No. 750,257 PATENTED JAN. 26, 1904.

E. E. CHAPMAN.

CLOSURE.

APPLICATION FILED OCT. 14, 1902. RENEWED MAY 13, 1903.

NO MODEL.

Fig. 1

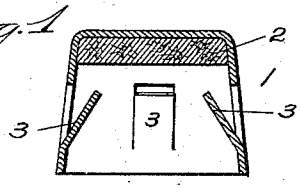


Fig. 5

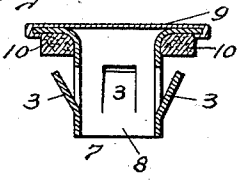


Fig. 2

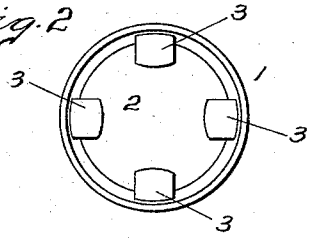


Fig. 6

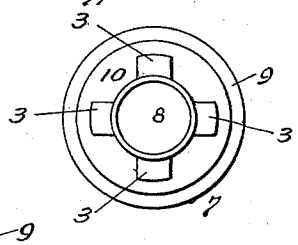


Fig. 9

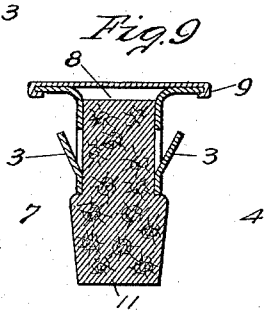


Fig. 3

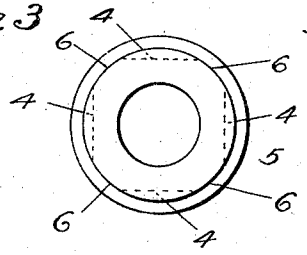


Fig. 7

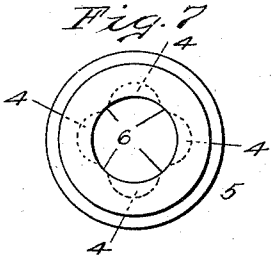


Fig. 4

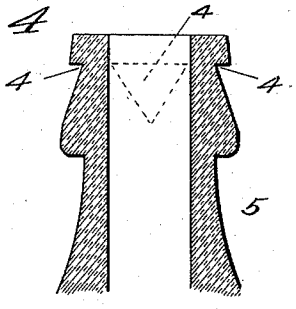
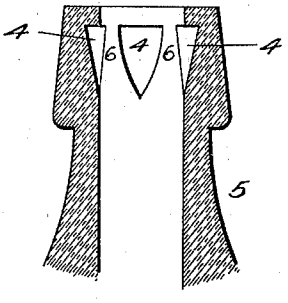


Fig. 8



Witnesses
M. L. Cates.
L. B. Alderete.

Earle E. Chapman Inventor
by
Charles L. Rogers
his Attorney

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

No. 750,257. Patented January 26, 1904.

UNITED STATES PATENT OFFICE.

EARLE E. CHAPMAN, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO THE STANDARD BOTTLE CLOSURE COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

CLOSURE.

SPECIFICATION forming part of Letters Patent No. 750,257, dated January 26, 1904.

Application filed October 14, 1902. Renewed May 13, 1903. Serial No. 157,024. (No model.)

To all whom it may concern:

Be it known that I, EARLE E. CHAPMAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in 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.

This invention relates to means for preventing the fraudulent refilling of vessels, and particularly to closures for vessels; and some of the objects of the invention are to provide a cheap and efficient device of this character.

Another object of the invention is to provide a closure which can only be removed without injury by being twisted or rotated upon the vessel into a predetermined position.

With these and other objects in view the invention consists, essentially, in the construction, combination, and arrangement of parts substantially as more fully described in the following specification and as illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a longitudinal sectional view of a form of closure employed. Fig. 2 is a bottom plan view of the same. Fig. 3 is a top plan view of a vessel constructed with external receiving-recesses. Fig. 4 is a longitudinal central sectional view of a portion of a neck of a vessel. Fig. 5 is a longitudinal sectional view of a modified form of closure. Fig. 6 is a bottom plan view of the same. Fig. 7 is a top plan view of a neck of a vessel having internal receiving-recesses. Fig. 8 is a longitudinal central sectional view of a portion of a neck of a vessel having internal recesses, and Fig. 9 is a longitudinal central sectional view of still another form of closure.

Similar characters of reference designate corresponding parts throughout the several views.

