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TOY NURSING BOTTLE

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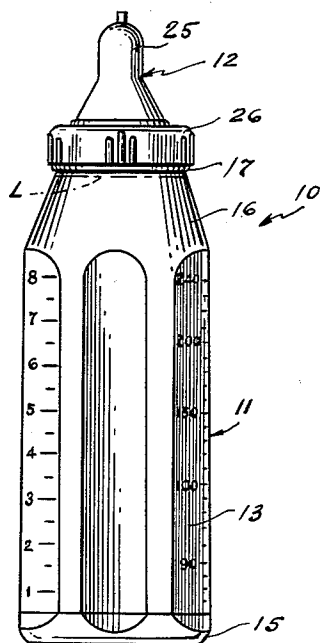


Fig. 1.

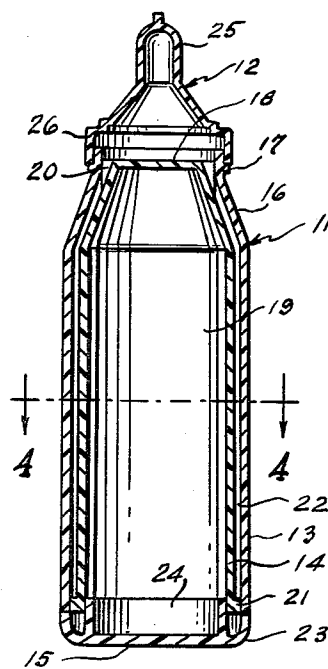


Fig. 3.

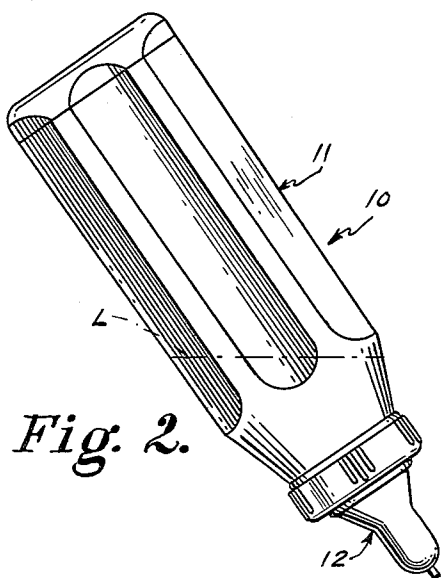


Fig. 2.

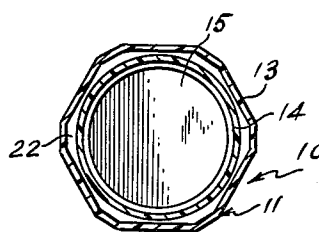


Fig. 4.

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TOY NURSING BOTTLE

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This invention relates generally to improvements in toy nursing bottles.

Toy nursing bottles have been produced which include a transparent or translucent bottle portion having an outer body and an inner shell which are spaced apart by a small distance to provide a thin annular space therebetween extending throughout the height of the bottle and opening, at the upper end of the latter into an opaque, hollow nipple having a volume which is approximately as large as the volume of the thin annular space between the outer body and inner shell of the bottle. Liquid which is preferably colored white normally fills the annular space defined between the body and inner shell of the bottle and, when the bottle is inverted, liquid flows from the annular space into the opaque hollow nipple and is eventually all contained in the latter, thereby creating the illusion that the milk simulating liquid is flowing through the nipple into a doll or stuffed animal. When the bottle is returned to its upright position, the volume of colored liquid returns from the hollow nipple into the annular space of the bottle so that the latter again appears to be filled. In the existing toy nursing bottles of the described character, the walls of the inner shell and outer body of the bottle extend parallel to each other so that the annular space therebetween is of uniform thickness throughout the circumferential and axial extent thereof. Further, a check valve is provided at the top of the central space surrounded by the inner shell and opens when the bottle is inverted to permit air from such central space to enter the annular space between the inner shell and outer body of the bottle so that a vacuum will not form in such annular space to stop the flow of the colored liquid into the hollow nipple. However, it has been found that the provision of such a check valve substantially increases the cost of manufacture and assembly of the toy nursing bottle, and that the check valve, being a moving part of the assembly, is prone to malfunctioning, specifically it may fail to close when the bottle is returned to its upright position, in which case the colored liquid may enter the central space rather than the thin annular space between the inner shell and outer body, and thereby disrupt the normally intended operation of the toy nursing bottle.

