose is contained within a straw packaged with tamper evidence packaging that positively identifies the drug and the dosage and a unit drug dose is orally administered as the patient drinks a diluent beverage through the straw; (see e.g. U.S. Pat. No. 4,792,333 by Kidder). In a further example device a fluid reservoir filled with a mixing fluid is dispensed into a cup filled with a diluent beverage through a straw. In this example a tube movably installed inside the straw manipulates a sealing element to initiate fluid flow out of the fluid reservoir; (see e.g. U.S. Pat. No. 4,658,990 by Ramage).

[0006] While fluid containers filled with a mixing fluid for mixing with a diluent fluid beverage are known, none of the prior art of record address existing problems in the distilled spirit beverage business. In particular distilled beverage manufactures are eager to gain opportunities to expand brand awareness and market distilled spirit beverage products. In the beer industry and to some extent the wine cooler business where beer and wine coolers are often consumed from the original shipping container, e.g. a single serving can or bottle sold to the consumer, the original shipping container includes a logo and other branding elements and the shipping container conveys a branding message during the entire time the beverage is being consumed. However this is not normally the case in the distilled spirit business wherein the distilled spirits are mixed with diluent fluid beverages as mixed drinks and

served to the consumer in an unmarked glass or other beverage container. Accordingly the opportunity to convey a branding message while the mixed drink beverage is being consumed by the consumer disappears as soon as the mixed drink beverage is mixed in the unmarked glass. Thus there is a need in the art to convey a distilled spirit beverage branding message while the distilled spirit beverage is being consumed.

[0007] Another difference between beer and wine cooler sales and distilled spirit beverage sales relates to serving alcoholic beverages in a sealed container. In the example of beer and wine cooler sales, individual portions (one bottle or one can provides a single serving) are served and or sold in sealed containers which can be opened by the consumer. This is not usually the case with distilled beverages which are mixed by a bartender or specialized server prior to serving a mixed beverage to the consumer. One problem with serving an open container containing a distilled spirit beverage is that the bartender or server requires specialized training for mixing the beverages and is usually paid more than a person servicing sealed containers. Another problem is that the minimum age for a bartender server that mixes drinks poured from open liquor bottles is different in some states or regions from the minimum age for a server that serves alcohol in a sealed container. One example is sporting events wherein a teenager can be employed to distribute unopened beer containers directly to seated patrons while the patron must walk to a bar area to purchase a distilled spirit beverage in an opened container and is often required to consume the distilled spirit beverage in the bar area. Thus in addition to requiring specialized training bartenders must be old enough to server liquor from open containers and this may limit the availability of qualified bartenders as well as discourage distilled spirit beverage sales as compared to alcoholic beverages sold in sealed containers.

[0008] 1.3 Summary of the Invention

[0009] The present invention addresses the problems associated with the prior art listed above by providing a sealed single serving fluid container for sale to a patron. Moreover the present invention addresses the problems associated with the prior art by providing sealed single serving fluid container a useable to mix and consume distilled spirit beverages mixed with diluent beverages. More specifically a consumer is able to dispense a single serving distilled spirit beverage from a sealed container into a non-alcoholic diluent fluid to provide a self-serve mixed beverage that includes a distilled spirit beverage. In addition the fluid container includes a drinking straw usable by the consumer to stir the mixed beverage and to drink the mixed beverage. The fluid container is further configured with a logo and various other branding elements including color, shape, texture and the like to convey a desired branding message which is displayed during the entire time that the mixed drink is being consumed.

[0010] These and other aspects and advantages will become apparent when the Description below is read in conjunction with the accompanying Drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The features of the present invention will best be understood from a detailed description of the invention and example embodiments thereof selected for the purposes of illustration and shown in the accompanying drawings in which:

[0012] FIG. 1 depicts an isometric view of a non-limiting exemplary fluid container according to the present invention.

[0013] FIG. 2 depicts a front view of a non-limiting exemplary fluid container according to the present invention.

[0014] FIG. 3 depicts a side view of a non-limiting exemplary fluid container according to the present invention.

[0015] FIG. 4 depicts a top view of a non-limiting exemplary fluid container according to the present invention.

[0016] FIG. 5 depicts a side section view of a non-limiting exemplary fluid container according to the present invention.

[0017] FIG. 6 depicts an isometric exploded view of a non-limiting exemplary fluid container according to the present invention.

[0018] FIG. 7 depicts a further isometric view of a non-limiting exemplary fluid container including a logo area according to the present invention.

[0019] FIG. 8 depicts a further isometric view of a non-limiting exemplary fluid container including a logo area according to the present invention.

[0020] FIG. 9 depicts a color image isometric view of a non-limiting exemplary fluid container disposed in a drink container with branding elements of the fluid container clearly displayed according to the present invention.

DESCRIPTION OF SOME EMBODIMENTS OF THE INVENTION

[0021] 1.4 Overview

[0022] Referring to FIGS. 1-9 a fluid container combines a hollow tube surrounded by a fluid reservoir. The fluid reservoir is filled with a mixing fluid which is preferably a single serving distilled spirit beverage and the fluid reservoir is preferably sealed with a tamper evident seal. In one non-limiting example embodiment the hollow tube comprises a cylindrical wall enclosing a fluid conduit and the fluid reservoir is enclosed by a surrounding wall. Additionally the fluid reservoir is in fluid communication with the fluid conduit of the hollow tube through a fluid flow regulator such as one or more ports formed to provide a fluid flow path from the fluid reservoir to the fluid conduit of the hollow tube. The hollow tube includes an upper portion extending above the fluid reservoir and a lower portion extending below the fluid reservoir and a central portion that passes through the fluid reservoir. In use the lower portion of the hollow tube is submerged below the level of a liquid in a drink container, e.g. the glass in FIG. 9. The liquid in the glass is a diluent fluid, such as a non-alcoholic beverage. The upper portion of the hollow tube and preferably the entire fluid reservoir extend above the beverage container such that branding elements associated with the fluid container and or the hollow tube are displayed above the beverage container. In various non-limiting embodiments described below the fluid reservoir is initially filled with a mixing fluid. In use, some or all of the mixing fluid is dispensed from the fluid reservoir into the diluent beverage through the port or ports to the fluid conduit of the hollow tube where the mixing fluid drops into the diluent fluid under the force of gravity.