Referring to the drawings, and particularly to the construction illustrated in Figs. 1, 2, 3, and 4 thereof, the reference character 1 designates a cap or cover, which may be of any suitable form of construction and may be either plain or ornamented, and within the cap or cover is secured a disk 2, of cork or other expansible substance, to make a tight connection when the cover is forced down into position upon the neck of the vessel, as will be readily understood. Formed on or connected with the inner surface of the cap or cover are resilient arms or engaging projections 3, preferably extending upwardly and inwardly, substantially as shown in Figs. 1 and 2 of the drawings, and constructed to engage or enter the receiving-recesses 4 upon the exterior of the neck of the vessel 5. The receiving-recesses 4 are preferably segmental in cross-section and terminate upon the edges or circumference of the vessel-neck in plane or flat surfaces 6, Fig. 3, so that the closure may be removed without breaking or injuring the same by forcing the engaging projections 3 upon said flat or plane surfaces 6 and then pulling off the cap or cover.

The operation of this invention will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following explanation thereof.

After the vessel shall have been filled a cork or other disk is placed in the top of the cap or cover and the latter is forced down upon the neck of the vessel until the resilient projections 3 enter the receiving-recesses 4 in the vessel-neck, whereupon the vessel is securely sealed, and the cap or cover cannot be removed without injury by force exerted along the longitudinal axis of the vessel; but when it is desired to remove the cap or cover without injury it is only necessary to twist or rotate the same upon the neck of a vessel until the resilient projections 3 mount upon the flat or plane surfaces 6 on the neck of the vessel, which will be accomplished by the curved bottom of the recesses, whereupon the cap or cover can be at once pulled off by force exerted in a line with the longitudinal axis of the vessel.

Referring now to Figs. 5, 6, 7, and 8, the invention is illustrated applied to a vessel having internal receiving-recesses and a plug or

stopper having exterior engaging projections to enter said recesses. In this construction a vessel 5 is preferably provided with a plurality of receiving-recesses 4; but in this instance the recesses are formed upon the internal surface of the vessel-neck, and said recesses are constructed to be engaged by the resilient engaging projections 3 upon a plug or stopper 7, preferably having a hollow bore or hollow central portion 8 and a laterally-extending rim or flange 9, below which may be secured a ring of cork or other material 10 to afford a tight connection when the closure is in position in the neck of the vessel. Formed on or connected with the plug or stopper 7 are a plurality of resilient engaging projections 3, constructed to enter the receiving-recesses when a closure is forced into position, substantially as before explained.

The operation of the construction illustrated in Figs. 5, 6, 7, and 8 is substantially similar to that hereinbefore described and shown, and further explanation thereof will not be required further than to say that the plug or stopper 7 enters within the neck of the vessel, and the resilient projections 3 enter the internal receiving-recesses 4 to retain the plug or stopper in position and are removed therefrom by rotating the stopper until the projections thereon enter upon the plane or flat surfaces 6 between said recesses, when the plug or stopper 7 can be pulled from the vessel.

In Fig. 9 of the drawings there is illustrated a plug or stopper similar to that shown in Figs. 5 and 6, with the exception that the ring 10 is omitted and a long cork 11 is substituted, which may be forced into the neck of the vessel before or simultaneously with the introduction of the plug or stopper 7, and the operation of this construction is similar to that described in connection with Figs. 5 to 8 of the drawings.

It is not desired to confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all such changes in and modifications of the same as come within the spirit and scope of the invention.

I claim—

1. A closure provided with resilient engaging projections and a vessel having receiving-recesses terminating in intermediate plane surfaces upon the circumference of the vessel-neck, whereby said projections enter said recesses to retain the parts in position, and are rotated upon said intermediate surfaces to permit the removal of the parts.

2. A closure provided with resilient engaging projections, a packing within the closure and a vessel having receiving-recesses terminating in intermediate circumferential surfaces, whereby the parts are connected by the engagement of said projections within said recesses and may be disconnected when the former are rotated upon said intermediate surface.

3. A closure provided with a cap or cover having internal engaging projections and a vessel having recesses upon the exterior thereof terminating upon the circumference of said neck, whereby said projections enter said recesses to retain said parts together, and are rotated out of said recesses to permit the disengagement of the parts.

4. A closure provided with a cap or cover having engaging projections, an expansible disk within said cover and a vessel having external receiving-recesses terminating upon the circumference of the vessel, whereby the parts retained together while said projections are within said recesses and may be disconnected when said projections are turned out of said recesses.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 3d day of October, 1902.

EARLE E. CHAPMAN.

Witnesses:
GEORGE L. KEEFER,
L. B. ALDERETE.