

W. E. GODDARD.
NURSING BOTTLE.
APPLICATION FILED JAN. 3, 1920.

1,344,760.

Patented June 29, 1920.

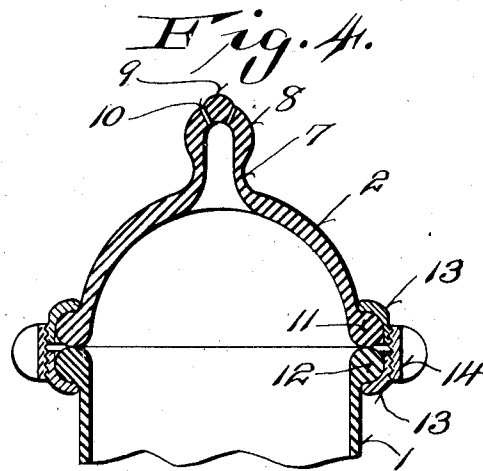
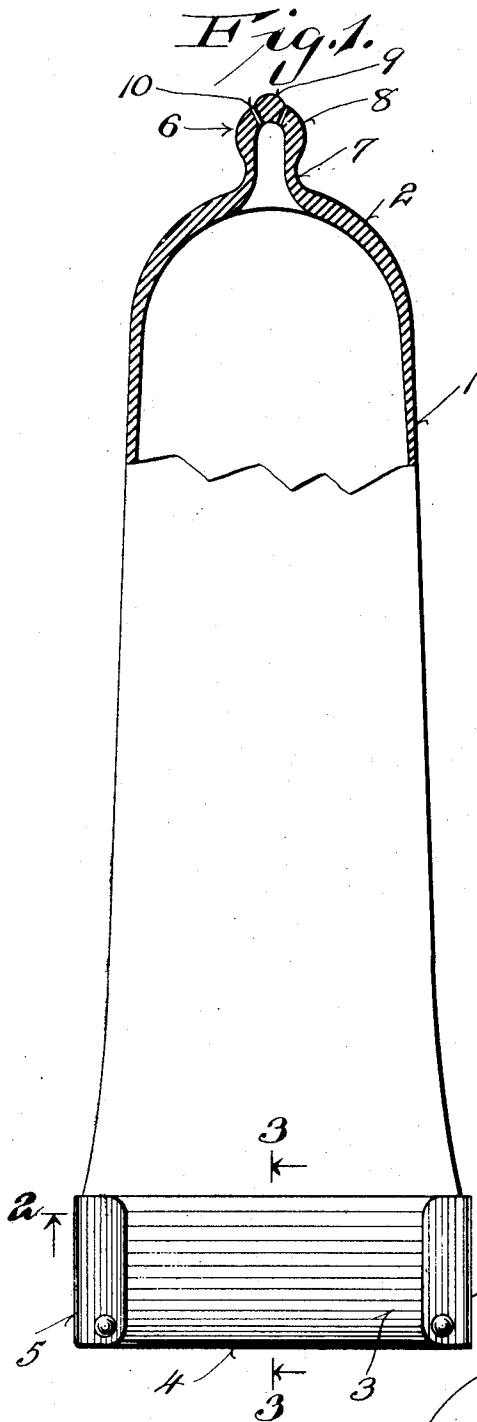


Fig. 2.

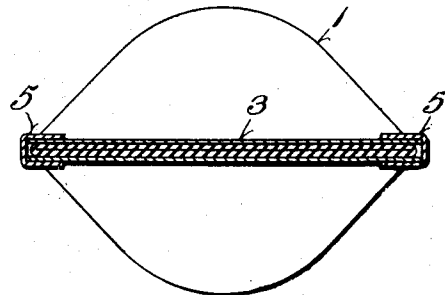


Fig. 3.

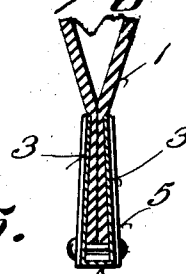
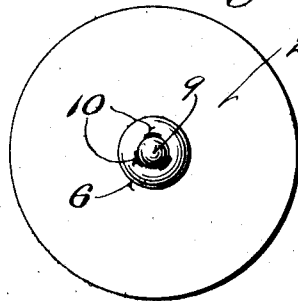


Fig. 5.



