May 26, 1925.

1,539,431

S. M. SCHENKEIN

BOTTLE CLOSURE

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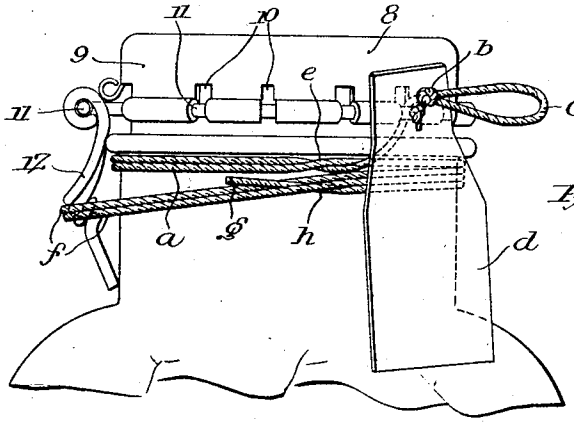


Fig. 1.

Fig. 2.

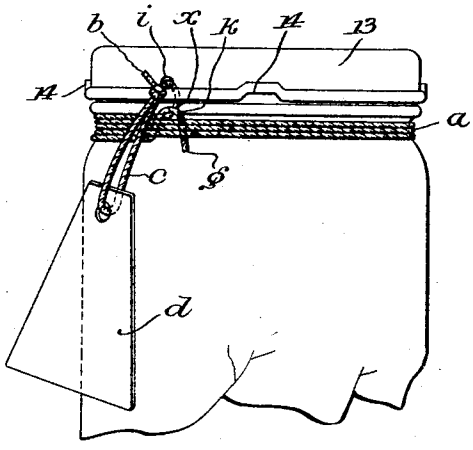
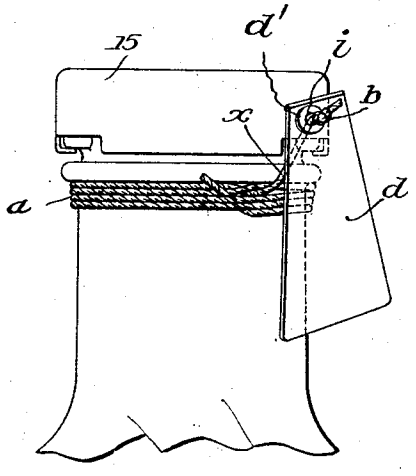


Fig. 3.



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Fig. 4.

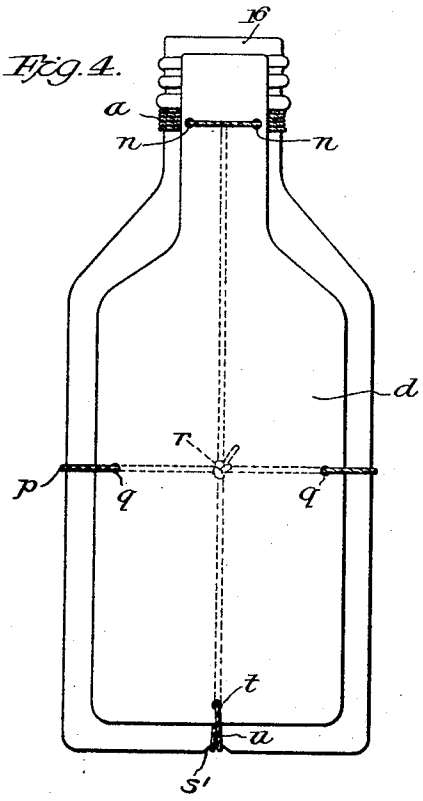


Fig. 5.

