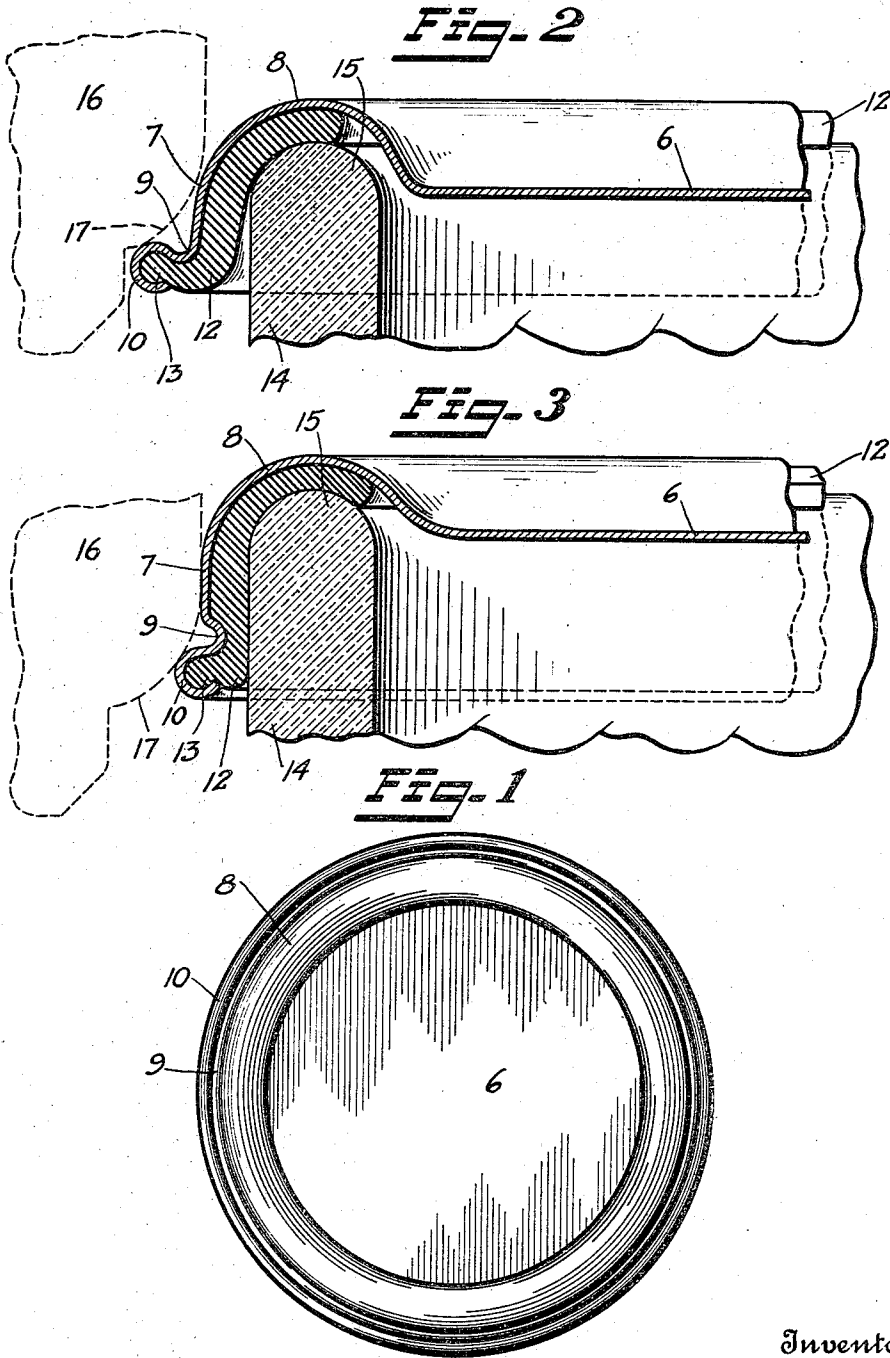


C. HAMMER.
JAR CLOSURE.
APPLICATION FILED NOV. 10, 1916.

1,244,495.

Patented Oct. 30, 1917.



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By his Attorney
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JAR-CLOSURE.

1,244,495.

Specification of Letters Patent.

Patented Oct. 30, 1917.

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To all whom it may concern:

Be it known that I, CHARLES HAMMER, a citizen of the United States, residing at Queens, in the county of Queens and State of New York, have invented certain new and useful Improvements in Jar-Closures, of which the following is a specification.

This invention relates to the covers or closures for jars, wherein it is necessary to provide a type of hermetic seal of the closure on the top of the jar, to effectually prevent entrance of the air, as well as to retain the contents of the vessel.

The object of the present invention is to provide a closure that will be securely retained on a jar top that has a substantially straight outer wall, and is not provided with a sealing groove; and wherein a compressible washer of non-metallic material, such as a composition of the nature of rubber, will be strongly compressed between the closure and the jar wall, but without engagement of the closure with the jar.

