April 27, 1926. 1,582,429

A. PODEL

SCREW CAP

Filed Dec. 17, 1924

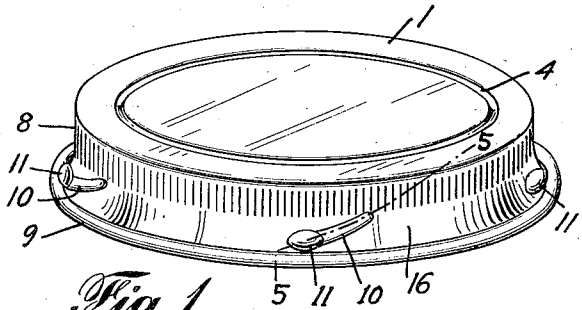


Fig. 1.

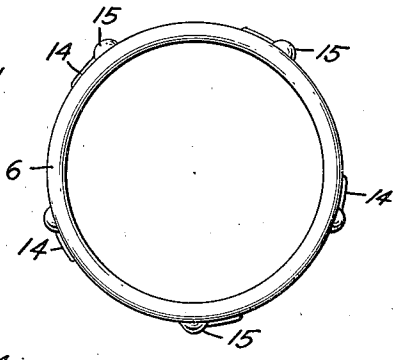


Fig. 4.

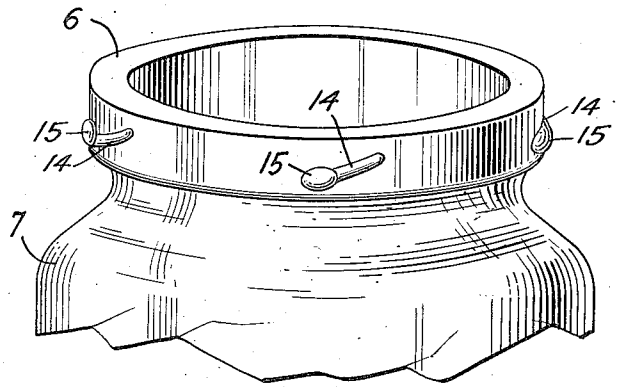


Fig. 2.

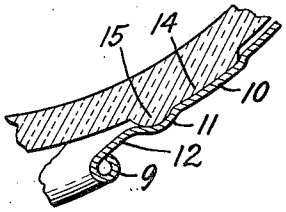


Fig. 5.

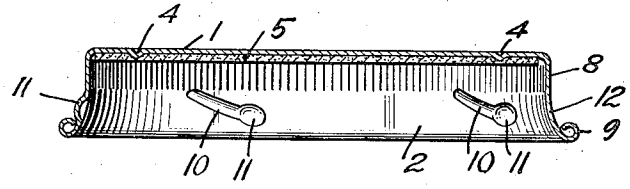


Fig. 3.

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UNITED STATES PATENT OFFICE.

ABRAHAM PODEL, OF LONG ISLAND CITY, NEW YORK, ASSIGNOR TO ANCHOR CAP & CLOSURE CORPORATION, OF LONG ISLAND CITY, NEW YORK, A CORPORATION OF NEW YORK.

SCREW CAP.

Application filed December 17, 1924. Serial No. 756,415.

To all whom it may concern:

Be it known that I, ABRAHAM PODEL, a citizen of the United States, residing at Long Island City, in the county of Queens, State of New York, have invented certain new and useful Improvements in Screw Caps, of which the following is a specification.

This invention relates broadly to closures and more especially to closures of the screw cap type having a quick thread.

Heretofore in the art of quick thread screw caps the most common type has been one wherein lugs were provided on the cap and recesses were provided on the closure finish. In this type of cap the lugs have necessarily comprised relatively small displacements of metal from the body of the cap and therefore have been more or less yielding so that when the cap was very tightly set there was a liability of the lugs yielding sufficiently to permit the cap to slip over the finish on the glass and thereby make an insecure seal. This has particularly been true where screw thread caps have been applied by machinery. It has also been common in the prior art to make quick thread caps wherein substantially the entire circumference of the cap skirt was screw threaded, thereby producing a configuration which did not lend itself well to ornamentation. Another difficulty which has been encountered with caps of the prior art of the quick thread type has been that the caps frequently loosen in transit and the seal is therefore ineffectual.

The present invention which overcomes the difficulties of the known prior art is a closure of the interrupted screw type or quick thread type in which the locking lugs are formed on the container and receptive grooves for the locking lugs are provided on the cap. The grooves and the lugs are each formed with suitable interlocking protuberances in such manner that additional resistance is provided against unscrewing the cap from its seat on the container. The formation of the lugs on the container provides a very strong construction and the provision of cylindrical portions in the side wall of the skirt of the cap provides sufficient resilience to effectually permit the cap and the jar to be interlocked.

In view of the foregoing the principal object of the present invention is a quick thread screw cap in which the locking projections are formed on the finish of the container, preferably on the side wall thereof, and the indentations or interlocking grooves are formed at intervals in the skirt of the cap.

A further object of the present invention is a screw thread cap of the character specified in which the displacements in the side wall of the cap are spaced apart in such manner as to provide resilient cylindrical areas between individual displacements.

