

T. W. MILLER.
NURSING BOTTLE NIPPLE.
APPLICATION FILED APR. 27, 1915.

1,146,639.

Patented July 13, 1915.

Fig. 1.

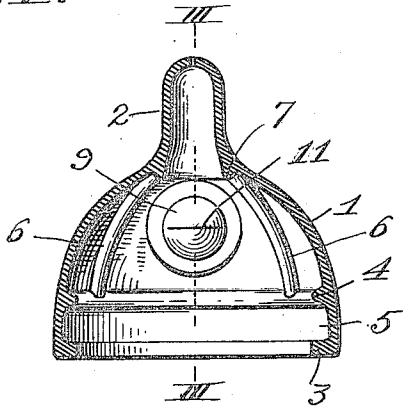


Fig. 3.

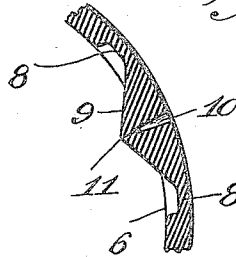


Fig. 2.

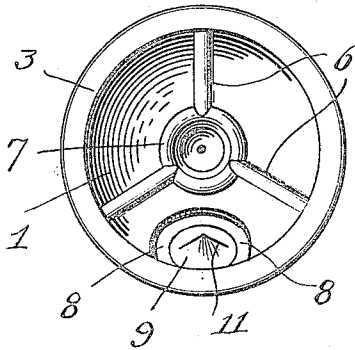


Fig. 4.

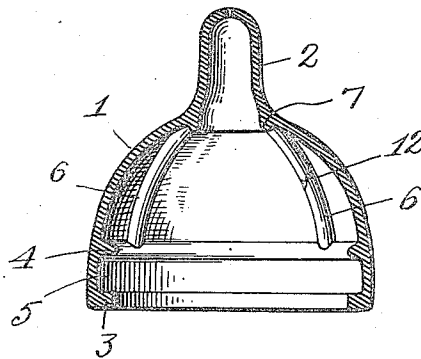
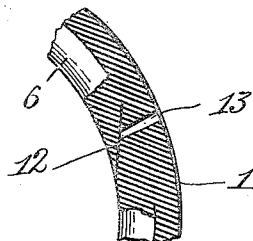


Fig. 5.



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UNITED STATES PATENT OFFICE.

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NURSING-BOTTLE NIPPLE.

1,146,639.

Specification of Letters Patent.

Patented July 13, 1915.

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To all whom it may concern:

Be it known that I, THOMAS W. MILLER, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Nursing-Bottle Nipples, of which the following is a specification.

My invention relates to nursing bottle nipples, and has for its objects, first, to provide an improved construction of valve for the same which will respond instantly to a decrease in pressure in the interior of the bottle, due to suction, and, secondly, to provide a novel construction of the article otherwise, whereby it will be strengthened and prevented from collapsing.

These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a central vertical sectional view of a nipple embodying my improved construction. Fig. 2 is an inverted plan view of the same. Fig. 3 is an enlarged detail sectional view, taken on the line III—III of Fig. 1. Fig. 4 is a view similar to Fig. 1, illustrating a slightly modified construction. Fig. 5 is a view similar to Fig. 3, taken through the valve opening of the construction shown in Fig. 4.

Similar numerals of reference denote corresponding parts in the several views.

In the said drawing, referring more particularly to Figs. 1, 2 and 3, the reference numeral 1 denotes the body of the nipple, and 2 the usual mouth piece, said nipple being of a size for use with large-mouth bottles, which have come into common use recently. Said nipple is provided at its open end with an internal annular flange 3, and at a short distance within said flange is formed an annular ring 4, the neck of the bottle being received in the space or groove 5 between said flange and ring, the ring 4 effectually preventing any leakage. Extending radially from the ring 4 toward the mouth piece 2 are a series of ribs 6, the same terminating at their upper ends in an annular ring 7 formed in the interior of the nipple at the base of the mouth piece 2. These ribs most effectually strengthen the curved surface of the body of the nipple and

retain it against collapsing under any suction strain.

