Nov. 16, 1926. 1,606,804

A. PODEL

WIRE LUG CAP

Filed Oct. 4, 1923

Fig. 1.

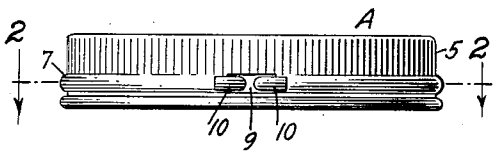


Fig. 2.

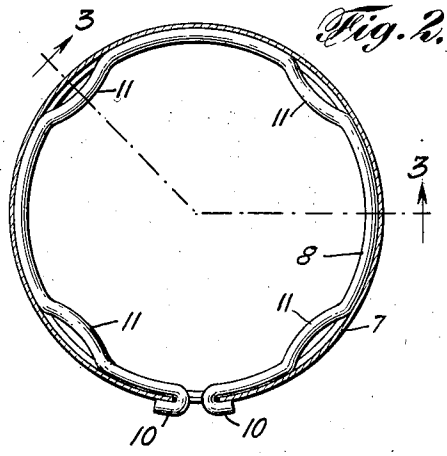


Fig. 3.

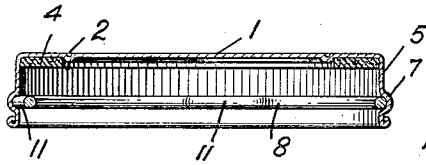


Fig. 4.

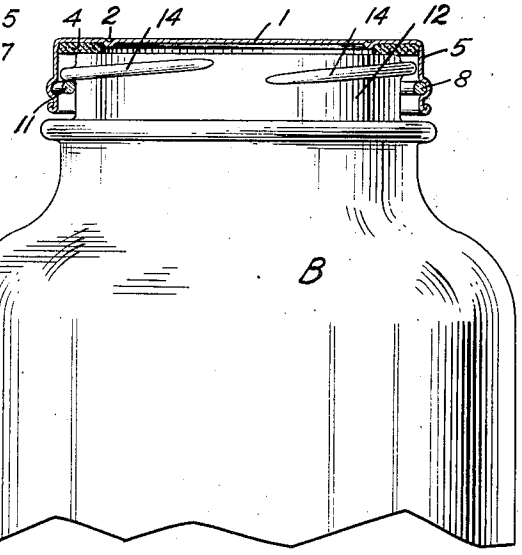
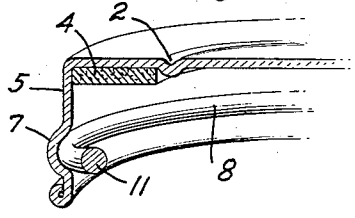


Fig. 5.



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WIRE-LUG CAP.

Application filed October 4, 1923. Serial No. 666,447.

This invention relates to packaging and more especially to a quick thread cap.

Heretofore in the art the most common type of quick threads or lugs on glass container, were usually deep indentations in the metal cap. Sometimes these indentations were made in the side or skirt of the cap and in other types of caps the indentations were formed in the lowermost finish of the cap on the curled edge thereof. These indentations in substantially all cases required a severe treatment of the metal forming the lugs and in substantially all cases destroyed the lacquer over the area in which the lugs were made, and in many cases caused a rupture in the side wall of the skirt of the cap by stretching the metal beyond its elastic limit.

The present invention overcomes the difficulties of the known prior art by producing a closure in which the quick thread lugs are formed by the introduction of a separate member into the cap. In the present form the separate member comprises a wire which is seated in a supporting member in the cap, and in the present cap the supporting member is an annular internal groove forming an annular bead on the exterior of the cap. This bead is arranged in the side wall of the cap and encloses a sufficient amount of the interlocking wire to securely attach the wire to the cap proper. While the wire may be secured to the cap in any satisfactory manner, it is shown in the present case as being interlocked with the cap by having terminal ends of the wire extend through an opening in the skirt of the cap with the ends bent back upon themselves to tightly engage the side walls of the opening. The wire is bent inwardly at suitable intervals to provide inwardly projecting lugs which are adapted to engage quick threads or lugs on the mouth of the container and thereby lock the cap in position on the container. It will be observed that the wire lugs are displaced slightly from the circular axis of the other portions of the wire so that these inwardly projecting portions are springy both in a radial direction and also in a direction substantially parallel to the skirt of the cap. The elasticity of the lugs in a radial direction permits the lugs to act as friction members against the side wall of the container and prevents the accidental unscrewing of the cap, while the elasticity in the direction of the skirt tends to operate as a spring to retain the cover portion of the cap securely seated against the glass of the container.

