No. 714,719. Patented Dec. 2, 1902.

J. M. LONG, JR.

CLOSURE FOR JARS.

(Application filed Mar. 24, 1902.)

(No Model.)

Fig. 1.

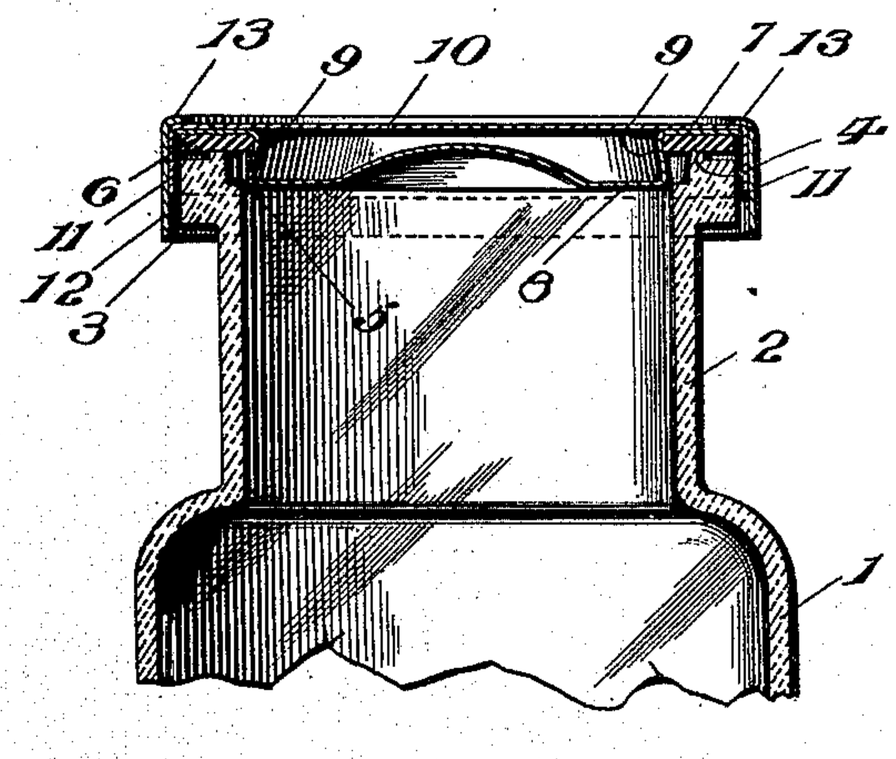


Fig. 3.

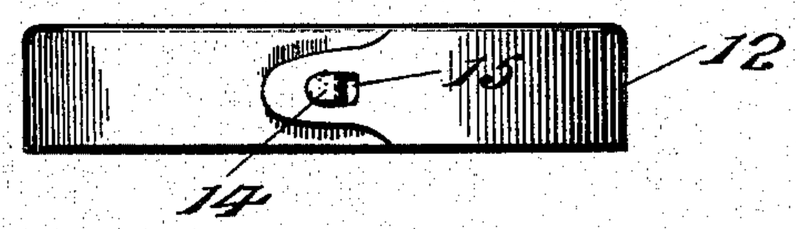
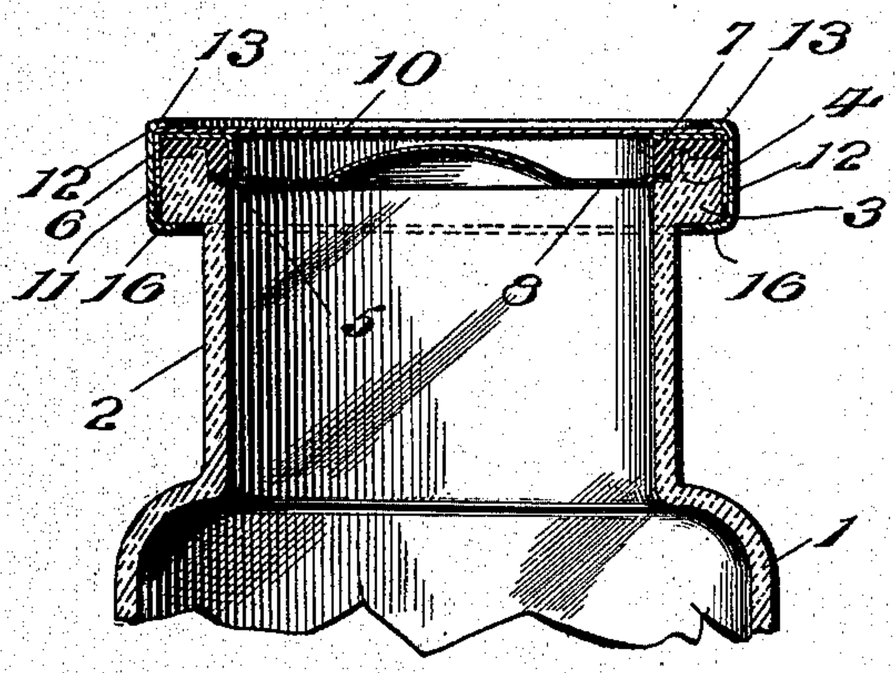


