

April 14, 1959

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2,881,935

INFANT'S NURSING BOTTLE ASSEMBLY

Filed Dec. 10, 1956

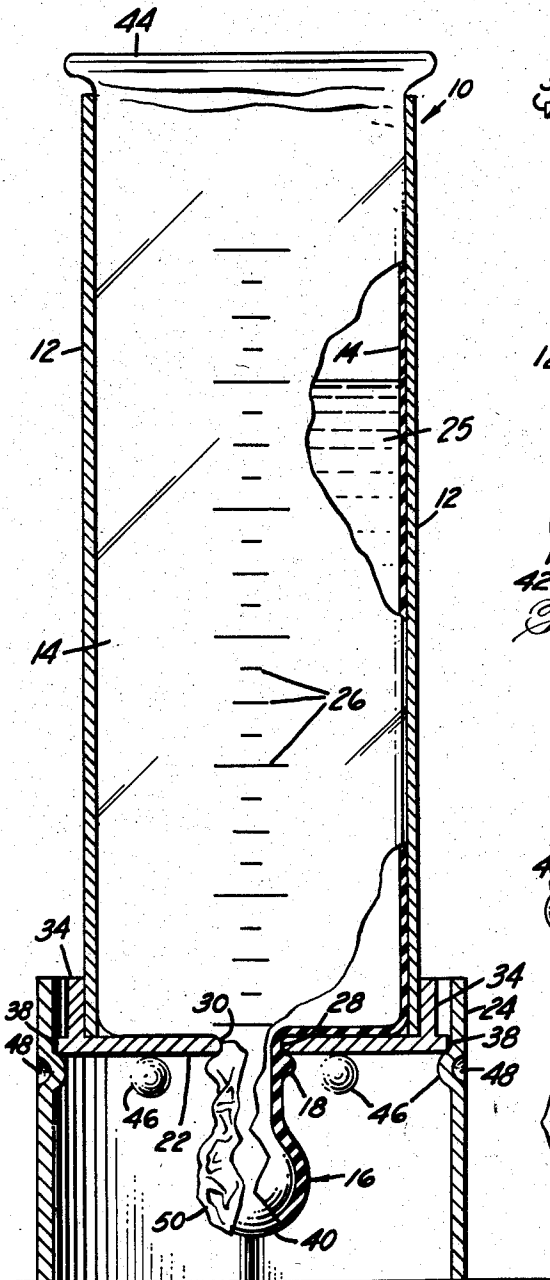


Fig. 1.

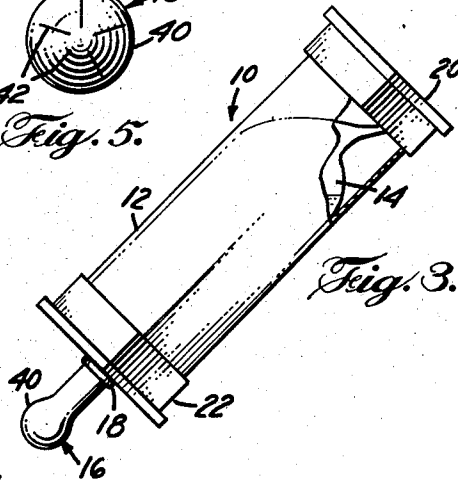
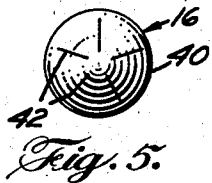
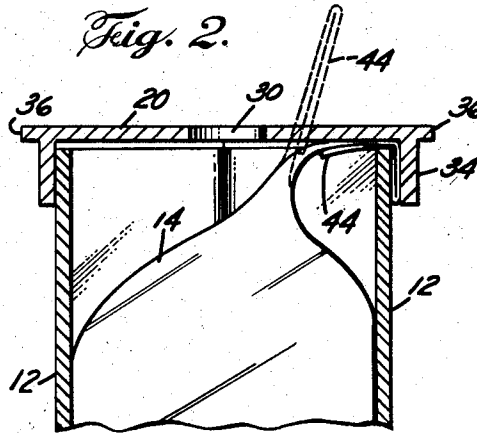


Fig. 3.

