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3,134,495

VENTED NURSING BOTTLE

Filed Sept. 14, 1962

FIG. 1.

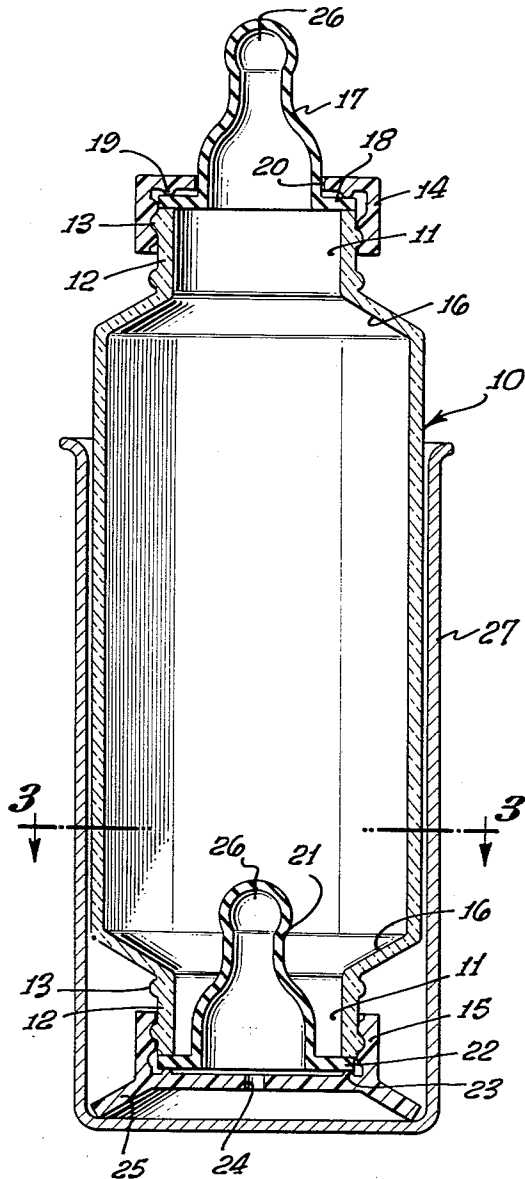


FIG. 2.

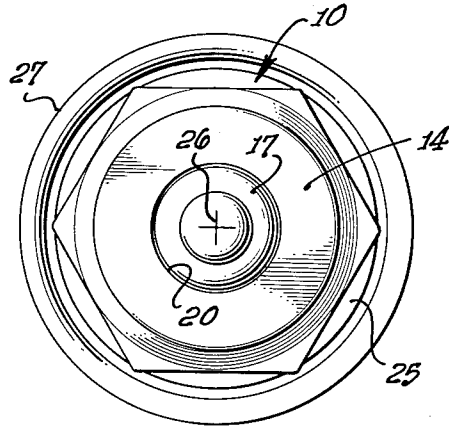
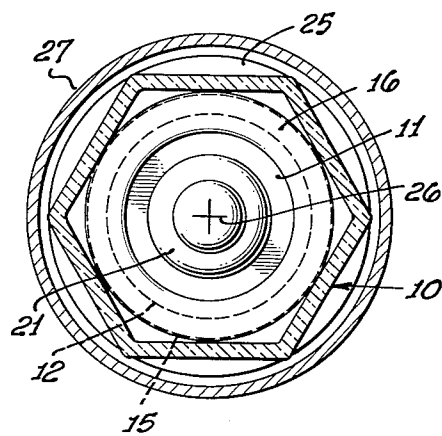


FIG. 3.



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VENTED NURSING BOTTLE

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This invention has to do with improvements in nursing bottles, particularly of the air-vented type, i.e., in which provision is made for admitting air to the bottle as its contents are consumed.

Heretofore, various proposals have been made for so venting nursing bottles, but those instances of which I am aware have been characterized by various disadvantages such as the involvement of cleaning problems, necessity for special venting appliances not having the availabilities of the bottle and nipple components, and added expense due to the peculiarities of the venting provisions.

My general object is to obviate all such disadvantages to the exclusion of any specially designed venting appurtenances, by relying upon the simple combination of a bottle and commonly available nipples uniquely used. In accordance with the invention, I am able to accomplish both dispensing and venting functions using an easily cleansible and sterilizable bottle, equipped with corresponding, readily available nipples capable of easy sterilization and interchangeable to serve their respective functions.

