Jan. 19, 1926. 1,569,926

C. HAMMER

CONTAINER SNAP-ON ROTATABLY RELEASABLE CAP

Filed Jan. 8, 1925

Fig. 1.

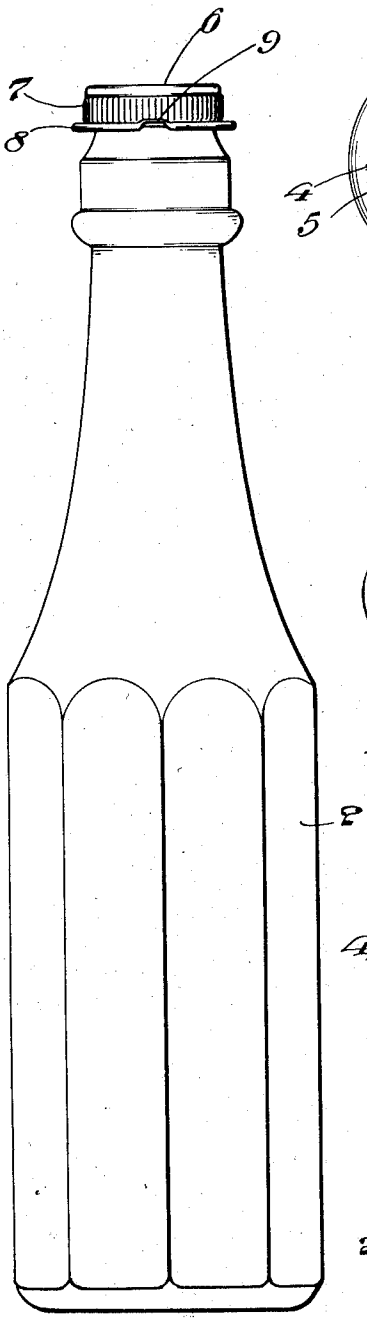


Fig. 2.

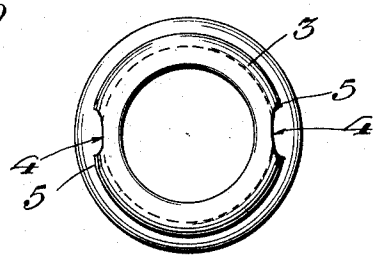


Fig. 3.

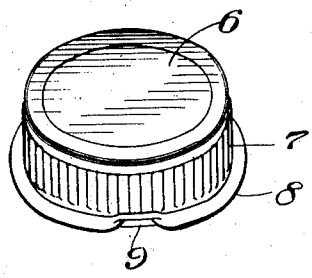


Fig. 4.

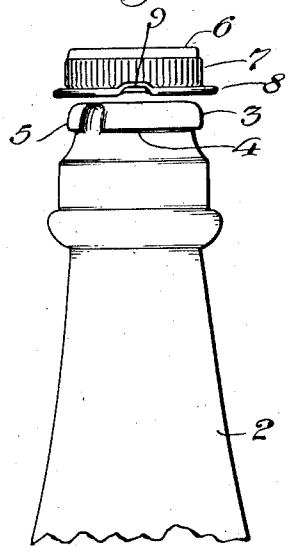


Fig. 5.

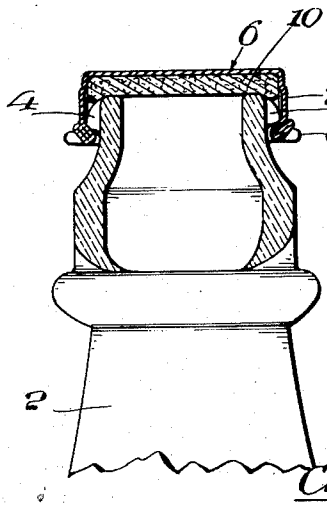
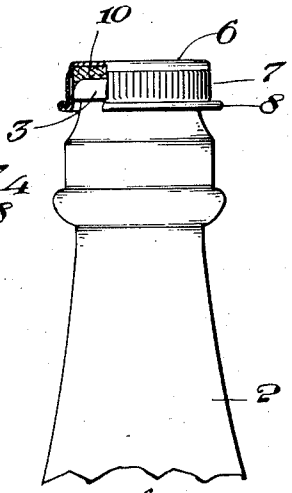


Fig. 6.



