

No. 639,347.

Patented Dec. 19, 1899.

H. S. BREWINGTON.
BOTTLE STOPPER.

(Application filed Apr. 15, 1899.)

(No Model.)

Fig. 1.

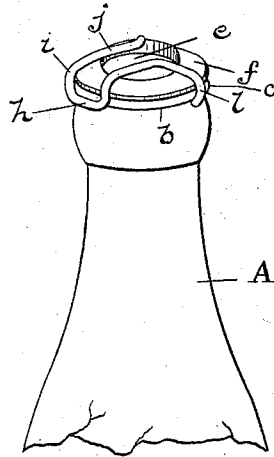


Fig. 2.

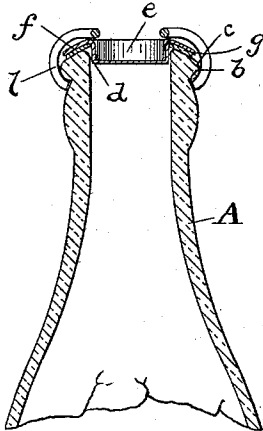


Fig. 3.

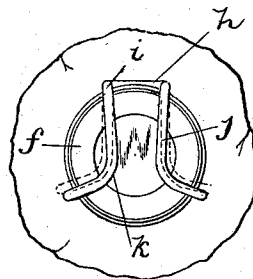
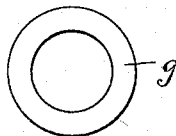


Fig. 4.



Witnesses:

Charles B. Mann Jr.
George Koether.

Inventor:

Henry S. Brewington
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UNITED STATES PATENT OFFICE.

HENRY S. BREWINGTON, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-FOURTH TO MARTIN GILLET GILL, OF SAME PLACE.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 639,347, dated December 19, 1899.

Application filed April 15, 1899. Serial No. 713,081. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. BREWINGTON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

This invention relates to a bottle-stopper embodying two separate parts—a sheet-metal cap to close the bottle-mouth and a spring-wire clip to retain the cap in position.

The object of the invention is to provide a wire clip of improved construction that may be applied by hand and which will hold the cap, that will have no projecting finger pieces or ends to interfere with handling or packing the bottles, and which has provision whereby it can be readily removed without the use of any tool.

In the drawings, Figure 1 is a perspective view of a bottle, the cap, and wire clip in position. Fig. 2 is a vertical section of the bottle, the cap in closed position, and the wire clip. Fig. 3 is a top view of the bottle cap and clip and indicates by broken lines the spreading movement of the wire ends for removing the clip and cap. Fig. 4 is a view of the gasket or packing-ring.

The bottle-neck A has near its mouth a head provided with an annular groove *b* and forming a bulging shoulder *c* around the lip or mouth *d*. Internally the mouth is smooth.

The cap is made of suitable metal and has a central depression *e*, which fits down into the bottle-mouth, and around the depression is a laterally-projecting rim-flange *f*, slightly inclined or beveled down. This flange rests on top of the lip or edge *d* of the bottle. A suitable packing-ring or gasket *g* is interposed between the lip *d* of the bottle and the flange *f* of the cap and serves to make a tight joint. The wire clip, which extends over the cap, is made of one piece, but has three grip-points which take down and engage under the bulging shoulder *c* on the bottle. The clip is made of spring-wire of large enough size to be sufficiently stiff to resist strains to which it will be subjected in holding the cap. The wire clip has a vertical U-shaped end *h* slightly bent inward to engage in the annular groove *b* under the shoulder *c* on the bottle. Just

above this vertical U-shaped end is a bend or curve *i* in the two branches, and then said two branches extend horizontally and parallel, or nearly so, as at *j*, over the central depression of the cap for about two-thirds of the distance across. Each branch then diverges laterally away from the other branch, as at *k*, the diverged portion being in the same horizontal plane with the parallel portion. Each diverged portion then curves downward over the laterally-projecting rim-flange, as at *l*, with its extremity pointing inward to engage under the shoulder *c* on the bottle. Thus the cross-wire of the U-shaped end *h* and the two downcurved extremities *l* constitute the three grip-points before mentioned. It is a well-known fact that in the manufacture of bottles the lips or edges are irregular and uneven, and it is difficult to seat a cap on such uneven lips and make a gas-tight closure; but by this construction of metal cap, which has a central depression and merely a laterally-projecting rim-flange and no down-flange *e*, the spring-clip pressing the rim-flange at four points down on the lip of the bottle directly at the point of contact of the cap with the bottle-lip, and I am thus enabled to produce a closure which perfectly seals the bottle. Neither of the grip-points protrudes or projects prominently enough to interfere with handling or packing the bottle.

In placing these devices on a bottle the cap is first placed in position. Then the clip is placed over the cap and the two downcurved hooked extremities *l* are engaged under the shoulder *c* on the bottle, and finally the U-shaped end *h* is pressed down until its cross-wire engages the said shoulder *c* and permits the circumferential edge of said shoulder to project between the two vertical portions of the U-shaped ends. The cap is thereby held by four bearing-points of the clip close and fast on the bottle. To remove the clip and cap, no tool of any kind is required. It is only necessary for a person to grasp the bottle with both hands and, holding the thumbs upward, apply the thumb of each hand to the two downcurved hooks *l*, which are prominent enough for the thumbs to press against, and then by pressing with the thumbs laterally spread apart the two

branches, so as to disengage the hooked extremities *l* from the shoulder *c*. The clip and cap may then be lifted off.

This particular construction is efficient, and the mode of operation is convenient and very satisfactory in practice and is believed to be new.

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

1. The combination of a bottle having near its mouth an external annular groove forming a bulging shoulder around the lip; a metal cap having a central depression which fits in the bottle-mouth and a laterally-projecting rim-flange which rests only on top of the lip or edge of the bottle-mouth; and a wire clip having two horizontally-extending branch wires, *j*, spaced apart and connected by a vertical **U**-shaped bend the cross-wire of which takes under the said shoulder on the bottle and permits the circumferential edge of said shoulder to project between the two vertical portions of the **U**-shaped bend, said horizontal branch wires extending over the central depression of the metal cap and contacting only with the lateral rim-flange of the cap, and each end of said branch wires diverging laterally at the point of contact with the rim-flange and terminating in a downward curve engaging the said shoulder, said clip being adapted to readily snap off said cap by spreading said branch wires and adapted to readily

snap on said cap by engaging the ends of the same under said shoulder and pressing the **U**-shaped portion over the opposite edge thereof, substantially as described. 35

2. The combination of a bottle having near its mouth an external annular groove forming a shoulder around the lip thereof; a metal cap fitting the bottle-mouth and having a laterally-projecting rim-flange of substantially the same diameter as said lip; and a wire clip having two horizontally-extending branch wires, spaced apart and connected by a vertical **U**-shaped bend the cross-wire of which takes under the said shoulder on the bottle, said horizontal branch wires extending over the central depression of the metal cap and contacting with the lateral rim-flange of the cap, and each end of said branch wires diverging laterally at the point of contact with the rim-flange and terminating in a downward curve engaging said shoulder, said clip being adapted to readily snap off said cap by spreading said branch wires and adapted to readily snap on said cap by engaging the ends of the same under said shoulder and pressing the **U**-shaped portion over the opposite edge thereof, substantially as described. 60

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY S. BREWINGTON.

Witnesses:

THOS. C. BAILEY,
GEORGE KOETHER.