A further object is to provide such a form of closure that will be secured on the jar by the application of downward pressure on the projecting lower portion of the closure that will produce an inwardly projecting annular portion to strongly compress the washer against the jar.

In the accompanying drawing illustrating one embodiment of my invention, Figure 1 is a top or plan view. Fig. 2 shows in vertical section, the closure as applied to the top of a jar; and Fig. 3 is a partial enlarged view of the closure on the jar.

The closure or cap is preferably made of thin reformable sheet metal, and comprises a top central portion 6, preferably flat, that is provided with a flange portion 7 extending downwardly in a slightly divergent conical form; the flange being connected with the central portion 6 by an arch portion 8. The flange is bent abruptly outward and upward to form an upwardly facing channel portion 9. The flange is then bent or rolled downwardly and inwardly to form a bead 10 as shown, which bead is substantially circular in cross section and connected with the divergent conical portion 7 by the abrupt bend 9 as clearly set forth in Fig. 2.

A washer is placed inside of the flange portion of the closure and is preferably held therein by the bead. As shown, I provide a comparatively thin and flat ring washer 12

of compressible sealing material, preferably in the nature of a rubber composition. This washer engages the inner wall of the flange portion 7, and has its lower edge 13 secured inside of the bead 10 as indicated in Fig. 2 whereby the washer is retained in proper sealing position in the closure. The washer is preferably extended upward a short distance beyond the conical portion 7 against the arch portion 8 of the closure, as shown in Fig. 2.

The closure and washer are constructed of such dimensions relative to the jar top that when placed on top of the jar, its upper rounded edge 15 will engage the washer on the inner wall of its upper portion, as indicated in Fig. 2. In the application of the closure it is preferably secured by the use of a head or chuck of annular form, as indicated at 16 in Fig. 2. This chuck member is moved vertically downward relative to the closure and jar, and its curved face 17 will first engage the upper portion of the bead 10, that will deflect the bead downwardly and inwardly. This will draw the lower portion of the conical flange 7 inward toward the jar wall, and will cause the abrupt bend 9 to project horizontally inward as indicated at 17 in Fig. 3. The upper portion of the curve 17 will engage the flange wall 7 at the latter part of the bending operation and deflect it inwardly, as shown in Fig. 3. This will strongly compress the washer 12 and the bend 9 will project into the washer. The downward pressure will also compress the upper part of the washer and slightly compress it between the top edge 15 of the jar, and the arch portion 8 of the closure, as shown in Fig. 3.

By this arrangement it will be understood that a very tight and strong seal is provided by the compression of the washer from the inwardly projecting bent portion 9. The washer will extend some distance below this bend, and will have its lower portion between the edge of the bead and the jar, and will thus practically protect or cover the metal edge of the bead that is not closed by reason of its holding the washer. The outer wall of the jar top 14 is shown as substantially cylindrical but obviously it might have a slight conical taper, either upwardly or downwardly, yet constitute what is a straight-walled jar top. This term is used to distinguish from said jar or bottle tops

that are provided with an annular curve in their outer wall to receive and retain the closure. The present invention is perfectly adapted for use with a substantially straight-walled jar top. Since the metal portion of the closure does not engage the jar, the cap can be removed by inserting a sharp tool into the washer to pry it off. By reason of the yielding nature of the composition washer, and the metal of the closure not engaging the jar wall, considerable variation in size of the jar can be accommodated, as well as unevenness or flaws in such wall, as the composition will be forced into the same and form a hermetic seal.

Having thus described my invention, what I claim is:—

1. The combination of a jar closure of thin reformable sheet metal composed of a top and an annular side flange of slightly divergent conical form, the flange being abruptly bent outward and upward, and then bent downward and inward into the form of a roll or bead that adjoins said abrupt bend, and a comparatively thin and flat ring washer of compressible sealing material having the lower edge secured in said bead and which extends inward and upward in contact with the inner face of the flange, whereby the insertion into the closure of the jar top with merely downward pressure on the bead portion, will cause the bead

to be forced downward and inward and the abrupt bend connecting the bead will be caused to project inwardly beyond the flange, to compress the washer strongly against the side of the jar.

2. The combination with a jar having a substantially straight walled top portion with a rounded edge, of a jar closure of thin reformable sheet metal composed of a top and an annular side flange of slightly divergent conical form that connects with the top by an arched portion adapted to co-act with the rounded top of a jar, the flange being abruptly bent outward and upward and then bent downward and inward into the form of a roll or bead that adjoins said abrupt bend, and a comparatively thin and flat ring washer of compressible sealing material having the lower edge secured in said bead and which extends inward and upward in contact with the inner face of the flange, whereby the insertion into the closure of the jar top with merely downward pressure on the projecting bead portion, will cause the bead to be forced downward and inward, and the abrupt bend connecting the bead and flange will be caused to project inwardly beyond the flange, to compress the washer strongly against the side and the arched top of the jar.

CHARLES HAMMER.