The principal object of the present invention is the production of a closure cap having a continuous skirt finished with a wire edge on the lower portion thereof and a separate member attached to the skirt and provided at suitable intervals with interlocking lugs.

Another object of the present invention is a closure cap formed of sheet material and provided with an interlocking lug wire arranged as an annular member within the skirt of the cap with the ends thereof extending through an opening in the skirt of the cap to interlock the cap and the wire.

Another object of the present invention is a closure cap formed of sheet metal and having the lower edge thereof finished with a rolled wire edge, a groove in the side wall of the cap and a lug wire ring fixedly mounted within the said groove.

A still further object of the present invention is a package comprising a glass container or the like having quick thread lugs arranged adjacent the mouth thereof in combination with a closure cap having spring retaining members on the interior of said cap adapted to engage the lugs on the container to normally force a closure portion of said cap against the end of the container.

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

It is recognized that the present invention may be embodied in structures other than those herein specifically disclosed, and it is therefore desired that the present disclosure shall be considered as illustrative but not in the limiting sense.

Figure 1 is an elevational view of a cap in accordance with the present invention.

Figure 2 is a sectional view on line 2—2 Figure 1.

Figure 3 is a sectional view on line 3—3 of Figure 2.

Figure 4 is a sectional view illustrating a closure cap in position on the mouth of a suitable container.

Figure 5 is an enlarged view of a por-

tion of a cap in accordance with the present invention.

The embodiment of the invention disclosed in the drawings comprises a closure cap A provided with a cover portion 1 which carries a circular groove 2 that forms a continuous bead on the interior of the cover that receives the ring gasket 4 that lies between the bead formed by the circular groove 2 and the side wall skirt 5. The skirt 5 is provided on its lower edge with a curl or wire edge finish which carries the raw edge of the metal inwardly and protects the same against rusting. The side wall of the skirt 5 is also provided with a relatively deep internal groove which forms an external bead 7. The internal groove comprises an annular trough in which the lug wire 8 is adapted to be received and retained. This lug wire 8 extends through an opening 9 in the side wall of the skirt and the ends 10 of the wire are tightly bent over and against the metal adjacent the opening 9. At suitable spaced apart intervals the lug wire is bent radially inwardly to form thread engaging lugs 11.

This cap is adapted to be seated upon a glass container B or the like, which is provided adjacent its upper end 12 with quick thread members 14, that are equal in number to the lugs formed on the lug wire 8. When the cap is placed in position on the end of the container, the gasket ring 4 rests against the end wall of the container mouth. When the cap is turned, the lugs 11 engage the helical threads 14 on the container and force the gasket 4 tightly in position against the end wall 12. The lugs are yielding somewhat setting up torsional stress in the wire due to the fact that the lug portions are bent outwardly from the circular axis of the remainder of the wire 8 and this spring action tends to hold the cap securely in position. The lugs are also springy in a radial direction and this permits the cap to be forced down over the mouth of the container which is slightly larger than the minimum normal diameter measured between opposite lugs. This produces a friction between the cap and the jar which tends to prevent the cap from unloosening when once tightly seated on the jar.

The present invention is simple in character and is adapted to be made by automatic machinery. At the same time it presents a cap which may be manufactured without substantial loss of sheet metal and wherein the operations and manufacture of the cap do not tend to destroy the lacquer where the lugs occur, nor to stretch the metal of the cap beyond its elastic limit.

Having thus described my invention, what I claim is:

1. A closure cap comprising a cover portion, a skirt depending from said cover portion, and a separate lug member carried by said skirt and above the lower edge of said skirt and adapted to yield torsionally when the closure is applied.

2. A closure cap comprising a cover portion, a skirt depending from said cover portion, and a separate lug member carried by said skirt and above the lower edge of said skirt and adapted to yield torsionally when the closure is applied, the lower edge of said skirt being provided with a wire edge.

