L. H. ROSSUCK.

BOTTLE CAP.

APPLICATION FILED MAR. 6, 1915.

1,165,131. Patented Dec. 21, 1915.

Fig. 1.

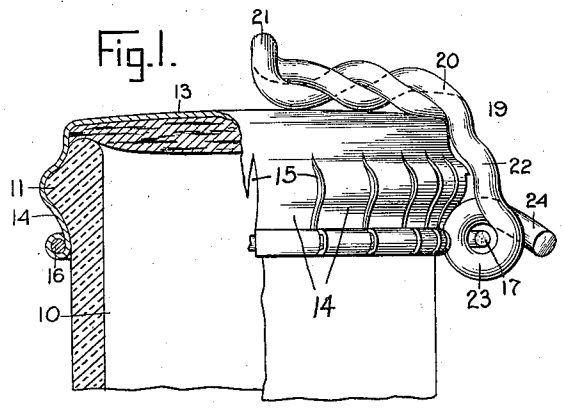


Fig. 2.

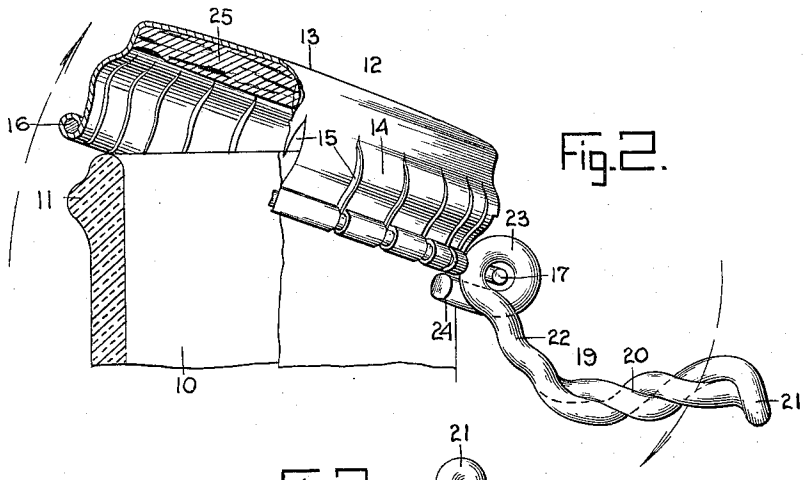
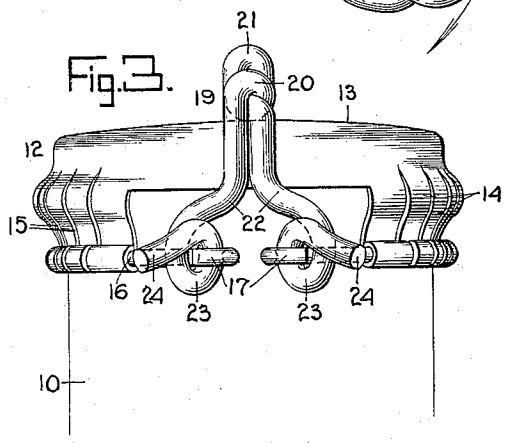


Fig. 3.



WITNESSES

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LOUIS HIRSH ROSSUCK, OF BAY SHORE, NEW YORK, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO MAYER SCHULTZ, OF BAY SHORE, NEW YORK.

BOTTLE-CAP.

1,165,131. Specification of Letters Patent. Patented Dec. 21, 1915.

Application filed March 6, 1915. Serial No. 12,706.

To all whom it may concern:

Be it known that I, LOUIS H. ROSSUCK, a citizen of the United States, and a resident of Bay Shore, in the county of Suffolk and State of New York, have invented a new and Improved Bottle-Cap, of which the following is a full, clear, and exact description.

This invention relates to closures for bottles, jars and the like, and has particular reference to bottle caps adapted to be easily applied to or removed from the bottle neck.

Among the objects of the invention is to provide improved facilities for sealing a bottle by means of a metal cap, said cap being provided with means for clamping it firmly and tightly to the neck and providing means for easily removing it from the bottle by hand, the bottle cap being left in condition, after removal, for reapplication to the bottle if desired.

A further object of the invention is to provide, in combination with a metal cap, a lever locking device coöperating with a binder for the cap, said lever lock being moved upwardly toward and against the top of the cap in locking position.

A still further object of the invention is to provide, in combination with a metal cap having a binder ring surrounding its free margin, a locking lever coöperating with said binder ring, said locking lever being provided with outwardly flaring horns or hooks which serve as fulcrum points against the bottle neck when said lever is swung outwardly and downwardly to remove the cap.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed and illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation, partly in section, of a bottle with my improved cap secured in place thereon; Fig. 2 is a view of the same but showing the direction of movement of the parts when the cap is being removed; and Fig. 3 is a front elevation corresponding to Fig. 1.

The several parts of this device may be made of any suitable materials, and the relative sizes and proportions, as well as the general design of the mechanism, may be varied to a considerable extent without departing from the spirit of the invention hereinafter more fully described and claimed.

Referring more particularly to the drawings, I show at 10 the neck of a bottle or other receptacle, and hence by the term bottle I mean to cover any receptacle used in connection with my improved closure cap. Said neck is shown formed adjacent its upper edge or mouth with an outwardly projecting rib or bead 11.

