

L. HUETHWOHL.  
BOTTLE CLOSURE.

APPLICATION FILED JUNE 19, 1909.

978,164.

Patented Dec. 13, 1910.

Fig. 2.

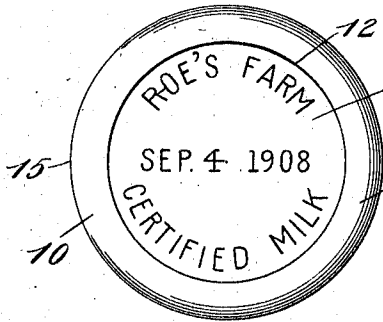


Fig. 1.

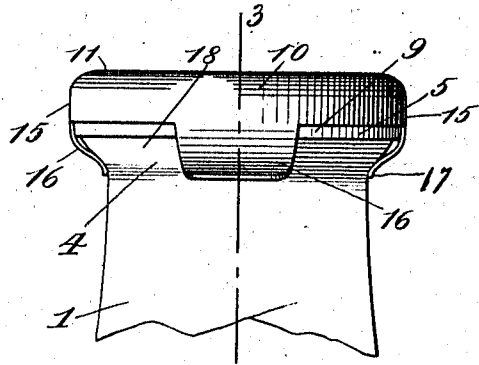


Fig. 3.

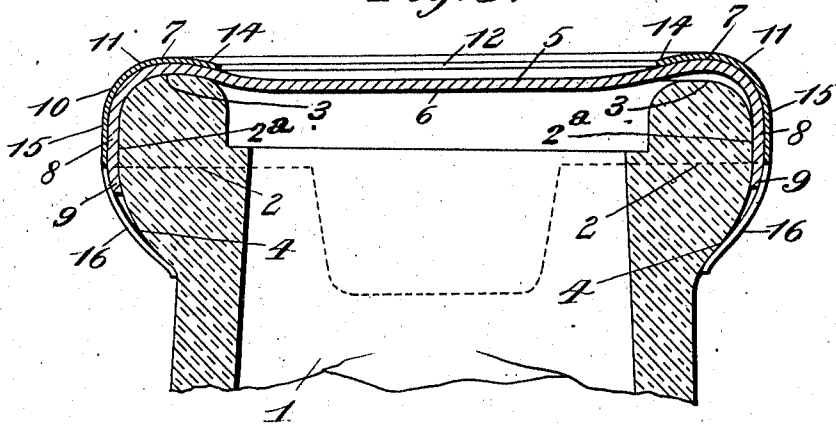
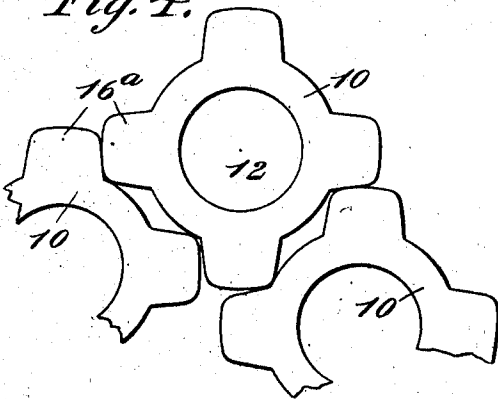


Fig. 4.



WITNESSES  
*[Signature]*  
A. P. Leonard

INVENTOR  
Louis Huethwohl  
BY  
*[Signature]*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

LOUIS HUETHWOHL, OF NEW YORK, N. Y.

## BOTTLE-CLOSURE.

978,164.

Specification of Letters Patent.

Patented Dec. 13, 1910:

Application filed June 19, 1909. Serial No. 503,074.

*To all whom it may concern:*

Be it known that I, LOUIS HUETHWOHL, a citizen of the United States, and a resident of the borough of Brooklyn, city and State of New York, have invented certain Improvements in Bottle-Closures, of which the following is a specification.

This invention relates to certain improvements in bottle closures, and more particularly in that class of such devices which are especially designed and adapted for employment in connection with bottles provided with fillets or lips extended around their mouths, as milk bottles, for example, and the object of the invention is to provide a device of this general character of a simple and comparatively inexpensive nature, and of a novel and improved construction, which shall be capable of convenient application to and removal from the bottle in connection with which it is employed, and which shall serve, when in place upon the bottle, to effectively seal the same against the accidental discharge of its contents.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved bottle closure, whereby certain important advantages are attained, and the device is rendered simpler, less expensive and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claim.

