United States Patent

[11] **3,568,870**

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[54] **PLASTIC BOTTLE WITH SELF-CONTAINED DRINKING TUBE**
1 Claim, 4 Drawing Figs.

[52] **U.S. Cl.** **215/1,** 215/39
[51] **Int. Cl.** **B65d 77/28**
[50] **Field of Search** ..... 215/1 (A); 229/7 (S)

[56] **References Cited**

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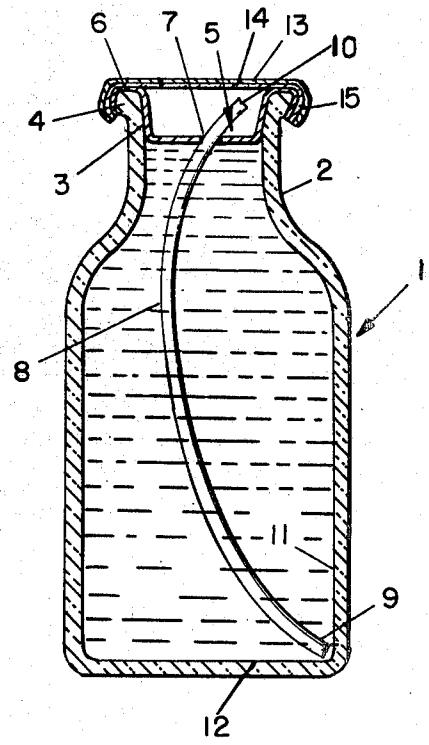
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Attorney—Mansel A. Gray

ABSTRACT: A plastic bottle having a reduced neck with a filling opening therein is formed with an apertured cup-shaped well crimped thereto and arranged within the opening and through which a curved drinking tube projects into the bottle. The filling opening is closed by a flat cap crimped thereto and below which the apertured well is spaced so that the upper end of the tube is concealed therein and is movable upwardly therethrough when the cap is removed for drinking purposes.



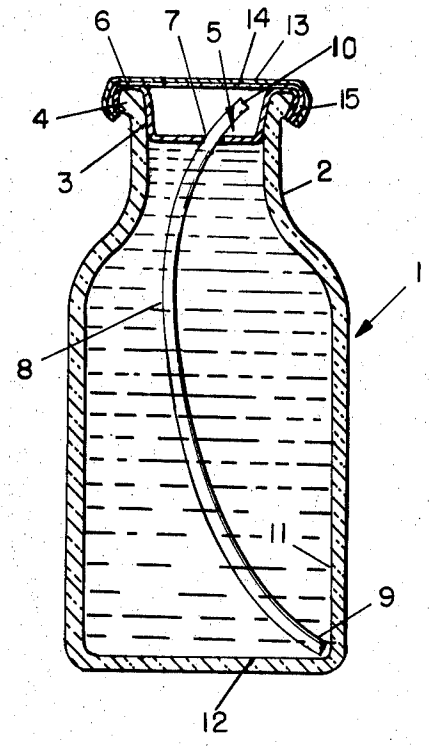


FIG. 1

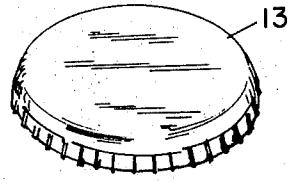


FIG. 2

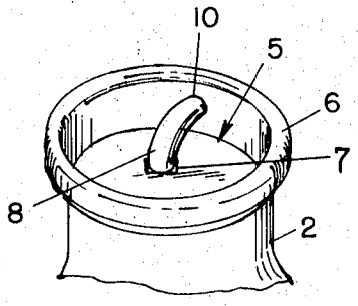


FIG. 3

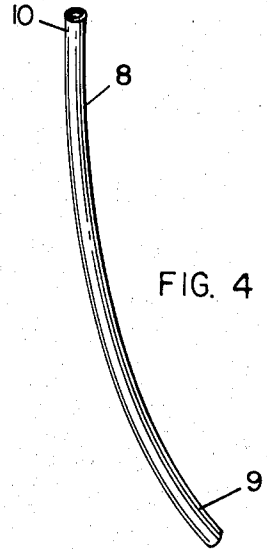


FIG. 4

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PLASTIC BOTTLE WITH SELF-CONTAINED DRINKING TUBE

The present invention relates to a plastic bottle having a cup-shaped well crimped to the filling opening thereof and through which a curved drinking tube projects into the bottle so that the upper end of the tube is positioned within the well below and concealed by a sealing cap.

While it has, heretofore, been proposed to provide bottles and containers with self-contained drinking straws and tubes, this type of container has been unsatisfactory and objectionable because the bottles are formed of glass which necessitated the firm and rigid application of sealing caps thereto after being filled so that the removal of the caps necessarily had to be effected with bottle openers. Thus, when the caps are pried therefrom, the upper ends of the straws are damaged so that removal of the fluid contents therethrough is impaired. In addition, when the straws were so positioned within the bottles, no provision was made for permitting excess fluid to drain back into the bottles while being extracted therefrom.

The principal object of this invention is to provide a plastic bottle having a foil cup-shaped well fixedly arranged within the reduced neck portion thereof and formed with a central aperture therein through which projects a curved drinking tube so that the upper end thereof extends into the well and is concealed by a flat foil sealing cap crimped to the upper and thereof.