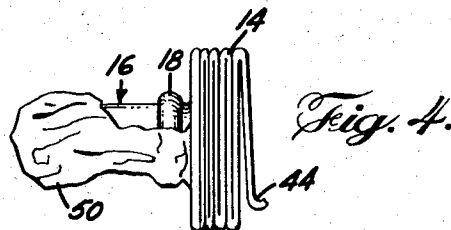


Fig. 4.

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INFANT'S NURSING BOTTLE ASSEMBLY

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Application December 10, 1956, Serial No. 627,222

1 Claim. (Cl. 215—11)

This invention relates to disposable containers and particularly liners of containers where such liners may be discarded after use and the containers reused, and in particular a liner for a tubular container in which the liner is provided with a nipple positioned to extend through an opening in a cap on the end of the container, thereby providing a nursing bottle with a removable liner and wherein the liner may be supplied collapsed, placed in the container with the nipple extended through the opening in the cap, filled with milk or formula, and the open end folded over and secured under a cap also positioned on an end of the container for sealing the liner and container.

The purpose of this invention is to provide a nursing bottle having a disposable liner so that sterilization of the nursing bottle is not required.

Various types of disposable liners and containers have been provided for different products, and nursing bottles have been sterilized by scalding and other means, however, with conventional nursing bottles contamination is possible in drying and cooling, and many bottles are broken in the sterilizing process. For this reason nursing bottles have always been a problem, and it is very seldom that one has the assurance that a bottle being filled with milk or formula is thoroughly sterilized.

With this thought in mind this invention contemplates a nursing bottle having an outer shell and an inner disposable liner in which the liner is in the form of a bag with a nipple extended from the closed end and the shell includes a tube having an opening for the nipple in a cap on one end and in which the opposite end is provided with a flanged cap by which the open end of the liner is sealed.

The object of this invention is to provide means for forming a nursing bottle in which the bottle may be provided with a disposable liner that is discarded after being used.

Another object of the invention is to provide a container having a disposable liner in which the liner is provided with a nipple that extends through a cover on the container and in which means is provided for preventing accidental return of the nipple through the cover.

Another important object of the invention is to provide a nursing bottle having a disposable liner in which means is provided for supporting the bottle in an upright position for filling.

It is yet another object of the invention to provide a nursing bottle having a disposable lining in which means is provided for sealing the open end of the lining after the bottle is filled.

A further object of the invention is to provide a nursing bottle having a disposable liner therein in which the parts are readily assembled as the bottle is used.

A still further object of the invention is to provide a nursing bottle having a disposable lining in which the bottle is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies an elongated transparent plastic

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tube having flanged plastic caps with openings there-through frictionally retained on the ends thereof, a liner having a nipple with a collar thereon extended from one end and positioned with the nipple projecting through the opening of one of the caps, and a stand in which the tube is supported in an inverted upright position for filling.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein:

Figure 1 is a vertical section through the tube and supporting stand with the liner shown in elevation in the tube, and with parts of the liner broken away and parts shown in section.

Figure 2 is a vertical section through the upper end of the improved nursing bottle with the end of the liner shown in the sealed position in full lines, and in an extended position, before being sealed, in dotted lines.

Figure 3 is a side elevational view illustrating the improved nursing bottle, the bottle being shown in the nursing position, and part of the tube or shell of the bottle being broken away.

Figure 4 is a view showing the liner of the nursing bottle in a collapsed position, in which position the liners are supplied in a box or package, to facilitate packaging, storing and shipping.

Figure 5 is an end elevational view of the nipple showing the arrangement of slits therein.

While one embodiment of the invention is illustrated in the above-referred-to drawings, it is to be understood that they are for the purpose of illustration, only, and that various changes in construction may be resorted to in the course of manufacture in order that the invention may be utilized to the best advantage according to circumstances which may arise, without in any manner departing from the spirit and intention of the device, which is to be limited only in accordance with the appended claim. And while there is stated the primary field of utility of the invention, it remains obvious that it may be employed in any other capacity wherein it may be found applicable.

In the accompanying drawings and in the following specification, the same reference characters are used to designate the same parts and elements throughout, and in which the numeral 10 refers to the invention in its entirety, numeral 12 indicating a cylinder or tubular container of a suitable heat-resistant material, such as transparent plastic, numeral 14 a liner having a nipple 16 with a collar 18 thereon, extended from one end, numerals 20 and 22 caps positioned on ends of the container or cylinder, and numeral 24 a circular wall providing a stand for retaining the nursing device in an upright position to facilitate filling the liner with milk, a formula, or the like 25.