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UNITED STATES PATENT OFFICE.

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NURSING-BOTTLE.

1,344,760.

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To all whom it may concern:

Be it known that I, Dr. WILLIAM EDWARD GODDARD, a citizen of the United States, and resident of Watertown, in the county of Jefferson and State of Wisconsin, have invented certain new and useful Improvements in Nursing-Bottles; and I do hereby declare that the following is a full, clear, and exact description thereof.

10 My invention refers to nursing bottles, one object being to provide a simple, durable nursing bottle formed of pliable rubber or analogous material whereby the body is rendered collapsible and the outer crown
15 portion non-collapsible due to variation in thickness to thus prevent stoppage of the flow of milk irrespective of the position which the collapsible portion of the bottle may assume.

20 Another object is to provide the body of the bottle with an opening of the full area of said bottle so that it can be readily turned inside out or reversed whereby the walls may be thoroughly cleansed.

25 Another object is to provide the upper portions of the bottle with walls which are slightly thicker in cross section than the lower portion of the body whereby the lower portion will thus tend to collapse earlier
30 than the upper portion when the contents of the bottle are gradually being withdrawn and thus facilitate withdrawing the contents freely irrespective of the position that the body of the bottle may assume.

35 Another object is to provide the nipple, which is an integral part of the body with the upper portion or discharge portion thereof, of slightly thicker walls so that it will not collapse or suck tight.

40 A further object is to provide the nipple with a thickened crowned center plug about which one or more openings may be formed whereby the action of the plug when suction is placed thereon would tend to open
45 the suction ducts and close them automatically so as to guard against stoppage of the flow when a suction force is exerted upon the nipple and which construction will also permit positive closure of the discharge
50 ducts when the suction force is relieved.

Another important feature of the invention is that owing to the flexible walls of the body when said body collapses, the resistance at the adjacent outer collapsed edges
55 will form open ducts so that the contents of the bottle although partly collapsed can

be freely drawn from the bottom of said bottle through the nipple, thus preventing inadvertent cut-off of a portion of the contents. In other words a continuous channel
60 is maintained through which the supply can be discharged into the nipple.

A further object is to provide the nipple at its base with a weakened portion which in conjunction with the thickened portion at its
65 discharge end will prevent spurting of the contents when the nipple is closed down by biting to thus obviate any liability of choking the nursing infant, and it will also permit the contents of the nipple to return to
70 the body after such biting upon it.

A still further object is to arrange one or more discharge ducts about the thickened plug portion of the nipple so that they will automatically close when pressure is relieved
75 from it to prevent the introduction of air through the duct into the body of the bottle.

Another primary object of this invention is to provide a simple and effective means for closing the bottom of the bottle by a
80 single clamping element operating in conjunction with end snaps.

With the above and other minor objects in view, the invention consists in certain peculiarities of structure and combination
85 of parts as herein set forth with reference to the accompanying drawings and subsequently claimed.

In the drawing:

Figure 1 represents a side elevational view
90 of a nursing bottle embodying the features of my invention with the upper part broken away and in section to more clearly illustrate structural features.

Fig. 2 is a cross section of the same, showing the bottom clamping mechanism, the
95 section being indicated by the line 2—2 of Fig. 1.

Fig. 3 is a longitudinal sectional view of the same, the section being indicated by
100 the line 3—3 of Fig. 1.

Fig. 4 is a detail cross section showing the upper portion and bottom of the nipple embodying a modified form of my invention wherein the filling opening of the body
105 is arranged to be clamped by suitable means to the upper portion of said body, in this instance the body portion of the bottle obviously is closed, and

Fig. 5 illustrates a detailed plan view
110 upon an enlarged scale of the nipple showing my preferred method of forming the

discharge ducts about the plug portion thereof.

