

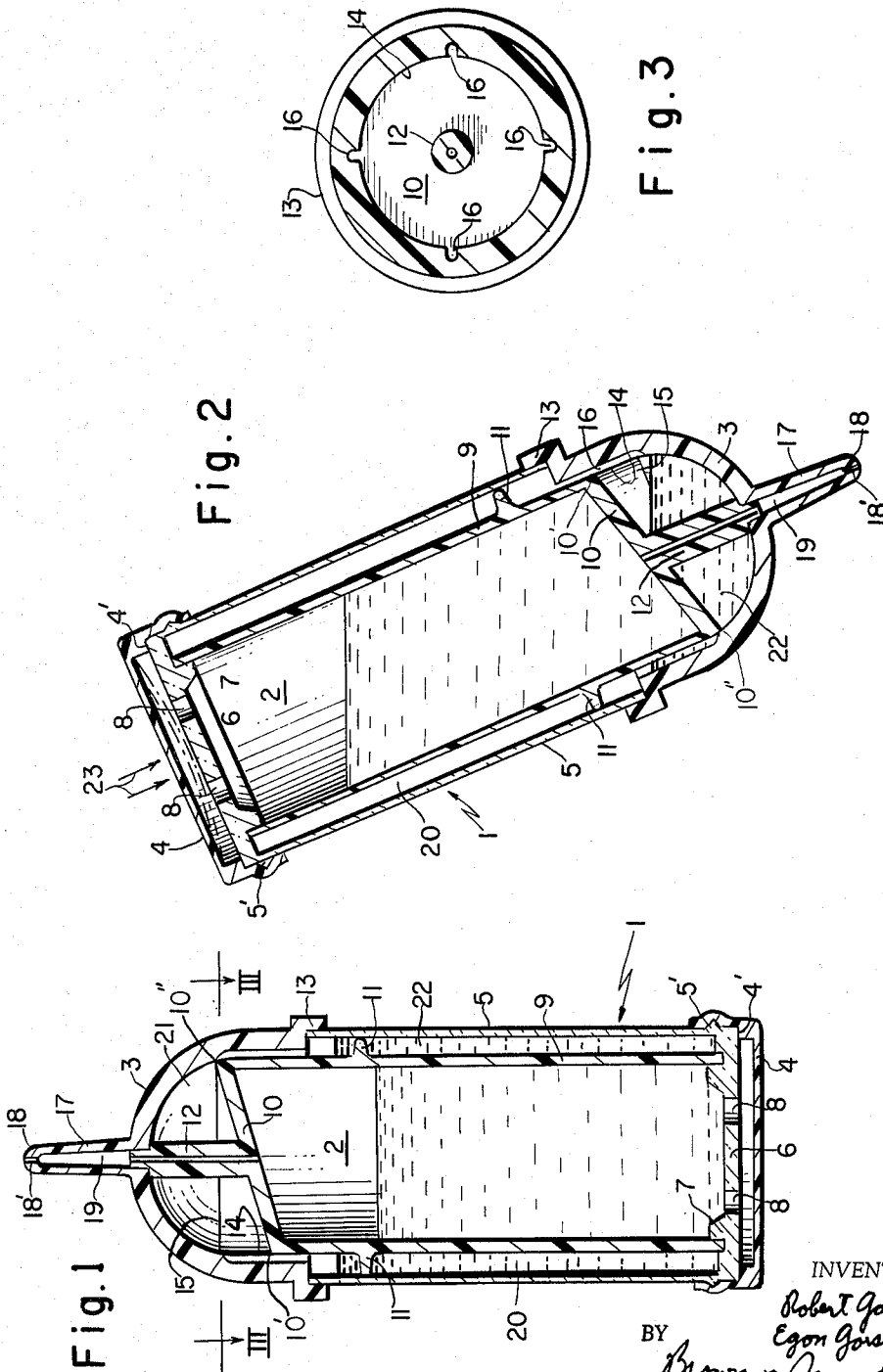
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TOY NURSING BOTTLE FOR DOLLS

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TOY NURSING BOTTLE FOR DOLLS

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7 Claims. (Cl. 46—1)

This application is a continuation-in-part of applicants' copending application Serial No. 251,910, filed January 16, 1963, now Patent No. 3,105,325, wherein a bottle without the provision for actual dispensing of a liquid is disclosed and claimed.

This invention relates to a toy nursing bottle for dolls and particularly such a bottle in which a quantity of liquid is permanently retained in connected chambers between which the liquid can flow, one chamber permitting the liquid to be seen, as if the bottle were full, and the other chamber permitting the liquid to be concealed as if the bottle were empty; these features being combined with elements making it possible to fill a chamber with a liquid, such as water, and to dispense said liquid in a controlled manner from the "nipple" end of the bottle.

It is an object of the invention to provide such a bottle which is of very simple construction and which can be operated reliably and effectively for indefinite lengths of time.

