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(54) **BEVERAGE CONTAINER**

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(57) **ABSTRACT**

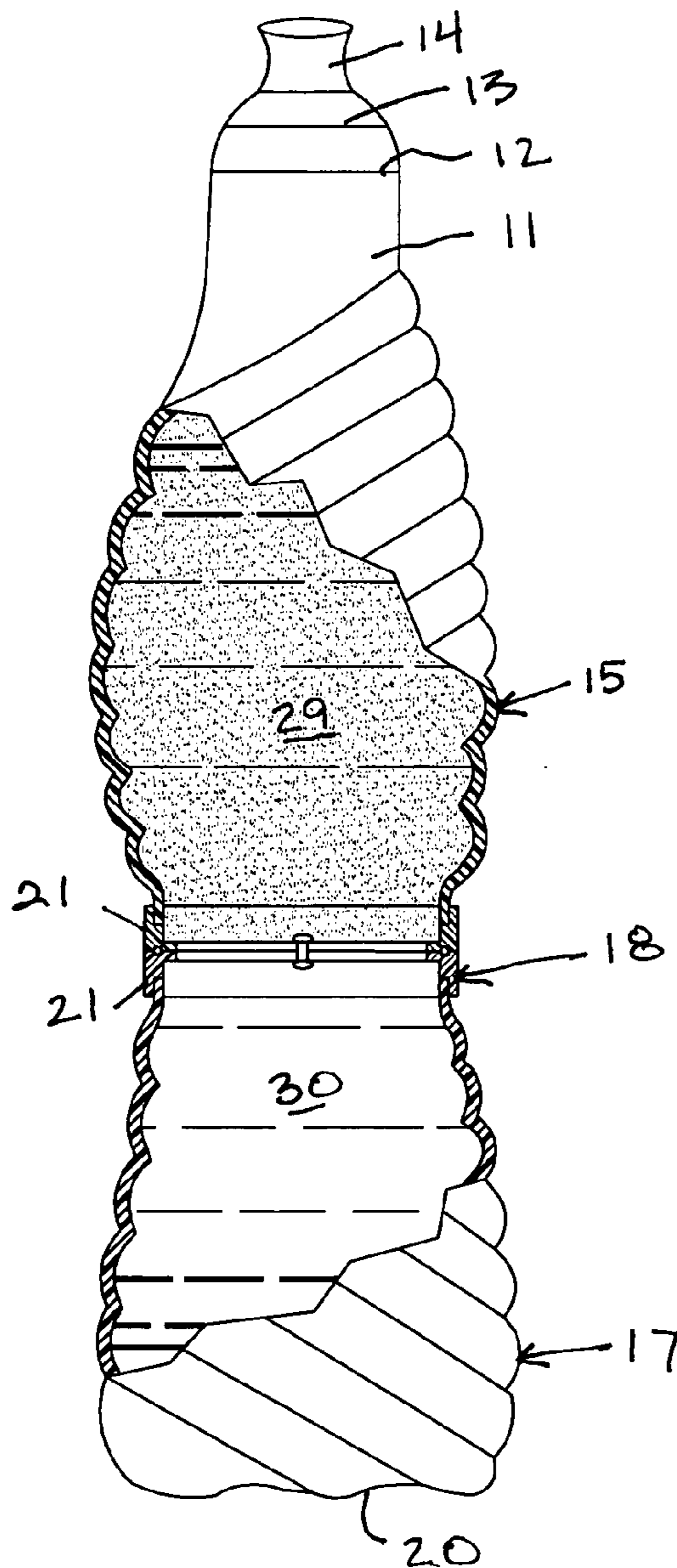
A dispensing bottle having an open top closed by a cap with a stopper-type drinking valve, and two separate compartments or chambers in upper and lower sections of the bottle joined together by a rotary coupler permitting twisting of the top and bottom sections in opposite direction to open a mixing valve in the mid portion of the bottle. Spiral ribs facilitate gripping and twisting, and flexible walls facilitate mixing.

