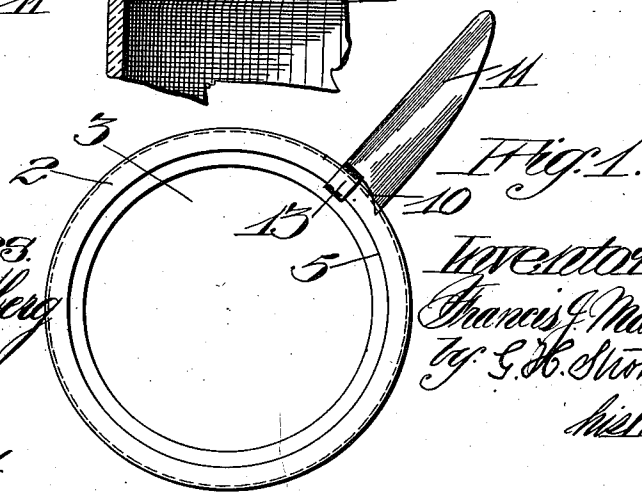
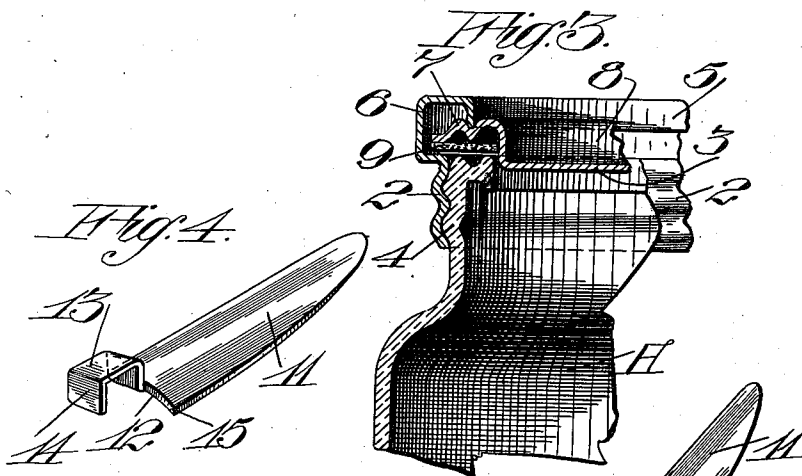
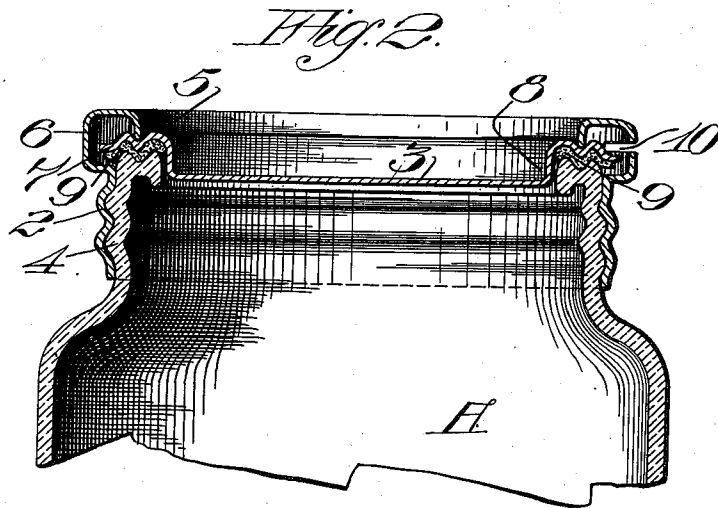


F. J. MACKIN.
 JAR CLOSURE.
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1,010,285.

Patented Nov. 28, 1911.



Witnesses:
Chas. Kashberg

J. E. Maynard

Inventor:
Francis J. Mackin
by E. H. Strong
Att'y

UNITED STATES PATENT OFFICE.

FRANCIS J. MACKIN, OF SAN FRANCISCO, CALIFORNIA.

JAR-CLOSURE.

1,010,285.

Specification of Letters Patent. Patented Nov. 28, 1911.

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To all whom it may concern:

Be it known that I, FRANCIS J. MACKIN, citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Jar-Closures, of which the following is a specification.

This invention relates to jar closures.

The object of this invention is to provide a jar closure of such design and construction that the cover of a jar can be removed with facility; to provide in combination a two-part jar closure and means coöperative with the closure to render the opening of a jar simple and safe; and to provide a jar closure provided with a vent opening for the admission of air into the jar as the cap of the closure is lifted vertically from the jar.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings in which—

Figure 1 is a plan view of the closure and the opening tool. Fig. 2 is a vertical transverse section through the jar and closure. Fig. 3 is a sectional detail of a portion of the jar with the closure elevated slightly above the jar. Fig. 4 is a perspective view of the closure opening tool.

