Sept. 2, 1947. H. H. GANSON 2,426,927

NURSING BOTTLE

Filed June 23, 1944

Fig. 1.

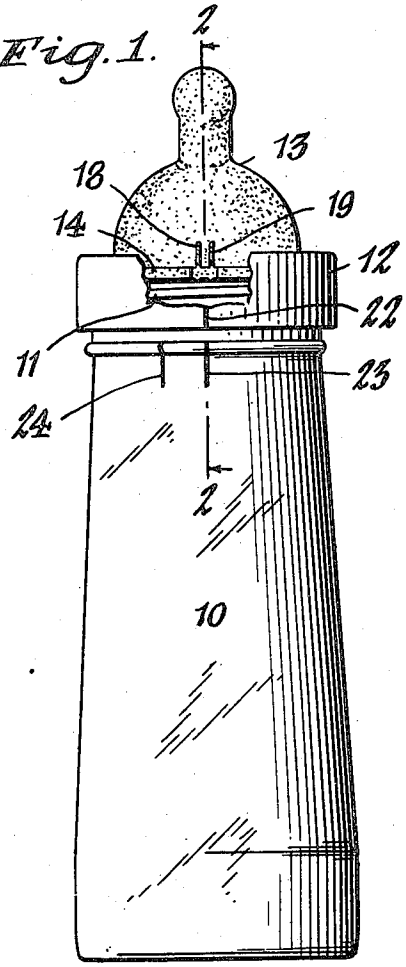


Fig. 2.

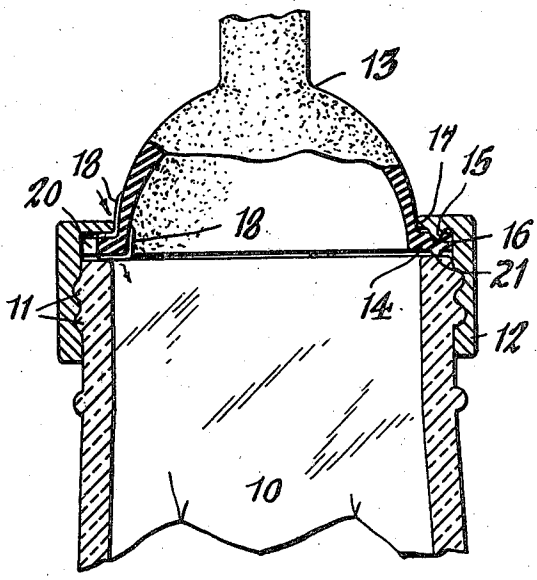


Fig. 4.

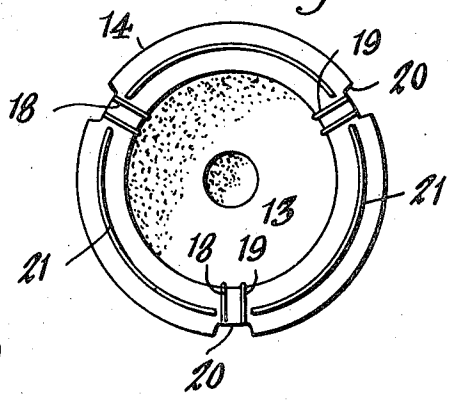
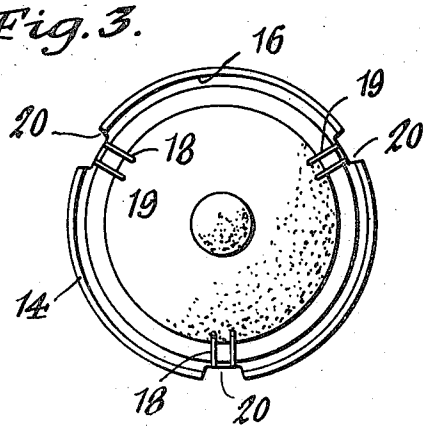


Fig. 3.



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NURSING BOTTLE

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5 Claims. (Cl. 215—11)

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This invention relates to certain new and useful improvements in nursing battles for infant feeding.

One of the objects of the invention is to provide a nursing unit of this character having novel means for simply and effectually venting the bottle during feeding, the means being so designed as to enable adjustment of the vent or vents within certain predetermined limits.

Another object is to provide a nursing bottle using a screw cap to detachably retain the nipple on the bottle and forming in that portion of the nipple confined between the cap and the bottle one or more vent passages defined by structure wholly built into the nipple.

Other features of the invention reside in the construction and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a side elevation of a nursing bottle embodying my invention, the cover being broken away to show the enclosing portions of the bottle and nipple. Figure 2 is an enlarged fragmentary cross section thereof taken on line 2—2, Figure 1. Figure 3 is an enlarged top plan view of the nipple. Figure 4 is an enlarged bottom plan view thereof.

Similar characters of reference indicate corresponding parts throughout the several views.

The invention has been shown in connection with the wide-mouthed type of food cell or nursing bottle 10 having thread-forming ribs 11 at its open end with which a detachable screw cap or ring-shaped cover 12 is engageable for removably clamping the nipple 13 in place on the bottle. This nipple is provided at its lower end with an outwardly-facing annular attaching flange 14 which is adapted to engage the top edge of the bottle and be clamped thereto by the screw cap. To effectually guard against the infant's pulling the nipple from its clamped position, the opposing contiguous faces of the cap and the nipple-flange are provided with an inter-engaging annular tongue 15 and groove 16, respectively. It will be noted that the bulbous or breast portion of the nipple projects through the opening 17 in the cap with the lower or base portion thereof in surface contact with the edge of such opening, and, as shown in Figure 2, the periphery of the base flange of the nipple fits snugly at its periphery against the inner wall of the cap.