Fig. 2.



Witnesses

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JAMES M. LONG, JR., OF SAN FRANCISCO, CALIFORNIA.

CLOSURE FOR JARS.

SPECIFICATION forming part of Letters Patent No. 714,719, dated December 2, 1902.

Application filed March 24, 1902. Serial No. 99,737. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. LONG, Jr., a resident of San Francisco, California, have invented a new and useful Improvement in Closures for Jars, which invention is fully set forth in the following specification.

This invention relates to closures for jars and similar vessels, and has for its object to provide a closure which can be readily and cheaply applied, so as to effectually seal the vessel air-tight without the employment of glass or other frangible material in the closing device.

Heretofore it has been proposed to employ a tin cap having a depending flange surrounding the outer wall of the mouth of the jar, with a suitable packing between the cap and upper edge or rim of the jar, together with a clamping-ring which engages the top of the cap and is crimped under a projecting shoulder on the jar while under pressure. This is objectionable, because a sheet of packing covering the entire mouth of the jar has to be employed, for if a packing-ring is used it is liable to flow or become misplaced under the pressure, whereby a perfect sealing is not secured. It has also been proposed to place a packing-ring on the upper surface of the walls of the jar's mouth, covered with a plate having a depressed central portion entering the mouth of the jar and serving to confine the packing-ring so it may not flow or be displaced inward by the pressure, the whole being held in place by a clamping-ring crimped under the outer shoulder on the jar and acting to prevent the displacemet of the packing outward. In this instance the tin plate has to be quite heavy and with many kinds of fruits and packed materials has to be protected by means of paraffin paper or other similar devices to prevent injurious action of the acid on the tin. Moreover, the depressed top plate does not present an attractive appearance nor a suitable surface for labeling, &c. With a view to overcoming these difficulties and objections my invention consists of a jar having, preferably, a slightly-raised annular ridge on the upper surface of the neck or mouth, an inwardly-projecting annular shoulder within the mouth and slightly below the upper surface thereof, and also having an outer shoulder or flange in combination with a top plate, preferably of aluminium, having a depressed central portion surrounded with a suitable annular packing, as rubber, which rests upon the top surface of the mouth of the jar, the whole being covered with a plain cap or cover having a depending flange, which extends around the outer walls of the neck of the jar, but not below the outer shoulder thereon, the whole being surrounded by a clamping-ring with detachable ends, said ring having an inwardly-extending flange which engages the cover and having its lower edge crimped under pressure beneath the outer shoulder on the jar.

The invention will be best understood by referring to the accompanying drawings, in which—

Figure 1 is a transverse sectional view of the parts in position, but before pressure has been applied and the outer clamping-ring crimped under the shoulder. Fig. 2 is a similar view with the ring crimped under pressure. Fig. 3 is a side elevation of the crimping-ring.