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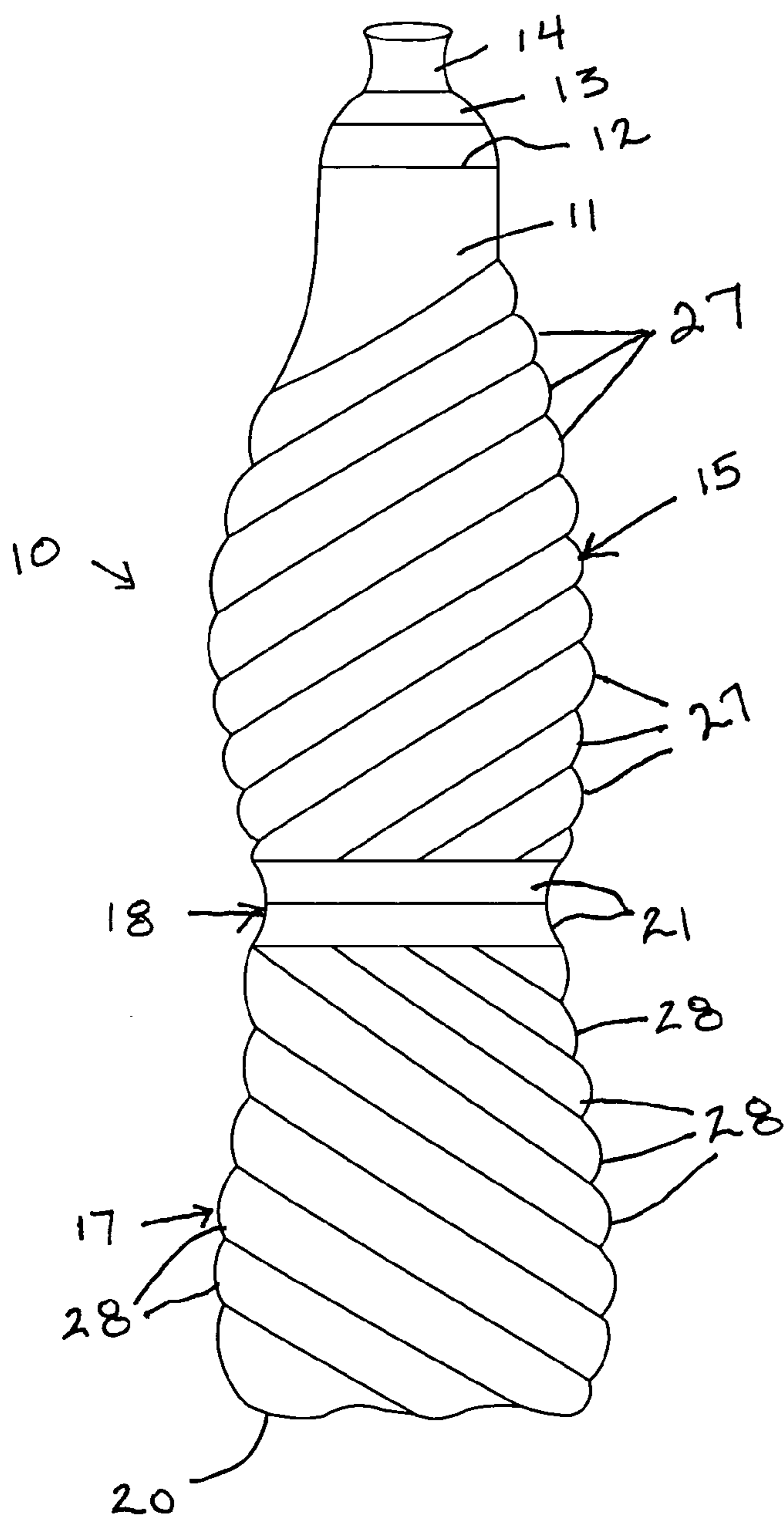