It is desirable to provide a jar closure wherein provision is made to render safe and easy the opening of a sealed jar. It is well-known that after a jar, indicated in the drawings at A, has been filled with material in a heated state and the cover or closure applied to the jar the cooling of the material on the jar results in a vacuum beneath the cover so that considerable difficulty is encountered in opening the jars when ordinary sealing closures are employed.

In order to accomplish the purposes of this invention I construct a closure of two coöperative members, as a screw ring 2 and a cap or plate 3; the former of which is adapted to be screwed down over threads 4 formed upon one end of the jar A and has an inwardly turned flange 5 between which, and the ring or thread portion 2, is formed a concavo-convex bead 6, the interior diameter of which is somewhat larger than the diameter of the ring portion 2. Into the concavity or bead 6 of the ring 2 there is adapted to be fitted an annular flange 7

formed upon a band or cylindrical wall portion 8 of the closure cap 3; the relative planes of the flange 7 and the disk or cap 3 being sufficiently distant so that the wall 8 slightly enters the upper open end of the jar A so as to entirely embrace the top of the jar between the body 2 of the ring and the cylindrical wall 8.

Before the assembled closure is placed over the jar A a suitable gasket or packing ring 9 is placed against the under side of the flange 7 so that when the closure is screwed into position on the jar A the latter will be hermetically sealed by the gasket 9.

When the closure is being screwed down upon the jar A and the gasket 9 seated upon the edge of the jar, the frictional contact of the gasket and jar will prevent the gasket from further circular movement, and as the flange 5 of the ring 2 bears down upon the flange 7 of the cap 3 the cap will be prevented from further rotation by frictional engagement with the gasket 9 while the ring 2 may continue to move circularly around the jar.

In order to render the opening of the jar A comparatively easy, at some suitable point in the bead 6 of the ring 2 there may be a perforation, here shown as in the form of an elongated slot 10, which occupies a position substantially level with that of the gasket 9 when the closure is screwed down tightly. This perforation 10 has the function of providing a purchase place for a tool represented at 11 designed to coöperate with the closure ring 2 for vertically lifting the cover 3 from its frictional engagement with the gasket 9 to permit the passage of air from the vent into the jar.

The tool 11 has a body or handle portion, the inner end of which is concaved, as at 12, in an arc of a radius corresponding approximately to that of the bead 6, and also has formed upon it a hook 13, the point 14 of which is adapted to be hooked upon the inner edge of the flange 5 of the ring and the tool 11 bodily moved until its point 15 will engage an end of the opening 10. After such engagement of the tool with the bead of the ring if the handle be turned to the right the hook point 15 will engage the flange 5, while the shoulder will be supported against the end of the vent 10, thus transmitting power to the ring 2 and unscrewing it from the jar A. As the ring 2 unscrews from the jar the pressure upon the

cover 3 and its frictional contact with the gasket 9 at flange 7 will prevent the cover from turning.

While the ring 2 is being sufficiently turned to unscrew it from the jar A, its bead 6 will engage the lower edge of the cap flange 7 and forcibly vertically elevate the cover 3 from the gasket 9, at which instant air may circulate through the opening into the jar after which the jar closure can be readily removed by hand without the use of the tool 11.

As hereinbefore stated, the extreme diameter of the flange 7 of the cap 3 is such that it will expand into the bead 6 so that thereafter the two parts will be inter-engaged and allow sufficient free and independent movement of each other so that the ring 2 can continue to turn after the flange 7 has been brought into frictional engagement great enough to prevent the rotation of the cap 3, thus insuring the perfect flat engagement of the gasket 9 upon the edge of the jar A and absolutely relieving the gasket of the twisting effect when it lies in immediate contact with the revolving surfaces of a cover of ordinary construction.

It will be understood that the opening 10, or an equivalent therefor, is especially designed as a means of engagement for the opening tool, and when the cap and gasket are lifted and disengaged, air will be ad-

mitted between the periphery of the cap and the ring to destroy the vacuum and allow the cap to be removed. This wrench is only intended to open the jar, but will not close the jar because if the cap is screwed too tight, it will strain the cap and prevent proper sealing.

Having thus described my invention what I claim and desire to secure by Letters Patent is—

A jar having a molded screw-threaded neck, a cap plate fitting within the neck having an upturned ring and a horizontal annular flange extending across the top of the jar neck and beyond its outer periphery, a screw ring fitting the threads of the neck, said ring having an annular hollow bead at the top substantially rectangular in cross section, and of larger diameter than the neck and with the inner edge adapted to press upon the flange of the cap plate in line with the neck, and the outer shoulder of the bead adapted to engage the flange of the cap plate and lift said plate when the ring is unscrewed.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANCIS J. MACKIN.

Witnesses:

JAS. W. DOHERTY,
H. F. DOHERTY.