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G. RAMSEY
SPRING LOCK CAP

Filed Sept. 18, 1924

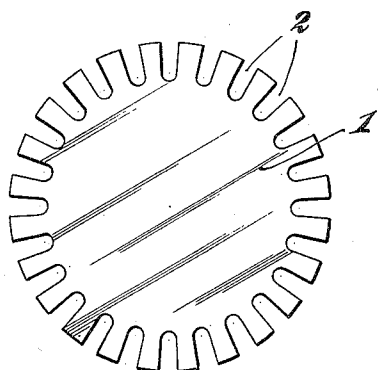


Fig. 1.



Fig. 2.

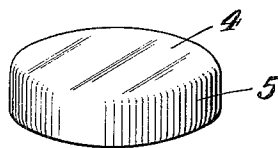


Fig. 3.

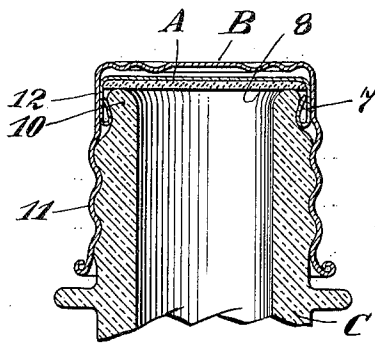


Fig. 5.

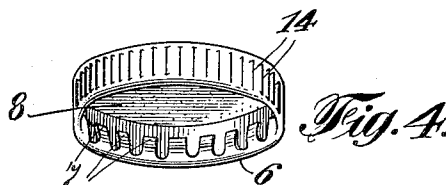


Fig. 4.

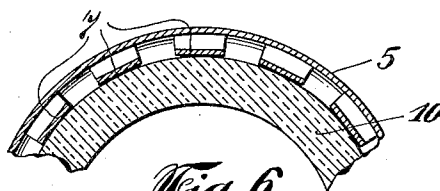


Fig. 6.

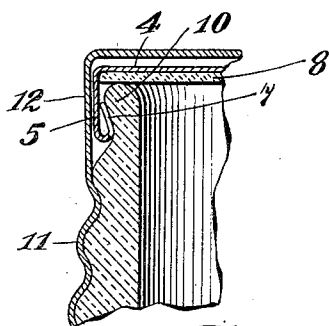


Fig. 8.

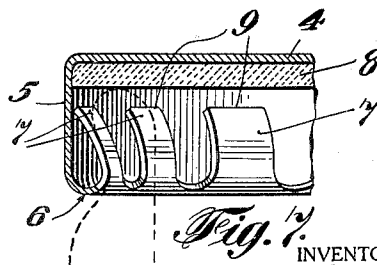


Fig. 7.

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SPRING-LOCK CAP.

Application filed September 18, 1924. Serial No. 738,360.

The present invention relates broadly to closures and more specially to a closure adapted to interlock beneath a projecting portion of a container.

5 There are a number of packages which require double closures, one closure for the purpose of permanently sealing the package and its contents and another closure comprising a removable member which may be used
10 as a cover while the contents of the package is being used up. Such double closures are commonly used in packaging food products, etc. such as catchup, jelly, sauce, and the like. In sealing closures adapted for this use it is
15 desirable that the external diameter of the sealing closure shall not greatly exceed the diameter of the part of the container on which the closure is set since a cover cap must be sufficiently large to pass over the
20 inner or hermetic sealing member.

The present invention meets the requirements of a resilient cap being adapted for use in producing double closures and generally being useful in connection with the type
25 of container finish usually sealed by what is known in the art as crown corks. The present invention is not necessarily limited to being used as a double seal, but may be used as a spring lock friction seal for any suitable
30 type of package.

The present closure cap also provides a very ornamental closure in which raw edges are so positioned as to be invisible and consequently the visible portion of the cap produces a dressy appearance.

35 The principal object of the present invention is that of a closure cap having a substantially cylindrical skirt and flat spring locking fingers arranged on the interior of the skirt.

40 Another and important object of the present invention is a closure cap having a cover portion and a depending skirt therefrom with inturned locking fingers extending from a substantially continuous inturned supporting edge.