In the accompanying drawings which serve to illustrate my invention Figure 1 is a fragmentary view showing the neck portion of a milk bottle provided with a closure constructed according to my invention; Fig. 2 is a top view of the improved closure constructed as shown in Fig. 1; Fig. 3 is an enlarged sectional view taken axially through the bottle neck and closure and illustrating certain features of construction and operation which will be hereinafter explained; and Fig. 4 is a view illustrating the formation of the blanks from which the metallic member of the improved bottle closure is produced.

As shown in these views, 1 represents a fragment of the neck portion of a bottle to which my improved closure is applied the same being shown in the form generally adopted for milk bottles and the like, al-

though it will be evident that my improvements are capable of embodiment in closures for other bottles with good results. The device is, however, especially desirable for use upon milk bottles, as will be hereinafter explained.

The bottle neck 1 is provided with an annular outwardly directed fillet or lip 2 extended around its mouth, the upper surface thereof being rounded or curved in profile, as indicated at 3, and the lower part of said lip or fillet being curved or sloped inwardly toward its junction with the wall of the neck portion of the bottle, so as to produce upon said neck a curved outwardly directed shoulder 4, which projects therefrom in annular form and overhangs the lower part of the bottle neck in a well known way.

5 represents the inner member of my improved closure, which may be conveniently formed from paper of suitable compressibility and thickness, and may be treated to render it moisture proof. This member is of such diameter that its marginal portions are adapted to be lapped over the rounded upper surface of the bottle lip or fillet, as shown at 7 in Fig. 3, and to be extended down in cylindrical arrangement as shown at 8, and in close contact upon the outer or perimetral surface 2<sup>a</sup> of the lip or fillet 2. As herein shown, the central portion 6 of this member 5, which is positioned, during use, directly above the bottle mouth to close the same, is slightly depressed below the marginal portions 7 which contact upon the rounded upper surface 3 of the lip or fillet. This inner member 5 will preferably be pressed to substantially the form shown prior to its application to the bottle so as to be adapted to conform accurately to the surface of the bottle lip or fillet. When formed from paper or similar substance, the compressible nature of such material will permit the member to accommodate irregularities in the surface of the lip or fillet and thereby insure a tight joint between the parts. The member 5 may also be formed from molded material, if this be desirable.

10 represents the outer metallic member of my improved closure, the same being herein shown as made in the form of a ring or annular piece of thin sheet metal of a diameter adapted to fit snugly outside the inner compressible member 5, and being formed with a central aperture 12 adapted

to overlie the bottle mouth as clearly shown in Figs. 2 and 3, and whereat the central depressed portion 6 of the compressible inner member 5 is exposed, in such a manner that a legend of any preferred kind, such as shown at 12<sup>a</sup> in Fig. 2, for example, printed or otherwise produced upon the top surface of the inner member 5, will be clearly visible at the mouth of the bottle when the closure is in position thereon. This construction permits of conveniently printing any desirable matter upon the compressible inner member. As herein shown, the legend 12<sup>a</sup> comprises characters representing the date of bottling the milk, so that the purchaser may conveniently inform himself as to the character of the contents.

The depression of the central part of the inner member as shown at 6, insures accurate contact of the marginal portions 7 with the top surface 3 of the bottle lip or fillet, but such depression is not essential to my invention. Where said inner member is so depressed, the inner edge portion of the annular outer member 10, around the margin of the central opening 12 thereof may also be depressed, as shown at 14 in Fig. 3, so as to serve to hold the marginal parts 7 of the inner member in accurate contact with the bottle lip or fillet, and also lessen the liability of the improved closure being accidentally detached from the bottle by the engagement of obstructions beneath said inner edge portion of the outer member. Beyond the said inner edge portion 14, the annular member is given a curved formation in cross section, as shown at 11 so as to conform to that curved marginal part 7 of the inner member 5 which fits upon the rounded top surface 3 of the lip or fillet of the bottle, whereby it will be seen that this part 11 of the outer member serves to hold the inner compressible member in position for accurate contact upon the bottle lip as clearly shown in Fig. 3.

The outer marginal portion of the annular band or member 10 is made in cylindrical form, as shown at 15, and affords an annular flange pendent around the outer part of said outer member and conforming to and adapted to fit snugly against the outer surface of the cylindrical pendent part 8 of the compressible inner member in such a manner as to reinforce the same around its entire circumference and compel accurate contact of said inner member around the peripheral surface 2<sup>a</sup> of the bottle lip or fillet 2.

