S. SHAPIRO.

CLOSURE.

APPLICATION FILED OCT. 1, 1913.

1,093,735. Patented Apr. 21, 1914.

FIG. 1.

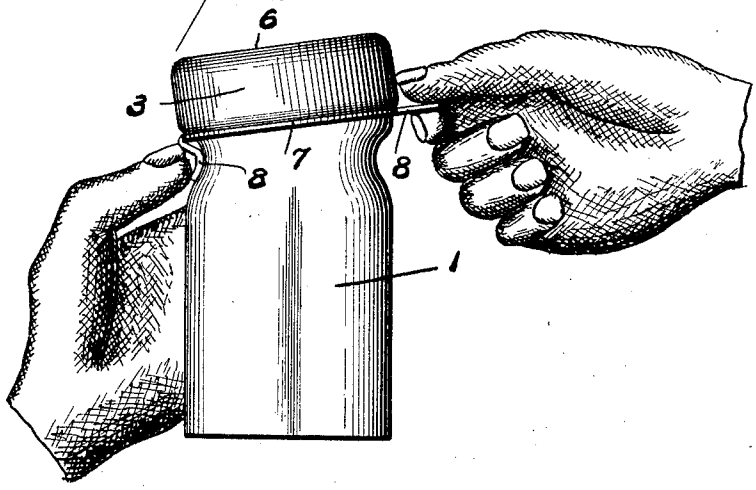


FIG. 2.

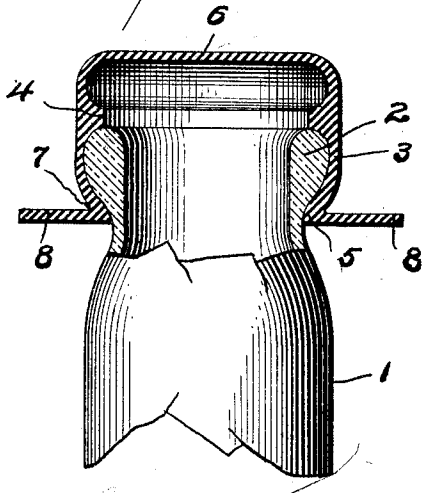
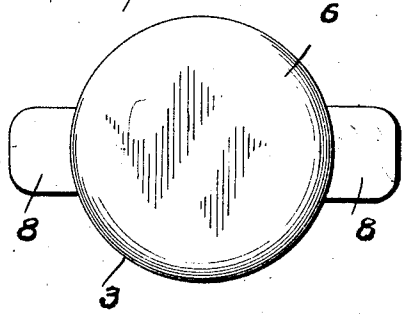


FIG. 3.



Witnesses

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CLOSURE.

1,093,735. Specification of Letters Patent. Patented Apr. 21, 1914.

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To all whom it may concern:

Be it known that I, SAMUEL SHAPIRO, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Closures, of which the following is a specification.

My invention relates to improvements in closures, the object of the invention being to provide a closure for milk bottles or other receptacles which will effectually seal the bottle, yet permit the contents thereof to be poured out by manipulating the closure without entirely removing the latter from the bottle.

A further object is to provide an elastic closure which will permit the contents of the bottle to expand without injury to the closure and without drawing the closure away from the neck of the bottle.

When milk is delivered during freezing weather it frequently freezes before being taken into the house by the customer which results in a column of the frozen milk projecting quite a distance above the mouth of the jar, at which time it is exposed to many impurities and frequently the loss of the cream and richest portion of the milk.

It is a further object of my invention to provide a cap for a milk bottle which will protect the milk from loss or contamination under such conditions.

A further object of my invention is to provide a cap as mentioned whereby the milk may be sterilized in the original package without the danger of loss or contamination, such as results when the ordinary cap is used during the sterilizing process.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1 is a view in side elevation illustrating my improved closure in position to open the bottle without removing the inclosure entirely therefrom. Fig. 2 is a fragmentary view in vertical section on an enlarged scale, and Fig. 3 is a top plan view of the closure removed.

1 represents an ordinary milk bottle or jar, and while I shall hereinafter refer to my improved closure in connection with such an article, I would have it understood that the closure is adapted for various receptacles, and I do not limit myself to its use upon milk bottles or jars.

The bottle 1 is provided at its open end with the ordinary annular bead or enlargement 2, and 3 is my improved closure which constitutes a rubber cap having two internal annular flanges 4 and 5 respectively, the former located at a point between the open end and the closed end of the cap, and the latter at the open end of the cap, so that the bead 2 is effectually gripped between the flanges 4 and 5, and the rubber of the cap connecting these flanges so that a perfect seal is had. The top 6 of the cap is located an appreciable distance above the internal flange 4, and is sufficiently elastic to permit of expansion and contraction of the contents of the bottle without in any way affecting the seal of the closure. In other words, if the milk in the bottle freezes, and rises in a column above the upper end of the bottle, it will stretch the top 6 of the closure without breaking the seal of the closure around the bead 4, so that none of the milk can get between the closure and the outside of the milk bottle. If the milk contracts, the cap will return to normal position, and hence that portion of the cap between the flange 4 and the top constitutes an expansion chamber to compensate for any expansion and contraction of the contents of the bottle without affecting the closure.

An annular bead 7 is formed on the lower open end of the cap or closure and at opposite sides is provided with integral tabs 8 to permit the cap to be placed in position and removed without bringing the fingers into contact with the open end of the bottle.

Fig. 1 shows the position of the hands in removing or placing the cap. The thumb of one hand is pressed against one tab 8, and the other tab is grasped between the thumb and fore-finger of the other hand, so that the cap or closure may be readily removed or partly removed, the contents poured out or partly poured out, and the cap or closure returned to locking position.

I would have it understood that my improved cap or closure is made of rubber or similar elastic material which firmly grips the neck of the bottle, and insures a tight closure at all times. Furthermore, with a cap such as described should the milk freeze, the cap will expand or stretch sufficiently to

fully protect the milk from contamination and also to prevent loss of the same. Also, when the bottle is received from the dealer with a cap of my improved construction, the bottle of milk may be readily sterilized and subsequently cooled before opening the same and the cap will protect the milk during the operation. When the ordinary paper cap, bearing printed matter, is used when sterilizing the milk, the milk by expansion forces its way above the cap, dissolves the ink of the printed matter and thereby discolors and contaminates the milk. It is obvious that by the use of the cap forming the subject matter of this application, these objectionable features are obviated.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. An elastic air tight closure of general cup shape having an annular internal flange at its open end, and a second annular internal flange at a point removed from the top of said closure, the upper end of said closure arranged to extend across the open end of the receptacle at right angles to the longitudinal axis of the receptacle, whereby the top of said closure may expand and contract without affecting the position of said flanges, substantially as described.

2. An elastic air tight closure of general cup shape having two internal annular flanges adapted to grip between them the annular bead of a receptacle, the upper end of said closure arranged to extend across the open end of the receptacle at right angles to the longitudinal axis of the receptacle, an integral annular external bead on the lower end of said closure, and tabs on said closure at opposite sides, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL SHAPIRO.

Witnesses:
S. W. FOSTER,
CHAS. E. POTTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."