45 Another and important object of the present invention is the combination of a spring lock closure cap with a screw cap having the lower part thereof of larger diameter than the upper part and with the upper part in engagement with the side wall of the inner

hermetic seal cap whereby the hermetic seal cap is securely held in position by the side wall of the screw cap.

55 Other and further objects of the present invention will in part be obvious and will in part be pointed out hereinafter by reference to the accompanying drawings forming a part of this application, and throughout
60 which like parts are indicated by like characters.

It is realized that the present invention may be embodied in constructions other than those herewith specifically disclosed and
65 therefore it is to be understood that the disclosure herewith is illustrative and not to be considered in the limiting sense.

Figure 1 is a cut-out blank from which one form of the present cap may be manu-
70 factured.

Figure 2 illustrates the blank in cupped form.

Figure 3 shows the exterior of the finished
75 closure.

Figure 4 illustrates a perspective view showing a part of the interior of the cap shown in Figure 3.

Figure 5 is a sectional view through a portion of a container with the locking cap, also the cover cap, in position.

Figure 6 is a sectional view of a detail of the closure cap taken through the cap and a portion of the container.

Figure 7 is an enlarged detail view showing a section of one form of the present cap.

Figure 8 illustrates the sealing cap being held in position by a screw cover member.

Referring now more specially to the drawings, the present invention comprises a her-
80 metic seal cap A which may be used in conjunction with a screw cover B, both of which cooperate with suitable finishes on a container C.

The hermetic sealing cap A may be
85 formed from a blank 1 in which notches 2 are provided at the edge to form spaced apart members. The blank may be cupped as shown in Figure 2 to form a cup shaped member which has the lower edge thereof
90 inturned as shown in Figures 4 and 7.

The finished hermetic cap shown in Figures 3, 4, and 7, comprise a cover portion 4 with a depending skirt 5 which may be of

various conformations, preferably cylindrical and with a rounded lower edge 6, which comprises a supporting roll for curved spring fingers 7. A suitable gasket 8, where desired, may be used beneath the cover portion 4. Difficulty is usually experienced in attempting to roll metal forwardly, but in view of the fact that the spring fingers are relatively narrow and are separated by the notches 2 such difficulty is not encountered with the present cap. These spring fingers roll inwardly preferably until the free ends thereof rest against the inner wall of the skirt. This, then provides a spring portion extending from the inner ends 9 to the rounded lower edge 6, which spring portion acts as a bow or bridge between the rounded edge and the supply wall of the skirt. This rounded bow or bridge is resilient and is adapted to contact with a bead 10 on a suitable container so that the cap is locked in position on the container by means of the friction of the spring curved fingers 7. It will be observed that in view of the narrow character of these spring fingers they remain substantially straight in cross-section (see Fig. 6) and thereby are springy and resilient, and form tangent contacts with the finish.

The present cap forms a spring lock cap which is very little larger in diameter than the bead over which the cap sets so that this hermetic seal cap is well adapted for use under screw covers. Where screw covers B are utilized it may be desirable to provide the lower portion 11 of the screw cover as a larger size than the upper part 12 thereof and with the upper part 12 of such size as to substantially contact with the side walls of the skirt of the hermetic seal cap. Where this is done the screw cap tends to hold in the hermetic cap against the side of the finish on the glass. Ordinarily the side walls of the skirt 5 of the hermetic cap may be smooth, however, it may be desirable to knurl the side wall as at 14 as shown in Figure 4. Knurling either longitudinally or vertically, as shown, prevents a tendency of the screw cover to stick to the hermetic seal.

As will be observed from Figure 6, the spring fingers contact with the finish on the glass as substantially tangent contacts, thereby producing a number of tangential forces tending to securely hold the cap locked in position on the container.

Having thus described my invention, what I claim is:—

1. As an article of manufacture, a closure cap comprising a cover portion, a skirt depending from said cover portion, and a plurality of inturned spring fingers, said fingers being flat chordally of the skirt to tangentially engage the finish of a suitable container.

