

Jan. 29, 1963

S. M. HOFFSTEIN

3,075,666

NURSING BOTTLE

Filed April 30, 1959

2 Sheets-Sheet 1

FIG. 1.

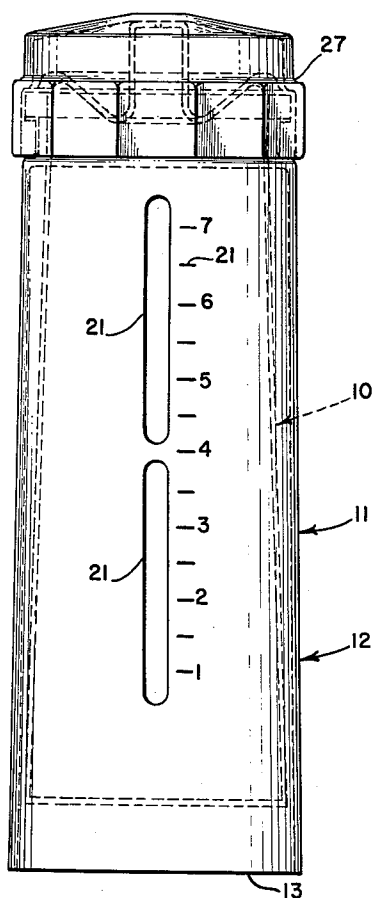


FIG. 2.

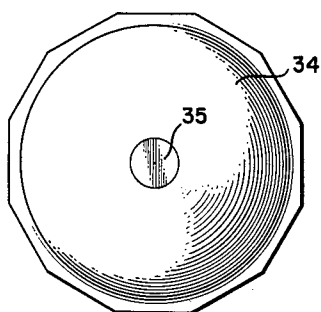
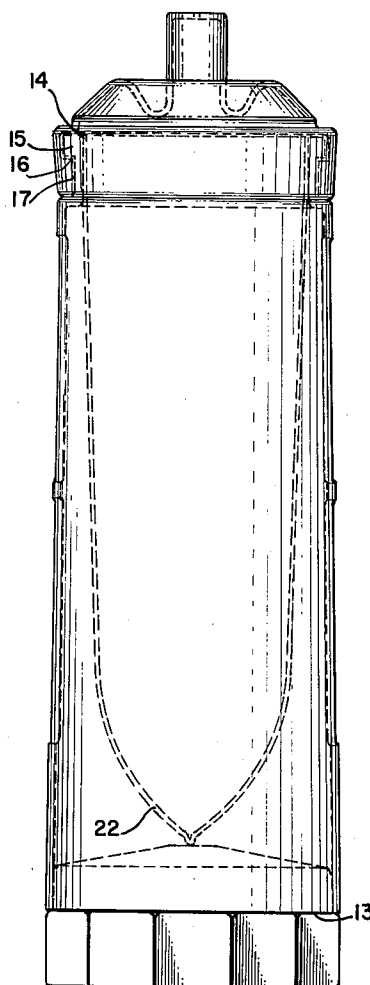


FIG. 3.

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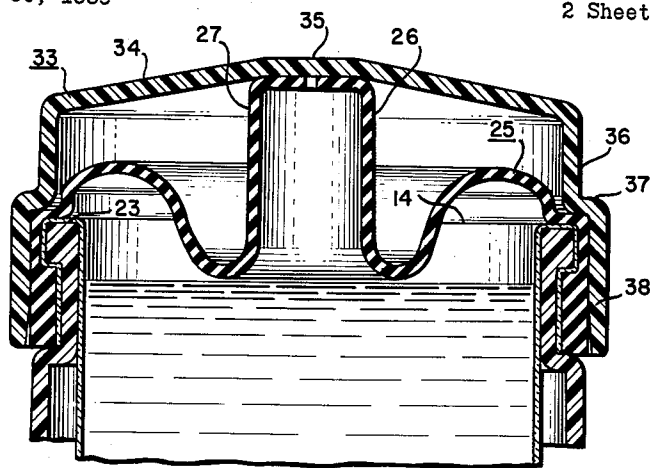


FIG. 4.