The liner is preferably formed of a transparent heat-resistant plastic whereby graduations 26 on the outer surface of the liner 14 may readily be observed so that the amount of material being placed in the device may readily be determined.

The collar 18 is spaced from the base of the nipple 16 providing an annular recess 28 into which the edge of the cap 22 around an opening 30 therein extends whereby the nipple is held in an extended position by the collar which prevents the nipple being pressed back through the opening in use.

The cap 20 is provided with an opening 32, similar to the opening 30 in the cap 22, and both caps are provided with annular flanges 34 which are spaced inwardly from the peripheral edges of the discs or end plates, providing extended edges 36 and 38.

The enlarged bulbular end 40 of the nipple is provided with radially disposed slits 42 through which milk or formula 25 is drawn by an infant in nursing. The opposite

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end of the liner is flattened and folded over forming a tab 44 and the tab is folded over the edge of the cylinder and secured in a sealed position by the flange 34 of the cap 20, as shown in Figure 2.

The liners 14 are collapsed, as illustrated in Figure 4, for packing, storage, and shipping, and in use, a liner is removed from a package, opened to an extended position, and the nipple on the end thereof inserted in the opening through the cap on the end of the cylinder. The nipple is pressed through the opening until the collar around the base of the nipple is on the outside of the cap, so that the collar prevents the nipple being pressed back through the opening.

With the liner in position, and with the upper end open, the cylinder with the liner therein is inverted and positioned in the stand formed with the wall 24, and with the extended edge 38 resting upon the nodes 46 formed by the indentations 48 in the outer surface of the wall. In this position the nursing bottle is filled with milk or formula 25 to a desired graduation, and after filling, the upper end of the liner is folded over and crimped under the flange 34 of the cap 20. The bottle is then removed from the stand and used in the conventional manner.

After use the liner is removed, by first removing the caps from the ends of the cylinder, and the liner is discarded or disposed of in any suitable manner. When use of the nursing bottle is again desired a new liner is withdrawn from the package or box, and the cycle of operations is repeated. By this means one has the assurance that the milk or formula 25 comes in contact with only thoroughly sterilized surfaces or materials.

To further insure sterility of the device, and especially the nipple 16, the nipple 16 is sealed, in packaging, by enclosing it in a suitable cover such as metal foil 50 or the like, as illustrated in Figures 1 and 4. The foil 50 is preferably not removed until just before the bottle is introduced into the mouth of the infant at feeding time.

The edge 36 or 38 of at least one of the caps is hexagonal or octagonal, providing flat sides for retaining the nursing bottle in position and preventing rolling thereof.

Although the cylinder or elongated casing and also the closure caps have been described as being made of plastic, it will be understood that these parts and also the liner and stand may be made of other suitable material.

From the foregoing specification, it will become apparent that the invention disclosed will adequately accomplish the functions for which it has been designed and in an economical manner, and that its simplicity, accuracy, and ease of operation are such as to provide a relatively inexpensive device, considering what it will accomplish, and that it will find an important place in the art to which it appertains when once placed on the market.

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It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Changes in shape, size, and rearrangement of details and parts, such as come within the purview of the invention claimed, may be resorted to in actual practice, if desired.

Having now described the invention that which is claimed to be new and desired to be procured by Letters Patent, is:

In a nursing bottle assembly, the combination which comprises a stand having a vertically disposed cylindrical wall, the wall having nodes on the inner surface and the nodes being spaced downwardly from the upper end of the stand, a container having a cylindrical wall, caps including discs having openings therethrough and having annular flanges extended from one of the sides thereof frictionally held by the flanges on opposite ends of the container, the caps having edges extended from the discs beyond the peripheral surfaces of the flanges, the edge of the cap on the lower end of the container being positioned to rest upon the nodes on the inner surface of the stand for supporting the container in an upright position, and a liner having a nipple extended from one end positioned in the container, the nipple having a neck with a collar thereon and said collar spaced from the base of the neck whereby with the nipple and collar forced through the opening of the disc of the cap on the lower end of the container accidental return of the nipple through the opening is prevented by the collar, the opposite end of the liner being folded and the folded end being extended over the upper edge of the container and retained in sealed relation by the flange of a cap on the upper end of the container.

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