FIG. 1

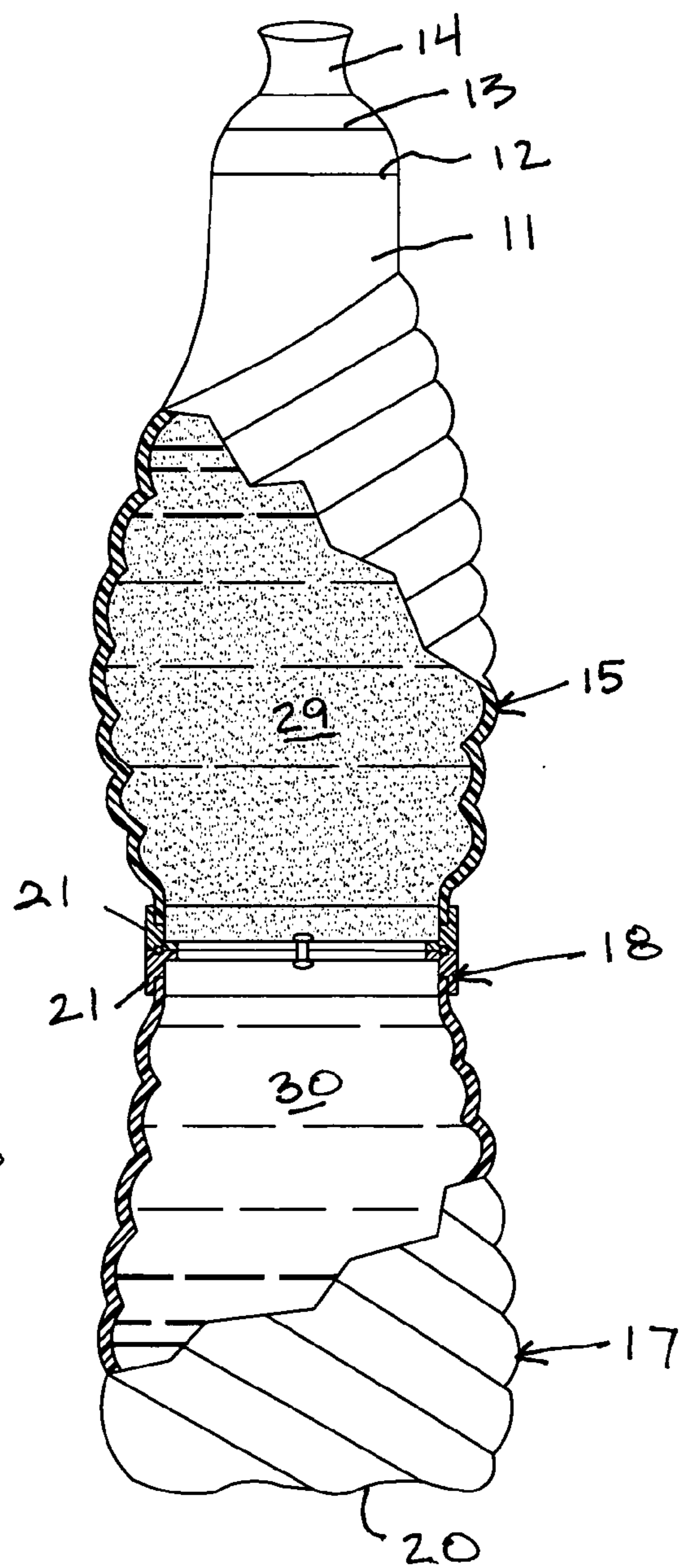