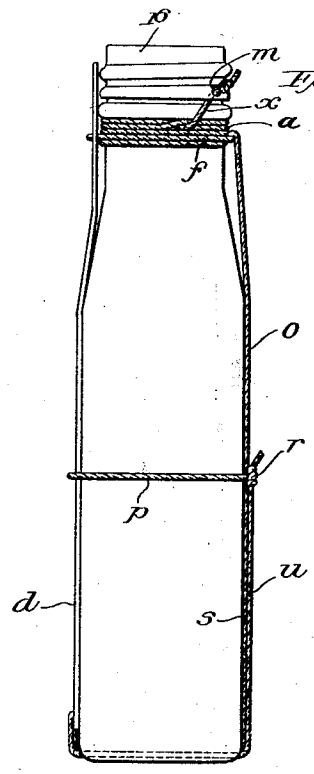


Fig. 6.

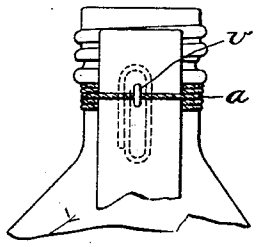
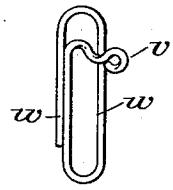


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAMUEL M. SCHENKEIN, OF NEWARK, NEW JERSEY.

BOTTLE CLOSURE.

Application filed January 2, 1924. Serial No. 683,978.

To all whom it may concern:

Be it known that I, SAMUEL M. SCHENKEIN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, U. S. A., 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to means for securing closures of the cap type to bottles, to prevent unauthorized opening of the bottle, and with some types such as those having a screw, bayonet joint or mutilated thread, the securing means prevents counter rotation of the cap and corresponding leakage, or entire removal of the cap.

My invention consists in passing a flexible member, such as a cord or wire, through an opening, perforation or hole in the cap; one end of the member being provided with an enlargement, twist or knot, to prevent the member from being entirely drawn through the opening. The knot, or the equivalent, is preferably on the outside of the cap and the member passes between the cap and bottle neck and is there wound about the bottle adjacent the cap two or more times, and the end of the member is preferably tucked under the last turn or two and pulled tight. The smaller the diameter of the bottle neck the greater will be the number of turns necessary to provide the required friction.

Other details of construction will be hereinafter particularly pointed out and claimed.

Referring to the drawings, in which like parts are similarly designated—

Figure 1 shows a well known lever closure device for bottles with my invention applied thereto.

Fig. 2 illustrates a well known jar closure cap with my invention applied thereto.

Fig. 3 is a well known bayonet joint bottle cap with my invention applied thereto.

Fig. 4, shows a bottle having a well known screw cap closure with my invention applied thereto.

Fig. 5 is a side view of the same.

Fig. 6 is a modification of the structure shown in Figure 5.

Fig. 7 is a perspective view of a wire device or eye to be placed between a label on the bottle neck and through which the flexible member passes to hold a label or tag.

The particular construction of cap closure forms no part of this invention, and the various kinds of bottle closures shown in the drawings are well known. Any kind of a cap closure may be used so long as it has an opening, hole or perforation, or may be provided with such at slight expense.

The closure is combined with a flexible member of any kind of material, and may be a cord, wire or the like, but I prefer a cord, as it is easier to manipulate and is readily severed.

In Figure 1 the cap 8 has a downwardly bent rim or apron 9 provided with slots 10, and the ends of the individual tongues thus formed are curled about a wire 11 whose ends are connected to a cam lever 12 which when raised up expands the wire 11 and tongues, so that the cap can be removed from the bottle.

This known form of cap therefore has a suitable opening or slot for the purpose of my invention.

I form in one end of a flexible member *a* a knot *b* sufficiently large to prevent it from passing through one of the openings or slots 10 in the apron. The knot *b* preferably but not necessarily ties a loop *c* in the end of the flexible member *a*, which loop may be used as a suspension for hanging the bottles for display purposes, such as for window dressing &c., and the knot *b* may also serve to hold a tag *d* such as a profit-sharing or premium tag between it and the cap 8.