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Patented Jan. 19, 1926. 1,569,926

UNITED STATES PATENT OFFICE.

CHARLES HAMMER, OF HOLLIS COURT BOULEVARD, NEW YORK.

CONTAINER SNAP-ON ROTATABLY RELEASABLE CAP.

Application filed January 8, 1925. Serial No. 1,148.

To all whom it may concern:

Be it known that I, CHARLES HAMMER, a citizen of the United States, residing at Hollis Court Boulevard, in the county of Queens and State of New York, have invented certain new and useful Improvements in Container Snap-On Rotatably Releasable Caps, of which the following is a specification.

This invention relates to sealed receptacles of the glass container variety, the object of the invention being to provide a container with a snap on rotatably releasable cap, thereby providing an improved sealed receptacle in which the cap may be in the first instance either snapped on by hand or be attached by machine and rotatably released and subsequently snapped on by hand.

It is common in this art to rotate caps on and off of containers or to have the caps held by mere friction, but the present improvement has to do with a glass container and cap which can be readily snapped on or machine-impressed on to the container, and when so applied held against being snapped off but which may be rotated to release it in a quick and easy manner, so that without such rotation the cap will be thoroughly and efficiently held upon the container without any liability of being snapped off the container.

In the drawings accompanying and forming a part of this specification, Fig. 1 illustrates this improved glass container and cap; Fig. 2 illustrates the top of a glass container; Fig. 3 illustrates the cap; Fig. 4 illustrates the cap in readiness to be snapped on; Fig. 5 illustrates the cap rotated in position to be removed; and Fig. 6 illustrates that form of cap on a container in readiness to have the lugs pressed under the shoulder, by suitable machinery.

Similar characters of reference indicate corresponding parts in the several views.

Before explaining in detail the present improvement and mode of operation thereof, I desire to have it understood that the invention is not limited to the details of construction and arrangement of parts which are illustrated in the accompanying drawings, since the invention is capable of other embodiments, and that the phraseology which I employ is for the purpose of description and not of limitation.

This improved sealed receptacle comprises a suitable container usually of glass shown in the form of a bottle 2 having a rib or shoulder 3 at its mouth provided in the present form thereof with diametrically opposed recesses 4, the opposed end walls 5 of which are of curved form. This shoulder is suitably constructed to permit the cap to be snapped on, and is shown provided with a curved outer surface tapering from its base toward the top or mouth of the bottle thereby to gradually spring the lugs of the cap outward as the cap is snapped on. The cap comprises a top 6 having a depending shallow preferably corrugated skirt or flange 7 shown having a strengthened or reinforced lower edge shown as a curled, rolled or beaded edge 8 having in the form shown a pair of inwardly pressed lugs 9 formed from such curled or beaded edge. This curled or beaded lower edge not only strengthens the skirt and the lugs and prevents the cutting of the hands but it cooperates with the resilient skirt in such way as to enable the proper yielding of the lugs when the cap is snapped on and yet resist the snapping off of the container.

The depending skirt or flange is of resilient or springy material to permit the proper yielding of the lugs over the shoulder of the container when the cap is snapped on.

The cap is usually provided with a liner 10 of suitable thickness for sealing the top of the container.

In applying the cap to the container it is by suitable pressure, as by hand or otherwise, forced downward, so that the lugs or projections of the cap will, owing to the resilient flange and the shape of the shoulder pass over the lip, rib or shoulder at the mouth of the container. In other words, the cap is snapped on and this may be readily done by hand owing to the flange having the proper resiliency, although of course it can be done by machinery if desired. When snapped on in the proper manner the lugs lock or grip under the shoulder of the container and hold so tightly that the cap cannot be snapped off by hand, so that it is so effectively and efficiently held upon the container that its premature displacement is not possible during shipment or handling of the package. To remove the cap it is merely necessary to rotate it by hand until the lugs register with the recesses in the shoulder of the container, whereupon it can be readily removed. It can be then reused

on the same or similar containers as often as desired by merely re-snapping it on.

Instead of pre-forming the cap with lugs the cap can be formed as shown in Fig. 6 without such lugs, and when placed over the top of the bottle the lugs may be then formed by suitable machinery to engage under the shoulder or rib of the bottle, the subsequent removal and use of the cap however, being similar to that just described.

