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R. F. ALLENBAUGH

2,092,547

BOTTLE CAP

Filed Jan. 28, 1937

Fig. 1.

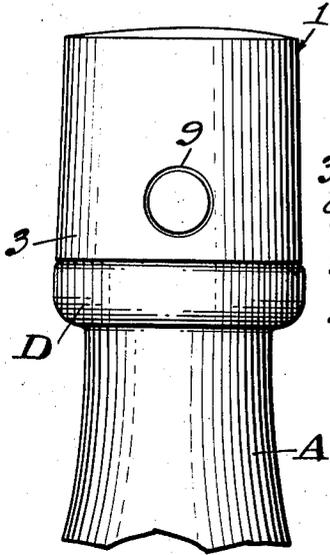


Fig. 2.

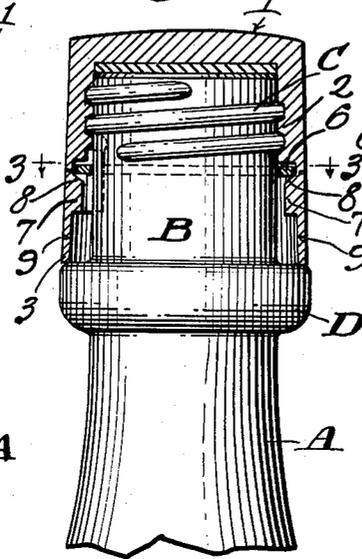


Fig. 4.

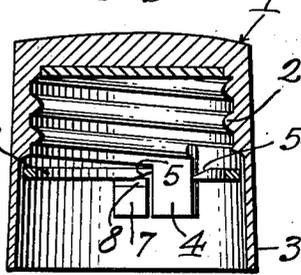


Fig. 3.

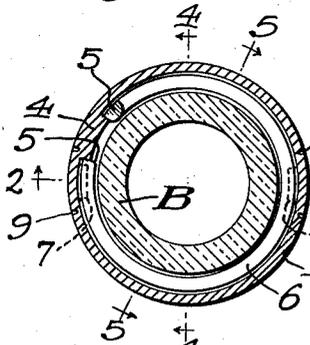


Fig. 5.

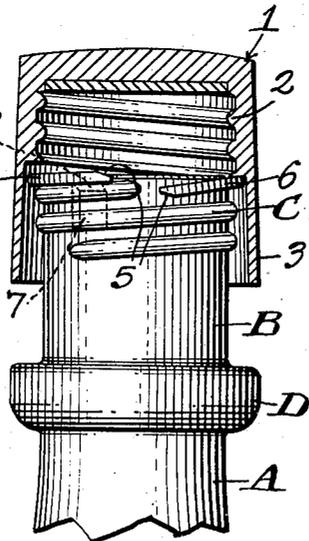


Fig. 6.

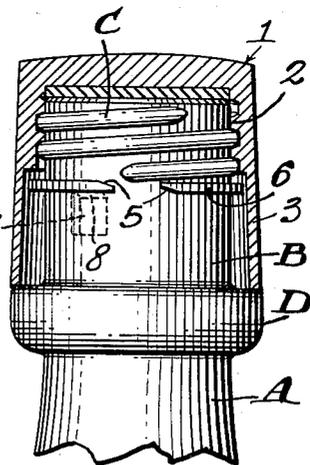
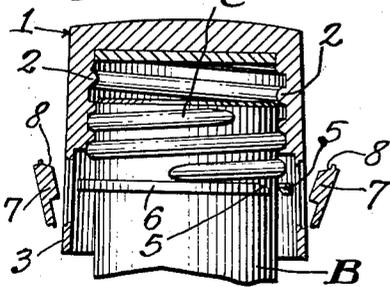


Fig. 7.



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UNITED STATES PATENT OFFICE

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BOTTLE CAP

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Application January 28, 1937, Serial No. 122,861

3 Claims. (Cl. 215-7)

This invention relates to a cap for use on bottles or the like.

The invention is designed to prevent the bottle or other container from being opened without presenting evidence of the fact. It is adapted primarily for use in connection with bottle necks or the like having thread finishes and there is associated with the cap a new and novel form of locking device which prevents the cap from being removed unless some portion thereof is broken.

Another object is to provide a cap of this type which is cheap to manufacture, can be applied readily to a bottle or similar container, and, when in position, does not detract from the appearance of the container.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts herein-after more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is an elevation of a portion of a bottle showing in position thereon the cap constituting the present invention.

Figure 2 is a section through the cap, the bottle neck being shown in elevation.

Figure 3 is a section on line 3-3, Figure 2.

Figure 4 is a section through the cap taken on line 4-4, Figure 3.

