April 30, 1935. J. S. ALGEO 1,999,622

CAP

Filed March 18, 1932

Fig. 1.

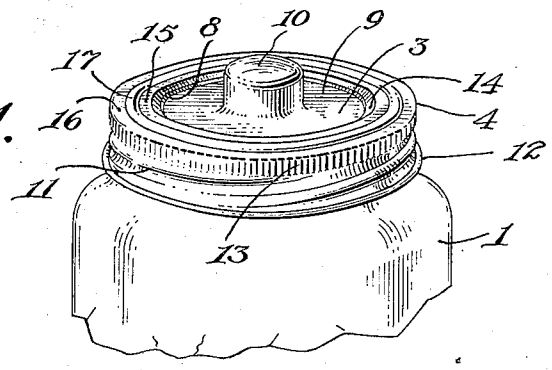


Fig. 2.

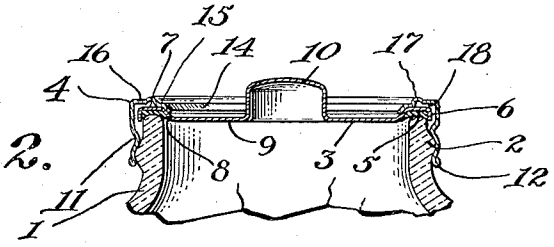
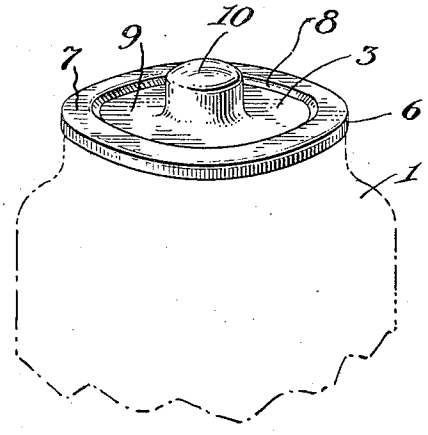


Fig. 3.



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CAP

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2 Claims. (Cl. 215—97)

The invention relates to screw caps for glass containers, and particularly to the two-piece type of cap, comprising a cover, and a threaded ring for securing the cover in place.

One of the objects of the invention is to provide a cover stamped from sheet metal and of such shape as to facilitate the removal and replacement of the cover, after the threaded ring has been removed.

Another object of the invention is to provide means for normally maintaining together the cover and the ring, while being handled prior to applying the cap to the jar, and permitting the cover to remain on the container when the ring is removed.

Another object of the invention is to provide means for positively centering the cover on the container, as the securing ring is being screwed into position on the container.

A further object of the invention is to provide means for constantly maintaining a spring tension between the ring and cover, when in place on the container, thereby retaining the cover under greater pressure, and producing a better seal.

Numerous other objects and advantages of the invention will be apparent to those skilled in the art, from the following detailed description when taken in connection with the accompanying drawing; in which,

Figure 1 is a perspective view of the cap secured in place on the mouth of a glass container.

Figure 2 is a vertical, transverse, sectional view of the cap; and

Figure 3 is a perspective view of the cover on the container, with the threaded ring member of the cap removed; the container being merely suggested by dot and dash lines.

Referring to the drawing more in detail, numeral 1 refers to any ordinary container, such as a glass jar, and having its neck provided with the usual threads 2.

The cap consists of two parts, the cover which is referred to by numeral 3, and the threaded securing ring indicated by numeral 4. The cover will be first described.

The cover is made of thin sheet metal, such as tin, and is of such shape that it can be readily stamped into its final form in one operation. The periphery of the cover 3 is provided with an annular pocket or groove, which receives a sealing composition 5; or, if preferred, an ordinary rubber gasket can be employed. This pocket is formed by a downwardly extending flange 6 provided around the periphery of the cover, the horizontal portion 7; and the downwardly inclined portion 8, which provides the slightly depressed central portion 9. Stamped from this central portion is an upwardly extending knob or protuberance 10, which serves as a handle for removing and replacing the cover, after the ring 4 has been removed.

In use, the securing ring is often discarded after the jar or other container has been opened; and the cover alone subsequently used to protect the remaining contents of the container. The cover usually has around its periphery some of the contents of the container, such as preserves, jelly, etc. With prior two-piece metallic caps the fingers would usually become soiled and sticky by catching hold of the periphery of the cover in removing and replacing it. But in accordance with the present invention this very objectionable feature of the two-piece cap is obviated by the provision of the knob 10, so that the cover can be removed and replaced as often as desired without any possibility of the fingers becoming soiled. And it is to be particularly noted that this improvement is accomplished without any additional cost either in material or in manufacture; the whole cover being merely stamped from a blank in a single operation. In Figure 3 I have shown the cover on the jar, after the securing ring has been removed; and by reference to this figure it will be apparent how the removal and replacement of the cover is facilitated.