The body portion 1 of the nipple at one side and between two of the ribs 6 is formed with an annular thinned portion 8, merging into a central cone-shaped enlarged portion 9 projecting inwardly. The body 1 is apertured at 10 from the exterior to coincide with the center of the cone 9, said aperture extending part way into said cone and being intercepted by a transverse cut 11 communicating therewith.

By reason of the thinned annular portion 8 surrounding the cone 9, it will be apparent that upon the creation of the slightest vacuum in the bottle with this nipple applied thereto, said thinned portion 8 will yield inwardly in advance of any other portion of the nipple, and this act of yielding causes the slit portion 11 automatically to open, thus establishing communication from the interior of the bottle to the exterior air through said slit 11 and the aperture 10, and thereby instantly venting the bottle. It has been found in practice, that the body of the nipple will not collapse at any other point, the collapsing at the annular ring 8 insuring an immediate opening or venting of the device which instantly relieves the pressure otherwise.

In Figs. 4 and 5, I have shown a slightly modified construction, the thinned portion 8 and cone 9 being dispensed with, and communication established by means of a diagonal slit 12 in one of the vertical ribs 6, said slit communicating with an aperture 13 extending to the exterior of the nipple, similar to the aperture 10. The slit 12 extends the depth of the rib 6, and inasmuch as said ribs jointly form a brace for the body 1 as a whole, a weakening at this point 12 necessarily will cause said rib to give initially under any suction, and even before the surrounding wall 1 would give, the result being that the slightest yield at this point is followed by the opening of the slit 12 and a communication with the atmosphere from the interior of the bottle.

My improved construction acts not only as an immediate vent for the bottle, but most effectually prevents any collapse of the body of the nipple except at the point where the vent valve is located, and which necessarily

results in the desired venting. This resistance to collapse is aided materially by the vertically disposed ribs 6, which form a radial brace for the curved surface of the body portion of the article.

By employing the ring 4 formed on the interior of the body portion 1 inside of the flange 3, I provide most effectually against any leakage of fluid around the neck of the bottle when the nipple has been placed thereon, the space 5 between the flange 3 and ring 4, receiving the bead of the bottle, and said flange and ring offering a double seal against the escape of fluid.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A nursing nipple, comprising a vent valve adapted to open automatically under a collapse of the nipple body.

2. A nursing nipple, comprising a vent valve disposed in a weakened portion of the nipple body and adapted to open automatically under a collapse of said weakened portion.

3. A nursing nipple, comprising a vent valve, and a thinned ring formed in the nipple body around said valve and adapted to yield initially under a partial vacuum, said valve being formed to open automatically as said thinned ring yields.

4. A nursing nipple, comprising a vent valve adapted to open automatically under a collapse of the nipple body and formed integral with said nipple body, and a thinned ring formed in said nipple body around said valve and adapted to yield initially under a partial vacuum.

5. A nursing nipple, comprising a thinned

ring formed in its body portion and having an aperture leading from the exterior partly through the wall of said body portion and disposed within said ring, said aperture being intersected by a slit or cut on the interior of the body portion, said slit or cut adapted to be opened automatically under a collapse of the surrounding thinned ring.

6. A nursing nipple, comprising a thinned ring formed in its body portion and having an aperture leading from the exterior partly through the wall of said body portion and disposed within said ring, and a cone-shaped portion projecting inwardly within said ring and having a slit or cut therein intersecting the aperture leading from the exterior, said slit or cut adapted to be opened automatically under a collapse of the surrounding thinned ring.

7. A nursing nipple, formed with a series of radially disposed ribs in its body portion, said ribs terminating at one end in an annular ring formed in proximity to the open end of the nipple body, and at the other end in an annular ring formed at the base of the mouth piece of said nipple.

8. A nursing nipple, formed with an annular flange at its open end, and with an interior integral ring spaced from said flange to form a bottle neck receiving groove, and with radially disposed ribs extending from said ring, and terminating at a similar ring formed interiorly of the nipple body at the base of the mouth piece thereof.

In testimony whereof I have hereunto set my hand this 23rd day of April, 1915.

THOMAS W. MILLER.