

No. 609,415.

Patented Aug. 23, 1898.

W. R. COULBOURN & J. J. LANKFORD.

NIPPLE FOR NURSING BOTTLES.

(Application filed May 15, 1897.)

(No Model.)

Fig. 1

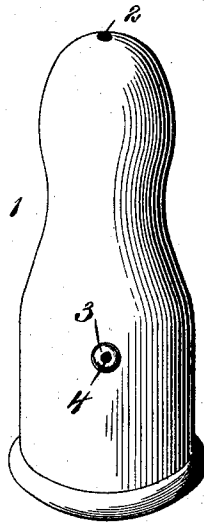


Fig. 2.

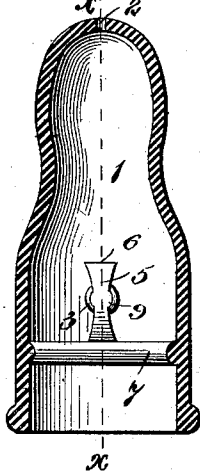


Fig. 3.

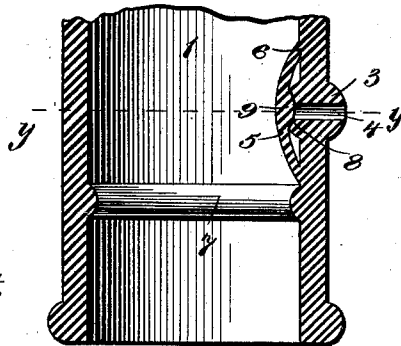
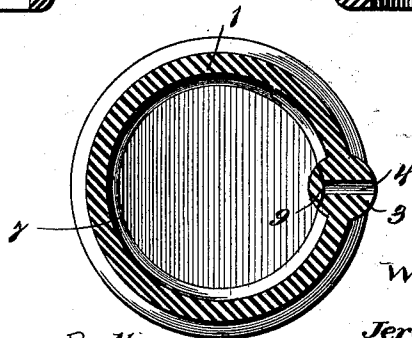


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM ROBERT COULBOURN AND JEROME J. LANKFORD, OF ROANOKE,
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NIPPLE FOR NURSING-BOTTLES.

SPECIFICATION forming part of Letters Patent No. 609,415, dated August 23, 1898.

Application filed May 15, 1897. Serial No. 636,668. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM ROBERT COULBOURN and JEROME J. LANKFORD, citizens of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Nipple for Nursing-Bottles, of which the following is a specification.

This invention relates to an improved construction of nipples for nursing-bottles and the like, and has for its object to provide means to obviate the collapsing of the nipple by permitting the free passage of the exterior air to the interior of the bottle and also to prevent the mouth of the bottle from interfering with the prompt and positive action of our improved nipple.

Our invention consists, essentially, in providing an air-passage or vent through one side of the nipple, but closed against escape of the liquid contents of the bottle by means of a valve placed at the inner end thereof, and providing an inner annular rib or flange resting upon the mouth of the bottle and preventing the same from coming in contact with the valve and stopping its operation.

Further objects and advantages of our invention will be more fully shown and described in the accompanying drawings and specification and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of our improved nipple. Fig. 2 is a vertical sectional view thereof. Fig. 3 is an enlarged detail sectional view taken on the line X X, Fig. 2. Fig. 4 is an enlarged transverse sectional view taken on the line Y Y, Fig. 3.

Corresponding parts in all the figures are denoted by like numerals of reference.

Referring to the drawings, 1 designates a rubber nipple of common form, having the usual opening 2 in the top thereof. In the lower straight side of the nipple is provided a substantially spherical enlargement 3, having an opening or passage 4 therein, connecting the interior of the nipple with the exterior air. Extending across the inner end of this passage is a flap-valve 5, having its enlarged ends 6 formed integral with the nipple. The lower end of this valve extends down to an inner annular rib or flange 7.

In the manufacture of our improved nipple the extremities of the flap-valve 5 are formed integral with the sides of the nipple, the middle portion of the valve being approximately circular in cross-section and formed as an integral part of the enlargement 3 in the side of the nipple. After being thus formed the flap-valve is cut loose from the enlargement 3 by means of a curved knife-blade, which forms a scooped-out or cup-shaped valve-seat 8 at the inner end of the vent 4. The portion cut away from the enlargement 3 remains upon the flap-valve, as shown at 9, and when the valve is seated the portion 9, fitting snugly within the cup-shaped valve-seat 8, provides a positive means for preventing the escape of the liquid contents of the bottle.

In our improved nipple the enlarged or thickened portion 9 constitutes the valve proper. In the operation of cutting away the integral part 6 of the inside of the nipple, as hereinbefore described, a strip is formed the ends of which are joined to and made integral with the nipple proper, and the valve occupies the central part of this strip at a point about midway between the terminals of said strip, where they join with the wall of the nipple.

The operation of our improvements is obvious. In the common form of nipples while the liquid contents of the bottle are being drawn therefrom a partial vacuum is created in the bottle, which causes the nipple to contract slightly, and after a few successive operations the walls of the nipple will come together and prevent the passage of the liquid therethrough, and the same must be removed from the mouth of the infant. By the employment of our improvements this objection is obviated. When a partial vacuum is formed in the bottle, the exterior air rushes in through the vent 4, thus keeping the bottle supplied with air and the nipple from collapsing, while the valve 5 prevents the escape of the liquid contents. The walls of the vent are thickened or enlarged to prevent them from being drawn inward and closing the vent by coming in contact with the valve, as would be the case if they were too thin. The annular flange 7 rests upon the mouth of the bottle and prevents the nipple being pushed too far thereon.

and coming in contact with or stretching the valve and vent, which would interfere with the proper operation of the improvements.

Changes in the form, proportion, and the minor details of construction and arrangement may be resorted to without departing from the spirit and scope of our invention, and therefore we do not wish to be understood as limiting ourselves to the precise arrangement and construction as herein shown and described.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. As a new article of manufacture, a nursing-bottle nipple having one of its walls thickened transversely to form the protruding enlargement, a transverse air-passage extending through said enlargement, and a flap-valve carried by a flexible strip which is united at both ends to the nipple and forms an integral part of the same, substantially as described.

2. A nursing-bottle nipple having a transverse air-passage, a flexible strip united at both ends to the nipple and forming an integral part of the same, and a flap-valve carried by said flexible strip at a point intermediate of its length and normally seated by the tension of said flexible strip over the in-

ner end of the air-passage, substantially as and for the purposes described.

3. A nursing-bottle nipple provided, at an intermediate point of its length, with a transverse vent-opening, a valve-strip united at both ends to the nipple and provided with a valve adapted to be normally pressed, by the tension of the valve-strip, over the vent-opening, and an annular bead or flange projecting inwardly beyond the inner surface of said nipple and situated between the open mouth thereof and one point of union of the valve-strip with the nipple, substantially as described.

4. A nipple for nursing-bottles, having a vent or air-passage in the side thereof, said vent having thickened or enlarged walls, a concave valve-seat at the inner end thereof, and a flap-valve formed integral with the nipple having a convex enlargement fitting the concave valve-seat, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM ROBERT COULBOURN.

JEROME J. LANKFORD.

Witnesses:

JAMES MCFALL,

W. E. CALLAHAN.