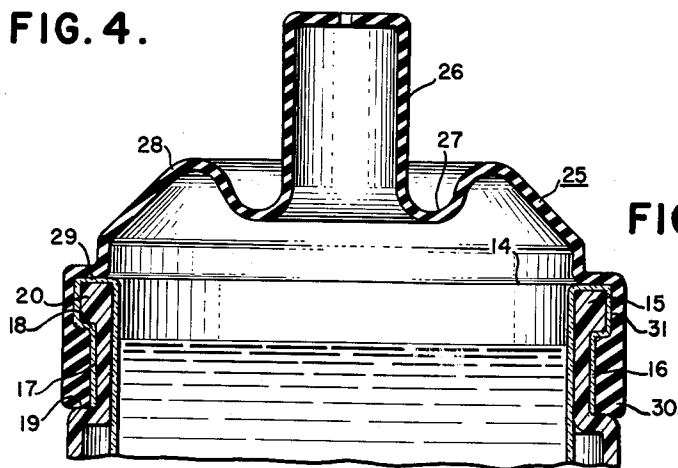


FIG. 5.

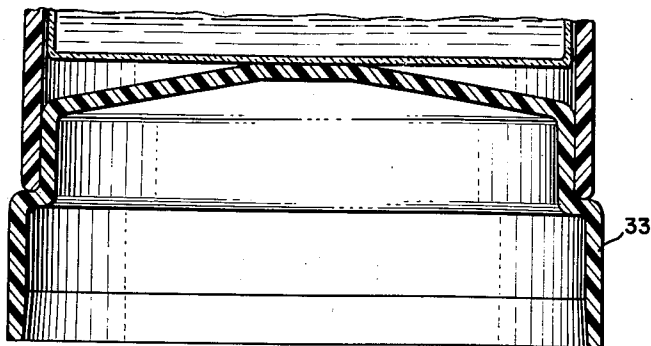


FIG. 6.

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3,075,666

NURSING BOTTLE

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3 Claims. (Cl. 215—11)

This invention relates to improvements in a disposable nursing bottle unit.

In the past it has been proposed, as in U.S. Patent No. 2,604,222, to attach a collapsible plastic nursing bottle to a nipple by outwardly folding the marginal edge of the bottle opening over a ring surrounding the bottle and then locking the marginal edge thereof between the outer surface of the ring and an inner groove in a flanged nipple. Such a nursing bottle unit presents the disadvantages of being unprotected against shock, such as by dropping or puncturing, which destroys the usefulness of the unit. In addition, when a collapsible bottle of this type is filled, it is difficult to handle because of its tendency to sag, and care has to be taken that bottle is not placed under undue stress so as to prevent leakage at the point of connection between the bottle and the nipple.

The present invention overcomes these and other disadvantages by providing for a collapsible nursing bottle unit which is easy to assemble in a sterile condition and provides a protective shield for the bottle and the nipple to maintain it in sterile condition until use is desired. The nursing unit is formed from bottle holder defining an annular groove near the top thereof so as to form a ringlike flange which extends outwardly from the top of the holder. A collapsible plastic nursing bottle is depended into the bottle holder with the marginal edge of the open end of the plastic bottle outwardly and downwardly turned over the ringlike flange that forms the top edge of the bottle holder. The marginal edge of the plastic bottle is held to the holder by a flanged nipple which has a groove around the inner surface adapted to fit over the ringlike flange. The bottom marginal edge of the nipple fits into a groove in the bottle holder below the flange so that the nipple cannot be accidentally disengaged.

Advantageously, the bottle holder can be provided with a cylindrical platform cap which is capable of fitting over the nipple to provide a sanitary covering, or when the bottle is in use, fitted to the base of the bottle holder to form a platform closing the bottom of the bottle holder.

The bottle holder, advantageously, may have a set of vertical slots or windows disposed oppositely from each other for determining by a scale adjacent to the windows the amount of liquid consumed from the bottle.

Additional objects of the invention will become apparent from an examination of the drawings, specification, and appended claims.

The invention will be described further in connection with the accompanying drawings, which are to be considered an exemplification of the invention and do not constitute limitation thereof.

In the drawings:

FIGURE 1 is a front elevational view of an assembled nursing unit with nipple in a capped position;

FIGURE 2 is a side elevational view of the assembled nursing unit with the cap positioned as a platform and the nursing unit ready for use;

FIGURE 3 is a top plan view of the nursing unit shown in FIGURE 1;

FIGURE 4 is a fragmentary cross-sectional view of the upper portion of the nursing unit showing the nipple depressed and in sealed relationship with the top of the closure cap;

FIGURE 5 is a fragmentary cross-sectional view of the

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upper portion of the nursing unit showing the collapsible bottle secured to the top of the bottle holder by the flange of the nipple; and

FIGURE 6 is a fragmentary cross-sectional view of the bottom portion of the nursing unit showing the cap secured in position as a bottom closure and serving as a platform for the bottle holder.