It is a further object to provide such a bottle which is more realistic in appearance than others previously known.

It is another object to provide certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be attained.

A practical embodiment of the invention is shown in the accompanying drawings, wherein:

FIG. 1 represents a vertical axial section through the bottle in its erect position;

FIG. 2 represents a similar section with the bottle substantially inverted, and

FIG. 3 represents a horizontal section on the line III—III of FIG. 1.

Referring to the drawings, the bottle is conveniently made in four parts, the outer shell 1, the filler-container 2, the upper cap 3 and the bottom cap 4, each being conveniently of a suitable plastic material, the body shell 1 and filler-container 2 being somewhat transparent or at least translucent, while the upper cap 3 is opaque and may be colored and the bottom cap 4 is also opaque and of the same or different color.

The body shell is shown as comprising a cylindrical side wall 5 and an externally flat (or slightly concave) bottom 6, the inner surface of the bottom being provided with an annular ridge 7 spaced a short distance from the wall and one or more small holes 8 being formed through the bottom 6 within the area defined by the ridge 7.

The filler-container 2 likewise comprises a cylindrical side wall 9, having an outside diameter slightly less than the inside diameter of the wall 5 and being closed at the top by a slanting end wall 10. The bottom edge of the side wall 9 engages snugly around the outside of the ridge 7 and rests against the bottom 6 of the body shell, being additionally centered, if desired, by spaced lateral projections 11 or the like. A small tube 12 projects upward from the end wall 10, the bore of the tube being in communication with the interior of the filler-container 2.

The upper cap 3 is shown as being generally hemispherical in form, with an outwardly and downwardly extending flange 13 designed to engage around and over the upper edge of the wall 5 to which it may be cemented. Internally, the surface of the cap is cylindrical, as indicated at 14, through about half of its height, up to the

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line 15, this cylindrical portion being provided with a plurality of small vertical grooves 16 (four such grooves being shown). Externally, the cap is provided with an integral projection 17 having a rounded end 18 and simulating, in general, a nipple, but also adapted to serve as the actuating element in combination with crying mechanism of the type shown in Gardel and Gorsky applications Serial No. 212,655, filed July 26, 1962, now Patent No. 3,136,089, and Serial No. 238,355, filed November 19, 1962, now abandoned. The projection 17 has a hollow cylindrical or slightly tapering bore 19 and a pin-hole opening 18' in the end 18, communicating with said bore.

The relative vertical dimensions of the several parts are such that the highest point 10'' of the filler-container 2 reaches the line 15 and the lowest point 10' of the filler top is above the bottom of the cylindrical surface 14 when the bottom of the filler is firmly seated on the bottom of the body shell 1, and when the cap 3 is likewise firmly seated on the upper edge of the wall 5. The internal diameter of the cylindrical part 14 of the cap—below the line 15—is approximately equal to the external diameter of the filler-container 2 so that the upper portion of the latter fits tightly within said cylindrical part. The space 20 between the walls 5 and 9 constitutes a vertically elongated annular or cylindrical chamber, the volume of which should be not substantially greater than the volume of the chamber 21 formed by the interior surfaces of the cap and the upper end wall 10 of the filler-container. The length of the tube 12 is such that it extends to the bore 19 in the projection 17 and its outer diameter at the top is such that it fits tightly in said bore, providing a continuous liquid passageway from the interior of the filler-container 2, through tube 12, bore 19 and pin-hole 18' to the atmosphere.

At an appropriate stage during the assembly of the parts 1, 2 and 3 there is introduced into the chamber 20 (or 21) a quantity of liquid 22—which may be of a milky appearance or simulate fruit juice—sufficient to substantially fill said chamber, after which the parts are permanently sealed together as by cementing the flange 13 to the upper edge of the wall 5.

In operation, when the bottle is in the erect vertical position (FIG. 1) the liquid occupies the space 20 and gives the bottle the appearance of being full. When the bottle is more or less inverted (FIG. 2), as when a doll is being "fed," the liquid trickles slowly through one or more of the grooves 16 from the space 20 into the chamber 21 within the cap, where it disappears from sight as if it had been consumed. After the liquid has more or less filled the chamber 21—completing the "feeding" of the doll—the bottle may be returned to its vertical position and the liquid will flow back through the grooves 16 into the space 20. The slanting end wall 10 of the filler ensures complete and rapid emptying of the chamber 21 because the liquid is shallower near the high point 10'', inducing air to enter chamber 21 through grooves 16 nearest to that point while liquid flows out through grooves where the liquid body is deeper.

