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NIPPLE FOR NURSING BOTTLES.
APPLICATION FILED MAR. 16, 1917.

1,289,706.

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Fig. 1.

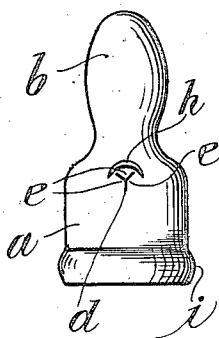


Fig. 2.

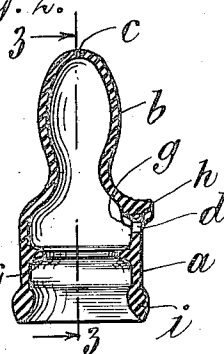


Fig. 3.

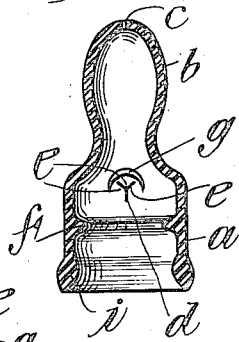


Fig. 4.

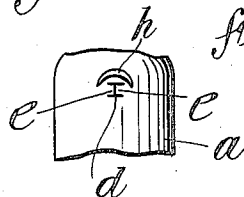


Fig. 5.

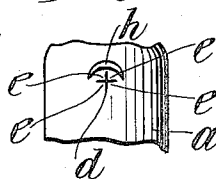


Fig. 6.

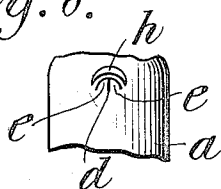
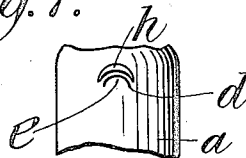


Fig. 7.



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NIPPLE FOR NURSING-BOTTLES.

1,289,706.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. EGGERS, a citizen of the United States, residing in the borough of Brooklyn, the city of New York, in the State of New York, have invented certain new and useful Improvements in Nipples for Nursing-Bottles, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

This invention has for its object to provide a nipple for a nursing bottle with a valve which shall admit air freely to displace the milk when the bottle is in use but shall not permit leakage of the milk, regardless of the position of the bottle, to provide means whereby the proper functions of the air valve shall not be interfered with either by the neck of the bottle or the lip of the infant, and to improve the construction of the nipple so that it can be slipped upon the neck of the bottle without difficulty. The invention will be more fully explained hereinafter with reference to the accompanying drawing in which it is illustrated and in which—

Figure 1 is a view in elevation of the improved nipple.

Fig. 2 is a view of the same in axial section.

Fig. 3 is also a view of the same in axial section but on a plane of section at right angles to that of Fig. 2.

Figs. 4, 5, 6, and 7 show different forms which may be given to the valve.

The improved nipple, made of rubber or other suitable material, is of the usual form, having a cylindrical portion *a* to engage the neck of the bottle and a mouth portion *b* which is provided in its extremity with an orifice *c* for the delivery of the milk.

At a suitable point, preferably in the cylindrical portion *a* near the line where it joins the mouth portion *b*, is a valve or air inlet *d* through which air is admitted, during the use of the bottle, to prevent the formation of a vacuum and the collapse of the nipple. Valves or air inlets of various kinds have been employed for a similar purpose and have been located similarly, but have not proved satisfactory in use, permitting the leakage of milk if they permit a sufficiently free inflow of air. In accordance with the present invention the air valve or inlet is so shaped as to permit the air to enter with sufficient freedom while prevent-

ing leakage of milk. The valve or inlet is formed by perforating the wall of the nipple in a line or lines so formed or curved as to make one or more tongues. A single straight slit is found to permit leakage if it is long enough to permit the inflow of air with the necessary freedom, but the tongue or tongues formed by a curved or bent slit or by a plurality of slits, yield sufficiently under the atmospheric pressure from without, when a partial vacuum is formed within the nipple, so as to permit the free inflow of air, but it does not yield sufficiently to permit the outflow of milk, the difference of pressure even when the bottle is inverted, not being sufficient to open the slot so as to permit the escape of milk.

The air valve or inlet obviously may have different forms, as shown in the several figures of the drawing. In Figs. 1, 2 and 3, the slot at *d* is V-shaped, forming three tongues *e*. In Fig. 4, the slit is H-shaped, forming two tongues *e*. In Fig. 5, two intersecting slits at *d* form four tongues *e*. In Fig. 6, a curved slit and a straight slit at *d* form two tongues *e*. In Fig. 7, a single curved slit forms a single tongue *e*.

It is necessary that the lips of the inlet shall not rest against the neck of the bottle. To prevent this, the nipple may be formed interiorly with a shoulder *f* to prevent the nipple from being drawn upon the bottle so far that the lips of the valve rest in contact with the glass, but as it often happens that notwithstanding the provision of such a shoulder the nipple is drawn on to the bottle until the shoulder passes the lip of the bottle, there is formed on the inner surface of the nipple, in proximity to the valve or inlet *d*, a projection *g* which may be lune-shaped or otherwise shaped and serves to hold the inner wall of the nipple away from the bottle at this point so that air may always enter the nipple and the bottle freely when a partial vacuum is formed therein.

It is also necessary that the air valve or inlet shall not be covered by the lip of the child, and for this purpose a projection *h* is formed on the outer surface of the nipple, preferably lune-shaped as shown, so that the lip of the child shall not slip down over the air valve or inlet.

With ordinary nipples much difficulty is sometimes experienced in slipping the nipple over the lip of the bottle. It has been pro-

posed to overcome this difficulty by providing the nipple with a flared skirt extended beyond the usual thickened portion or bead, but such skirt furnishes a lodgment for dirt and adds materially to the amount of rubber required. In accordance with this invention the difficulty is overcome by making the terminal bead *i* acutely ovate in cross section, that is, by bringing the bead to an acute edge, as plainly shown in Figs. 2 and 3, it being found in practice that with such a bead no difficulty is experienced in slipping the nipple over the lip of the bottle. Furthermore, as will be observed by inspection of the drawings, the maximum swell of the outer portion of the bead is nearer the edge of the bead than is the maximum swell of the inner portion, whereby the maximum swell of the inner portion thrusts outwardly the wall of the nipple beyond the outer swell of the bead and therefore tilts the bead inward toward the bottle neck and

causes it to hug the neck very tightly, the nipple being thereby securely held in place notwithstanding variations in the diameter of the bottle neck and the projection of the lip.

It will be understood that various changes in details of construction may be made to meet the convenience of the manufacturer and that the invention is not limited to the precise construction shown and described herein.

I claim as my invention:

A nipple for a nursing bottle having its terminal bead brought to an acute edge and the maximum swell of the outer portion of the bead nearer the edge than the maximum swell of the inner portion, whereby the bead is tilted inward toward the bottle neck and the nipple is caused to hug the neck tightly.

This specification signed this fifteenth day of March, A. D. 1917.

WILLIAM J. EGGERS.