Referring to the drawings, FIGURES 1 and 2 illustrate a nursing unit 10 which incorporates the principles of this invention. Unit 10 has a tubular bottle holder 11 having a flared skirt portion 12 which defines bottom opening 13 and top opening 14. The top marginal edge of the holder has a thickened portion 15. In the outer surface of the top of the holder is an annular groove 16 which has a flat bottom 17 and forms substantially right-angle shoulders 18 and 19 with the surface of the holder. The annular groove 16 forms a flangelike member 20 which extends laterally outwardly from the top of the holder. In the side of the holder are longitudinally positioned, spaced slots 21 having calibration markings adjacent thereto for determining the amount of liquid remaining in the bottle.

The tubular bottle holder 11 is adapted to hold a collapsible bottle 22. The bottle can be a length of tubular material sealed at one end which is flexible, or it may be formed from suitable sheetlike material. Any flexible plastic material, such as polyethylene, polypropylene, "Pliofilm," or similar transparent, sheet-forming material may be used. Advantageously, the bottles can be in roll form, the roll comprising flattened tubing transversely sealed at spaced intervals to provide a plurality of bottles which may be severed one at a time from the end of the roll.

The bottle 22 is depended in tubular bottle holder 11 from the top thereof. The open marginal edge 23 of the bottle is turned outwardly and downwardly over flangelike member 20 so that the edge 23 engages the surface of the member 20 and the flat bottom portion 17 of annular groove 16. To the top marginal edge of the bottle holder is attached a nipple. Exemplary of such a nipple is that described in the patent to Allen, No. 2,588,069. As shown in the drawings, a nipple 25 has a teatlike protuberance 26 terminating in an areola portion 27. The areola portion is connected to a breastlike portion 28 which terminates in a ridge 29. The ridge extends outwardly in the form of a flange having a dependent skirt 30. Positioned in the inner surface of the dependent skirt is an annular groove 31 adapted to engage flangelike member 20, being of sufficient width and depth so that the bottom edge of the dependent skirt fits into annular groove 16. The dependent skirt of the nipple body can be turned outwardly and upwardly through the hinging action provided by groove 31. The marginal edge 23 of the plastic bottle extending over flangelike member 20 and the flat bottom 17 of annular groove 16 is locked in place by the nipple skirt when it is turned downwardly by pressing the marginal edge 23 of the plastic bottle against the top of the bottle holder.

Cooperatively fitting both the top and bottom of bottle holder 11 is a platform cap 33. The cap has a top portion 34 defining a flat circular area 35 centrally located in the top portion thereof. The surface of the top portion slopes downwardly from the flat area and defines an annular depending skirt portion 36. The bottom of the depending skirt portion extends outwardly in the form of a flange 37 midway of the sides of the skirt and continues downwardly in the form of a second depending skirt portion 38. The cap construction provides the second depending skirt portion to cover the annular shaped groove as the top surface of the annular flangelike member abuts against flange 37, when it is desirable to use the platform cap to cover the top of the bottle

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holder. When the cap is used as a platform or bottom closure, the outer surface of the first dependent skirt fits in bottom opening 13, the edge of the opening resting against the outside surface of flange 37. Advantageously, the second depending skirt may have flattened sides (e.g. hexagonal, octagonal), or other types of gripping protrusions, or surfaces to provide for tightly fitting the cap either to the top of the holders as a cover for the nipple, or into the bottom of the holder as a platform closure.

To assemble, the sterilized plastic bottle 22 can be cut from a roll of plastic bottles as heretofore described and placed in a depending position interiorly of the tubular bottle holder 11, the open marginal edge 23 of the bottle folded outwardly and over flangelike member 20 and bottom 17 of the annular groove 16.

Advantageously, to maintain the interior of the collapsible bottle in sterile condition, an assembly tool may be used which will turn the marginal edge 23 of the plastic bottle over the flangelike member when the bottle is depending in the bottle holder. Use of the assembly tool also assures uniform positioning of the bottle in the holder so that exact scaling of the contents of liquid consumed from the bottle can be determined from the windows 21. The bottle in the holder, in sterile condition, is filled with the liquid to be dispensed therefrom. The bottle is retained in its assembled position by the simple holding of the marginal edge against the shoulder of the annular flangelike member. A sterile nipple 25 with the skirt 30 turned outwardly and upwardly is placed on the top of the bottle holder so that the internal surface of ridge 29 rests on the surface of flangelike member covered with the marginal edge 23 of the plastic bottle. Turning down the skirt so that annular groove 31 engages flangelike member 20 with the internal surface of bottom portion of skirt 30 pressing an annular groove 16 locks the marginal edge 23 of bottle 22 to the bottle holder to form a compact nurser unit.

