No. 710,219. Patented Sept. 30, 1902.

A. E. SNOW.

BOTTLE STOPPER.

(Application filed Apr. 10, 1902.)

(No Model.)

Fig. 1.

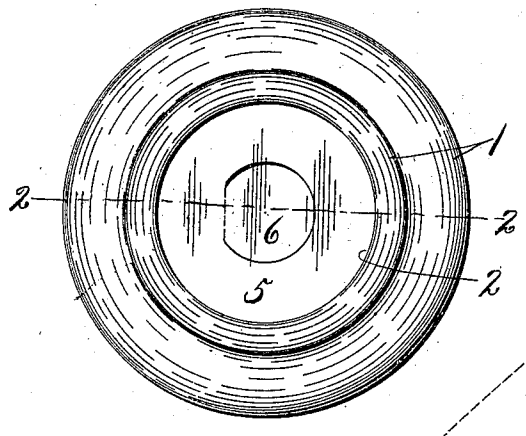


Fig. 2.

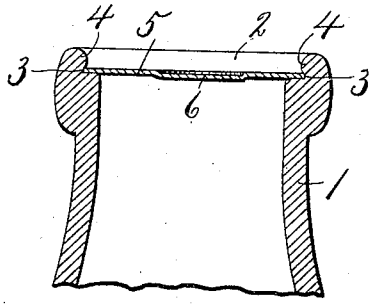


Fig. 3.

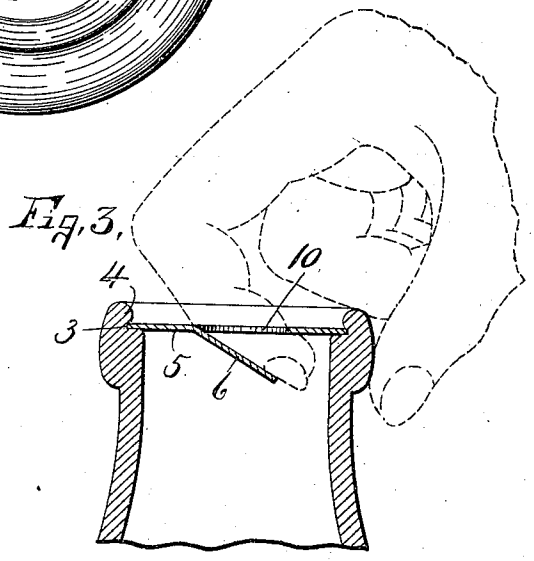


Fig. 4.

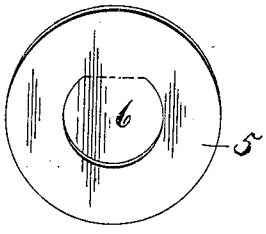
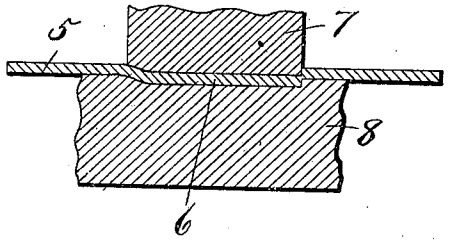


Fig. 5.



WITNESSES:

W. T. Brewer

H. E. Chase

INVENTOR

Arthur E. Snow

BY

Smith & Bridgman

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARTHUR E. SNOW, OF SYRACUSE, NEW YORK.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 710,219, dated September 30, 1902.

Application filed April 10, 1902. Serial No. 102,215. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. SNOW, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Bottle-Stoppers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in bottle-stoppers, having more particular reference to paper, cardboard, or similar stoppers which are used in connection with milk and cream bottles.

The object of my improvement is to provide means whereby the stopper may be readily removed without the employment of any special instrument other than the finger and at the same time to prevent any leakage when the bottle is tilted or inverted.

To this end the invention consists in the construction and formation of a stopper, as hereinafter fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a top plan of an ordinary milk or cream bottle, showing my improved stopper in operative position. Fig. 2 is a sectional view taken on line 2 2, Fig. 1, showing the flap in its normal or closed position, the lower portion of the bottle being broken away. Fig. 3 is a sectional view similar to Fig. 2, showing the flap as forced inwardly, a portion of the hand for effecting the inward movement of the flap being shown by dotted lines. Fig. 4 is an isometric view of the detached stopper. Fig. 5 is a sectional view showing the method of manufacturing or stamping the flap.

Similar reference characters indicate corresponding parts in all the views.

In the drawings I have shown a bottle 1, having a mouth or inlet 2 and an annular groove 3 for forming a shoulder 4.

Mounted in the groove 3 is my improved stopper 5, which is formed of cardboard, paper, or other similar material, which is usually treated to resist moisture and is provided with a flap 6. This flap 6 forms the essential feature of my invention, and it may be of any desired form or size, being formed by stamping or pressing a portion of the body of the stopper 5 into a different plane than the general plane of the opposite faces of said body. A portion of the perimeter of this flap is left uncut—that is, it is not depressed from the body—thus forming a hinge connection between the body and the flap, upon which the flap swings when the remaining portions of the perimeter are detached from said body.

The stamping or depressing of the flap portion of the body is effected by suitable dies 7 and 8, Fig. 5, which operate to partially sever the greater portion of the perimeter of the flap from the main body, so as to leave but a thin web or connection between the flap and body where the flap is depressed. This thin web or junction of the flap with the body serves to normally seal the flap and normally prevents any evaporation or leakage of the contents of the bottle when the same is tilted or inverted, and at the same time this thin web may be easily broken by pressing the finger against the edge of the flap opposite to its hinged connection with the main body, as seen in Fig. 3. This forcing of the free edge of the flap inwardly by the finger naturally causes the finger to slip inwardly into the bottle and beneath the surrounding edge of the opening formed by the inward movement of the flap, whereupon the finger is used as a lever for withdrawing the stopper from its seat, or said stopper being flexible may be readily pulled outwardly from the mouth of the bottle.

It is apparent from the foregoing description that the invention lies wholly in the formation of a flap in the body of the stopper, which is normally attached to the body and is readily depressed into the bottle to form an opening 10 to receive the finger of the operator.

While I have shown the flap as substantially circular in general outline, it is evident that the flap may be of any desired outline adapted to receive the finger of the operator.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings.

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

1. A stopper for bottles consisting of a

paper disk having the central portion of its body partially detached and depressed within the margin of the disk.

2. A bottle-stopper consisting of a flat circular plate of suitable material having a portion of its body cut concentric with its periphery and partially detached for the purpose set forth.

3. A bottle-stopper comprising a circular flat body of paper or equivalent material having the intermediate portion cut or stamped through a portion of its thickness in a line concentric with its periphery for the purpose described.

4. A bottle-stopper consisting of a body of suitable material having a part of its intermediate portion depressed for the purpose set forth.

5. A bottle-stopper consisting of a flat circular disk having a central flap depressed to form a central opening to receive the finger as described.

In witness whereof I have hereunto set my hand this 1st day of April, 1902.

ARTHUR E. SNOW.

Witnesses:

H. E. CHASE,

HOWARD P. DENISON.