G. A. WILLIAMS.

BOTTLE AND CAP.

APPLICATION FILED MAR. 21, 1910.

1,214,734.

Patented Feb. 6, 1917.

Fig. 1.

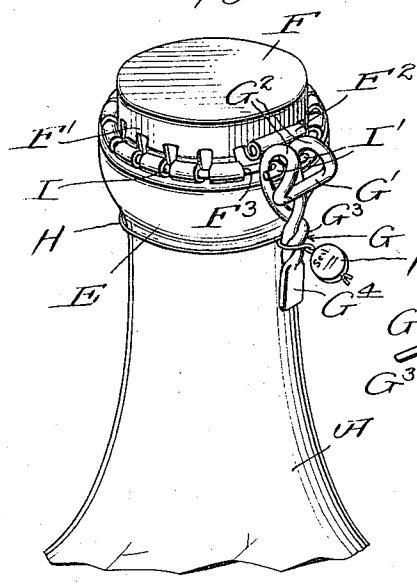


Fig. 2.

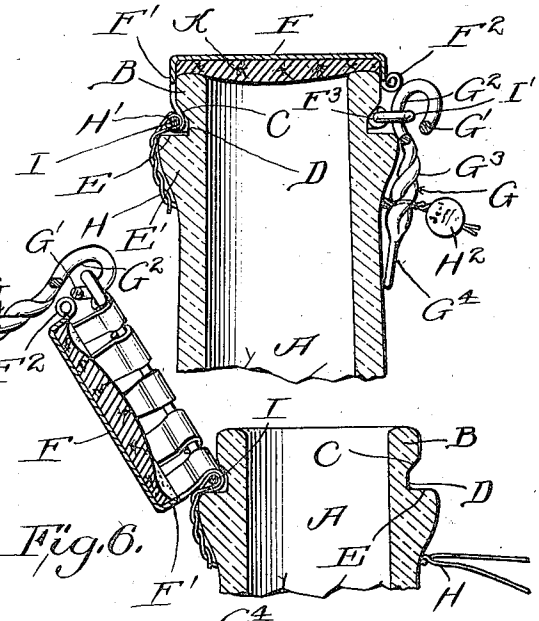


Fig. 6.

Fig. 3.

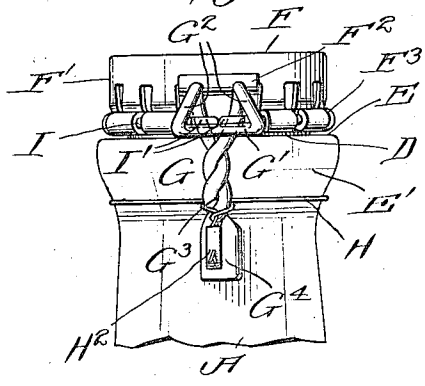


Fig. 4.

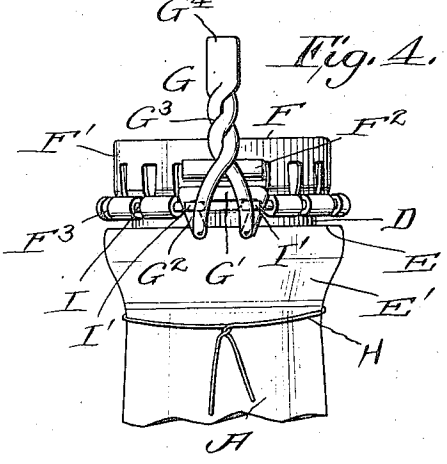
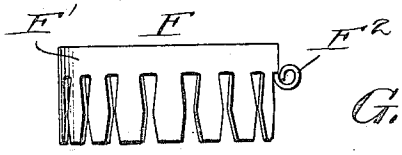


Fig. 5.



Witnesses

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BOTTLE AND CAP.

1,214,734. Specification of Letters Patent. Patented Feb. 6, 1917.

Application filed March 21, 1910. Serial No. 550,674.

To all whom it may concern:

Be it known that I, GEORGE A. WILLIAMS, a citizen of the United States, residing in Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Bottles and Caps, of which the following is a specification.

This invention relates generally to a bottle cap fastener and more particularly to certain improvements upon Patent 822,567, granted to me June 5, 1906, and Patent 873,646, granted to me December 10, 1907.

My present invention consists in the novel features of construction and combination hereinafter fully described and pointed out in the claims.

In the drawing forming a part of this specification: Figure 1 is a perspective view of a bottle cap fastener constructed in accordance with my invention, the device being shown closed or locked. Fig. 2 is a vertical sectional view of the said cap and mouth of the bottle to which it is applied. Fig. 3 is a front view, the fastener being closed. Fig. 4 is a front view of the fastener being opened. Fig. 5 is a side view of the cap prior to having the ring and lever connected thereto. Fig. 6 is a sectional view showing the cap thrown back after being released but still connected with the bottle by means of the sealing wire.