[0023] In various non-limiting example embodiments the mixing fluid is dispensed from the fluid reservoir into the beverage container and mixed with the diluent fluid beverage and the hollow tube functions as a straw usable to drink the mixture or mixed drink. The mixture in this case at least includes mixing fluid dispensed from the fluid reservoir. The mixture preferably includes the mixing fluid dispensed from the fluid reservoir and the diluent beverage initially contained within the drink container. The mixture may also include ice cubes and various garnishes such as fruit, olives or the like. In

one non-limiting operating mode the mixing fluid is dispensed from the fluid reservoir into the beverage container through a lower portion of the hollow tube. In other non-limiting operating modes the mixing fluid is dispensed from the fluid reservoir into the beverage container without passing through the hollow tube such as through one or more ports passing through exterior walls of the fluid reservoir. In addition, the lower portion of the hollow tube is usable to stir the mixture after the mixing fluid is dispensed into the beverage container. The mixing fluid may comprise a liquid or a solid ingredient such as a powder or granular aggregate that is preferably soluble in various diluent beverages such as water. The diluent fluid may comprise a liquid or a solid ingredient such as a powder or granular aggregate that is preferably soluble in various mixing fluids such as distilled spirits.

[0024] In a preferred embodiment the fluid reservoir contains a distilled spirit beverage sealed therein and the fluid reservoir is formed to convey a branding message associated with its contents, e.g. a brand message associated with the distilled spirit beverage sealed therein. Moreover the present invention allows the branding message to be visible above the beverage container during the entire period that the mixture is being consumed. In various example embodiments the walls surrounding the fluid reservoir and or the cylindrical exterior wall of the hollow tube or both are formed and decorated with one or more of the shape, color, texture, graphic design, text labeling or the like of the wall surrounding the fluid reservoir and or the exterior wall of the hollow tube arranged to convey a desired branding message related to the content of the fluid reservoir and or to the mixture (mixed drink) being consumed from the drink container. Alternately or additionally the wall surrounding the fluid reservoir and or the wall surrounding the hollow tube or both are formed, decorated or include additional elements specifically arranged or added to convey the desired branding message through a humanly perceivable fragrance or taste, a humanly audible sound, a humanly perceptible light emission and or a humanly perceptible tactile sensation. In some embodiments the outer walls are decorated by the application of printed or colored labels adhered to external surfaces of the fluid reservoir, hollow tube, or both.

[0025] In further non-limiting example embodiments the mixing fluid may comprise dietary supplements, flavor enhancers, color or fragrance enhancers, spices, medications, or any other mixing fluid suitable for human oral consumption where it is desirable to mix the mixing fluid with a diluent fluid, to provide a single serving in a sealed package and to convey a branding message on the walls surrounding the fluid reservoir and or hollow tube during the time that the mixed beverage is being consumed.

[0026] In some non-limiting example embodiments the combined fluid reservoir and hollow tube comprise a substantially unitary device, e.g. comprising a fully unitary element formed by first extruding a hollow tube straw and thereafter blow molding a fluid reservoir integral with the hollow tube straw in a secondary operation. In other example embodiments the fluid reservoir and two or more hollow tube elements are permanently joined such as by a sonic weld, adhesive bonding or the like. In further non-limiting example embodiments the combined fluid reservoir and hollow tube are purposely separable elements able to be assembled, disassembled and then reassembled for reuse or to reconfigure to present different color schemes or the like as needed to change the branding message. For example the color of the

hollow tube may be black for a rum and coke and yellow for a rum and pineapple even when the fluid reservoir and the rum are the same for each drink.

[0027] In a non-limiting example usage method the fluid reservoir alone is filled and sealed by a supplier of the mixing fluid, e.g. at the supplier location, and then shipped to retail locations in the sealed condition without the hollow tube which is assembled with the fluid reservoir at the retail location. In a further non-limiting usage method the entire fluid container including a filled sealed fluid reservoir and the attached hollow tube is assembled by a supplier and sold as a unit to retail locations. In a further non-limiting usage method assembled single serving sealed fluid containers are sold for immediate consumption at a retail location such as a bar or club, at an indoor or outdoor event venue, in a passenger vehicle or craft e.g. an airplane, water or land transportation vehicle or at other locations where it is appropriate to sell distilled spirit beverages. In a still further non-limiting example usage method the entire fluid container including a sealed fluid reservoir and the attached hollow tube is sold with a beverage container partially filled with an appropriate diluent beverage for immediate consumption at the retail location, e.g. as shown in FIG. 9. In one particularly beneficial embodiment the fluid container including a sealed fluid reservoir filled with a distilled spirit beverage and an attached hollow tube is sold to a consumer together with another non-alcoholic beverage in a beverage container. In this case the non-alcoholic beverage is a non-alcoholic diluent fluid and the distilled spirit beverage is the mixing fluid and the two fluids are mixed in the non-alcoholic beverage container, which may be a cup or glass, or other container that is suitable for displaying the branding message while the mixed beverage is being consumed.