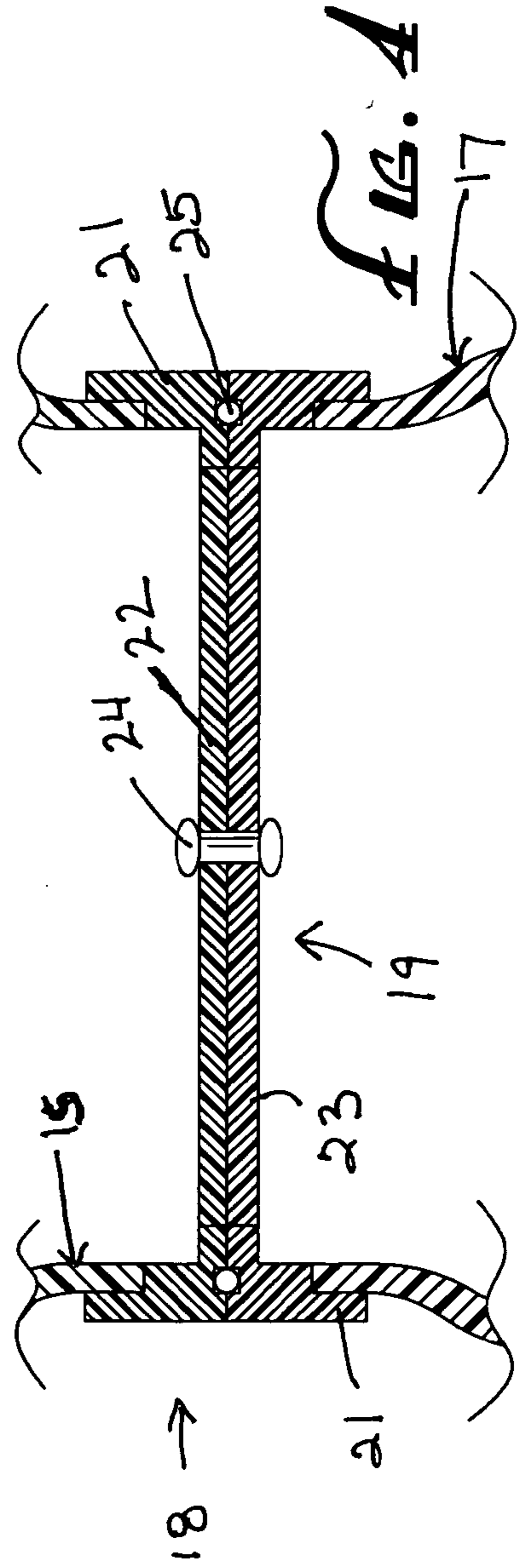
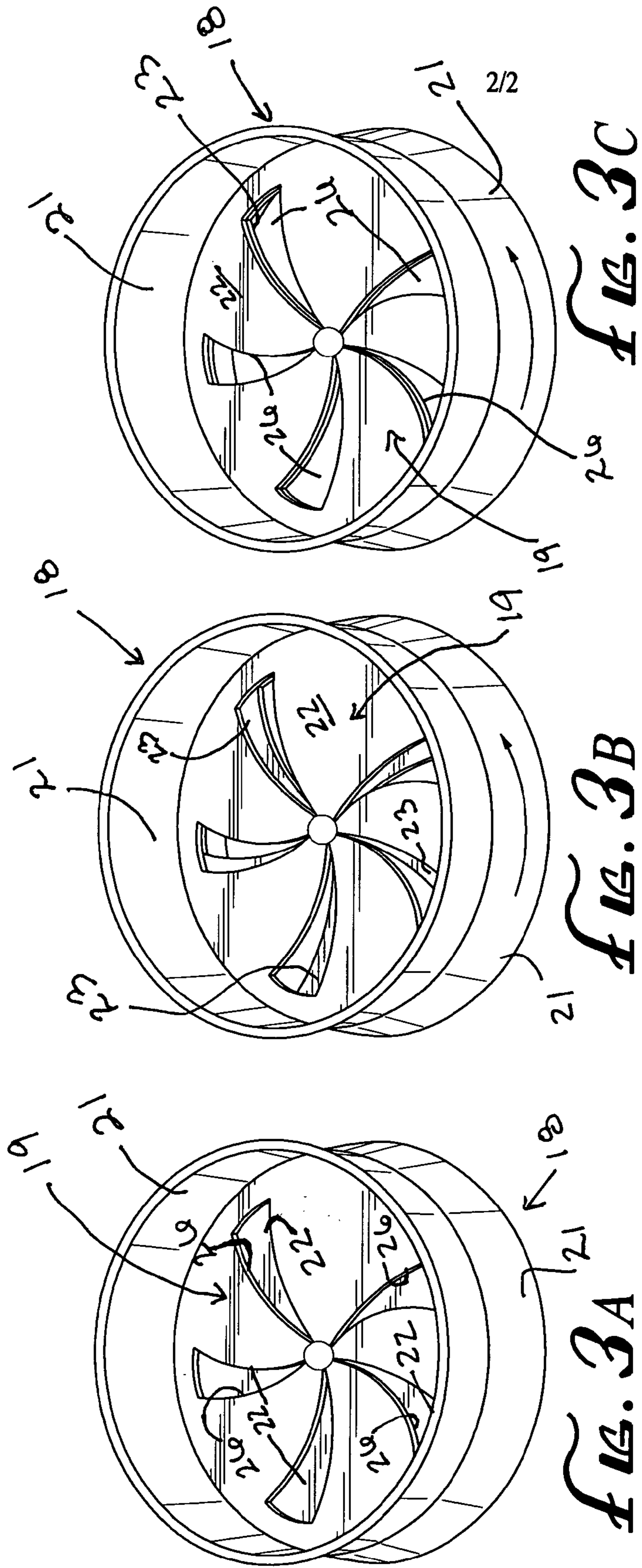


