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Howland

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[54] **DISPOSABLE BABY BOTTLE**

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[52] **U.S. Cl.** ..... **215/11 R,** 215/11 C, 99/171 ND

[51] **Int. Cl.** **A61j 9/00**

[58] **Field of Search** ..... 215/11 R, 11 C; 99/171 ND

[56] **References Cited**

UNITED STATES PATENTS

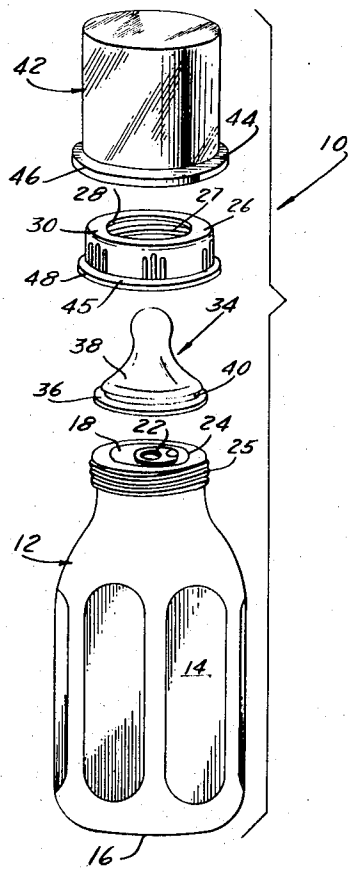
3,194,424	7/1965	Barr	215/11 R
2,780,378	2/1957	Romano	99/171 ND
3,432,059	3/1969	Stephens et al.	215/11 C
2,931,731	4/1960	Pohjola	99/171 ND
3,586,196	6/1971	Barton et al.	215/11 C

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[57] **ABSTRACT**

There is herein disclosed a baby bottle that is adapted to be vacuum sealed having a main body formed as a bottle to receive liquid therein, the body being provided at its upper end with external threads and a removable sealed membrane which is adapted with a pull tab for removal from the main body. A cap is threadably secured to the external threads and is provided with an enlarged central opening therein to removably receive a nipple which is used by a baby for sucking the liquid out of the bottle when the membrane is removed therefrom. To protect the sterilized nipple from contamination, there is also included a sealed cover which is readily removed when the bottle is to be used.

6 Claims, 4 Drawing Figures



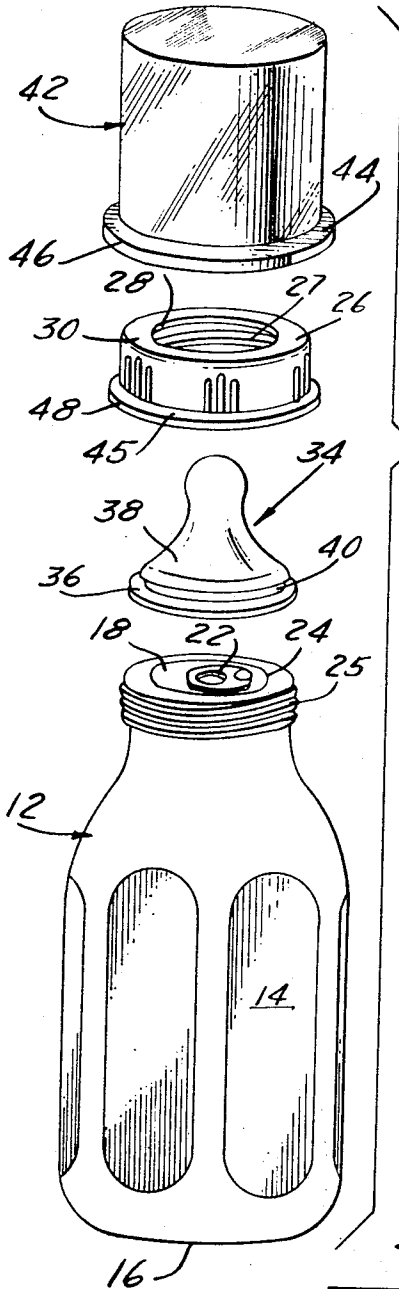


Fig. 1.