[0028] In further aspects of the invention the entire fluid container and or just the fluid reservoir is sealed and packaged for shipment to retail locations using sealing and packaging elements that are suitable and approved for shipping alcoholic beverages, e.g. with official tax or other agency control stamps or the like attached to each package fluid container. In a further aspect of the invention the fluid reservoir includes one or more sealed ports that can be opened by a consumer without using a tool to dispense all of the contents of the fluid reservoir into a diluent beverage in a single action. In other aspects of the invention the fluid reservoir includes one or more sealed ports that can be opened by a consumer to dispense a first portion of the contents of the fluid reservoir into the diluent beverage in a first action and thereafter to dispense one or more further portions of the contents of the fluid reservoir into the same or a different diluent beverage in subsequent actions.

[0029] 1.5 Item Number List

[0030] The following item numbers are used throughout, unless specifically indicated otherwise.

#	DESCRIPTION
100	Fluid container
105	Fluid reservoir
110	Hollow tube
120	Upper portion
125	Bellows portion
130	Circumferential perforation
135	Removable portion

-continued

#	DESCRIPTION
140	Internal volume
145	Outer wall
150	Annular inner wall
155	Inside diameter
160	Port
165	Stopper
170	Logo area
175	Beverage container
180	Diluent fluid beverage
185	Bottom open end
190	Top open end
195	Flexure
196	Bottom open end
197	Annular volume
200	Fluid container
205	Fluid reservoir
210	Inner dispensing port
215	Lower portion
220	Upper portion
225	Outer dispensing port
235	Engaging features

[0031] 1.6 Exemplary System Architecture

[0032] Referring now to FIGS. 1-9 a non-limiting exemplary fluid container (100) includes a fluid reservoir (105) and a hollow tube (110) usable as a drinking straw. The hollow tube (110) extends through the fluid reservoir (105) along a central longitudinal axis thereof. The hollow tube includes a lower portion (115) extending below the fluid reservoir and an upper portion (120) extending above the fluid reservoir. In one non-limiting example embodiment the hollow tube upper portion (120) includes an optional bellows portion (125) constructed as a flexure bendable by a user to orient and maintain the orientation of the drinking straw upper portion with respect to the lower portion at a desirable orientation for convenient oral consumption of a beverage through the drinking straw. Optionally the drinking straw is formed with a permanent bend in the upper portion. In one non-limiting example embodiment the lower portion (115) may include one or more circumferential perforations (130) provided to define breakaway borders suitable for breaking away one or more removable portions (135) to shorten the length lower portion (115) to fit the drink container. Ideally the lower portion is shortened to substantially match the depth of a beverage container that the fluid container will be used with and specifically to adjust the length of the lower portion as required to display the fluid reservoir above the drink container to display the branding message at a desired height above the beverage container during use.

[0033] Referring now to FIGS. 2-5 a non-limiting example embodiment fluid reservoir (105) comprises an internal volume (140). The internal volume (140) is sized to hold a desired fluid volume, e.g. between 1/2 to about 3 fluid oz., however other fluid volumes are usable without deviating from the present invention. Preferably the internal volume (140) is sized as a single serving volume. The volume (140) is bounded by a substantially unitary outer wall (145) attached to or integrally formed with a substantially unitary annular inner wall (150). The inner wall (150) is cylindrical and surrounds an open ended hollow cylindrical volume extending longitudinally through the fluid reservoir along its central longitudinal axis. In other embodiments the inner wall (150) and associated open ended hollow cylindrical volume can be offset from the central longitudinal axis without deviating

from the present invention. An inside diameter (155) of the inner wall (150) is sized to receive an external diameter of the hollow tube lower portion (115) there through with a slight interference fit. As best viewed in the section view taken through the central longitudinal axis in FIG. 5, the hollow tube (110) is substantially centered by the central longitudinal axis that extends along its entire length which in the present example is also the central longitudinal axis of the inside diameter (155).

[0034] In a first non-limiting example embodiment the internal volume (140) comprises a single chamber with a single port (160) passing through the external wall (145) to provide access to the single chamber of the internal volume (140) for filling the chamber with a mixing fluid and/or for dispensing the mixing fluid from the chamber. In the first non-limiting example embodiment the port (160) is sealed by a stopper (165) such as a solid or thin walled molded plug, a threaded cap, a snap in plug, or the like. In various non-limited first example embodiments the stopper (160) is held in place by an interference fit with the port or by attachment to the external wall by an adhesive bond, by a sonic or thermal weld by induction sealing or by other mechanical elements such as interlocking features or threaded elements disposed on each of the stopper and the outer wall. In further example embodiment the stopper (165) may be tethering to the outer wall (145) by a hinge or other tethering element. In still further example embodiments the plug may be permanently attached with the outer wall (145), e.g. by a sonic weld or the like, after the mixing fluid is disposed into the internal volume (140) through the port (160), e.g. to seal the internal volume after it has been filled with the mixing fluid.

[0035] In a further example the port may be sealed by a peel away tamper evident aluminum foil induction seal or the like which is adhesively or inductively bonded or otherwise attached to the outer wall after filling the reservoir with the mixing fluid. In this example the peel away seal may be removed by the end user to dispense the mixing fluid into another container. Optionally the port may be permanently sealed after filling by installing a substantially tamper proof stopper (165), foil seal or the like into the port or onto the outer wall (145) in a manner that prevents the end user from opening the sealed port (160). In any case the outer wall (145) optionally includes a port (160) passing there through for disposing mixing fluid into the internal volume (140) through the port and for dispensing mixing fluid through the port.

[0036] In a further non-limiting embodiment the internal volume (140) is divided into a plurality of segregated chambers with each chamber including a separate port (160) passing through the outer wall (145) to provide access to one of the plurality of segregated chambers. Additionally each separate chamber may be filled with the same or with a different mixing fluid and each of the separate ports may be usable to fill or dispense mixing fluid there through.