The flexible member *a* passes through an opening 10 in the cap from the outside to the inside thereof and is wound several times about the bottle neck, a lower turn crossing the upper turn, as at *e* and one or more subsequent turns as *f* passing over the lever 12, and the end of the final turn is tucked under one or more of the last turns, as at *h*. The flexible member *a* may thus be loosely wound at first, and the end *g* finally pulled tight, when all slack will be taken up.

After tightening, an adhesive may be applied at the points *e* and *h*, such as a solution of collodion, and also at other points of the circumference of the bottle or jar neck. This adhesive serves to prevent the flexible

member from being readily unwound, and increases the frictional resistance between the material of the bottle or jar and the flexible member.

The flexible member *a* thus holds and seals the lever 12 against unauthorized opening; and said flexible member can be easily removed by severing it between the knot *b* and cap 8, thus releasing the profit-sharing tag *d*, if one be attached.

That portion of the flexible member lying between the cap and bottle neck assists in tightening the cap, and takes up any undesirable play between the cap and bottle.

In Figure 2 I show a metal cap 13 having (usually four) inwardly extending lugs or crimps 14, forming a mutilated thread engaging a thread on the jar neck; this is also well known. I perforate this cap at *i* form a knot *b* in one end of the cord *a*, pass the cord through the perforation at *i* from the outside to the inside of the cap and wrap it several times about the top of the jar, passing the end *g* of the cord under the upper turn, as at *k*, and then beneath the subsequent turns, as shown. I preferably place adhesive at *k* and at other points, if desired. In this form I have also shown the loop *c*, but the tag *d* is in the loop, and not between the knot *b* and the cap 13.

In Figure 3 I have shown a well known form of metal cap 15 secured to the bottle by bayonet joint. This cap I perforate at *i* and apply the cord as in Fig. 1, as well as the tag *d*.

In Figs. 4 and 5 I employ the usual screw-cap 16, perforate it at *m*, and pass the cord through as before, one turn of the cord passing through perforations *n* of the tag *d* as in Fig. 4, then under one or more turns *f* and vertically downward at the back of the bottle as at *o*, Fig. 5, to about midway of the bottle, then around the bottle as at *p*, passing again through a pair of perforations *q* in the tag, then to the back of the bottle again, looped through the portion *o* at *r* then downward at *s*, under and around the depression *s'* in the container, then up and through a perforation *t* in the bottom of the tag *d*, then carried back by a portion *u* to the point *r* and tied, as shown. The end may be sealed as before.

Instead of having the cord *a* pass through the tag itself at the top, I may provide an eye *v* preferably of wire, passing through the tag, and have longitudinal loops *w* that lie between the tag *d* and bottle neck. A turn or two of the cord passes through such eye and the loops *w* lie behind the tag longitudinally of the bottle and are held in place by other turns about the bottle neck. Such a device raises the turn of the cord passing through the eye *v* slightly above the tag and facilitates the cutting of the sealing cord at either side of the eye.

In all the forms illustrated, except in Figure 1, the portion *x* of the cord produces a tension on the cap contrary to the direction of rotation required for removing the cap, and thus prevents the unauthorized removal of the cap as well as a partial rotation in the opening direction that would cause leakage.

This manner of securing cap closures has a decided advantage for display purposes in addition to the security and prevention against partial or full unauthorized opening, and at the same time that portion of the cord lying between the cap and bottle neck takes up the unavoidable slack between the cap and bottle neck.

Upon severing the cord the seal is obviously broken and at once shows tampering.

I may provide a washer of metal or the equivalent between the tag *d* and knot *b*, as shown at *d'*, Fig. 3, to prevent the knot from breaking through the tag *d*.

I claim—

1. The combination with a bottle and a cap closure for the same having means to lock the cap to the bottle when the cap is rotated thereon, said closure having an opening, hole or the like in a part thereof extending over the lip of the bottle; of a single flexible member passing through said opening and tightly wound about the bottle neck contrary to the releasing motion of the cap a plurality of times to anchor or hold the cap in closed position, and means to seal the end of said turns to the bottle.