Another object is the provision of a plastic bottle having a foil cup-shaped well fixedly arranged within the reduced filling neck and so formed with a central aperture so shaped that the upper end of a curved drinking tube extends therethrough and projects to one side thereof out of contact with the contents.

A further object is to provide a plastic bottle with a foil cup-shaped well fixedly attached to the mouth end thereof and depending downwardly thereinto with an enlarged pouring and drainage opening therein through which the upper end of a curved drinking tube extends and is concealed by a flat foil sealing cap so crimped to the mouth end that it may be removed therefrom by the user's fingers to enable the straw to be pulled upwardly through the well for removal of the contents.

Still a further object is the provision of a plastic bottle having a simple and inexpensive foil sealing cap and foil cup-shaped well so arranged that a curved drinking tube arranged in the bottle will project through en enlarged opening in the well whereby during removal through the tube excess liquid will drain back into the bottle and through which opening liquid may also be poured from the bottle.

These and other objects of the invention will be apparent as the following specification is considered with the accompanying drawings wherein:

FIG. 1 is a cross-sectional view of a plastic bottle, the cup-shaped well for positioning the drinking tube therein, and the foil cap for sealing the mouth of the bottle and concealing the tube;

FIG. 2 is a perspective view of the crimped sealing cap;

FIG. 3 is a perspective view of the cup-shaped well; and

FIG. 4 is a perspective view of the drinking tube.

Referring more particularly to the drawings, wherein similar reference characters designate like parts throughout the several views, numeral 1 generally designates a bottle which may be produced of any suitable plastic so as to be light and somewhat flexible with any conventional molding apparatus, not shown. The bottle has a reduced diameter neck portion 2 providing a top opening 3. Suitably secured to the rim 4 of the opening 3 is the peripheral edge 6 of a generally cup-shaped well 5, preferably formed of foil or other somewhat flexible suitable material, which permits of the edge 6 being pressed snugly against the rim 4 so as to frictionally engage or cling thereto by any suitable capping equipment, not shown. If desired, the edge 6 could be adhered to the bottle rim by heat sealing by conventional equipment, also not shown.

The cup-shaped well 5 depends into the neck portion 2 and is provided with a centrally located enlarged opening 7 in the bottom thereof, which may assume various shapes, such as the square opening shown, A curved drinking tube or straw 8 of some suitable material, such as plastic, is so vertically arranged within the bottle 1 that the lower end 9 thereof abuts the side well 11 of the bottle at its point of juncture with bottom 12 thereof, and the upper end 10 of the tube projects upwardly through opening 7 and into well 5 generally to one side of the opening. Thus, the upper end of the tube will extend upwardly into the well 5 toward the curved wall thereof and yet spaced below the upper periphery of the well, and will be prevented from slipping downwardly therethrough by the lower end of the tube engaging the side and bottom of the bottle. The curvature of the tube enables the same to be of longer length than the bottle to facilitate its use, and the tube is generally rigid so that its shape will be retained.

A flat sealing cap 13, preferably of the same material, such as foil, as the well 5, but having an inner paper liner 14, or coating of plastic or a film of paraffin wax, is suitably crimped at its periphery, as at 15, to the top opening 3 of the bottle to seal the latter. The outer surface of the cap 13 may be suitably color imprinted to describe the nature of the contents and the identity of the bottler. In addition, the upper flat wall of the cap will enable bottles to be stacked on top of each other. Because of the nature of the material and its being crimped to the bottle mouth, the cap may be removed therefrom with relative ease by the user's fingers without damage to the cap which permits of the latter being replaced if any of the contents remain.

As the upper end of the tube 8 extends into the well 5 to one side of the opening 7, it will be apparent that it terminates below and is spaced from the underside of the cap 13. Thus, when the latter is removed, the upper end of the tube will project above the fluid contents and may be grasped and pulled upwardly through the mouth of the bottle into position to be inserted within the user's mouth. After use, the tube may be returned into the well and bottle by exerting a pushing movement thereto.

Inasmuch as the opening 7 in well 5 is larger than the tube 8, any excess fluid will drain back into the bottle and reduce spillage to a minimum. In addition, the enlarged opening 7 will enable the contents to be poured into a receptacle, should this be desired, without removal of the tube.

While I have shown and described a preferred embodiment of my plastic bottle and drinking tube, it is to be understood that various changes and improvements may be made without departing from the scope and spirit of the appended claims.

I claim:

1. A liquid containing and dispensing bottle comprising an upright plastic bottle having a reduced diameter neck portion at the upper end thereof with an opening in the top thereof, generally shallow cup-shaped foil well means in the upper end of said neck portion frictionally engaging the rim of said opening, said well means having a generally square shaped opening centrally arranged therein, a curved plastic drinking tube of longer length than said bottle and confined therewithin, the upper end of said tube freely extending through said opening in said well means to provide spaced openings therearound and therebetween and being disposed within said well means below the upper end of said bottle whereby the upper end of said drinking tube will arcuately project to one side of and in alignment with the inner rim edge of said well means and the lower end of said tube will engage the bottom of said bottle at the same side thereof, and removable flat foil cap means crimpingly and removably engaging said rim for closing said bottle whereby upon removal of said cap means the free upper end of said tube may be engaged and withdrawn over the inner edge of said well means without bending said tube.