Referring by characters to the drawing, 1 represents the cylindrical body portion of the bottle and 2 the upper portion thereof which as shown is increased slightly in thickness to offer a predetermined resistance against collapse relative to the side walls. The lower end of the body portion is open throughout; this opening is formed at approximately a right angle to the longitudinal axis of the bottle in such manner that when the walls are collapsed adjacent to the opening, the edges thereof will flush as shown at 3 in Fig. 3. The bottom opening is closed by pressing the walls together and fitting thereto a spring metal U-shaped clamp 4 having side strips that are normally folded to form a contracted throat at their upper edges so as to securely pinch the rubber walls together. At the open ends of the clamp there are riveted or otherwise secured hinged snap pieces 5 which are U-shaped in cross section and adapted to be swung outwardly when the clamp is removed and to be folded back upon the side walls of the clamp when it is affixed to the bottle body as shown in Fig. 1, thus positively pinching the side walls of said clamp into engagement with the walls of the body to prevent leakage. This clamping mechanism, it will be observed, has no projections which would be liable to catch into the covering or otherwise injure in any way the infant should the bottle be carelessly handled, the structure as a whole being readily connected and disconnected and also capable of being cleaned readily so as to render the device as a whole positively sanitary.

As shown in Fig. 1, the upper thickened portion 2 of the bottle body merges into a nipple 6 having a weakened base portion 7 and a thickened discharge end 8. The discharge end in turn is formed with a thickened crowned plug 9 about the edges of which there are formed one or more milk ducts 10 which are preferably narrow incisions grouped about the plug and discharging radially. The drawing illustrates the incisions of slightly magnified dimensions but it is understood that when the nipple is not subjected to force these incisions are closed by the normal expansile tendency of the rubber. When pressure is put upon the nipple the suction or draft upon the thickened plug tends to vibrate it slightly, to thus open the ducts whereby the contents of the bottle can be freely withdrawn therefrom, and it follows that when this force is relieved, the plug, acting like a valve, will close the ducts. It will also be observed that by clamping the side walls of the bottle body together, there will be formed air ducts which will lead from the bottom to the top portion of the bottle and thus permit the

contents of the bottle to be drawn out irrespective of the position of it, and even though the bottle is flattened materially, this result will attain to prevent clogging. Furthermore, owing to the delicate flexibility of the body walls and their variation in thickness, when the contents of the bottle is withdrawn, the walls will collapse and thus prevent a vacuum being formed back of said contents, which under ordinary conditions would result and give more or less stoppage of a uniform flow.

I also wish to call attention to the fact that owing to the thickened end of the nipple and its weakened base, said nipple will function to prevent total collapse or flooding when the infant bites upon the walls of said nipple. The body and nipple can be readily cleansed by simply turning the entire structure inside out whereby said walls can be scrubbed to insure perfect sanitation, this being partly due to the fact that the filling opening of the bottle is approximately of the same diameter as the body throughout whereby it can be readily reversed. Fig. 4 illustrates a modified form of my invention wherein the bottom of the body portion is closed and the filling opening is in juxtaposition to the upper thickened portion 2, the thickened portion 2 and body portion 1 in this instance are formed with companion beads 11 and 12 respectively which are secured by suitable metallic clamping rings 13, the same being drawn together by a collar 14 which is in threaded union with the rings. This construction however, in detail forms no part of my invention and is simply illustrated to show one method of attaching the body portion of the bottle to the upper reinforced top portion thereof.

It will also be understood that while I have shown and described one specific form of my invention in detail, I do not wish to be limited to structural features except so far as they are called for in the claims.

I claim:

1. As a new article of manufacture a one piece collapsible nursing bottle formed from flexible material, a cylindrical body portion and a crowned top portion, the walls of the body portion being of less thickness than the walls of the crowned top portion, which walls are gradually increased in thickness toward the apex and a nipple extending from the crowned apex, the base walls of which are gradually reduced in thickness with relation to the crowned apex and the upper end of the nipple walls being gradually increased in thickness to resist collapse, and means for flattening and closing the lower end of the body portion.

2. As a new article of manufacture a one piece collapsible nursing bottle formed from flexible material having an open bottom cy-

lindrical body and a crowned top merging
into a nipple, the walls of the body portion
being of less thickness than the walls of the
crowned portion and the walls of the nipple
5 being proportionately of less thickness at
the base than at the top portion thereof to
thereby resist total collapse while permitting
flexure at its base, and means for flattening

and closing the open bottom of the body
portion.

In testimony that I claim the foregoing I
have hereunto set my hand at Watertown, in
the county of Jefferson and State of Wis-
consin. 10

DR. W. E. GODDARD.