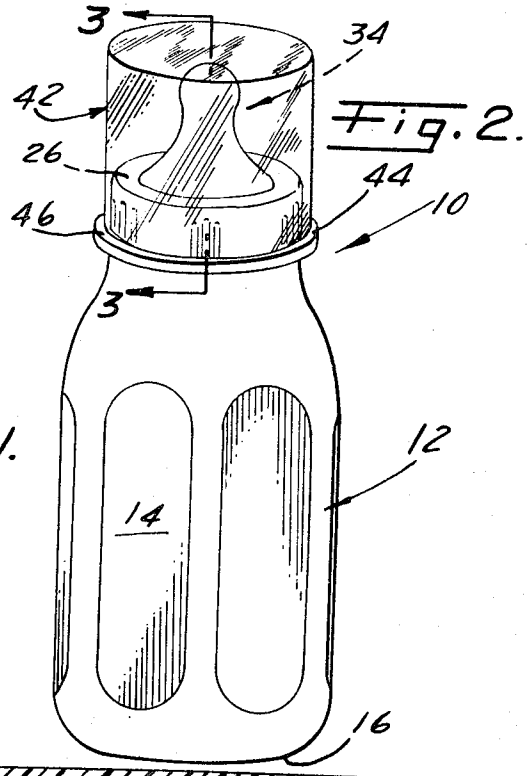


Fig. 2.

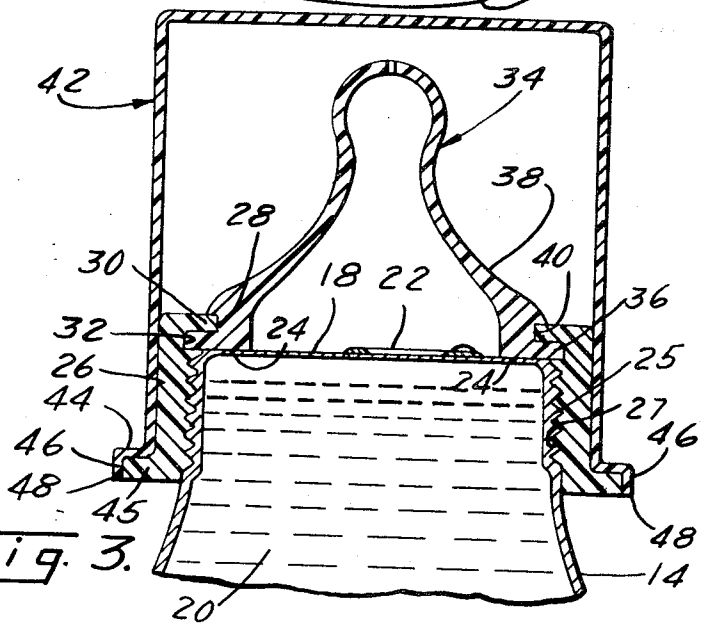


Fig. 3.

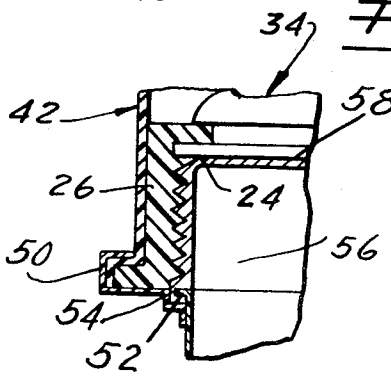


Fig. 4.

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DISPOSABLE BABY BOTTLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a baby bottle and more particularly to a disposable baby bottle that is pre-filled, sterilized and sealed.

2. Description of the Prior Art

As is well known in the art, various problems and difficulties have been encountered in providing babies with proper feeding by means of bottles, wherein bottles and their associated parts, as well as the contents, should at all times be kept clean and sterilized. When a baby's feeding time arrives and he is being cared for at home the problem is, naturally, under control. However, when the parents travel, visit, or for some other reason leave home, with the infant, feeding can then become more complicated. Generally, the bottles are prepared and sterilized at home, which takes considerable time, and then are packed in a bag or traveling case used for that purpose, during which time the nipples are exposed to various contaminants. Also, perhaps not enough bottles have been prepared and the supply runs out, causing a stop at the nearest restaurant or grocery store to have the bottles refilled, usually without the time or facilities for sterilization which all parents like to maintain.