[0037] Referring now to FIGS. 7-9 the fluid container (100) is specifically formed and or decorated to convey a branding message. In particular FIG. 9 depicts a non-limited example use of a fluid container (200) for preparing a mixed beverage in a beverage container (175) and thereafter for consuming the mixed beverage from the beverage container (175) by drinking the mixed beverage through the hollow tube or straw (220) while displaying the branding message, e.g. the logo (170) during the entire time the mixed beverage is being consumed.

[0038] More specifically the preparation steps include providing a beverage container (175) and a fluid container (200) to a consumer. Preferably the beverage container (175) is partially filled with a diluent fluid beverage, e.g. a non-alcoholic beverage, and the fluid reservoir (205) is initially sealed and filled with a mixing fluid comprising a single serving of a distilled beverage, spirit or liquor. Preferably the diluent fluid and the mixing fluid are provided in predetermined combinations, e.g. wherein the mixing fluid comprises a known single distilled spirit fluid beverage and the diluent fluid comprises a known single non-alcoholic beverage with or without ice. In other combinations, the mixing fluid may comprise a mixture of a plurality of distilled spirits or a mixture of one distilled spirit beverage and one or more non-distilled spirit ingredients however still in single serving portion. Thus in one non-limiting example mixed drink the diluent fluid provided in the beverage container (175) is water or water and ice and the mixing fluid provided in the fluid reservoir is a single serving of a distilled spirit ingredient such as whisky, bourbon, scotch or another distilled spirit that is traditionally mixed with water or water and ice for human consumption. In other non-limiting examples the mixing fluid comprises a single distilled spirit, e.g. vodka, gin, rum, brandy, snaps, whiskey, bourbon, scotch, or the like, and the diluent fluid comprises a single non-distilled spirit ingredient e.g. a fruit juice, a dairy product (e.g. milk, cream, ice cream), a soft drink, (e.g. a Coca Cola or Pepsi product or the like) or water, with or without ice.

[0039] In still further non-limiting example embodiments the mixing fluid provided in the fluid reservoir (205) comprises a mixture of a plurality of distilled spirit ingredients such as a mixture of vodka and vermouth (a martini) and the beverage container is served with ice only or empty. In still further non-limiting example embodiments the mixing fluid comprises a mixture of one or more distilled spirit ingredients and one or more non-distilled spirit ingredients, such as a mixture comprising vodka and cream, and the beverage container is served with ice only or empty. In still further examples the fluid reservoir (205) includes two or more separate chambers each filled with a different mixing fluid such as vodka in one chamber and cream in another chamber or vodka in one chamber and vermouth in the other. In this example each of the two or more separate chambers may be emptied separately or emptied substantially simultaneously into the beverage container (175).

[0040] According to one aspect of the present invention a consumer orders a mixed drink by specifying traditional ingredients or by specifying a traditional mixed drink by a drink name wherein the drink name is consistent with known ingredients. For example the consumer may order rum and coke or whiskey and soda, wherein the actual ingredients are specified (although not the proportions) or the consumer may order a mixed drink by a drink name such as martini, apple martini, screwdriver, manhattan, or the like, wherein the drink ingredients are understood from the drink name. Thereafter a beverage container (175) is prepared for delivery to the consumer by partially filling the beverage container with non-distilled spirit ingredients and optionally ice and selecting an appropriate fluid container (200) for delivery to the consumer with the partially filled beverage container wherein the appropriate fluid container (200) includes the appropriate distilled spirit beverage ingredient or ingredient mixture to match the drink name ordered by the consumer.

[0041] Upon serving the consumer or shortly thereafter the mixing fluid is dispensed from the fluid reservoir (105) into

the beverage container (175) and may be stirred to mix the ingredients using the fluid container lower portion (115). The dispensing step may be performed by a server or by the consumer or end user. In various dispensing modes described below, the entire contents of the fluid reservoir (105) are dispensed into the beverage container (175) in a single action. Alternately, the dispensing step may comprise one or more dispensing steps wherein portions the fluid reservoir contents are dispensed into the beverage container (175) in a plurality of discrete dispensing steps at the discretion of the consumer, even when the fluid reservoir only contains a single serving. After each dispensing step or periodically the consumer may use the lower portion (115) to stir the fluid mixture held in the beverage container (175).

[0042] According to one aspect of the present invention the consumer consumes the mixed drink from the fluid container (175) through the hollow tube (210) by sucking on the upper portion (220) of the hollow tube while the lower portion (215) of the hollow tube is submerged below the level of fluid in the beverage container (175). Meanwhile the consumer displays the branding message conveyed by the fluid container (200) substantially during the entire time the mixed drink is being consumed.

[0043] As shown in FIG. 9 a glass or other beverage container (175) is filled with a mixture or mixed drink. Generally the mixed drink comprised a diluent fluid and a mixing fluid wherein the diluent fluid was locally provided and the mixing fluid was shipped to the locality in a sealed container at least comprising the fluid reservoir (205). In a particularly beneficial embodiment of the present invention the mixing fluid comprise a liquid distilled spirit beverage and the fluid reservoir (205) is formed and decorated to convey a branding message associated with the liquid distilled spirit beverage contained therein.

[0044] As shown in FIG. 9 the fluid container (200) comprises a hollow tube (210) extending through a fluid reservoir (205). The hollow tube includes a lower portion (215) disposed inside the beverage container (175) with an open end (196) of the lower portion (215) positioned proximate to the bottom of the beverage container. As shown, the entire fluid reservoir (205) is disposed just above the top of the beverage container (175) and the upper portion (220) extends further above the beverage container with an open end (190) of the upper portion (220) disposed above the level of the mixed drink. Thus the hollow tube (210) functions as a drinking straw with the bottom open end submerged below the level of liquid in the beverage container (175) and the top open end extending above the level of liquid in the beverage container.

