

Sept. 13, 1927.

L. R. N. CARVALHO

1,642,010

CLOSURE CAP

Filed March 8, 1926

Fig. 1.

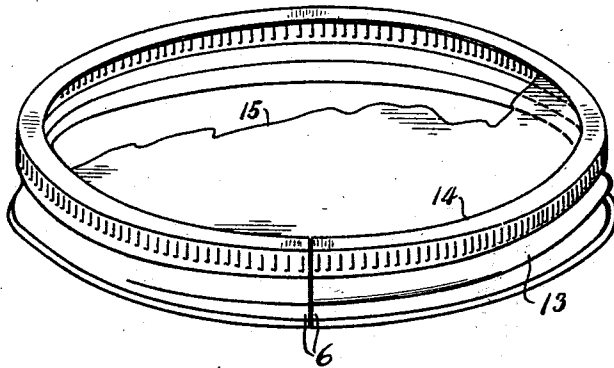


Fig. 2.

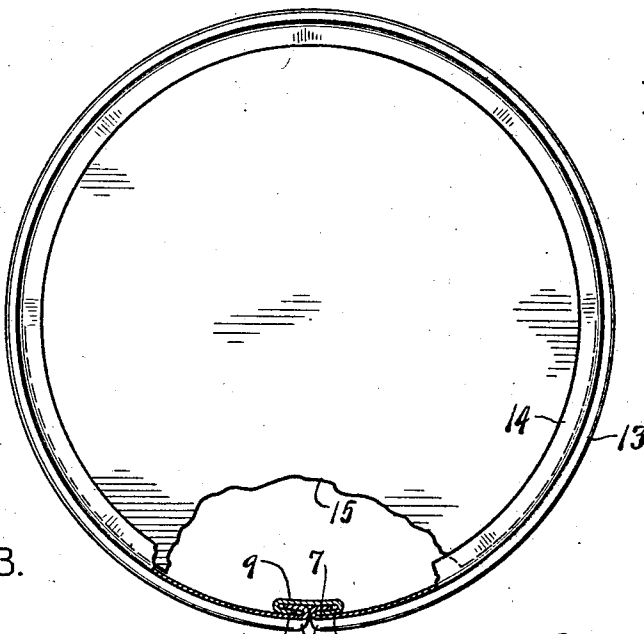
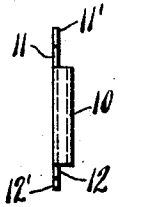


Fig. 5.

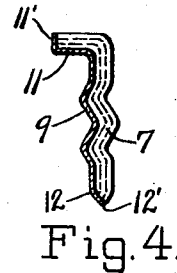


Fig. 4.

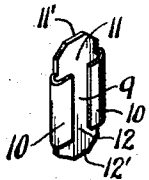


Fig. 3.

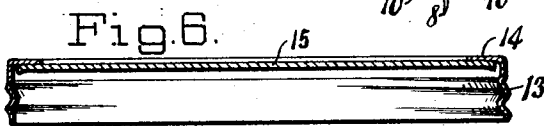


Fig. 6.

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UNITED STATES PATENT OFFICE.

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CLOSURE CAP.

Application filed March 8, 1926. Serial No. 93,063.

This invention relates to improvements in closure caps, and more particularly to the depending annular flange or band portion which retains a cover disk in engagement with the mouth of a container, the primary object being to so form this flange as to eliminate objectionable projections and other objectionable surface irregularities ordinarily found at the point of connection between the meeting ends of the band used in the formation of the flange.

Other objects will be in part obvious and in part pointed out hereinafter.

In the accompanying drawings forming a part of this application and illustrating the preferred embodiment of my invention:

Fig. 1 is a detailed perspective view of a screw cap flange, the closure disk being eliminated for the sake of clarity.

Fig. 2 is a top plan view with portions broken away and shown in section to disclose the joined ends.

Fig. 3 is a perspective view of the connector or clip employed in joining the adjacent ends of the flange.

Fig. 4 is a vertical transverse section of the cap flange.

Fig. 5 is a vertical edge view of the connector.

Fig. 6 is a vertical transverse sectional view of a screw type band and a closure disk associated therewith.