For the purpose of venting the bottle during nursing and assuring the free withdrawal of its contents by the infant as well as preventing collapse of the nipple during feeding, I provide capillary-like vent channels between the nipple-flange 14 and the contiguous portion of the cap and bottle. By preference, this vent structure is provided for in the construction of the nipple itself and to that end consists of one or more pairs of relatively narrow spaced ribs 18, 19 defining vent channels disposed substantially radially on the top and bottom faces of the nipple-flange in the same registering plane and extending part way at their inner ends along the adjoining outer and inner faces of the bulbous portion of the nipple. In its periphery the nipple-flange has notches or recesses 20 therein which span or bridge the space defined by the companion pairs of ribs and form a connecting channel between the outer ends of the rib-forming channels. The bottom or bottle-engaging face of the nipple flange has arcuate ribs 21 arranged between and of the same height as the radial ribs 18, 19 for the purpose of providing a continuous and even bearing between the nipple and the bottle. By this construction, in the assembled position of the parts for feeding, the interior of the bottle is in vented communication with the atmosphere, the ribs 18, 19 and notches 20 forming with the contiguous portions of the cap and the bottle an uninterrupted capillary channel for effectually venting the bottle during feeding.

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By screwing the cap 12 home with varying degrees of pressure to compress the ribs 18, 19 within certain limits, the capillary rib-forming, vent channel may be governed as to size and thereby enable the channel to be readily regulated as desired. For this purpose and to facilitate such regulation, the cap is provided on its side wall with an indicator or mark 22 and the adjoining portion of the bottle is provided with complemental spaced indicators or marks 23, 24 which represent the minimum and maximum positions to which the cap is screwed home to in turn govern the corresponding maximum and minimum sizes to which the vent channel may be regulated. When the cap is screwed to a position where its indicator registers with the bottle indicator 23 the maximum size of the vent channel is obtained and when such cap-indicator registers with the bottle-indicator 24 the minimum size of vent channel is provided. These indicators may be in the form of colored lines or of any other appropriate character.

I claim as my invention:

1. A nursing unit, comprising a bottle having a cap detachably mounted thereon containing an opening centrally thereof, and a nipple adapt-

ed to be mounted on the bottle and to extend through said cap-opening in clamping relation to the cap and having a base-flange for disposition between the top edge of the bottle and the underside of the top marginal portion of the cap about its opening, said nipple-flange having vent passages formed in its top and bottom faces with the same extending along the outer face of the bulbous portion of the nipple adjoining the flange and having companion alining inter-communicating notches in the periphery of such flange, the bottom passage opening into the bottle and the top passage opening into the atmosphere between the cap and the nipple.

2. A nursing unit, comprising a bottle having a cap detachably mounted thereon containing an opening centrally thereof, and a nipple adapted to be mounted on the bottle and to extend through said cap-opening in clamping relation to the cap and having a base-flange for disposition between the top edge of the bottle and the underside of the top marginal portion of the cap about its opening, said nipple-flange having alining, intercommunicating pairs of ribs in the top and bottom faces thereof and the adjoining portion of the nipple having similar ribs along its outer surface to form with the contiguous underside of the cap-top and the top of the bottle, respectively, a vent channel opening at one end into the bottle and at its other end between the cap and the nipple into the atmosphere.

3. A nursing unit, comprising a bottle having a cap detachably mounted thereon containing an opening centrally thereof, and a nipple adapted to be mounted on the bottle and to extend through said cap-opening in clamping relation to the cap and having a base-flange for disposition between the top edge of the bottle and the underside of the top marginal portion of the cap about its opening, said nipple-flange having alining pairs of spaced ribs in the top and bottom faces thereof extending inwardly from the periphery of such flange and the adjoining portion of the nipple having similar ribs along its outer surface to provide vent channels between the opposite faces of said flange and the cap and bottle and between the cap and the nipple, the bottom channel opening at its inner end between the nipple and the edge of the cap-opening, the periphery of the nipple-flange having a notch formed therein bridging the space between said top and bottom ribs and forming a connecting channel between the outer ends of the rib-forming channels.

4. A nursing unit, comprising a bottle having a screw cap detachably mounted thereon containing an opening centrally thereof, and a nipple adapted to be mounted on the bottle and to extend through said cap-opening in clamping relation to the cap and having a base-flange for disposition between the top edge of the bottle and the top marginal portion of the cap about its opening, said nipple flange having spaced ribs formed thereon for facial contact with the underside of the cap and the top edge of the bottle when the cap is screwed down into nipple-retaining position and the adjoining portion of the nipple having similar ribs along its outer surface to provide a vent channel opening at one end into the bottle and at its other end to the atmosphere between the nipple and the edge of the cap-opening, the size of the vent channel being variable by screwing the cap down more or less beyond its normal cap-retaining position to compress the ribs and reduce the size of the channel.

5. A nursing unit, comprising a bottle having a screw cap detachably mounted thereon containing an opening centrally thereof, and a nipple adapted to be mounted on the bottle and to extend through said cap-opening in clamping relation to the cap and having a base flange for disposition between the top edge of the bottle and the top marginal portion of the cap about its opening, said nipple flange having spaced ribs formed thereon for facial contact with the underside of the cap and the top edge of the bottle when the cap is screwed down into nipple-retaining position and the adjoining portion of the nipple having similar ribs along its outer surface to provide a vent channel opening at one end into the bottle and at its other end to the atmosphere between the nipple and the edge of the cap-opening, the size of the vent channel being variable by screwing the cap down more or less beyond its normal cap-retaining position to compress the ribs and reduce the size of the channel, the bottle and cap having complementary marks thereon for indicating to the user the normal position of the parts for maximum venting and for minimum venting.

HOWARD H. GANSON.

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