The invention contemplates the use of a container or bottle, open at both ends, and adapted to accommodate a pair of corresponding nipples, one mounted for usual dispensing use, and the other received inside the opposite end of the bottle to serve the venting function. Accordingly, and by reason of their interchangeability, it is important that the nipples be of a type adapted not only to pass the outflow of the bottle contents, but also to function reversely in being pressure-responsive to prevent outflow but allow air intake into the bottle. For this purpose, I employ nipples having slitted apertures so that the nipple received inside the bottle will have the characteristics of a pressure-responsive valve in that the slit will remain closed under the contents pressure, but will open to admit air when removal of the bottle contents reduces its internal pressure appreciably below atmospheric pressure.

All the features and objects of the invention, as well as the details of an illustrative embodiment will be more fully understood from the following description of the accompanying drawing, in which:

FIG. 1 is a view showing the nursing bottle in longitudinal cross section within a warming receptacle;

FIG. 2 is a plan view of FIG. 1; and

FIG. 3 is a cross section taken on line 3—3 of FIG. 1.

The nursing bottle, generally indicated at 10, may be made of any suitable material such as glass, unaffected by the contents and capable of heat sterilization. Desirably the bottle may be made polygonal, preferably hexagonal, in cross section, as an aid to handling and holding. As illustrated, opposite ends of the bottle are open at 11 and have corresponding necks 12 threaded at 13 to receive the threaded nipple retainers 14 and 15. Internally, the bottle may have angular shoulders at 16 to facilitate and insure thorough cleansing.

Retainer 14 is shown to hold a dispensing nipple 17

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against the mouth of the bottle, the nipple having a flange 18 engaged by the annular retainer rib 19 about the nipple-passing opening 20. While the illustrated form of threaded retainer and its holding relation to the nipple may be used satisfactorily, it will be understood that variations from these specific configurations may be made without departure from the intended scope of the invention.

The bottle nipple 21, which is interchangeable with nipple 17, is shown similarly to have a flange 22 clamped against the bottom mouth of the bottle by engagement with annular rib 23 inside the threaded retainer 15, the latter having an air passing aperture 24, and an appropriate base configuration capable of resting stably on a table or other supporting surface. As illustrative, the retainer 15 is shown to be formed with a base flange 25 so that the bottle may be rested in upright position. In the interests of precluding access to the interior of the nipple 21, aperture 24 need be made no larger than required to pass air through the nipple. Retainer 15 may be the same as the nipple retainer 14, to render them completely interchangeable.

As previously indicated, the nipple apertures at 26 have the form of single or crossed slits, as distinguished from the more common holes or essentially round apertures, in order that the fluid pressure inside the bottle acting against the lower nipple 21, will tend to press together the rubber at the slit, and therefore prevent outflow of the contents. However, the resilient nipple response to differential pressure inside and outside the bottle, is such that as the internal pressure decreases appreciably by removal of the contents through the upper nipple 17, the bottom nipple slit will open sufficiently to vent air into the bottle, thus to maintain internal substantially constant atmospheric pressure preventing collapse of the upper nipple.

The bottle assembly may be supplied or used with a warming facility such as receptacle 27 adapted to be externally heated to bring the bottle contents up to feeding temperature.

I claim:

1. The combination comprising a nursing bottle of open formation top and bottom, a pair of corresponding nipples having slitted through apertures, first retaining means detachably securing one nipple to the top of the bottle to project outwardly for feeding, and second retaining means detachably securing the second nipple to the bottom of the bottle so that the nipple projects upwardly therein, the slitted through aperture of the second nipple being closable against escape of the bottle liquid contents by normal internal pressure and being openable to vent air into the bottle upon internal pressure decrease below normal.

2. The combination of claim 1, in which said second retaining securing means is shaped to rest and give the bottle stable support on a flat surface.

3. The combination of claim 1, in which said second retaining means extends across the mouth of the bottle and second nipple and has an air-passing aperture.

4. The combination of claim 1, in which opposite ends of the bottle are threaded and both of said retaining means are threaded annular retainers interchangeably applicable to the bottle ends and engageable with flanged portions of the nipples.

5. The combination of claim 4, in which the lower

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nipple retainer is shaped to rest and give the bottle stable support on a flat surface.

6. The combination of claim 4, in which the lower nipple retainer extends across the mouth of the bottle and second nipple and has an air-passing aperture.

7. The combination of claim 4, in which the lower nipple retainer has a downwardly projecting flange adapted to rest and afford stable bottle support on a flat surface, the retainer having a portion within said flange which extends across the bottle and nipple mouths and contains an air-passing aperture.

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1,972,895
2,084,099
2,643,785
2,989,961

1,058,610

4

References Cited in the file of this patent

UNITED STATES PATENTS

Maccoy ----- Sept. 11, 1934
Maccoy ----- June 15, 1937
Rust ----- June 30, 1953
Blanchett ----- June 27, 1961

FOREIGN PATENTS

France ----- Nov. 4, 1953