[0045] According to a non-limiting example embodiment, the present invention includes a fluid reservoir (205) that includes two opposing logo areas (170), one shown, displaying a logo on each of two opposing faces of the fluid reservoir (205). Alternately one, three or four logo areas are usable. Additionally the entire fluid reservoir is preferably disposed just above the top of the beverage container (175) during the entire time that the mixture is being consumed. Thus the logo area (170) is visible during the entire time that the mixture is being consumed and possibly for a period after consumption while the empty beverage container and used fluid container remain on display until they are cleared away by a server.

[0046] In one dispensing mode according to the present invention the fluid container (200) is provided to the patron with the fluid reservoir (205) in a sealed state and the patron breaks the seal and personally dispenses the mixing fluid

from the fluid reservoir (105) into the beverage container (175), either all at once or in a plurality of dispensing steps wherein the consumer dispenses the mixing fluid in desired proportions. In another dispensing mode a server dispenses the mixing fluid from the fluid reservoir (205) before or while delivering the beverage container to the consumer.

[0047] As is further detailed in FIGS. 7-9, a branding message is conveyed by one or more logo areas (170) provided to display branding messages such as one or more of a product name, a brand name, a company name, a logo, a tag line, a distributor name or other text and or graphic elements as may be appropriate for conveying the branding message. In addition to a branding message conveyed by the logo areas (170) the fluid reservoir outer wall (145) is further formed to convey a branding message or otherwise highlight the branding message by virtue of its shape, size, color, color patterns, texture or the like. For example the shape size and color of the logo area (170) is formed to draw attention to the logo and is generally configured according to established branding practices of the supplier or distributor of the fluid contained within the fluid container. In the example embodiment of FIG. 9 the logo (170) is circular, with a black background over written with chrome or silver lettering and the outer walls of the fluid reservoir are also chrome or silver matching the lettering of the logo. Preferably the branding message conveyed by the logo, text or graphic elements located in the logo area and by the fluid reservoir size, shape, color, color patterns, texture, or the like are configured according to established branding practices of the supplier or distributor of the fluid shipped in the fluid container.

[0048] In further non-limiting example embodiments, aspects of the size, shape, color, color patterns, texture, or the like, of the fluid reservoir convey the entire branding message alone without the need to include a logo, logo area, text or graphic elements. Such examples, not shown, include a fluid reservoir containing a lemon or apple flavored mixing fluid wherein the fluid reservoir resembles or otherwise reminds an observer of a lemon or an apple by its shape, color and texture. Additionally the fluid reservoir may further remind a patron of a lemon by a lemon or apple fragrance which may be provided by adding a fragrance to the fluid reservoir material either during or after manufacture.

[0049] In addition to branding aspects of the fluid reservoir (205), a further aspect of the present invention includes using aspects of the hollow tube (110) such its color or color patterns, shape, texture, text or logo areas or the like, to enhance or further contribute to the branding message. As shown in FIG. 9 the hollow tube is colored black to match the color of the background area of the logo in an attempt to draw attention to the logo area (170). Additionally the black color of the hollow tube substantially matches the color of the diluent fluid beverage which in the present example comprises a dark cola, or the like, which is a common diluent fluid used with mixed drinks. Thus the color of the hollow tube may suggest to a consumer and to observers what diluent fluid is mixed with the mixing fluid in the beverage container or what mixed drink the consumer has selected. Thus according to an important aspect of the present invention the entire fluid container (200) is fashioned to convey a branding message that suggests not only what distilled spirit is being consumed but also what diluent fluid is mixed with the distilled spirit.

[0050] Referring now to FIGS. 5-9, FIG. 6 depicts an exploded isometric view showing the hollow tube (110), separate from the fluid reservoir (105), and the optional stop-

per (165) separate from the port (160). FIG. 5 shows the assembled hollow tube (110) and fluid reservoir (105) in section view taken through a central longitudinal axis labeled FIG. 5 in FIG. 2.

[0051] In a non-limiting example embodiment, the hollow tube (110) is formed by two separate mating elements, an upper portion (120) and a lower portion (115). As best viewed in FIG. 5 the upper portion (120) includes a smooth annular cylindrical outer wall having a substantially uniform external and internal diameter surrounding a longitudinal fluid conduit or hollow cavity that extends from a top open end (190) to a bottom open end (185). The upper portion (120) is disposed partially inside the lower portion (115) and partially extending out of an upper end of the lower portion. An external diameter of the upper portion is sized to be received within an internal diameter of the lower portion (115) with a slight interface fit at a flexure (195). Accordingly the flexure (195) supports the upper portion with respect to the lower portion in a desired longitudinal position. The length of the upper portion (120) is sufficient to substantially reach the bottom of the beverage container (175) while the fluid container is in use. More specifically, the upper portion (120) functions as a drinking straw with the bottom open end or aperture (185) submerged below the level of liquid in the beverage container (175) to draw liquid into the longitudinal fluid conduit formed by upper portion (120). The top or second aperture (190) is disposed above the level of liquid in the beverage container (175). Thus the consumer drinks the mixed beverage contained in the beverage container (175) through the upper portion (120).

[0052] In a non-limiting example embodiment, the hollow lower portion (115) includes a smooth annular cylindrical outer wall having a substantially uniform external and internal diameter along most of its length but is formed with a reduced internal and external diameter at the flexure (195). The flexure (195) is configured to engage with the outside diameter of the upper portion (120) and to hold the outside diameter of the upper portion in place by applying a radially inward force against the outside diameter of the upper portion. However the force applied by the flexure can be overcome to reposition the upper portion with respect to the lower portion by sliding the upper portion along the longitudinal axis of the lower portion. Except at the flexure (195) the internal diameter of the lower portion (115) exceeds the external diameter of the upper portion (120) such that an annular volume (197) surrounds the upper portion (120) in the space between an external wall of the upper portion and an internal wall of the lower portion substantially along the entire length of the lower portion (115) below the flexure (195). Otherwise, the annular cylindrical outer wall of the lower portion surrounds a longitudinal fluid conduit or hollow cavity that extends from the flexure (195) to a bottom open end (196).