Accordingly, it is an object of the present invention to provide an improved toy nursing bottle having the above described general characteristics, but being less expensive to produce and more reliable in operation than the previously proposed toy nursing bottles.

In accordance with an important aspect of this invention, the outer body of the bottle is formed with a polygonal, preferably hexagonal cross-sectional configuration so as to approximate the external appearance of a real nursing bottle, while the inner shell is formed with circular cross-sections. The foregoing structural feature of the toy nursing bottle embodying the invention substantially reduces the cost of the molds for production of the inner shell and further provides a space between the inner shell and the outer body which varies in thickness or width around the circumference of the bottle. It has been found that, when the space between the inner shell and outer body varies in width around the circumference of the bottle, air from within the hollow nipple can easily flow into such space when the bottle is

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inverted and, conversely, air from within the space between the inner shell and outer body can flow into the nipple when the bottle is returned to its upright position, so that the central space within the inner shell can be permanently closed and the previously employed check valve can be eliminated, thereby avoiding the cost of such check valve and the possible malfunctioning thereof.

The above, and other objects, features and advantages of this invention, will be apparent in the following detailed description of an illustrative embodiment thereof which is to be read in connection with the accompanying drawing forming a part hereof, and wherein:

FIG. 1 is an elevational view of a toy nursing bottle constructed in accordance with this invention, and being shown in its upright position;

FIG. 2 is a view similar to that of FIG. 1, but showing the toy nursing bottle in an inverted position;

FIG. 3 is a vertical sectional view of the toy nursing bottle of FIGS. 1 and 2; and

FIG. 4 is a transverse sectional view taken along the line 4-4 on FIG. 3.

Referring to the drawing in detail, it will be seen that the toy nursing bottle embodying the present invention and there generally identified by the reference numeral 10 comprises a bottle 11 and a nipple 12. The bottle 11 includes an outer body 13, an inner shell 14 and a bottom member 15 all formed of a suitable, transparent or translucent plastic material, preferably high impact polystyrene.

The outer body 13 is formed with polygonal, preferably hexagonal cross-sections (FIG. 4) for a substantial portion of its length extending from the bottom of the bottle and terminating in a tapering upper portion 16 having circular cross-sections. An annular rim or bead 17 extends around the external surface of body 13 at a small distance below the top edge of the latter.

The inner shell 14 has circular cross-sections throughout its entire length, and such circular cross-sections are diametrically dimensioned so that the outer surface of shell 14 will be spaced inwardly from the inner surface of body 13 even at the centers of the flat sides of the latter, as shown on FIG. 4. Inner shell 14 is further formed with a top wall 18 (FIG. 3) which permanently closes the central space 19 surrounded by the shell. In order to locate the top portion of shell 14 relative to body 13, shell 14 is formed with a series of circumferentially spaced apart projections 20 (FIG. 3) extending outwardly from the top portion of the shell and intended to abut against the corresponding top portion of body 13. Further, an outwardly directed flange or rim 21 is formed at the bottom of shell 14 and has a hexagonal periphery so as to fit closely against the inner surface of outer body 13 at the bottom of the latter thereby closing the bottom of the relatively narrow space 22 defined between body 13 and shell 14.

The bottom 15 of bottle 11 has an upwardly turned outer rim 2 (FIG. 3) shaped to conform to the configuration of the bottom edge of body 13 against which it abuts. Bottom 15 is further formed with an upwardly directed circular flange 24 spaced inwardly from the rim 23 and dimensioned to fit closely within the bottom edge portion of inner shell 14.

The nipple 12 is formed of a suitable opaque plastic material, also preferably high impact polystyrene and includes a nipple-shaped top portion 25 which flares downwardly into a depending, generally cylindrical skirt 26 shaped to fit tightly over the top portion of body 13 above the rim or bead 17, thereby to simulate the appearance of the nipple and retaining cap of a real nursing bottle.

The realism of the toy nursing bottle 10 may be further enhanced by providing the outer surface of body

13 with raised indicia and scales, as shown on FIG. 1.