Screw cap flanges of ordinary construction are formed from a straight band of sheet metal which is bent to a ring-like formation, the ends of this band being then interlocked in such a manner that a shoulder or projection is formed upon the outer face at the point of union. Such shoulder or projection is highly objectionable for numerous obvious reasons, among which is the liability of injury to the hands of persons removing caps embodying flanges so formed. Through the construction herein disclosed, the above and other objections are entirely overcome, and an annular flange having a perfectly smooth reliable joint is provided.

In my improved construction, the band or attaching flange is formed from a strip of metal, as is customary, such strip having its meeting ends 6 bent or folded inwardly and substantially upon themselves to form a pair of opposed, transversely extending pockets 7 which are open at their opposite ends and have their closed sides disposed in abutment

as shown in Fig. 2. As a result of this folding or bending operation, I dispose for contact with the hands of the user, slightly rounded smooth surfaces 8, as shown in Fig. 2, thereby entirely eliminating possibility of injury in so far as irregular surface formation is concerned.

In order that the meeting ends of the band may be rigidly interconnected, I employ a connector or clip, including a substantially flat rectangular body 9 having parallel hooks or fingers 10 extending along longitudinally opposed edges and formed by bending portions inwardly toward each other and in proximity to the body 9. In this connection, it will be noted that these fingers 10 are of less length than the body portion 9 of the connector, and are adapted for insertion into the aforementioned pockets 7, such relative positioning being clearly shown in Fig. 2. The portions 11 and 12 of the body of the connector or clip which extend beyond the ends of the hooks or fingers 10, are adapted at this stage of manufacture to lie flat against the inner adjacent faces of the folded portion of the band.

With the formation of threads 13, and the annular closure disk retaining lip or flange 14, the connector or clip and the aforementioned extended portions 11 and 12, assume the shape shown in Fig. 4, wherein it will be noted that the extreme end portions 11' and 12' are snugly engaged over the opposed longitudinal edges of the band or flange, thereby presenting a continuous smooth surface and forming guards or shields for the ends of the folds, which otherwise would be exposed.

As in other types of screw caps or plain bands, the lip or flange 14 is adapted to seat and retain a closure disk 15 of any preferred form upon the mouth of a jar or like container.

Certain changes in minor structural details may be resorted to within the scope of the appended claims.

What I claim is:

1. In a closure construction of the character set forth, a transversely divided annular band, opposed pockets at the meeting ends of the band, and a connector rigidly securing the pockets together and arranged entirely upon the inner side of the band.

2. In a closure construction of the character set forth, a transversely divided annular

band, opposed pockets on the inner side of the meeting ends of the band, and a connector rigidly securing the pockets together and arranged entirely upon the inner side of the band.

3. In a closure construction of the character set forth, a transversely divided annular band, opposed pockets at the meeting ends of the band, and a connector having opposed fingers engaged in and securing the pockets together and arranged entirely upon the inner side of the band.

4. In a closure construction of the character set forth, a transversely divided annular band, opposed pockets on the inner side of the meeting ends of the band formed by bending the meeting ends in opposite directions, and a connector having opposed fingers engaged in the pockets and disposed upon the inner side of the band.

5. In a closure construction of the character set forth, a transversely divided annular band having its meeting end portions folded inwardly and substantially upon themselves to form a pair of opposed transversely extending pockets opening on the inner side of

the band, and a connector rigidly securing the pockets together.

6. In a closure construction of the character set forth, a transversely divided annular band having its meeting end portions folded inwardly and substantially upon themselves to form a pair of opposed transversely extending pockets opening on the inner side of the band, a connector, and opposed hook-like fingers formed on the connector for engagement in the pockets.

7. In a closure construction of the character set forth, a transversely divided annular band having a relatively wide body and an intumed disk retaining flange at one edge, opposed pockets extending transversely of the meeting ends of the body an opening on the inner side of the band, a connector having fingers engaged in said pockets, and portions at the ends of the connector being extended over the remote opposed edges of the body and flange.

Signed at Toledo, in the county of Lucas and State of Ohio, this 27 day of February, 1926.

LESLIE R. N. CARVALHO.