FIG. 2



## BEVERAGE CONTAINER

### BACKGROUND OF THE INVENTION

[0001] This invention relates to beverage containers, and more particularly to a beverage bottle having a dispensing opening permitting a consumer to open the bottle, drink from the opening and preferably re-close the opening to preserve the remainder of the beverage for later consumption.

[0002] There has been a recent explosion in the growth of personal beverage usage, and particularly in the purchase and consumption of “designer” drinks such as bottled spring and mineral water, often flavored or reinforced with vitamins and other supplements. A variety of bottles has been developed for such beverages, sometimes having a simple removable stopper valve in the cap through which the beverage can be consumed. Such bottles usually are composed of flexible plastic materials.

[0003] It has been known to dispense powders into such beverages as flavorings or other supplements from a dispenser in the cap, of the bottle, but such bottle-cap dispensing containers have inherent limitations regarding the types and amounts of substances that can be dispensed into the beverage. The present invention is an improvement in a beverage container of the foregoing general type that permits easy mixing of two separate relatively large quantities of substances in a beverage bottle, and permits dispensing of the mixture through a conventional drinking opening.

### SUMMARY OF THE INVENTION

[0004] The present invention provides a novel mixing beverage container for two separate bodies of products to be consumed, contained in the same bottle, and capable of being mixed together in a quick and easy fashion immediately prior to consumption for complete freshness. The container of the invention also permits opening of the container for consumption of a first beverage from the container, and subsequent manipulation of the bottle to release a second beverage for consumption from the container, if unmixed beverages are desired.

[0005] More specifically the preferred embodiment of the invention comprises a beverage bottle having a conventional dispensing opening and two separate compartments or chambers capable of holding quantities of beverages to be consumed, the compartments being defined in bottle sections that are formed together in a unitary bottle by a coupling that contains a normally closed valve that can be opened by twisting the two sections of the bottle relative to each other. The dispensing opening communicates initially with only one of the chambers, the other initially being shut off by the twist valve. When the user wishes to mix the two products, the two sections of the bottle are gripped and twisted, releasing the products for mixing and consumption. Making the bottle OF flexible material permits squeezing of the bottle to facilitate the mixing process between the two chambers.

[0006] Other aspects and advantages of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a side elevational view of a beverage bottle embodying the novel features of the present invention;

[0008] FIG. 2 is a view similar to FIG. 1 with portions of the sidewalls of the bottle broken away and shown in cross-section, with two different products shown in the two chambers of the bottle and with the valve of the coupling member open;

[0009] FIGS. 3A, 3B and 3C are enlarged isolated top perspective views of the coupling member joining together the two sections of the bottle shown in FIGS. 1 and 2, the coupling member being shown in a closed position in FIG. 3A, partially open in FIG. 3B, and fully open in FIG. 3C; and

[0010] FIG. 4 is a further enlarged fragmentary cross-sectional view similar to a portion of FIG. 2 with the valve of the coupling member closed.

### DETAILED DESCRIPTION

[0011] As shown in the drawings for purposes of illustration, the invention is embodied in a beverage bottle, indicated generally by the reference number 10, having a neck 11 at its open upper end 12 and normally closed by a cap 13 having a conventional stopper-type dispensing valve 14 permitting a user to drink from the bottle without removing the cap 13. The details of such stopper-type valves are well known.

[0012] In accordance with the present invention, the bottle 10 has separate upper and lower sections 15 and 17 defining chambers that are capable of containing separate products, such as two different beverages. The sections are disposed in end-to-end relation and joined together to form a unitary bottle 10 by a coupling member, indicated generally at 18, that has a valve 19 for establishing communication between the two chambers. The valve 19 normally is closed to keep the two products separate and unmixed, but is openable by twisting the bottle to permit mixing of the contents when desired.

[0013] As can be seen in FIG. 2, the bottle sections 15 and 17 are formed by two thin-walled plastic pieces that are substantially circular in cross-section, one 15 having the open upper end 12 closed by the cap 13 and the other 17 having a closed end 20 forming the bottom of the bottle 10. While the sections 15 and 17 may have various shapes, in the preferred embodiment the upper section 15 is somewhat bulbous in shape, with a thicker mid-section tapering to a narrower “waist” section at the coupling 18, and the bottom compartment section 17 tapers upwardly from a larger bottom to the narrower waist section at the coupling 18. The preferred material for the bottle sections is resiliently flexible plastic.

[0014] As shown in FIGS. 3 and 4, each section of the bottle is formed with an open end at the coupling 18, and is suitably secured and sealed to the coupling, herein being fitted into generally cylindrical flanges 21 that project upwardly and downwardly from the coupling and over the adjacent sections of the bottle. These flanges are sidewalls of two cup-shaped members forming the valve 19 having disc-shaped bottom walls 22, 23 that are joined together for rotation relative to each other, herein by a central rivet 24, and are sealed along their peripheries by an O-ring 25.