2. The combination with a bottle and a metal cap for closing the same about the bottle lip and having an opening therethrough; of a single flexible member passing through the opening and between the cap and bottle lip to take up play between the cap and bottle, said member then tightly wound about the bottle neck.

3. The combination with a bottle and a metal cap for closing the same and having a bottle engaging flange with an opening therethrough; of a single flexible member having a loop formed at one end, said member passed through the opening up to said loop which operates as a stop to prevent the member from being pulled entirely through the opening, said flexible member then tightly wound around the bottle neck, and means for sealing the wound portion of the member, that portion of the member passing between the engaging flange and bottle taking up slack between the cap and bottle.

4. The combination with a bottle and a metal cap having rotating movement for closing and opening the bottle and having a hole therein; of a single flexible member passing through said hole and having a retaining portion to prevent the element from being pulled entirely through said hole, a portion of said element passing between the

cap and bottle neck to tighten the cap to the neck and thereafter wound about the neck of the bottle, and means sealing the wound portion to the bottle neck.

5. The combination with a bottle and a screw cap therefor having a hole through the threaded portion of the cap; of a cord having a tag-holding and suspending loop tied in one end and passing through said hole, the knot of said loop preventing the cord from being entirely drawn through the hole, one end portion of the cord being wound about the bottle neck in the direction of screwing the cap on the bottle and the end of the cord being tucked under one or more windings about the bottle neck, and means sealing the windings and the other end to the bottle neck that portion of the cord between the cap and bottle taking up slack between the cap and bottle.

6. The combination with a bottle and a screw cap therefor having a hole, of a single flexible member having a knot to prevent it from entirely passing through said hole, a portion of said member lying between the cap and bottle to tighten the cap, a label, a second portion of said member passing through said label to hold it to the bottle and another portion of said member wound tightly about the bottle neck in a direction to prevent the unscrewing of the cap, and means sealing the end of the member in place.

7. The combination with a bottle and a cap closure for the same, said closure having an opening, hole or the like in the part thereof engaging the bottle lip; of a single cord passing through said opening and between the cap and bottle to take up play between the cap and bottle and then tightly wound about the bottle neck.

8. The combination with a bottle and a cap closure for the same having means to lock the cap to the bottle when the cap is rotated thereon, said closure having an opening, hole or the like in a part thereof extending over the lip of the bottle; of a flexible member connected at one end in said hole and tightly wound about the bottle neck a plurality of times contrary to the opening direction of the cap, and means sealing the other end of said member to the bottle neck, whereby rotation of the cap, without first severing or disconnecting said member is prevented.

9. The combination with a bottle and a cap closure for the same having means to lock the cap to the bottle when the cap is rotated thereon, said closure having an opening, hole or the like in a part thereof; of a single flexible member threaded through said opening and tightly wound a plurality of times about the bottle neck contrary to the opening direction of the cap, and sealing means sealing the end of said member to the neck.

10. The combination with a bottle and a cap closure for the same having means to lock the cap to the bottle when the cap is rotated thereon, said closure having an opening, hole or the like in a part thereof; of a single flexible cord having a knot at one end and threaded through said hole, the other end of the cord being tightly wound about the bottle neck a plurality of times contrary to the releasing direction of said cap, and means sealing the other end of said cord to the bottle neck.

11. The combination with a bottle and a screw-threaded cap closure for the same, said closure having an opening, hole or the like in a part thereof; of a single flexible cord threaded through the hole and having a loop tied in one end the knot thereof lying against the cap at the hole, and the other end of said cord tightly wound about the bottle neck a plurality of times contrary to the unscrewing direction of the cap, and means sealing the end of the wound portion of the cord to the bottle neck.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

SAMUEL M. SCHENKEIN.