A still further and important object of the present invention is a cap of the character specified in which a change in direction or depth of the sides of a portion of the locking members is provided in such manner as to retain the cap securely locked in position against accidental removal during handling or transportation.

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, throughout which like parts are indicated by like characters.

Realizing that the present invention may be embodied in constructions other than those herein specifically disclosed, it is desired that the disclosure herewith shall be understood as being illustrative and not in the limiting sense.

Figure 1 is a perspective view illustrating a prefered embodiment of the present invention;

Figure 2 is a perspective view illustrating a container mouth having a finish adapted to receive the cap illustrated in Figure 1.

Figure 3 is a sectional view of the cap shown in Figure 1;

Figure 4 is a plan view of the finish of the glass shown in Figure 2;

Figure 5 is a sectional view taken on the

line 5—5 to a groove on the cap and illustrates the locking engagement between the lug on the glass and the engaging groove on the cap.

Referring now to the drawings, the preferred embodiment of the present invention comprises a closure cap made of sheet material and provided with a cover portion 1 and a depending skirt 2 preferably of cylindrical formation. The cover portion may be provided with a bead or groove 4 which facilitates the bringing of a paper gasket 5 or the like into intimate sealing relation with the top finish 6 on the container 7. The upper portion of the side wall of the skirt may be knurled as at 8 and the lower portion of the resilient skirt, if desired, may be finished with a roll edge, which stiffens the skirt and makes it more resilient. In the cylindrical space of the skirt between the roll edge and the knurled portion suitable inclined grooves 10 are provided with the lower portion of the grooves being slightly enlarged and slightly deeper at the point 11. It is understood that in referring to these members as grooves reference is being made to the interior of the skirt, that is, the members 10 and 11 project outwardly on the exterior of the skirt thereby providing grooves on the interior of the skirt. The lower portion of the skirt of the cap adjacent the roller edge 9 is flared outwardly at 12 in order to provide sufficient clearance to permit the locking lugs 14 and the enlarged portion 15 to pass into locking engagement with the corresponding members 10 and 11 in the side wall of the skirt of the cap. By reference to Figure 5 it will appear that when the cap is fully seated on the glass side wall the portion 11 receives the protuberances 15 on the glass and thereby interlocks the cap and the glass against the spiral movement necessary to unlock the cap from the container. The side wall portion 16 of the cap provides a sufficient resilience to permit a yielding of the cap so that there is a spring action between the interlocking members to cause a yielding locking engagement.

Having thus described my invention, what I claim is:

1. A closure cap comprising a cover portion, a skirt depending from said cover portion, inclined locking grooves pressed in said skirt portion, an enlargement in a portion of each of said grooves, said grooves and said enlargements being adapted to cooperate simultaneously with projections formed upon the finish of a suitable container to hold the cap in place thereon.

2. A closure cap comprising a cover portion, a substantially cylindrical skirt depending from said cover portion, inclined guiding grooves pressed in said skirt portion, an enlargement in the lower portion of each of said grooves, said grooves and said enlargements being adapted to cooperate simultaneously with projections formed upon the finish of a suitable container to hold the cap in place thereon.

3. A closure cap comprising a cover portion, a resilient skirt depending from said cover portion, inclined locking grooves pressed in said skirt portion, an enlargement in a portion of each of said grooves, said grooves and said enlargements being adapted to be forced over and cooperate simultaneously with projections formed upon the finish of a suitable container to permit the resilience of the skirt to hold the cap in place on the container.

4. A closure cap comprising a cover portion, a skirt depending from the cover portion, a plurality of inclined locking grooves in the skirt, said grooves having deepened portions adapted to snap over a complementary formed projection on a suitable container to lock the cap in place.

5. A closure cap comprising a cover portion, a cylindrical skirt depending from the cover portion, a plurality of inclined guiding grooves in the skirt, said grooves having off-set portions adapted to snap over complementary formed projections on a suitable container to lock the cap in place.

6. In a closure cap, a skirt having an outwardly flared portion, outwardly pressed inclined locking grooves located above said flared portion, and an enlargement at the lower end of each of said grooves, said grooves and enlargements being adapted to cooperate with projections of complementary form on a suitable container.

7. In a closure cap, a skirt comprising outwardly pressed locking recesses shaped to rotatively cooperate with suitable projections on a container to seat the cap and then take a snap-on hold on the container projections.

8. A package comprising a container provided with locking projections; in combination with a closure comprising a skirt provided with outwardly pressed locking recesses, said projections and recesses being shaped to act as screw threads to seat the cap and then snap into interlocking engagement.

9. A package comprising a container having a finish provided with locking projections; in combination with a closure comprising a skirt provided with a wire edge and outwardly pressed locking recesses, said projections and recesses being shaped to act as screw threads to seat the cap and then be snapped into interlocking engagement by the resiliency of the skirt and wire edge.

10. A package comprising a container having a substantially cylindrical finish provided with downwardly inclined screw pro-

jections terminating in enlarged protuberances at their lower ends; in combination with a closure having a skirt flared outwardly at its lower edge, said skirt comprising a wire edge, corrugations in its upper portion, and downwarly inclined locking recesses merging into enlargements at their lower ends, whereby the recesses of the skirt coact with the projections of the container as screw threads and the enlargements engage the container protuberances with a snap-on action when the closure is seated on the container.

ABRAHAM PODEL.