The annular groove 16 is of sufficient depth so that the bottom portion of dependent skirt 30 is substantially flush with the outside surface of holder 11 near the top thereof to prevent accidental dislodging of the nipple by the upturning of the nipple skirt. As shown in FIGURES 4 and 5, only a minor portion of the bottom edge of the nipple skirt 30 projects beyond the outer surface of the elongated holder 11 around its periphery adjacent the lower shoulder 19.

To store the sterilized bottle with contents therein, platform cap 33 is placed over the top of the tubular bottle holder with the flat circular area 35 pressing against the top surface of the nipple portion depressing the nipple and holding it in sealed relationship. The flange portion 37 limits the depression of the nipple by resting against the top of the annular ringlike member so that the entire nipple is sealed and maintained in a sterile condition until use is desired.

Upon using, the cap is removed, allowing the nipple portion to project outwardly to its intended shape, and the platform cap is inserted in the bottom opening 13 of the bottle holder with the first depending skirt 36 snugly fitting the internal marginal end of the bottle holder, the edge thereof resting against flange 37. The platform cap in this position provides an end closure which prevents the baby from interfering with the natural functions of feeding since the bag is completely encased within a protective holder.

As feeding progresses the amount of liquid dispensed can be immediately checked by turning the bottle to its upright position and checking through the windows the amount of liquid consumed.

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Although the present invention has been described with particularity with reference to a preferred embodiment, it will be obvious to those skilled in the art, after understanding the invention, that various changes and modifications may be made therein without departing from the spirit and scope of the invention, and the appended claims should therefore be interpreted to cover such changes and modifications.

What is claimed is:

1. In a nursing unit comprising an elongated tubular container holder having an open end adapted to be closed by a nipple positioned thereon, a disposable flexible open-ended container having an upper marginal portion folded outwardly and downwardly over the outside surface of the nipple-engaging end of said holder, and a nipple having a peripheral skirt portion adapted to clamp the upper marginal portion of said container to the outer surface of said holder, the improvement which comprises providing said holder with peripheral groove in the outside surface thereof forming an upper right angled shoulder and a lower peripheral shoulder, a thickened portion on the lower portion of said nipple skirt presenting a right angled shoulder engaging in said groove and cooperating with the right angled shoulder on said container holder, said thickened portion being snugly received in and substantially completely filling said peripheral groove, the lower shoulder of said holder forming a positive stop for positioning the nipple, and the upper shoulder of said holder engaging the top of the thickened portion of said nipple skirt and extending into an annular groove in the upper portion of said nipple skirt thereby providing a positive locking action for the nipple, the outwardly and downwardly turned portion of the flexible container being positively clamped peripherally between the holder and the nipple above the lower shoulder of said holder, the depth of said peripheral groove on the holder being sufficient so that only a minor portion of the bottom edge of the nipple skirt projects beyond the outer surface of the holder around its periphery adjacent said lower shoulder.

2. A nursing unit according to claim 1 in which the elongated tubular holder has an open bottom, and a protective nipple cap having a disc-like central portion adapted to engage the nipple and seal the same, said cap also having a depending peripheral skirt adapted to fit over the outer periphery of the nipple skirt, said cap being also adapted to fit into and close the open bottom end of said holder when said unit is in use.

3. A nursing unit according to claim 2 in which said cap has an annular shoulder on its skirt adapted to engage the upper edge of the nipple skirt around the periphery thereof for limiting the downward movement of the cap when the same is in sealing engagement with the nipple, and for limiting the depth of insertion of the cap into bottom of said holder when the unit is in use.

References Cited in the file of this patent

UNITED STATES PATENTS

2,110,928	Debuys	Mar. 15, 1938
2,628,909	Horan	Feb. 17, 1953
2,643,448	Piazz	June 30, 1953
2,748,673	Winstead	June 5, 1956
2,826,324	Hoag	Mar. 11, 1958
2,846,103	Maxwell	Aug. 5, 1958
2,859,891	Carkin	Nov. 11, 1958

FOREIGN PATENTS

247,891	Great Britain	Feb. 25, 1926
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