[0053] In one non-limiting example embodiment depicted in FIG. 5 the lower portion (115) includes a circumferential perforation (130) which is optionally usable to break a removable portion (135) away from the lower portion to shorten the length of the lower portion in order to approximately match the length of the lower portion to the depth of a beverage container (175). In this case the position of the upper portion (120) is movable with respect to the lower portion (115) to preferably position the second or bottom aperture (185) proximate to the bottom of the fluid container during use but preferably not extending out from the lower portion bottom open end (196).

[0054] Referring now to FIGS. 5 and 6 in a non-limiting example embodiment of the present invention the fluid reservoir (105) is removably assembled to the hollow tube (110) by inserting the hollow tube into engagement with the internal diameter (155) of the annular inner wall (150) of the fluid reservoir (105). In one example embodiment the fluid reservoir (105) is located and held at a desired longitudinal position along the lower portion using raised or depressed surface feature e.g. a raised ring or depressed groove or one or more raised or depressed detents or other mechanical features (235) provided to hold the fluid reservoir (105) in a desired orientation with respect to the hollow tube (110). Preferably the engaging features (235) are configured to position the fluid reservoir at a desired longitudinal position along the hollow tube and at a desired angular orientation with respect to a longitudinal axis of the hollow tube (110).

[0055] As further shown in FIG. 5, the fluid reservoir inner wall (150) has a reduced internal diameter at its top end and is positioned to overlap the flexure (195) or other region of the outside diameter of the hollow tube upper portion proximate to the flexure (195). In particular, the fluid reservoir inner wall (150) is formed with a flexible end portion having a reduced internal diameter, (and possibly a reduced external diameter), that engages with and makes an interference fit with one or both of the outside diameter of the upper portion (120) and the outside diameter of the lower portion (115) proximate to the flexure (195).

[0056] Preferably the flexure (195) is formed at the engagement of the upper portion (120) with the lower portion (115) and at the engagement of the fluid reservoir inner wall (150) with the lower portion (115) and exerts a radially inward force that secures the fluid reservoir against an external wall of the lower portion (115) and further exerts a radially inward force against an external wall of the upper portion (125). Meanwhile even though the flexure (195) engages all three elements, each element is movable with respect to the other elements as needed to reposition each element along the longitudinal axis or to rotate at least the fluid reservoir about the longitudinal axis to achieve a desired rotational orientation. In particular at least the fluid reservoir (105) is movable longitudinally to engage corresponding raised or depressed surface features, not shown, formed on internal surface of the wall (150) with the raised or depressed surface features (235) formed on the hollow tube lower portion (115). Additionally at least the fluid reservoir (105) is movable to rotate about the longitudinal axis to dispense the mixing fluid out from the volume (140) as described below.

[0057] In the present non-limiting example embodiment the hollow tube includes an inner fluid dispensing port (210) which passes through the cylindrical wall of the lower portion (115) providing fluid communication with the annular volume (197). Additionally the fluid reservoir inner wall (150) includes an outer dispensing port (225) which passes through the annular inner wall (150) to the internal volume (140). In operation, the fluid reservoir (105) is rotated about its longitudinal axis to misalign the inner dispensing port (225) from fluid communication with the outer dispensing port (225) to thereby seal the inner dispensing port (225). In particular the fluid conduit internal diameter (155) is in mating contact with the outside diameter of the lower portion (115) to an extent that the outer dispensing port (225) is substantially sealed when it is not in alignment with the inner dispensing port (210). Alternately the fluid reservoir (105) is rotated about the longitudinal axis to align the inner dispensing port (225) with

the outer dispensing port (210) to dispense fluid from the internal volume (140) into the annular channel (197).

[0058] Accordingly, in a dispensing position the inner and outer ports (210, 225) are aligned to dispense mixing fluid from the inner volume (140) into the annular volume (197) where the mixing fluid flows downward into the beverage container (175) by the force of gravity as shown by the downward directed fluid flow arrows of FIG. 5.

[0059] More specifically when the fluid reservoir (105) is installed onto the hollow tube (110) with an angular orientation that purposely misaligns the inner dispensing ports (210) with the orientation of the outer dispensing port (225) such that the outer dispensing port (225) is substantially sealed by contact between the outer dispensing port (210) and the external diameter of the hollow tube lower portion (115).

[0060] In one non-limiting example embodiment the fluid reservoir inside diameter (155) includes detents and or other raised or depressed surface features, not shown, formed thereon suitable for engaging with similar raised or depressed surface features (235) disposed on the outside diameter of the lower tube portion (115). By engaging the mating surface features the fluid reservoir (105) is positioned at a longitudinal position with respect to the hollow tube that aligns the inner and outer ports (210, 235) to dispense fluid from the internal volume (140) to the annular volume (197). Additionally, by engaging the mating surface features provided to rotationally orient the fluid reservoir (105) the fluid reservoir may be rotated about the longitudinal axis to a dispensing position which aligns the inner and outer ports (210, 235) to dispense fluid or to rotationally orient the fluid reservoir (105) to a non-dispensing position where the inner and outer ports are misaligned. Additionally the dispensing and non-dispensing positions may be marked with indicia or otherwise formed, labeled or configured to provide user feedback relative to which orientation is associated with the dispensing position. Thus in a first angular orientation (dispensing position) the inner and outer dispensing ports are aligned to dispense mixing fluid from the internal volume (140) into the beverage container (175) through the annular volume (197). In a second angular orientation (sealed or non-dispensing position) the inner and outer dispensing ports are misaligned and the outer dispensing port is sealed to prevent mixing fluid from exiting from the internal volume (140).