Even with the advent of throw-away bottles, the problem of running out of sterilized milk or other sterilized liquids, such as formula, orange juice or plain water, still persists.

To the applicant's knowledge, there is no throw-away baby bottle available on the market today that can provide sterilized parts as well as sterilized food in one package, wherein the bottle is pre-filled with any selection of liquids under ultimate, positive sterilized conditions, sealed and stored in such a manner as to maintain sterilization until said bottle is put into use.

SUMMARY OF THE INVENTION

The present invention discloses a device for containing sterilized liquids for babies under positive, constant, sterilized conditions prior to use. This device comprises a disposable baby bottle unit having a main hollow body formed as a bottle or container to receive various liquids therein, under sterilized conditions, which are to be consumed by babies. The upper neck portion of the container is provided with external threads and is sealed by a thin membrane, preferably of the same material as the container. This material can be made from either plastic or very thin aluminum. Secured to this membrane is a pull tab whereby the membrane can be removed from the container, thereby providing an opening or outlet for the liquid therein. Included as part of the baby bottle, there is provided a screw cap having a central enlarged opening therein for reception of a sterilized baby nipple which is removably secured within the opening. In order to protect the cap and nipple from contamination at all times prior to use, there is a cover which is removably secured and sealed over both the cap and nipple. Said cover is removable at the time the baby is to be fed and capable of being snapped back into place if the content of the bottle is not completely emptied.

It is contemplated that such disposable, pre-filled baby bottles will be obtainable over the counter at stores, in supermarkets, or dispensed by vending machines that are capable of heating the liquids to a predetermined temperature.

OBJECTS AND ADVANTAGES OF THE INVENTION

The present invention has for an important object a provision whereby a baby bottle is pre-filled under a sterilized condition, and is capable of being kept in such a condition under various situations prior to its first use.

Another object of the present invention is to provide a sterilized baby bottle that is vacuum sealed and is capable of being used at will by removing a sealed membrane providing said vacuum seal.

It is another object of the present invention to provide a sterilized, disposable baby bottle having a sterilized nipple under a protective seal and ready for use.

A further object of the present invention is to provide a sterilized, disposable baby bottle that is capable of storing various kinds of sterilized liquids under a vacuum seal by means of a removable membrane.

It is still another object of the present invention to provide a baby bottle of this character that can be shelf stocked in all markets or sold from vending machines.

It is a further object of the present invention to provide a sterilized, pre-filled, disposable baby bottle that is relatively inexpensive to manufacture.

It is still a further object of the invention to provide a device of this character that can be produced in large quantities under strict sterilized conditions.

Still another object of the invention is to provide a device of this character that is simple, lightweight and rugged in construction.

Other characteristics, advantages and objects of this invention can be more readily appreciated from the following description and appended claims. When taken in conjunction with the accompanying drawings, this description forms a part of the specification wherein like references and characters designate corresponding parts in several views.

DESCRIPTION OF THE DRAWINGS

Referring to the accompanying drawings, which are for illustrative purposes only:

FIG. 1 is an exploded perspective view of the present invention;

FIG. 2 is a perspective view showing the invention as a complete sealed unit;

FIG. 3 is an enlarged cross-sectional view taken on line 3—3 of FIG. 2; and

FIG. 4 is a partial cross-sectional view showing an alternative arrangement.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring more particularly to the drawings, there is shown a device for containing sterilized liquids in a vacuum-sealed, sterilized bottle. This device comprises a disposable baby bottle unit, generally indicated at **10**, having a main hollow body forming a container or bottle **12**, said bottle being defined by a somewhat cylindrical thin wall **14** and a bottom wall **16** having the thickness of said wall **14**. The upper end wall **18**, which would be better defined as a thin membrane, is used to seal the sterilized liquid **20** within the sterilized bottle **12**. It should be noted that the bottle could be formed

from various types of plastic. However, a thin, lightweight metal such as aluminum is preferred.