Referring to the drawings, 1 is a jar of any suitable material, as glass, the top of whose neck 2 is provided with an annular exterior flange or shoulder 3, on the upper surface of which a raised ridge 4 is preferably formed, though said surface may be plane or corrugated, if desired. In the most approved construction a shoulder 5 is formed in the interior of the mouth of the jar. A packing-ring 6, of any suitable material, preferably rubber, is placed on the upper surface of the neck of the jar, the width of the band being such as to extend from the exterior edge of the neck to a point approximately even with the interior surface of the neck below the interior shoulder. Over this ring 6 a metallic plate, preferably of aluminium, is placed, the diameter of the plate being equal to the exterior diameter of the ring, and the central portion of the plate being depressed so as to extend within the ring and the mouth of the jar, the diameter of the depressed portion 8 being equal to the interior diameter of the ring 6, and the walls of the depressed portion being preferably slightly undercut, as shown at 9, Fig. 1, so as to retain the ring in position on the plate when the latter is handled. Over the metallic plate 8 is placed a cap 10, having a smooth or plane upper surface and a

depending flange 11, which snugly fits around the outer walls of the mouth of the jar, but which does not extend down as low as the shoulder 3. Surrounding this cap 10 is a clamping-ring 12, provided with an inwardly-projecting rim or shoulder 13, which extends over the upper edge of the cap 10, while the lower edge extends down below the shoulder 3. This clamping ring or band 12 has separate ends, provided with suitable means for connecting and disconnecting such ends, such means being in the present instance in the form of a tongue 14 and slot 15, as clearly shown in Fig. 3. This band or ring 12 is drawn around the outside of the depending flange 11 of the cap 10, with its inwardly-projecting shoulder 13 overlapping the top of the cap 10, all as shown in Fig. 1, after which great pressure is brought to bear on the top of the whole structure, compressing the packing-ring 6 between the plate 8 and the upper surface of the mouth of the jar, and while thus held under pressure the lower edge 16, Fig. 2, of the band 12 is crimped under the shoulder 3, thus securely sealing the jar and at the same time leaving it so it can be readily opened by bending back the tongue 14 and seizing the end and ripping the band off.

When the pressure is exerted upon the closure, the rubber packing-ring 6 cannot shift or slide from its proper position, because it is retained on the outside by the flange 11 of the cap 10 and on the inside by the shoulder formed by the depressed portion of the plate 8. The result is that the packing is held in position, so that it is forced down over the ridge 4 and the inner portion of the ring is crowded down into the space between the shoulder 5 and the plate 8. When the plate 8 is of aluminium, it serves the further function of protecting the cap 10, which is usually made of tin, from the injurious action of the acids in the fruit, thereby rendering the use of paraffin paper or like substances unnecessary. As aluminium is much more expensive than tin, it is desirable to make the plate 8 very light, and this I am enabled to do by employing the heavier cap 10, which effectually protects the plate 8 from external injury and affords the smooth plane surface requisite for ornamental labeling.

Having thus described my invention, what I claim is—

1. The combination of a jar having an exterior circumferential shoulder near its mouth, with an annular packing-ring resting on the upper surface of the mouth of the jar, a metallic plate resting upon the said packing-ring and having a central portion depressed within the ring, a plane-surfaced cap over the said ring and plate and having a depending flange inclosing the ring and plate, and a clamping-band surrounding said cap and provided with a shoulder overlying the edge of the cap and having the lower edge crimped under the said exterior shoulder on the jar.

2. The combination of a jar having an exterior circumferential shoulder near its mouth, an annular ridge on the upper surface of the mouth of the jar, and an interior shoulder of less diameter than the mouth of the jar above the shoulder, with a packing-ring resting on said ridge and extending over said interior shoulder, a metallic plate resting on said packing-ring and provided with a depressed central portion whose diameter equals the interior diameter of the ring, a metallic cap provided with a depending flange, said cap and flange resting over and inclosing the packing-ring and plate, and a clamping-band surrounding said cap and provided with a shoulder overlying the edge of the cap and having its lower edge crimped under the said exterior shoulder on the jar.

3. The combination of a jar having an exterior circumferential shoulder near its mouth, an annular ridge on the upper surface of the mouth of the jar, and an interior shoulder of less diameter than is the mouth of the jar above the shoulder, with a packing-ring resting on said ridge and extending over said interior shoulder, an aluminium plate whose diameter equals the external diameter of the packing-ring upon which it rests, said plate having a depressed central portion of a diameter equal to the internal diameter of the packing-ring, a metallic cap provided with a depending flange adapted to cover and inclose the jar's mouth the packing-ring and aluminium plate, and a clamping-band surrounding said cap and provided with a shoulder overlying the edge of the cap and having its lower edge crimped under the said exterior shoulder on the jar.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES M. LONG, JR.

Witnesses:
H. C. LONG,
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