Figure 5 is a section through the cap taken on line 5-5, Figure 3, the cap being shown in position on the bottle neck immediately prior to screwing the cap onto the neck.

Figure 6 is a view similar to Figure 5 but showing the cap locked on the bottle neck.

Figure 7 is a section through the cap showing the seals broken therefrom during the forcible unscrewing of the cap.

Referring to the figures by characters of reference A designates a portion of a bottle or other container the neck portion B of which is provided with a thread finish C and, in addition, there is also provided the usual ball D, or the like for use as a guard.

The cap 1 constituting the present invention can be made of bakelite or any other suitable material of a brittle nature and is formed with an interior thread 2 adapted to match and engage the thread C on the bottle neck. That portion

of the cap between thread 2 and the open or lower end of the cap is of increased internal diameter so that said unthreaded portion of the cap thus forms an annular skirt portion 3 which extends around and is spaced from neck B.

The end convolution of thread 2 nearest the open end of the cap terminates in a spacing block or enlargement 4 extended toward the open end of the cap and this spacing block extends between the beveled ends 5 of a split ring 6 formed of spring metal or other suitable resilient material. This ring is supported below the threads 2 by a suitable number of wedging blocks 7 formed integral with the skirt portion 3 and the upper ends of which are preferably tapered as shown at 8. The skirt 3 can be weakened where these wedging blocks 7 are located, one way of weakening it being to form a groove or depression 9 in the outer surface of the skirt which will outline an area which can constitute a seal or indicator and can carry any suitable trade-mark or other designation.

Before the cap 1 is used the ring 6 is inserted therewith its tapered ends at opposite sides of the block 4, it being understood that the ring must be compressed in order to cause it to slip past the enlargement 7 and then to expand after it has moved off of the beveled inner end 8 of said enlargement.

When the cap is placed on the end of the bottle neck B, as shown in Figure 5 and pressed downwardly, one end of the resilient ring will be supported by the adjacent convolution of thread C while the other unsupported end of the ring will be caused to flex downwardly due to the thrust from the cap. Thus while the cap is held under pressure and turned, this downwardly flexed end of the ring 6 will move into engagement with the upper convolution of thread C, working thereunder and therealong in the same manner as a screw-thread. Thus the cap can continue to turn until it is fully seated on the neck B. At that time the ring 6 will have passed into position below the lower convolution of thread C so that it will be supported below said thread by the wedge block 7 and as shown in Figure 6.

Should it be desired to remove cap 1 after it has been locked on the bottle as shown in Figure 6, it would be necessary to unscrew it as ordinarily. As the ring 6 will not flex and move into the space between the convolutions of thread C, it will be held down by said convolutions while the cap is fed upwardly off of the neck. Consequently the tapered upper ends of the wedge blocks 7 will be forced against the restrained ring

6 and deflected outwardly, thus breaking through the skirt of the cap at the weakened portion. As soon as these parts are broken out, the ring will be free to drop onto the ball D of the bottle and the removal of the cap can be completed. Obviously, however, the cap cannot be reused without detection because of the broken portion thereof.

It is to be understood of course that while the cap is being screwed onto the container, the block 4 will compel the ring to rotate therewith. The ball D or any other guard equivalent thereto on the neck serves to prevent the insertion of any object which might otherwise be used to force the free end of the ring into a position where it would allow the cap to be unscrewed. Thus this ball or guard is an essential part of the invention.

What is claimed is:

1. The combination with a container having a threaded portion, of a cap for receiving said portion, a thread in the cap, a wedging element within and carried by the cap, a resilient split ring normally supported by said element below the thread in the cap, the upper convolution of the thread on the container constituting means for flexing the ring when the cap is pressed onto the threaded portion of the container, thereby to position the ring for feeding along the thread on the container when the cap is turned.

2. The combination with a container having a

threaded portion, of a cap for receiving said portion, a thread in the cap, a wedging element within and carried by the cap, a resilient split ring normally supported by said element below the thread in the cap, the upper convolution of the thread on the container constituting means for flexing the ring when the cap is pressed onto the threaded portion of the container, thereby to position the ring for feeding along the thread on the container when the cap is turned, and means in the cap and between the ends of the ring for rotating the ring with the cap.

3. The combination with a container having a threaded portion, of a cap for receiving said portion, a thread in the cap, a wedging element within and carried by the cap, a resilient split ring normally supported by said element below the thread in the cap, the upper convolution of the thread on the container constituting means for flexing the ring when the cap is pressed onto the threaded portion of the container, thereby to position the ring for feeding along the thread on the container when the cap is turned, and means in the cap and between the ends of the ring for rotating the ring with the cap, said ring and the lower convolution of the thread on the container cooperating to deflect the wedging portion when the cap is unscrewed, thereby to break the cap.

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