The membrane **18** is provided with a pull tab **22** whereby said membrane can be easily removed and separated from the main body **12** by means of a scored, annular groove **24.** That is, when pull tab **22** is lifted upwardly the membrane **18** will tear along the scored, annular groove **24,** thereby defining an opening or outlet by which the liquid can flow from the container **12.**

In addition, the upper portion of the container **12** is provided with external threads **25** which are used as a means for securing the cap **26** to the bottle when corresponding internal threads **27** of said cap are screwed thereon. The cap **26** also includes a central enlarged opening **28** defined by an annular, inwardly-projecting flange **30** which, in turn, forms an annular recess **32.** Both the flange **30** and recess **32** provide means for removably attaching a nipple, generally indicated at **34.** This nipple is of a conventional type comprising an enlarged annular flange **36** extending radially outwardly from the body portion **38,** said flange being adapted to be received in said annular recess **32** of the cap **26.** As the flange **36** extends outwardly there is formed a reduced-diameter, annular groove **40** in which flange **30** is received. When the nipple **34** is engaged within the cap **26,** said nipple is locked into position as the cap is tightly screwed to the bottle **12.**

In order to provide positive protection against contamination of the nipple **34** and cap **26,** a cup-like cover, generally indicated at **42,** is removably secured to the cap **26** by a radially-extending flange **44** which seats against the annular lip **45** of the lower portion of cap **26.** Said flange **44** projects downwardly at **46,** covering the annular edge **48.** Thus, the cover **42** can be removed and replaced if the bottle is not completely emptied by the baby. However, it is contemplated that each bottle will be half the size of a normal baby bottle, allowing each bottle to be completely consumed after opening.

ALTERNATIVE EMBODIMENT

Referring now to FIG. **4** in which an alternative embodiment is shown, this arrangement illustrates the cover **42** and cap **26** as being sealed simultaneously to the main body **12** by a thin sheet of plastic **50,** or the like, that can be thermically sealed thereon. This insures that the cap cover cannot be inadvertantly removed without detection.

Also included in FIG. **4** is an alternative arrangement wherein the main body **12** is provided with an annular flange **52** that is sealed within groove **54** of externally-threaded neck member **56** which comprises the means for sealing the bottle together with the removable membrane **58.**

Further, said main body **12** can be formed of suitable, heat-resistant, plastic material, and said neck member **56** and membrane **58** can be formed of suitable metal, such as aluminum.

The invention and its attendant advantages will be understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts of the invention without departing from the spirit and scope thereof or sacrificing its material advantages, the arrangement hereinbefore described being merely by way of example, and I do not wish to be restricted to the specific form shown or uses mentioned, except as defined in the accompanying claims.

I claim:

1. A pre-filled, sterilized, vacuum-sealed, disposable baby bottle comprising, in combination:

a sealed container having a threaded upper end;

a removable sealing means disposed at the threaded end of said container, said removable sealing means comprises a thin membrane wall formed as an integral part of said container and having an annular, scored groove;

means for removing said sealing means, said removing means being fixedly secured to said sealing means, whereby said membrane is separated from said container when said removing means is pulled;

a cap having a central opening therein and being internally threaded, whereby said cap is threadably attached to said container;

a nipple removably mounted in the opening of said cap; and

cover means removably disposed on said cap, whereby said cap and said nipple are protected from contamination.

2. A disposable baby bottle as recited in claim **1,** wherein said cover means comprises a cup-like cover which is removably attached and sealed to said cap, whereby said nipple is kept sterilized until said cover is removed.

3. A disposable baby bottle as recited in claim **1,** wherein said means for removing said membrane comprises a pull tab fixedly secured to said membrane.

4. A disposable baby bottle as recited in claim **1,** wherein said cap includes an annular flange and said cover includes an annular flange, whereby both flanges are engaged with each other and sealed thereto.

5. A disposable baby bottle as recited in claim **4,** including means for removably sealing said cover and said cap to said container.

6. A disposable baby bottle as recited in claim **5,** wherein said means for removably sealing said cover and said cap to said container comprises a thin strip of plastic capable of being thermically sealed about the flanges of said cover and said cap and a portion of the container below the threaded area thereof.

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