The skirt of the securing ring 4 is provided with threads 11 to cooperate with the threads 2 on the neck of the container, for screwing the ring on and off the container; and the lower edge of the skirt is preferably provided with a bead 12. Also, the upper portion of the skirt is preferably knurled, as indicated by numeral 13.

It is to be particularly noted that the diameter of the cover 3 is such that its periphery extends slightly beyond the interior face of the threads, so that in assembling the cover with the securing ring, it is necessary to snap the cover past the threads. When the cover has thus been snapped into place in the securing ring, which is permitted by the resiliency of the skirt and threads, it is normally maintained loosely in this assembled relation. That is, after these two parts have been assembled, they are not likely to become separated during the subsequent handling thereof prior to being placed on the container. This is of importance, for prior to the present invention there has been a very considerable loss of time in the neces-

sarily hurried handling of large quantities of two-piece caps, due to the inability to maintain the two parts in assembled relation during the handling.

It will also be noted, that while in accordance with the present invention the parts are normally maintained in assembled relation, yet when a container is to be opened the securing ring may be unscrewed and removed without removing the cover; or, if preferred, after the ring has been unscrewed, the ring and cover may be removed together.

The inner edge of the top of the securing ring is provided with a downwardly inclined portion 14 which cooperates with the inclined portion 8 of the cover, for a purpose to be described hereinafter.

The remainder of the top of the securing ring comprises a horizontal portion 15 immediately adjoining the inclined portion 14; and a horizontal portion 16 adjoining the skirt and in a higher plane than the horizontal portion 15; the two horizontal portions being preferably connected by a bead 17. By arranging the horizontal portion 16 in a higher plane than the horizontal portion 15, there is normally provided a space 18 between the top of the ring 4 and the top of the cover 3, for a purpose to be described.

When the assembled cap is placed on the container, and the ring is screwed down, the parts which first cooperate are the inclined portions 8 and 14 of the cover and ring respectively, and the horizontal portions 7 and 15 of the cover and ring respectively. Of course the ring is necessarily centered on the container by reason of the cooperation of the threads on the ring and container; but prior to the present invention the cover was not positively centered, so that it might be a little off to one side, thereby reducing the efficiency of the seal; it being apparent that the best seal is obtained when the cover, and consequently the sealing medium, is accurately centered with respect to the mouth of the container. In accordance with the present invention, the cover is positively forced to assume an accurately centered position, for it will be apparent that the cooperation of the two inclined portions 8 and 14 will cause the cover and ring to always take the same position with respect to each other; and, as mentioned above, of course the ring is always perfectly centered with respect to the container.

As the ring is screwed down the horizontal portion 15 thereof, cooperating with the horizontal portion 7 of the cover, forces the latter into sealing position on the container. But as mentioned hereinbefore there is normally provided a space 18 between the horizontal portion 7 of the cover and the horizontal portion 16 of the securing ring. By reference to Figure 2 it will be apparent that this construction provides a resilient leverage action between the ring and the cover. Thus as the ring is finally screwed all the way down, the horizontal portion 16 will bend down slightly, thereby holding the cover in place under a considerable tension, in addition to the usual force exerted by the securing ring. The resilient leverage thus provided is substantial because the leverage action extends all the way from a point interior of the mouth of the jar to a point exterior thereof.

From the foregoing description it will be understood by those skilled in the art that I have very materially improved prior known caps of the two-piece type, without increasing the cost thereof, such improvements including the provision of means facilitating the removal and replacement of the cover without soiling the fingers; the provision of means normally maintaining the cover and ring in assembled relation, but permitting the ring to be removed from the container without removing the cover; the provision of means for positively centering the cover on the container; and the provision of means for exerting a resilient leverage action on the container when the ring is screwed all the way down.

Having fully described the invention, what I claim as new is:

1. A two-piece cap for containers, comprising a cover and a securing ring, said cover being stamped from a thin sheet of metal, the periphery of said cover formed with a downwardly facing annular pocket, a sealing medium in said pocket, a hollow knob stamped from the sheet metal and projecting upwardly, a downwardly extending skirt forming part of the securing ring, threads formed in said skirt, the diameter of the cover being slightly greater than the distance between the inner faces of said threads to normally maintain the cover and ring in assembled relation prior to being placed on a container, and said ring being removable without removing the cover.

2. A two-piece cap for containers comprising a cover and a securing ring, said cover being stamped from a thin sheet of metal, the periphery of said cover formed with a downwardly facing annular pocket, a sealing medium in said pocket, a hollow knob stamped from the sheet metal and projecting upwardly, a downwardly extending skirt forming part of the securing ring, threads formed in said skirt, the diameter of the cover being slightly greater than the distance between the inner faces of said threads to normally maintain the cover and ring in assembled relation, the securing ring being removable without removing the cover, an annular inclined portion formed on the cover, an annular inclined portion formed on the securing ring, the two inclined portions cooperating to positively center the cover, an annular flat portion adjacent the inner edge of the securing ring and contacting with the cover to force the latter into sealing position, the outer portion of the ring being spaced above the cover, whereby the ring exerts a resilient leverage action upon the cover.

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