The numeral 12 indicates as a whole a cap composed chiefly of sheet metal having a closed or imperforate top 13 which is stamped or otherwise formed to extend downwardly toward the bead 11. The flange or skirt portion 14 of the cap is adapted to slip downwardly over the bead 11 and is or may be slitted as shown at 15 to facilitate its coöperation with said bead. The binder ring 16 is permanently connected to the free edge of the skirt 14, such connection being shown herein as being effected by rolling upwardly and outwardly the extreme ends of the tongues formed between adjacent slits. The nature of the ring 16 is such as to tend to spread at its free ends 17 which are formed into oppositely projecting hooks. This tendency of the ring to spread serves to cause the skirt portion of the cap to open when force is not applied to the ring to tighten it and the skirt on or beneath the bead 11. Hence, when pressure is relieved from the cap skirt, it is comparatively easy to remove the cap by hand by the facilities described more in detail below. As shown best in Fig. 3, a portion of the skirt is removed, forming a space 18 within which the hooks 17 of the binder ring operate.

The other main portion of the improvement comprises a locking lever 19 of peculiar form and action. Such lever is shown herein as being constructed of twisted rod or wire metal, but as to this I do not wish to be unnecessarily limited. The twisted construction shown, however, is well adapted for my purpose, not only because of its cheapness, but because of its simplicity of construction and reliability of usage. The

lever comprises a shank 20 of angular form, the main portion of which conforms to the bottle cap and having its free end terminating in a slightly upturned finger piece 21 which lies substantially in the vertical axis of the bottle neck when the cap is locked thereto. The opposite end of the shank portion 20, where it passes downwardly over the bead, diverges into two branches 22, each branch being bent into a coil 23 and each coil terminating in a hook or horn 24, the general direction of which is substantially as a continuation of the divergent arm on the other side of the coil. In other words, the two arms 22, their coils 23 and their horns 24 lie as to general direction in substantially the same planes arranged at an angle to each other, said planes intersecting at the point of divergence of the two arms 22. It will be noted furthermore that the coils 23 are formed within or between the two arms 22, the turns of the coils being made downwardly, inwardly and then upwardly and outwardly, so that the horns emerge from the coils above their centers, this description being applicable to the lever when in normal locking position as shown in Figs. 1 and 3.

The two hooks 17 engage with the coils 23 of the lever mechanism and the tendency of the ring 16 to open and spread insures the continued coöperation between the hooks and said coils. From the description of the lever mechanism just given, it will be observed that when the lever is swung outwardly with its free end 21 away from the cap, the portions of the coils then engaging the hooks 17 will be remote from each other, and hence the ring 16 will be sufficiently open to allow the cap to be slipped or snapped over the bead 11 with comparatively little resistance. With the cap in this position, the ring 16 being beneath the bead 11 and with a disk of cork 25 or other gasket material applied between the top 13 of the cap and the rim of the bottle neck, the movement of the lever 19 in a counterclockwise direction as viewed in the drawings, will cause its free end to come into the position shown in Fig. 1, and the peculiar cam action of the coils 23 at such time will draw the hooks 17 firmly toward each other, causing the skirt portion of the cap to bind downwardly toward the main portion of the bottle neck below the bead and causing the cap to clasp the gasket snugly upon the mouth of the bottle. In this position the lever will be self-retained and will remain in the position shown in Fig. 1 until it is swung open again by an operator, the action for such purpose being easily accomplished by his fingers, requiring no tools whatever. During the act of throwing the lever open, as shown in Fig. 2, the movement being in a clockwise direction, the force applied to the lever 19 becomes exerted upon the two points or ends of the horns 24 bearing against the side of the bottle neck. This result takes place just as the strain upon the binder ring is relieved, and then by the continued action of the lever the points of the horns bear not only against the bottle neck, but upwardly against the adjacent portion of the skirt 14 of the cap, making substantially fixed points for these portions of the cap while the continued force applied to the lever will act through the points of contact between the coils 23 and the hooks 17, causing the cap to be tilted upwardly and clear from the neck, as shown in Fig. 2. The opening movement of the device is simple and direct, requiring comparatively little force on the part of the operator. It is to be noted in this connection that the structure of the cap is not damaged and hence the cap may easily and readily be applied to the bottle after a portion of its contents has been withdrawn, the same locking mechanism being employed to again seal the bottle.

I claim:

1. The herein described lever for bottle caps, the same comprising a rigid member having a pair of diverging arms bent downwardly, inwardly and thence upwardly and outwardly, forming a pair of coils, the ends of the arm members beyond the coils forming a pair of horns and lying between the main portions of the arm members and extending outwardly therefrom above the centers of the coils.

2. The combination with a bottle cap, of a locking lever therefor, the same comprising a main lever having a pair of diverging arms formed into coils and terminating in straight end portions forming horns having the same general direction as the main portions of the arms and also diverging from each other, said horns projecting beyond the structure of the coils and outwardly from the cap when the lever is in locking position.

3. The combination with a bottle and its cap, of a locking lever for the cap comprising a twisted metal device including a main lever portion of angular form terminating at one end in an upturned finger piece loop lying in locking position at the axis of the bottle cap, the other end of the lever comprising free end portions of the metal and diverging forming a pair of arms each bent into a spiral loop and terminating in a straight free end extending beyond said loop and away from the cap, said arms and their coils and free ends all lying in the same general direction, substantially as set forth.

4. The combination with a metal bottle cap having a split ring binder member for

its skirt portion, said binder ring terminating in a pair of hooks movable toward and from each other, of a locking lever coöperating with said hooks, said lever including a pair of cam members terminating in a pair of horns, the main portion of the lever being movable upwardly and outwardly and thence downwardly to release the cap, causing said horns to come into contact with the bottle neck and against the lower portion of the ring serving as fulcrums about which the cap is elevated.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS HIRSH ROSSUCK.

Witnesses:
WALTER R. WILLIS,
RALPH C. HARRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."