

Jan. 31, 1933.

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METHOD OF AND MEANS FOR SEALING CLOSURE
CAPS ON BOTTLES AND OTHER CONTAINERS
Filed July 22, 1929

1,895,884

FIG. 1.

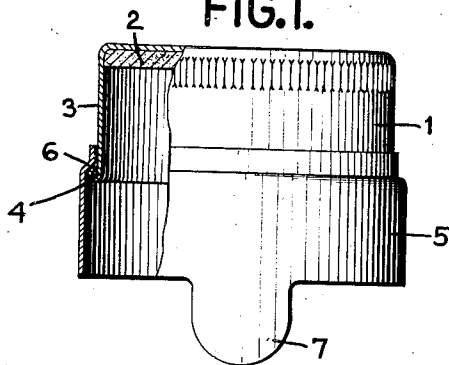


FIG. 2.

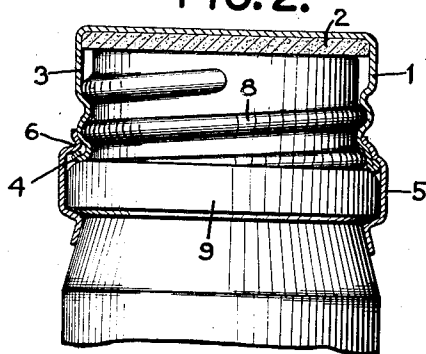
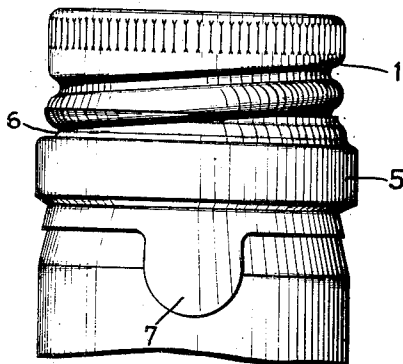


FIG. 3.



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METHOD OF AND MEANS FOR SEALING CLOSURE CAPS ON BOTTLES AND OTHER CONTAINERS

Application filed July 22, 1929, Serial No. 379,895, and in Great Britain September 11, 1928.

The present invention relates to the sealing of closure caps on bottles and other containers, and more particularly to the sealing on containers of closure caps of the kind adapted to be screwed or otherwise detachably secured upon the container, to bottles or other containers so sealed, and to sealable closure means for bottles and other containers.

In applying closure caps to containers it has heretofore been proposed to force the depending skirt or flange of a closure cap previously applied to the container into intimate contact with the exterior surface of the container which may if desired be provided with indentations or ridges in the form of a screw thread for example.

An object of the present invention is to provide an improved manner of sealing closure caps to containers,—preferably during their application to the container,—of such a nature as to prevent the contents of the container being tampered with readily by unauthorized persons but which may be easily removed to leave the usual closure cap substantially undamaged and able to fulfill its normal functions.

A further object of the present invention is to provide a novel sealing or closure means for a bottle or other container, and a bottle or other container so sealed.

With the above objects in view and such others as will hereinafter appear or are incidental thereto, the present invention comprises applying over the usual detachable closure cap of a container a sealing band or the like and in forcing said band into intimate contact with the closure cap and with the exterior surface of the container so as normally to prevent displacement of the closure cap.

More specifically stated the present invention may be said to consist in applying a closure cap and a sealing band over the opening of the container and simultaneously subjecting both the cap and band to a pressing or rolling action to force them into intimate contact with one another and with the exterior surface of the container.

Conveniently the container may have one

or more indentations and/or ridges in the form of a screw thread or threads on its exterior surface into conformity with which the material of the closure cap is pressed or rolled to form a screw closure cap which may be easily removed and replaced to seal the container after removal of the sealing band.

The closure cap and sealing band may be of any suitable material such as thin metal, for example thin aluminum, and the sealing band is preferably of the same material although this is of course not essential and is provided with a tab or other projection adapted to facilitate the removal of the band as for example by fracturing the same.

In order that the present invention may be clearly understood and readily carried into effect reference may now be had to the accompanying drawing illustrating the same by way of example, and in which

Fig. 1 is a part sectional elevation of a closure cap and sealing band as applied to the container and as it appears prior to the pressing or like operation.

Fig. 2 is a sectional view of the closure cap and sealing band applied to a receptacle provided with ridges in the form of screw threads.

Fig. 3 is an elevational view of the arrangement shown in Fig. 2.

As shown in Fig. 1 the closure cap 1 is of cup-like form and is provided interiorly with means 2 of cork, rubber, compo gum, pulp board or other similar material normally used for sealing the opening in the container to which the cap is applied. The cylindrical flange 3 of the cap has at its lower end a projecting bead 4 over which a sealing band 5 is adapted to be applied. The sealing band may conveniently be provided with a shoulder 6 adapted to seat upon the bead 4 of the cap 1 to hold the band 5 in position and is also preferably provided with a tab or projection 7 adapted to facilitate its removal when desired.

In applying the cap and band to the container they are first assembled in a position as shown in Fig. 1 about the container opening and are then subjected to a pressing or rolling action to force the flange 3 and band

5 into intimate contact with the exterior surface of the container. This pressing action may be effected in any convenient manner and if desired a machine such for example as that described in British Patent No. 234,352 may be utilized for this purpose.

To facilitate the subsequent removal and replacement of the closure cap after the sealing band has been removed and at the same time to insure that the container is hermetically sealed at all times when the cap is applied thereto the exterior surface of the container is preferably provided with depressions or ridges 8 for example of screw form into which the material of the cap is forced by the pressing or rolling operation.