3. As an article of manufacture a closure cap formed of sheet metal and comprising a cover portion, a skirt depending from said cover portion, said skirt being provided with an annular groove above the lower edge thereof, a lug carrying member supported by said groove and a gasket under a part of said cover portion, said lug carrying member being yielding in the direction of its length, and the lugs being yielding at right angles to the length of the member.

4. As an article of manufacture a container having a threaded cap engaging portion, in combination with a sheet metal cap member comprising a cover portion and a skirt portion, and means carried by said sheet metal cap member to engage said threads on the container said means comprising a wire with portions constructed to yield radially and in the direction of the length of the wire.

5. As an article of manufacture a container having a threaded portion, in combination a sheet metal cap member set on the threaded portion of the container and comprising a cover portion and a skirt portion, and means carried by said sheet metal cap member to engage said threads on the container, said means having torsionally yielding portions in engagement with the cap.

6. As an article of manufacture a container having a threaded portion, in combination a sheet metal cap member set on the threaded portions of the container and comprising a cover portion and a skirt portion, torsional spring means carried by said sheet metal cap member to engage said threads on the container said means comprising a wire with portions constructed to yield radially and in the direction of the length of the wire.

7. As an article of manufacture a closure cap comprising a sheet metal member forming a cover portion and a skirt portion, a lug wire carried by the skirt portion, and means to anchor said wire in said sheet metal member to permit said wire to act as a torsion spring to hold said cap securely in place on a suitable container.

8. As an article of manufacture a closure cap comprising a sheet metal member forming a cover portion and a skirt portion, a lug wire carried by the skirt portion and above the lower edge thereof, and means

to anchor the ends only of said wire in said sheet metal member to permit said wire to act as a torsion spring to hold said cap securely in place on a suitable container.

9. As an article of manufacture a closure cap comprising a sheet metal member forming a cover portion and a skirt portion, a gasket beneath the cover portion, a lug wire carried by the skirt portion and above the lower edge thereof, and means to anchor the ends only of said wire in said sheet metal member to permit the lugs on said wire to act as a torsion spring to hold said cap securely in place on a suitable container, and force the gasket against the end of the container.

10. As an article of manufacture; a closure cap comprising a cover portion; a skirt depending from said cover portion, said skirt being provided with an annular groove; and a member supported by said groove and adapted to be inserted therein after the groove has been formed, said member carrying screw lugs adapted to coact with threads on a suitable container.

11. As an article of manufacture; a closure cap comprising a cover portion; a skirt depending from said cover portion, said skirt being provided with an annular groove; and a member supported by said groove and having its ends extending through said skirt, said member being adapted to be inserted in said groove after the groove has been formed and carrying screw lugs adapted to coact with threads on a suitable container.

12. As an article of manufacture; a closure cap comprising a cover portion; a skirt depending from said cover portion, said skirt being provided with an annular groove; and a wire member supported by said groove and adapted to be inserted therein after the groove has been formed, said wire member carrying screw lugs adapted to coact with threads on a suitable container and having its ends inserted through the side wall of said cap and spaced apart to permit movement of the ends circumferentially of the cap.

13. As an article of manufacture; a closure cap comprising a cover portion; a skirt depending from said cover portion, said skirt being provided with an annular groove; and a quick-thread lug member supported by said groove, said lug member being adapted to be inserted in said groove after the groove has been formed and comprising arched lugs spaced at intervals about the circumference of the cap.

14. A container having a screw thread finish adjacent its mouth; in combination with a closure comprising a skirt and separate locking means attached to the skirt, said locking means comprising screw lugs which act resiliently radially of the closure and which are held radially displaced outwardly by contact with the side wall of the container, whereby the screw lugs may be rotated about the container in the formation of a package and frictionally engage the side walls thereof to oppose accidental reverse rotation.

15. A container having a screw thread finish adjacent its mouth; in combination with a closure comprising a skirt, and separate locking means attached to the skirt, said locking means comprising screw lugs formed by portions of wire arched inwardly and mounted to act resiliently in a radial direction, said lugs being held displaced radially outwardly by contact with the side wall of the container, whereby the screw lugs may be rotated about the container in the formation of a package and frictionally engage the side wall of the container to oppose accidental reverse rotation.

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