2. As an article of manufacture, a closure

cap comprising a cover portion, and a continuous skirt depending from said cover portion, said skirt having its lower edge inturned with the upwardly extending portions subdivided into a multiplicity of spring portions which are narrow relative to a quarter circumference of the skirt, whereby the finished cap has a continuous lower rounded edge with concealed upwardly extending spring portions adapted to slidably engage the skirt of the cap.

3. As an article of manufacture a closure cap comprising a cover portion; a skirt depending from said cover portion, said skirt having a smooth rolled edge; and a plurality of spring fingers on the interior of said skirt, said fingers being flat chordally of the skirt to cooperate tangentially with the finish of a suitable container.

4. As an article of manufacture, a closure cap comprising a cover portion, said skirt having a smooth rolled edge; and a plurality of spring fingers on the interior of said skirt one end of said fingers being free and in engagement with skirt, whereby the skirt supports the free ends of the fingers while allowing them to slide as the fingers yield upon engagement with the finish of a suitable container.

5. As an article of manufacture, a metallic closure cap comprising a cover portion; a skirt depending from said cover portion; a smooth rolled edge on said skirt; and a plurality of spring portions adapted to cooperate tangentially with the finish of a suitable container, each of said spring portions comprising a piece of metal integral with the edge of the cap and being flat chordally of the cap and arched vertically of the cap with a free end slidably engaging the interior wall of the skirt.

6. As an article of manufacture, a metallic closure cap comprising a cover portion; a skirt depending from said cover portion; a smooth rolled edge on said skirt; and a plurality of spring portions adapted to cooperate with the finish of a suitable container, each of said spring portions comprising a piece of metal integral with the edge of the cap and being flat chordally of the cap and arched vertically of the cap, whereby said spring portions are adapted to tangentially engage the finish of a suitable container and yield radially outward to obtain a resilient grip thereon.

7. As an article of manufacture, a metallic closure cap comprising a cover portion; a gasket on the interior of said cover portion; a skirt depending from said cover portion; a smooth rolled edge on said skirt; and a plurality of spring portions adapted to cooperate with the finish of a suitable container, each of said spring portions comprising a piece of metal integral with the edge of the cap and being flat chordally of the

cap and arched vertically of the cap with a free end slidably engaging the interior wall of the skirt.

8. The method of making a cap which comprises forming a circular blank with the edge slotted to leave a multiplicity of radially extending narrow portions, cupping the blank to form a depending skirt with the extending portions on the lower edge thereof, and turning the lower edge of the skirt in to form a smooth edge and to convert the extending portion into a multiplicity of narrow spring fingers adapted to cooperate with the finish of a container and to slidably engage the skirt of the cap.

9. The method of making a cap which comprises forming a circular blank with the edge slotted to leave a multiplicity of radially extending portions, cupping the blank to form a depending skirt with the extending portions on the lower edge thereof, and turning the lower edge of the skirt in until the slots are invisible from the exterior of the skirt to provide a multiplicity of upwardly extending spring portions having substantially flat surfaces for tangentially engaging the side wall of a container.

10. A closure cap having a cover portion, a depending skirt a rolled edge on the lower portion of said skirt, and a plurality

of spring fingers extending upwardly from said edge and slidably bearing against the inner wall of said skirt adjacent the upper portion thereof.

11. A closure cap having a cover portion, a depending skirt at substantially right angles to said cover portion, a rolled edge on the lower portion of said skirt, and a plurality of spring fingers extending upwardly from said edge and having separated free ends slidably bearing against the inner wall of said skirt adjacent the upper portion thereof.

12. A sheet metal closure cap comprising a skirt, a continuous annular band of metal intumed from the lower edge of said skirt and spaced therefrom, and a multiplicity of narrow spring fingers arched vertically upward from the inner edge of said intumed band of metal, said fingers being flat chordally of the skirt of the closure and having their free ends resting against and slidably supported by the inside of the skirt, whereby the fingers are adapted to tangentially engage the finish of a container and yieldingly grip it while the free ends of the fingers slide vertically on the interior of the skirt.

GEORGE RAMSEY.