[0061] In the above described embodiment the outer dispensing port (225) is positioned at the bottom edge of the internal volume (140) such that when the fluid reservoir is oriented in the dispensing position the entire volume of mixing fluid contained within the internal volume (140) flows out of the inner annular volume into the beverage container.

[0062] In other embodiments the inner wall (150) includes a plurality of outer ports (225) positioned at different longitudinal positions and at different angular orientations with respect to the longitudinal axis and the hollow tube lower portion (115) may include a plurality of inner ports (210) at different longitudinal positions and at different angular orientations with respect to the longitudinal axis to release less than the entire volume of mixing fluid through each inner dispensing port (210) is various dispensing positions.

[0063] For example three outer dispensing ports (225) disposed at three different longitudinal heights along the internal volume (140) and at three different rotational orientations with respect to the longitudinal axis are aligned one at a time with three different inner dispensing ports (210) each posited at a different longitudinal position and a different rotational

orientation with respect to the longitudinal axis to dispense the mixing fluid in three different dispensing steps, e.g. $\frac{1}{3}$ of the volume from a top dispensing port, $\frac{1}{3}$ of the volume from a middle dispensing port and $\frac{1}{3}$ of the volume from a bottom dispensing port wherein top middle and lower refer to their position along the longitudinal length of the hollow volume (140).

[0064] In a further aspect of the present invention fluid reservoir annular inner wall (150) and or the outer wall (145) includes an air vent, not shown, passing through the wall (145) to the upper end of the internal volume (140) for venting the inner volume as mixing fluid flows out. Similarly the hollow tube lower portion may include an air vent (217) near the upper end of the outer wall for venting the annular volume (197).

[0065] In addition to dispensing fluid from the internal volume (140) the dispensing ports (210, 225) can be aligned in the dispensing position to fill the internal volume (140) through the hollow tube lower portion when the bottom open end (185) is sealed. Thus the internal volume (140) can be filled through the lower portion and thereafter sealed by reorienting the fluid reservoir to misalign the inner and outer dispensing ports. Such a filling procedure may be used to fill the fluid reservoir at a supplier location.

[0066] In a further example embodiment the fluid reservoir (105) does not include an external fill port (160) or stopper (165) but instead is filled through the internal aperture (225) using a filling fixture or the like at a distribution center supplier location or the like. Once filled the internal aperture (225) may be sealed with a foil seal or a sealing rod installed into the internal diameter (155) in place of the hollow tube and shipped to a retail location without the hollow tube for assembly with a hollow tube at the retail location.

[0067] In a further aspect of the present invention a seal or other evidence tamper proof elements may be placed on filled sealed fluid reservoirs to show that the sealed fluid reservoir has not been opened since it was filled. Additionally or alternatively the entire fluid container including a filled fluid reservoir assembled with a hollow tube may be packed in a sealed package to be opened by a consumer that purchases the fluid container.

[0068] In various non-limited example embodiments, fluid reservoirs or the entire fluid container comprise a plastic material suitable for storing, shipping and distributing beverages for human consumption. Preferably each element of the fluid container is molded and or extruded from a thermoplastic material such as polypropylene, polyethylene or polystyrene which each have good thermoplastic molding properties and are safe for contact with food and beverages. Additionally the thermoplastic elements may be formed by adding color pigments that are approved by the Food and Drug Administration (FDA) for food and beverage contact in order to color the elements according to a branding color scheme or the like. Additionally the thermoplastic elements may be formed with other additives such as plasticizers to improve flexibility, antioxidants to reduce interactions between oxygen and the plastic material, ultraviolet light filters and inert fillers used to vary the density of the plastic material.

[0069] Preferably each of the hollow tube elements is extruded through an injection molding device and then reformed or otherwise processed to add features such as the flexures (125) and (195) and the perforations (130). Other secondary operations are used to add through holes and slots as required. Preferably the fluid reservoir is blow molded or

otherwise formed by a molding process suitable for molding liquid tight plastic containers. In some non-limiting sample embodiments the entire fluid container comprises biodegradable materials such as wax coated paper based materials.

[0070] In a further aspect of the present invention the fluid container and specifically the branding message including any background images or colors may be printed directly onto the fluid reservoir and or hollow tubes. In another non-limiting example embodiment the logo and background image or colors may comprise an adhesive backed label attached to the fluid reservoir in a secondary operation. In another non-limiting example embodiment the logo and background image or colors may comprise a foil label which is inductively or adhesively attached to the fluid reservoir and which also serves to seal the port (160). In other examples the ink used to directly print on the fluid reservoir or to print the adhesive backed label may be formulated to change its hue in response to various physical changes such as local temperature and or illumination changes. In a further aspect of the present invention the fluid reservoir and or the entire fluid container may be refrigerated prior to retail sale and the hue changing ink is formulated to change color to clearly identify those fluid reservoirs that are at the right temperature to serve.

[0071] It will also be recognized by those skilled in the art that, while the invention has been described above in terms of preferred embodiments, it is not limited thereto. Various features and aspects of the above described invention may be used individually or jointly. Further, although the invention has been described in the context of its implementation in a particular environment, and for particular applications (e.g. serving and dispensing distilled spirits with a branding message displayed while they are being consumed), those skilled in the art will recognize that its usefulness is not limited thereto and that the present invention can be beneficially utilized in any number of environments and implementations where it is desirable to prepackage a single serving mixing ingredient for mixing with a diluent beverage. Accordingly, the claims set forth below should be construed in view of the full breadth and spirit of the invention as disclosed herein.