While my improved construction of cap and fastener can be applied to various types of bottles so long as the mouth is provided with a collar or shoulder to be engaged by the cap, I prefer to use the cap in connection with a novel shape of bottle which I have clearly illustrated in Fig. 2 and by reference thereto it will be noted that the bottle neck A is constructed with an exterior collar B, having the undercut edge C which terminates in the short straight portion or groove D, from which extends outwardly the horizontal shoulder E, said shoulder forming a swell or enlargement E′, which gradually tapers into the bottle neck proper. A bottle cap F is adapted to fit over this mouth of the bottle, just described, and then by operating the lever G the bottle cap is securely fastened upon the bottle, and if desired the lever can be secured in place by means of a small wire H connected at H′ to the fastening ring, the ends of said wire being sealed as shown at H^2, whenever it is desired to fasten and seal the lever G. The bottle cap F is formed with the slotted segmental apron F′ shown in detail in Fig. 5, the central portion of the apron being rolled back to provide a bearing sleeve F^2 while the other segments are rolled around a wire ring I as most clearly shown at F^3. The wire ring is divided or split and its ends are bent back to provide hooks I′ which rest directly beneath the bearing sleeve F^2, as most clearly shown in the drawings. The metal cap F is made of thin sheet metal and preferably contains a cork or resilient disk K upon the inner face thereof. The wire ring I has a certain amount of spring or elasticity and the normal tendency of this ring is to separate or expand and carry with it of course the segmental skirt or apron of the cap. For the purpose of drawing the hooked ends of the ring together and consequently clamping or binding a cap upon the end of the bottle, I employ the lever G which is preferably formed of a single piece of wire, and comprises the central bar G′, and the converging side members G^2, said converging side members being in engagement with the hooked ends I′ and it will of course be understood that when the cap is placed upon the bottle the lever is elevated so that the broadest portion of the head is in engagement with the hooked ends of the ring, and in order to fasten the cap the lever is thrown down into the position shown in Figs. 1, 2 and 3, turning upon the shoulder E as a fulcrum, and in so doing the more contracted portions of the side members are brought into contact with the hooked ends of the ring; said side members being curved as most clearly shown in Fig. 2, so that as the lever is thrown down these converging members are forced through the hooked ends of the ring and thereby contract the said ring and with it the slotted segmental skirt or apron of the bottle cap, and when the lever is thus thrown down to its locked position it will be securely hold in this position by the tension of all of the parts.

It will be noted that the converging members G^2 meet and after so meeting they are twisted together as shown at G^3 and then the end is swaged or flattened as shown at G^4 in order to provide a convenient form of handle and also provide ample space for stamping a trade name or trade mark there-

on, In order to remove the cap from the bottle the lever is turned up and in so doing, the head bears upon the bearing sleeve F^2. The ring will immediately expand carrying with it the segmental apron or skirt and by applying pressure with either the thumb or finger beneath the lever the cap can be easily and quickly forced off.

Whenever it is desired to reseal the bottle, the cap is replaced and the lever thrown down again into the position shown in Fig. 2 and the bottle will be as securely sealed as before.

In operation of sealing, the ring and the barrel sections of the apron engage the inclined or undercut portion C of the bottle neck and slide down into the straight grooved portion D; the shoulder E serving as a permanent stop as well as a fulcrum for the lever G.

The locking lever has three separate points of bearing, namely, one against the bearing sleeve, one against the hooked ends of the ring and the other against the shoulder of the bottle neck and the lever bearing firmly against these three points at the same time all danger of accidental displacement is avoided.

It will thus be seen that I provide a cheap, simple and durable construction of bottle cap and fastener which can be quickly and easily attached to the mouth of the bottle and also quickly and easily detached therefrom and it will be noted that when the cap is removed it can be thrown back as most clearly shown in Fig. 6, the wire H serving as a hinge. It is obvious therefore that the bottle can be resealed by means of the same cap an indefinite number of times.

While I have shown and described my invention as particularly adapted for use in connection with a bottle cap or fastener, it is obvious that it can be used for other purposes wherever a circumferential compression or clamping action is desired and it will also be understood that the ring and clamping lever can be used in connection with a slotted skirt or apron or independent of said skirt or apron, and all without departing from the scope of my invention.

What I claim is:—

The combination with a bottle, of a cap adapted to fit upon the mouth of said bottle, a lever connected with said cap and adapted to fasten the same upon said bottle mouth, said lever being adapted to rest against the neck of the bottle when said cap is fastened, and a wire connected to said cap, at the rear central portion, said wire encircling the neck of said bottle, the forward free ends of said wire being fastened around said lever when at rest against said bottle neck, whereby a seal is provided, as set forth.

GEORGE A. WILLIAMS.

Witnesses:

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