In assembling together the above described components of toy nursing bottle 10, the shell 14 is initially inserted in body 13 through the bottom of the latter and bonded to the body 13, either by a suitable adhesive or by heat and pressure applied at the points of contact of the projections 20 and the bottom rim or flange 21 of the inner shell 14 with the inner surface of body 13. Then the bottom 15 is assembled to the body 13 and shell 14 and permanently secured thereto, either by adhesive or heat and pressure applied at the areas of contact of rim 23 and flange 24 with body 13 and shell 14, respectively. Prior to installation of the nipple 12 on bottle 11, the space 22 defined between body 13 and shell 14 is substantially filled with a preferably white colored, milk-simulating liquid, for example, an emulsion of a finely divided white pigment in water. Finally, the nipple 12, which has in internal volume substantially equal to the volume of the space 22, is installed on the bottle 11, with the depending skirt 26 of the nipple 12 being fitted over and adhesively or otherwise bonded to the top portion of body 13 above rim 17.

When the toy nursing bottle 10 is in its upright position, as on FIG. 1, the white colored liquid substantially filling the space 22 up to the level indicated by the broken line L will create the illusion that the bottle 11 is substantially filled with milk. However, when the nursing bottle 10 is inverted to the inclined position shown on FIG. 2, that is, to the normal position for feeding a doll, stuffed animal or the like, the white colored, milk-simulating liquid will progressively drain from the space 22 into the hollow interior of nipple 12, thereby creating the illusion that the milk-simulating liquid is flowing out of the bottle through the nipple. It has been found that, when the space 22 has a nonuniform width around the circumference of the bottle 11, as shown on FIG. 4, the transfer of air from within the nipple 12 into the space 22 to permit the flow of liquid into the nipple is substantially facilitated or promoted so that the central space 19 within shell 14 can be permanently closed by the top wall 18.

Similarly, when the nursing bottle is returned to its upright position, the non-uniform width of the space 22 facilitates the transfer of air from space 22 into the interior of nipple 12 and the return of the milk-simulating liquid into space 22.

The toy nursing bottle 10 embodying the invention has the advantage of presenting a life-like or realistic appearance by reason of the hexagonal cross-sectional configuration of the visible outer body 13, while the circular cross-sections of the inner shell 14 substantially reduce the cost of the mold for producing that element as well as improving the operating characteristics of the bottle. Further, such improved operating characteristics, as described above, make it possible to permanently close the central space 19 by the top wall 18 and thereby avoid the necessity of providing the check valve which has been

a source of trouble in the previously produced toy nursing bottles.

Although an illustrative embodiment of this invention has been described in detail herein with reference to the accompanying drawing, it is to be understood that the invention is not limited to that precise embodiment, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention, except as defined in the appended claims.

What is claimed is:

1. A toy nursing bottle comprising an outer body with polygonal cross-sections along a major part of its length and having a tapering upper end portion, an inner shell including a cylindrical portion constituting a major part of the length of said shell and a tapering upper end portion, said shell being insertable in said body through the bottom end of the latter and having circular cross-sections spaced inwardly from said body to define a space therebetween with non-uniform widths around the bottle at said major parts of the lengths of said body and shell, a top wall at the top of said tapering upper end portion of the shell permanently closing the interior of the latter and means closing said space at the bottom of the latter; a hollow nipple secured on the upper end of said body with said space opening between said tapering upper end portions of the shell and body immediately into the interior of said nipple, said interior of the nipple having a volume substantially as large as the volume of said space, and a quantity of liquid substantially filling said space and adapted to flow between the latter and said interior of the nipple.

2. A toy nursing bottle as in claim 1; wherein said body and shell and said nipple are molded of translucent and opaque plastic materials, respectively.

3. A toy nursing bottle as in claim 2; wherein said shell has radially outward projections extending from the top thereof at spaced apart locations and an outwardly directed flange at its lower end to engage the inner surface of said body and thereby center said shell within said body; and wherein said means closing said space at the bottom of the latter includes a bottom member having an upwardly directed rim abutting against the bottom edge of said body and an upstanding flange spaced inwardly from said rim and fitting closely in said shell at the bottom of the latter.

References Cited in the file of this patent

UNITED STATES PATENTS

1,221,335	Kline	Apr. 3, 1917
1,692,938	Jacobs	Nov. 27, 1928
2,039,373	Wittmann	May 5, 1936
3,071,888	Knott	Jan. 8, 1963

FOREIGN PATENTS

451,887	Germany	Nov. 4, 1927
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