1. A fluid container comprising:
 - a hollow tube operable as a drinking straw disposed along a longitudinal axis;
 - a fluid reservoir comprising:
 - an reservoir inner wall disposed along the longitudinal axis surrounding an open ended hollow cylindrical longitudinal volume wherein an inside diameter of the reservoir inner wall is sized to receive an external diameter of the hollow tube there through;
 - an internal volume sized to hold a desired fluid volume disposed to surround the inner wall;
 - wherein the internal volume is bounded by the reservoir inner wall and a substantially unitary reservoir outer wall attached to the reservoir inner wall;
 - a port passing through one of the reservoir inner wall and the reservoir outer wall to the internal volume; and,
 - wherein aspects of the fluid container are configured to convey a branding message.
2. The fluid container of claim 1 wherein the hollow tube comprises:
 - an upper portion comprising an upper portion outer wall surrounding a first longitudinal fluid conduit between upper portion open top and a bottom ends;
 - a lower portion comprising an lower outer wall surrounding a second longitudinal fluid conduit between lower

portion open top and bottom ends wherein the lower portion top open end has a reduced internal diameter formed as a flexure;

wherein the upper portion outer wall extends into the lower portion outer wall and engages with the flexure in a manner that causes the flexure to exert a radially inward force against the upper portion outer wall to secure the upper portion in a desired longitudinal position with respect to the lower portion with the upper portion disposed partially inside the lower portion (115) and partially extending out of the lower portion open top end.

3. The fluid container of claim 3 further comprising: a reservoir port passing through one of the reservoir inner wall and the reservoir outer wall;

wherein the internal volume is filled with a single serving of a mixing fluid which is delivered into the internal volume through the reservoir port; and,

a sealing element disposed to seal the reservoir port.

4. The fluid container of claim 3 wherein the sealing element comprises a tamper evident foil element secured to an external surface of the reservoir proximate to the reservoir port after filling the inner volume by one of adhesive and inductive attachment.

5. The fluid container of claim 3 wherein the reservoir port passes through the reservoir inner wall and the sealing element comprises the lower portion outer wall.

6. The fluid container of claim 3 wherein the wherein the reservoir port passes through the reservoir inner wall and the sealing element comprises a substitute sealing rod installed into the reservoir inner wall with a substantially interference fit.

7. The fluid container of claim 2 further comprising: a reservoir port passing through the reservoir inner wall; a dispensing port passing through the lower outer wall; wherein the internal volume is filled with a single serving of a mixing fluid;

wherein the fluid reservoir and the lower portion are longitudinally positioned with respect to one another to mutually align the reservoir port with the dispensing port when the reservoir port and the dispensing port are rotationally aligned;

wherein one or the fluid reservoir and the lower portion is rotatable about the longitudinal axis with respect to the other to rotationally align the reservoir port and the dispensing port to dispense the mixing fluid from the inner volume through the lower outer wall.

8. The fluid container of claim 7 wherein the upper portion functions as a drinking straw for drinking from a beverage container and wherein.

9. The fluid container of claim 8 wherein the lower portion includes one or more removable portions usable to adjustable the longitudinal length of the lower portion in order to display the fluid reservoir at a desired height above the beverage container when the fluid container is being used as a drinking straw.

10. The fluid container of claim 9 further comprising a logo displayed on an outside surface of the reservoir outer wall.

11. The fluid container of claim 9 wherein an outside surface of the reservoir outer wall is formed with a shape that conveys the banding message.

12. The fluid container of claim 9 wherein one of an outside surface of one of the reservoir outer wall, the outside surface of the upper portion outer wall and the outside surface of the

lower portion outer wall is colored with a color pattern that conveys the banding message.

13. The fluid container of claim **1**:

wherein the upper portion functions as a drinking straw for drinking from a beverage container that includes a diluent fluid contained therein;

wherein an outside surface the reservoir outer wall is configured to convey a first branding message associated with the mixing fluid; and,

wherein one or an outside surface of the upper portion outer wall and an outside surface of the lower portion outer wall is colored with a color pattern that conveys the banding message associated with the diluent fluid.

14. The fluid container of claim **1** wherein the internal volume is filled with a single serving a distilled spirit beverage and sealed.

15. A method comprising:

forming a fluid reservoir for packaging a mixing fluid wherein the fluid reservoir comprises branding elements visible during use;

filling the fluid reservoir with the mixing fluid and sealing the fluid reservoir;

distributing a plurality of sealed fluid reservoirs to retail locations;

assembling each fluid reservoir with hollow tube usable as a drinking straw at the retail locations; and,

providing patrons of the retail location with the assembled fluid reservoir and hollow tube and with an open top beverage container that includes a diluent fluid beverage suitable for mixing with the mixing fluid and suitable for the patron drinking the mixture of the diluent fluid and

missing fluid from the open top beverage container using the assembled fluid reservoir with hollow tube usable as a drinking straw.

16. The method of claim **15** wherein the mixing fluid comprises a distilled spirit beverage and the diluent fluid beverage comprises a non-alcoholic beverage.

17. The method of claim **16** further comprising the step of forming the hollow tube to include branding elements during use.

18. The method of claim **16** wherein the distilled spirit beverage is dispensed from the fluid reservoir into the open top beverage container by the patron.

19. The method of claim **16** further comprising displaying a logo associated with the distilled spirit mixing fluid on the fluid reservoir.

20. A method comprising:

forming a fluid reservoir for packaging a single serving of a distilled beverage wherein the fluid reservoir comprises branding elements visible during use;

forming a hollow tube usable as a drinking straw for assembly with the fluid reservoir;

filling the fluid reservoir with the distilled beverage and sealing the fluid reservoir;

assembling the hollow tube usable with the fluid reservoir to form a fluid container;

distributing a plurality of the sealed fluid containers to retail locations.

21. The method of claim **21** further comprising:

providing patrons of the retail location with the fluid containers;

providing the patrons with an open top beverage container containing a diluent fluid beverage.

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