Thus I am able to provide a snap-on rotatably releasable cap which is held against premature removal, not by mere friction but by the locking action of the inwardly extending lugs of the cap under the shoulder of the container, but which can be readily rotated by hand for removal.

I am entirely familiar with the fact that containers are provided with recessed shoulders or lips at the mouth thereof and that caps are provided with lugs, but in all these structures of which I am aware the cap has to be rotated into position by first registering with the recesses in the lip or shoulder of the container and then turned to engage under the shoulder.

To first register the lugs with the recesses requires too much time when it is remembered that millions of containers are sealed per day, whereas by the present improvement the cap can be quickly and readily snapped on at any point around the shoulder except at the recessed portions, thus very materially saving time and labor in the packaging of millions of containers per day and without any risk of prematurely knocking off of the cap. Moreover they are more sufficiently held on to the container since they are held in position not only by the gripping or locking action of the lugs under the shoulder but also by the spring action of the flange or skirt. The rotation of the cap on the old style also has other disadvantages among which is the tendency of the lugs of the cap when first rotated on and before it has a chance to accommodate itself to the container to scratch the underside of the shoulder, which not infrequently causes it to chip or break off, especially when the container is made of brittle glass as is sometimes the case. But by means of the particular formation of cap and container in the present improvement in which the cap flange is of springy material, I am able to quickly snap the cap on by machine or by hand and yet hold it efficiently on to the container against premature removal, and then release it by rotating it backward, or in either direction as a matter of fact, to have the locking projections or lugs register with the recesses in the bottle shoulder, and thereby permit easy and quick removal of the cap. Thus the housewife may readily snap on the cap and effectively seal the container, and as readily remove it by rotating it. And this is true even when the cap is in the form shown in Fig. 6, in which the lugs are impressed under the shoulder in the first instance, for when the housewife receives it and removes the cap she may thereafter snap it on with the same facility as the cap may be snapped on by preforming the lugs and so continuously reuse the cap as often as desired, and I know of no form of cap which can be either machine-impressed on to the container or snapped on by hand and then subsequently snapped on under the shoulder of that container by hand and therefore I believe that I have provided the first hand snap-on rotatably releasable cap, and which is locked or held on against premature removal by the combined action of the lugs and the shoulder instead of by mere friction as has been common in snap-on caps.

It is to be understood that by describing in detail herein any particular form, structure or arrangement, it is not intended to limit the invention beyond the terms of the several claims or the requirements of the prior art.

Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the modes of its use, I claim:

1. A metal cap adapted for use with a container neck having a shoulder and a recess therein comprising a top having a depending resilient skirt provided with an inwardly extending locking lug, the skirt and lug being so proportioned with respect to the container shoulder and recess as to permit the cap to be readily snapped on over the shoulder of the container with the lug locking under such shoulder whereby it cannot be normally freely snapped off, and releasable by rotating said cap to bring its locking lug into register with said recess in the container shoulder.

2. A metal cap adapted for use with a container neck having a shoulder and a pair of diametrically opposed recesses therein and comprising a top having a depending corrugated resilient skirt provided with a rolled, curled or strengthened lower edge having formed therefrom diametrically opposed inwardly extending locking lugs, the skirt and lugs being so proportioned with respect to the container shoulder and recesses as to permit the cap to be readily snapped on over the shoulder of the container with the lugs locking under such shoulder whereby it cannot be normally freely snapped off and releasable by rotating said cap to bring its locking lugs into register with said recesses in the container shoulder.

3. A sealed receptacle comprising a container having an inwardly curved or tapered shoulder or lip at the mouth thereof provided with a pair of diametrically opposed recesses, and a metal cap comprising a top having a depending resilient skirt provided with a strengthened or reinforced lower edge having formed therefrom a pair of diametrically opposed inwardly extending locking lugs, the resiliency and size of the skirt being such that the cap can be readily snapped on over the shoulder of the container to have its lugs grip under such shoulder and prevent the normal free snapping off of the cap, said cap being releasable by rotating it to bring its locking lugs into register with the recesses in the container shoulder.

Signed at Brooklyn, New York, this 30th day of December, 1924.

CHARLES HAMMER.