At suitable intervals around the lower edge of the pendent outer flange portion 15 of the outer member 10 are produced downwardly directed retaining projections or tongues 16, 16, the lower ends of which are directed at inward inclinations to the sides of the bottle neck, and the lower extremities

of which approach each other, as shown in the drawings, so as to be adapted, when the closure is applied to a bottle for use, to be engaged against the lower curved surface or shoulder 4 of the bottle lip or fillet in such a manner as to afford a secure removable connection of the device to the bottle to which it is applied.

The outer member 10 is formed from resilient metal, and the resilience of the projections or tongues 16 integrally produced thereon will permit the device to be readily snapped upon or removed from the bottle without deformation of said retaining tongues, the inwardly inclined lower ends of said tongues having spring engagement beneath the bottle lip or fillet when the closure is in place upon the bottle, so as to securely retain the same in position. As shown herein, there are four of these tongues 16 upon member 10, the same being spaced at comparatively wide intervals so as to permit economy in manufacture. When so formed, the metal parts from which the members are produced may be blanked out from the sheet in the arrangement indicated in Fig. 4, the tongues of one member fitting in the spaces between the tongues of other members, as shown at 16<sup>a</sup>, whereby a material economy is attained in the consumption of metal.

The construction of the device with the inner and outer members having the pendent marginal flanges 8 and 15 contacting and the outer member having the inturned retaining tongues 16, insures a secure connection between the parts and prevents their separation, thereby permitting the members to be connected in manufacture, so as to be capable of being more conveniently handled during printing of the inner member or application of the date thereto, and during application of the closures to the bottles for use. Such connection also insures removal of the inner member with the outer when the bottle is opened, and serves to retain the inner member within the outer member so that the closure may be returned to the bottle after removal therefrom. The construction of the improved closure with the cylindrical flange, pendent around its outer part also insures a tight joint between such marginal flange and the peripheral surface 2<sup>a</sup> of the bottle lip or fillet 2, so that in case the retaining tongues 16 should not, for any reason, be engaged beneath the lip or fillet to properly hold the closure in contact upon the top surface 3 of the said lip or fillet, whereby the closure might be tilted up at one side, as shown at the right-hand side in Fig. 3, the contact of the closure around the peripheral surface of the lip or fillet will still suffice to prevent entry of impurities or discharge of the contents.

The retaining tongues or projections 16, 130

16 are of substantially equal thickness throughout, but their lower extremities are herein shown bent outwardly as seen at 17, to afford hook like parts which are in registry at different points around the bottle neck, as shown in Figs. 1 and 3. These hook-like parts are not essential to my invention, but where provided, they facilitate the application of the closure to the bottle by affording rounded inner surfaces for contact upon the sloping surfaces at the top of the lip or fillet.

The improved bottle closure constructed according to my invention is particularly well suited for employment in connection with milk bottles by reason of the convenience with which it may be applied to and removed from the bottle during use, and also by reason of the security with which the contents of the bottle are protected both against the entry of impurities, or accidental discharge, the closure, when in position upon the bottle, being retained in place by the spring engagement of its retaining tongues 16 beneath the bottle lip even when the bottle is inverted, so as to effectively prevent the escape of the contents. It will also be obvious from the above description that the bottle closure constructed in accordance with my invention is of an extremely simple and comparatively inexpensive nature, and permits of displaying the time of bottling the milk, and it will be evident that the device is susceptible of some modification without material departure from the principles and spirit of the invention and for this reason I do not desire to be understood as limiting myself to the precise formation and arrangement of the several parts as

herein set forth in carrying out my invention in practice.

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

In combination with a bottle neck provided with an annular outwardly directed fillet extended around its mouth, the upper surface thereof being rounded in profile and the lower part of said fillet being sloped, inwardly to produce a curved shoulder; of an inner compressible member extending across the opening of the neck and being of such diameter that its marginal portion laps over the rounded upper surface of the fillet and extended down about the fillet in cylindrical form, the central portion of the member being depressed below the marginal portion, an outer metallic member annular in form and extending over the mouth of the neck and having a central opening to expose the inner member, said outer member having a depressed edge portion surrounding its central aperture and having a marginal curved portion conforming to the upper curved surface of the fillet, and resilient tongues integrally produced upon and pendent from the marginal curved portion correspondingly curved with relation to the lower part of the fillet to contact therewith, the lower or free ends of the tongues being bent outwardly to afford hook parts.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LOUIS HUETHWOHL.

Witnesses:

W. C. ABBOTT,

J. D. CAPLINGER.