

G. LIEB.
BOTTLE CLOSURE.
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1,024,212.

Patented Apr. 23, 1912.

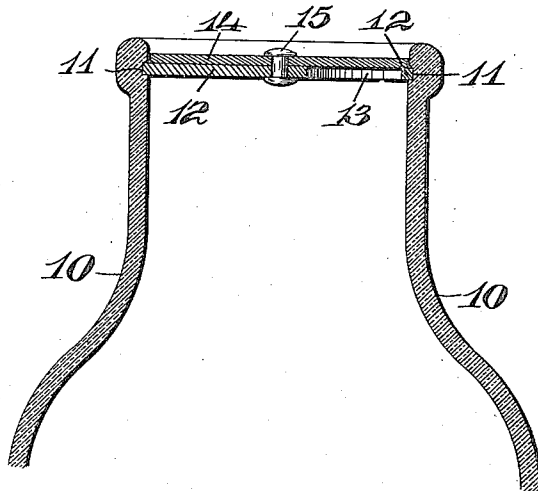


Fig. 1

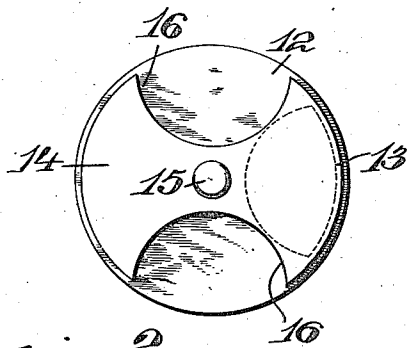


Fig. 2

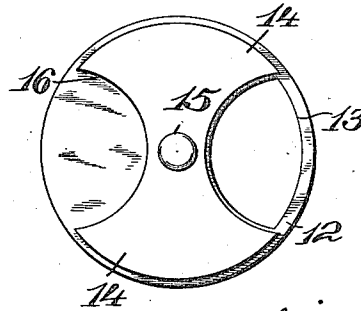


Fig. 3

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UNITED STATES PATENT OFFICE.

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BOTTLE-CLOSURE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE LIEB, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bottle-Closures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a closure for bottles and is designed to provide a closure which is snapped into place into a groove which is arranged in the inside of the neck of some kinds of bottles, and particularly milk and cream bottles, although it can be used for bottles of any kind which are made with a groove on the inside of the neck.

The device comprises a disk which is perforated so as to permit the escape of fluid from the bottle when the bottle is turned over, and a shutter which rotates on the disk, the shutter being smaller in diameter than the disk and not engaging the inside of the bottle neck, the shutter having recesses which, when they are in register with the perforation in the disk, permit the escape of fluid, the edges of these recesses forming means for engaging the shutter so that it can be easily rotated by the finger.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a section of a bottle with a closure in place, the view showing the shutter closing the opening in the disk. Fig. 2 is a top view of a closure removed from a bottle, the closure being illustrated in this figure in its closed position, and Fig. 3 is a similar view, but showing the shutter turned so as to open the perforation in the disk.

The device can be made of any suitable material which is adapted to be forced into the inside of a bottle and removed therefrom in turn, the preferred material, however, being stiff cardboard or paper which can be treated with suitable material for making it water proof. The device can also be made of thin material, such as cardboard, and put on at the creamery, or other place from which the bottle issues, being adapted to be used and then removed and thrown away when the bottle is empty, or it can be

made of heavier or more substantial stock and used after the ordinary paper cap is removed from a bottle, being inserted in its place, and after the bottle is emptied the device can be removed and cleaned and again used in successive bottles so that it will be a valuable household utensil.

The device can be used on any form of bottle 10, and I illustrate the top of a milk bottle which is provided on the inside of the neck with a groove 11 into which the disk 12 is snapped or sprung, being held in this groove against accidental removal and forming a tight joint between the bottle and the disk whereby the escape of fluid around the disk is prevented. The disk is provided, at one side, with a perforation 13 which forms an outlet through which the fluid in the bottle can escape when the bottle is turned over. The perforation 13 is arch-shaped, that is, it is so proportioned that its outer edge substantially concentric with the periphery of the disk and its inwardly curved or arch-shaped inner edge form a mouth-shaped opening. This is approximately the shape of a stream of liquid when poured from a bottle's mouth, and the edges of the opening do not cause spattering or dripping of the liquid when it is being poured. The perforation is widest at its outer edge and thereby provides for a smooth stream. This perforation 13 also acts to receive the finger so that when for any reason it is desired to withdraw the disk, the finger can be put through the opening 13 and caught under the under side of the disk and by a pull the disk can be removed from its groove.

A shutter 14 is mounted on the top of the disk and is arranged to swing or rotate on the disk, being pivotally attached to the disk by means of a rivet 15 or a similar pivoting element. The shutter is smaller in diameter than the disk, being made smaller so that it can swing freely on the disk by reason of its not engaging, or if it does, only lightly engaging, the inside of the neck of the bottle. The shutter 14 is provided with oppositely arranged recesses 16, these recesses being adapted to be placed in register with or uncovering the opening 13 in the disk so that the closure is opened to permit the escape of fluid through the outlet 13 of the disk. The openings in the disk are oppositely disposed and are arch-shaped and thereby form two oppositely extending

wings on the shutter, these wings being widest at their outer ends so that they will cover the openings which are widest at their outer ends. These recesses in the shutter also provide means, on their edges, for engaging the shutter by means of the finger so that the shutter can be rotated by the finger when it is desired to open or close it, as the case may be. These recesses therefore have a double function, their engagement by the finger to permit the rotation of the shutter doing away with projecting portions or any handle on the shutter for this purpose.

The device is cheaply manufactured, can be easily kept clean, and for household use is desirable from a sanitary standpoint, since it permits the ready closing of a milk or cream bottle at any time, and is an improvement over the paper caps which are snapped into place and which are taken off and laid down and again replaced.

Having thus described my invention, what I claim is:—

1. A closure for bottles comprising a disk of material adapted to be secured to the neck of a bottle, and a shutter pivoted to the center of the disk and having oppositely disposed arch-shaped recesses to form two oppositely extending wings, these wings being

widened toward their ends, the disk having an arch-shaped perforation extending nearly to the center to be closed when either of the wings covers it and to be opened when a recess comes in register with it, the sides of the recess forming edges for engagement by the finger.

2. A closure for bottles comprising a disk of material adapted to be secured to the neck of a bottle, and a shutter pivoted to the center of the disk and having oppositely disposed arch-shaped recesses to form two oppositely extending wings, these wings being widened toward their ends, the disk having an opening with its outer edge adjacent and substantially concentric to the periphery of the disk and having its inner edge arch-shaped, said opening extending nearly to the center, the opening being adapted to be covered by either of the wings and opened by placing a recess in register therewith, the sides of the recesses forming edges for engagement by the finger.

In testimony that I claim the foregoing, I have hereunto set my hand this twenty-third day of January, 1911.

GEORGE LIEB.

Witnesses:

WM. H. CAMFIELD,

E. A. PELL.