As shown in Figs. 2 and 3, the sealing band 5 should overlies the flange 3 of the cap 1 and its bead 4 sufficiently to obtain a secure grip thereon when pressed into intimate contact therewith to prevent unauthorized removal of the cap 1. Additional security may be imparted to the arrangement by the provision of an integral annular ridge or flange 9 on the container itself behind which the material of the sealing band may be forced during the pressing or rolling operation.

The cap 1 and sealing band 5 may be formed of any convenient material which is sufficiently strong and which is also sufficiently flexible or malleable to be pressed or rolled into intimate contact with the exterior surface of the container whatever the form thereof. Thin metal, for example, thin aluminum, has been found to be particularly suitable for this purpose.

The sealing band may be removed with more or less ease by fracturing the material of which it is made and for this purpose it may be formed with the tag or projection 7 which normally lies closely adjacent the outer surface of the container but which may be bent upwardly easily into such a position as to enable it to be grasped firmly by the fingers or with an implement and the requisite force applied to fracture the band.

As will be seen the sealing means in accordance with the present invention does not in any way interfere with the normal functions of the closure cap but merely serves as an assurance to the consumer that the contents of the container have not been contaminated in any way.

It is to be understood that the invention is not limited to the specific construction herein illustrated and described but may be embodied in other forms without departure from its spirit.

We claim—

1. The method of sealing bottles or other containers which comprises applying about the opening of the container a closure cap having a depending skirt, and a sealing band, and simultaneously compressing both the said band and the said skirt radially inward by

a pressing or rolling action exerted inwardly on both band and skirt, so as to force the said band and skirt into substantial conformity and intimate contact with the exterior surface of the container and with one another for the purpose specified.

2. The method of sealing a bottle or other container having about its exterior surface adjacent the opening thereof indentations or ridges adapted to detachably engage a closure cap of conforming shape, which comprises applying a closure cap and a separate sealing band about the opening of the container, and simultaneously subjecting both the cap and the band to a pressing or rolling action to force them into conformity and intimate contact with the exterior surface of the container and with one another for the purpose specified.

3. The method of sealing a bottle or other container having indentations or ridges in the form of screw threads about its exterior surface adjacent the opening thereof, which comprises applying a closure cap and an annular sealing band about the opening of said container, and compressing said band and said cap radially inward into substantial conformity and intimate contact with the exterior surface of the container and of the said indentations or ridges thereon and with one another, so as to prevent displacement of the closure cap except by an authorized person.

4. The method of sealing a bottle or other container having about its exterior surface adjacent the opening thereof indentations or ridges adapted to detachably engage a closure cap of conforming shape, which comprises applying over the container opening a closure cap provided with a depending skirt, positioning an annular band over the surface of the container and the lower portion of said skirt, and compressing said skirt and band radially inward by a pressing or rolling action to force said skirt and band into conformity and intimate contact with one another and with the exterior surface of the container and the indentations or ridges thereof, so as to maintain the closure cap securely in place.

5. The method of sealing about a bottle or other container, having a ridged or indented surface about its opening, a cap having a depending skirt, and a sealing band encircling the container below the said skirt and overlapping a portion thereof, comprising compressing radially inward both the sealing band and the overlapped portion of the skirt into intimate conformity with the said ridged or indented surface and with each other whereby the cap is rendered incapable of removal without rupture or distortion of the band.

6. A sealable closure for bottles or other containers having on their exterior surface

- adjacent the opening certain fastening configurations adapted to be engaged by a closure cap having conforming configurations, comprising a closure cap having a depending skirt pressed into intimate and conforming contact with the configurations of the container and an annular sealing band overlapping the lower portion of said skirt and certain of said configurations and pressed into intimate and conforming contact with the skirt, the underlying configurations and certain other fastening configurations to lock the closure cap against unauthorized removal.
7. The combination of a bottle or other container having surface fastening configurations surrounding the surface adjacent the opening in the container, and a closure cap for said container comprising a cup-shaped member with a depending skirt pressed into intimate and conforming contact with said configurations and a sealing band applied over the surface of the container and certain configurations thereon and over a portion of said skirt and pressed into intimate and conforming contact with said skirt and the underlying configurations to secure the closure cap against unauthorized removal from the container.
8. The structure described in claim 7 in which the sealing band is of rupturable metal and provided with a tearing tab.
9. The combination of a bottle or other container having about its exterior surface adjacent the opening thereof indentations or ridges adapted to detachably engage a closure member of conforming shape, and a closure cap for said container comprising a head and a depending skirt embracing the surface of the container and pressed into intimate and conforming contact with said indentations or ridges and a continuous annular band engaging around a portion of said skirt and certain of the ridges or indentations and pressed into intimate and conforming contact with said skirt and with underlying ridges or indentations and with other ridges or indentations to prevent the unauthorized removal of the closure cap.
10. The method of sealing bottles or other containers having fastening configurations on the outer surface adjacent the opening in the container which consists in applying a closure cap over the opening and certain of said configurations, applying a sealing band about a portion of the closure cap and certain other configurations and then pressing the cap and band to force the cap and band into intimate and conforming contact with said certain underlying configurations and to simultaneously force the band into intimate and conforming contact with said other underlying configurations on the container.
11. The method of sealing closure caps on bottles or other containers provided with indentations or ridges in the form of screw threads on their exterior surface adjacent the opening thereof which consists in applying a cup-like closure cap provided with a continuous bead at its lower edge over the container opening, positioning an annular band over the bead and lower portion of said cap, and subjecting said cap and band to a pressing action to force said band and cap into intimate and conforming contact with one another and with the threads on the exterior surface of the container.
- In testimony whereof we hereto affix our signatures.
- GEORGE WALTER HORNER.
JOHN EDWIN SHARP.

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