The slant of the wall 10 also permits a certain amount of control over the rate or feeding according to the rotational position of the bottle. Thus, flow of the liquid is slowest through the groove or grooves which may be at or near the highest point 10'' of the filler while the flow is freer through grooves closer to the low point 10'. For example, FIG. 2 shows the bottle in its "slow-feed" position since the groove 16 at the left is substantially closed by the filler wall. In order to expedite or complete the "feeding" the bottle has to be turned around its axis (e.g., 90° to 180°) to bring one or more other grooves into play, as can readily be appreciated. By providing the simple grooves 16 for permitting restricted flow of the

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liquid in both directions it is possible to attain practical results as good as, or better than, those which have heretofore been thought to require check valves, perforated plates and other complex elements.

In addition to the simulated feeding operation just described, the bottle is adapted to be used for the actual feeding of a liquid, entirely separate from the simulated milk or juice which never leaves the chambers 20 and 21. For this operation, which may be desired in connection with drinking and wetting dolls, the bottle is inverted under a stream of water which enters the filler-container 2 through the holes 8 in the bottom. The pin-hole 18' may be closed by placing a finger on it to prevent the escape of the water while the bottom cap 4 is being snapped into place, said cap being similar to the well-known pill bottle caps now commonly used and being designed to have its flange snap over a small annular ridge 5' near the bottom of the wall 5. If the bottom wall 6 of the shell 1 is flat, as shown, the cap 4 should have an annular shoulder 4' or the like to space the middle of the cap 4 from the wall 6; if the wall 6 is concave, this additional spacing of the cap may not be needed. In either case, it will be understood that the water in the filler-container 2 will not readily flow through the pin-hole 18' merely by gravity, but can easily be "pumped" out in small spurts by repeatedly pressing on the middle of the cap 4, as indicated by the small arrows 23 at the top of FIG. 2, the pressed-in position of the cap being shown in broken lines. Thus, when a doll is being "fed," the captive "milk" flows slowly from chamber 20 to chamber 21, while another liquid (preferably water) actually passes from the bottle into the doll in response to the pumping pressure on the bottom of the bottle.

For safety, durability and ease of manufacture the parts 1, 2 and 3 may be made of high impact strength styrene, while the bottom cap 4 may be made of polyethylene, although other materials having the desired characteristics of strength and rigidity or flexibility, respectively, could be used if desired.

It will be understood that various changes may be made in the form, construction and arrangement of the several parts without departing from the spirit and scope of the invention, and hence we do not intend to be limited to the details herein shown or described except as the same are included in the claims or may be required by disclosures of the prior art.

What we claim is:

1. A bottle of the character described comprising, inner and outer concentric side walls spaced apart to form an annular cylindrical chamber, a bottom element closing said chamber at the bottom and extending across the bottom of the space within the inner side wall, an upper wall extending across the top of the space within said inner side wall, an upper cap secured adjacent its periphery to the upper edge of the outer side wall, said cap being shaped to provide a closed chamber above said upper wall, said chambers being in communication, means for restricting liquid flow between said chambers, means for

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filling the space within the inner side wall with a liquid, and means for dispensing said liquid comprising a liquid conduit connecting said space to the atmosphere at a point adjacent the top of the cap.

2. A bottle according to claim 1 in which the upper cap terminates upwardly in a hollow projection having a bore and a hole in its upper end and in which said liquid conduit includes a tube extending from the upper part of said space to the bore of said hollow projection.

3. A bottle according to claim 2 in which said tube extends from the middle of the upper wall to the bottom of said bore.

4. A bottle according to claim 1 in which the means for filling the space within the inner side wall comprises at least one hole through the bottom element, and which includes a bottom cap removably engageable with the bottle to cover said hole.

5. A bottle according to claim 4 in which the bottom cap is flexible and has its middle portion spaced from the bottom element.

6. A bottle of the character described comprising, inner and outer concentric cylindrical side walls spaced apart to form an annular cylindrical chamber, a bottom element closing said chamber at the bottom and extending across the bottom of the space within the inner side wall and being perforated, an upper wall bounded peripherally by the upper edge of said inner side wall, an upper cap secured adjacent its periphery to the upper edge of said outer side wall, said cap having an inner surface engaging tightly the upper portion of said inner side wall and forming a closed chamber above said upper wall, grooves across the zone of engagement between the cap and the inner side wall, said grooves constituting restricted passages permitting a liquid to flow by gravity between said chambers, said upper cap being provided with an upwardly projecting hollow simulated nipple portion having a bore and a hole in its upper end, a tube connecting the upper part of the space within the inner side wall to said bore, and a bottom cap removably engageable with the bottle to cover the perforations in the bottom element.

7. A bottle according to claim 6 in which the bottle cap is flexible and has its middle portion spaced from the bottom element.

References Cited by the Examiner

UNITED STATES PATENTS

Re. 19,649	7/1935	Wittmann	46—141
2,408,058	9/1946	Gallagher	222—209
2,664,226	12/1953	Gobin	222—209
3,071,888	1/1963	Knott	46—1

FOREIGN PATENTS

451,887	11/1927	Germany.
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