[0015] Each of the valve walls 22, 23 is formed with at least one valve opening 26 that is movable into overlapping relation with the opening in the other valve wall 22 or 23,

and herein there are a plurality of such openings in each wall. The illustrative shape is a generally radially extending "leaf" shape, as shown, with five such openings in each valve wall. The imperforable sections of the walls **22** and **23** between the openings **26** are wide enough to cover and close all of the openings in the closed positions (**FIG. 3A**), and to completely uncover the openings in the fully open position (**FIG. 3C**).

[0016] To facilitate gripping and twisting of the bottle sections **15** and **17** when the user wishes to open the valve **19** and admit the contents of the lower chamber in the section **17** into the upper chamber in the section **15**, the outer surface of the bottle **10** has a pattern of ribs **27** and **28** on each section, herein spiral patterns angled in opposite directions. These patterns also suggest the different directions of movement during twisting of the bottle, although the valve **19** will open in either direction of relative movement of the two sections.

[0017] It can be seen in **FIG. 2** that two different products **29** and **30** are shown as being contained in the two sections **15** and **17**. These may be two different liquids, such as a mineral water and a fruit juice to be mixed or, if desired, to be consumed separately, in series. The versatility of this container is limited only by the imagination of the provider of the contents.

[0018] It will be seen from the foregoing that the present invention provides a novel dispensing container **10** that is capable of holding substantial quantities of two separate products such as two beverages in unmixed condition, and will permit the user to mix the products when desired for consumption in freshly mixed condition, or, if desired, to dispense the two products separately, first from the upper chamber and then from the lower chamber through the valve **19**.

[0019] It also will be evident that, while a single preferred embodiment has been illustrated and described, various modifications and changes in the invention will be apparent to those skilled in the art.

What is claimed is:

**1.** A beverage bottle having a top opening normally closed by a cap having a stopper-type drinking valve therein, said container comprising top and bottom bottle sections composed of flexible material and defining first and second chambers for products to be dispensed, said sections being substantially circular in cross-section and each having an open end in the mid section of the bottle, said top section having said top opening therein opposite the open end thereof and said bottom section having a closed bottom end opposite the open end thereof;

a coupling element disposed between said top and bottom sections and secured thereto to seal said open ends and join the two sections together into a unitary bottle;

and a valve in said coupling element normally disposed in a closed position to separate said chambers and operable in response to twisting of said sections relative to each other to open the valve and establish communication between said chambers.

**2.** A beverage bottle as defined in claim 1 further including generally spiraling external ribs on said sections facilitating gripping thereof for twisting.

**3.** A beverage bottle as defined in claim 2 wherein said ribs spiral around said sections in opposite directions.

**4.** A beverage as defined in claim 1 wherein said valve comprises two shallow cups each having a flange as a sidewall overlapping and joined to the sidewall of one of said sections.

**5.** A beverage bottle as defined in claim 4 wherein the cups of said coupling element have relatively rotatable bottom walls each formed with at least one valve opening that is closed by the other cup when the cups are in one angular position and open through an opening in the other cup in another angular position.

**6.** A beverage bottle as defined in claim 5 wherein each valve wall has a plurality of generally radially extending openings separated by imperforate areas for covering and closing the openings in the other valve wall in said one angular position.

**7.** A beverage bottle as defined in claim 1 wherein said coupling element comprises first and second cup-shaped members secured to the top and bottom bottle sections, respectively, and having bottom walls abutting against each other and rotatably secured together, each of said bottom walls having at least one valve opening therein that normally is covered and closed by the other bottom wall and is movable into communication with the other valve openings to connect the chambers for flow of product through the valve.

**8.** A container for beverages and the like, having two container sections dispensed in end-to-end relation and each adapted to hold product to be dispensed, one of said sections having a dispensing opening in one end and the other having a closed end for forming the bottom of the container;

a coupling disposed between said container sections and joining them together for relative twisting rotation between said ends;

and a valve disposed between said container sections and normally closed to maintain the container sections separate, said valve being operable by twisting of the containers to establish communication between the container sections.

**9.** A container as defined in claim 8 wherein said coupling comprises two cup-shaped members connected to open ends of the container section and normally closing and sealing the same, said members being relatively rotatable by twisting of the container sections to establish communication between the container sections in one angular position of the members.

**10.** A container as defined in claim 8 wherein said container sections are upper and lower sections of a bottle rotatably joined by said coupling for twisting motion, and said valve is built into said coupling.

**11.** A container as defined in claim 10 wherein said bottle sections are composed of resiliently flexible material and formed with spiral ribs on their exterior surfaces.

**12.** A container as defined in claim 11 wherein said dispensing opening is at the end of said one section remote from the coupling member and is normally closed by a cap having a stopper-type drinking valve.