C. HAMMER.

CHUCK FOR JAR CLOSURES.

APPLICATION FILED MAY 1, 1916.

1,244,494. Patented Oct. 30, 1917.

Fig. 1

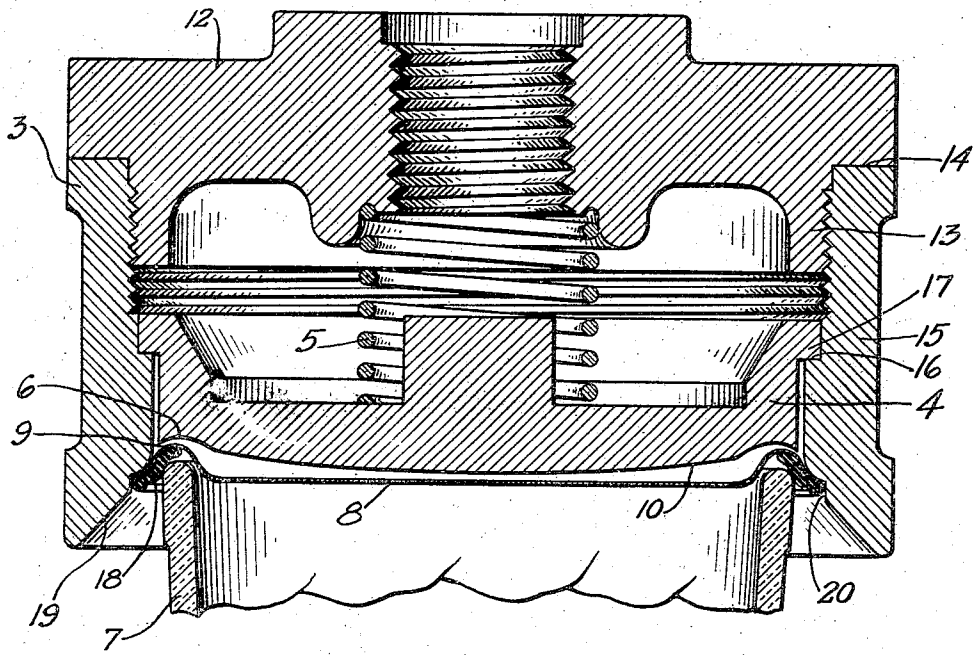
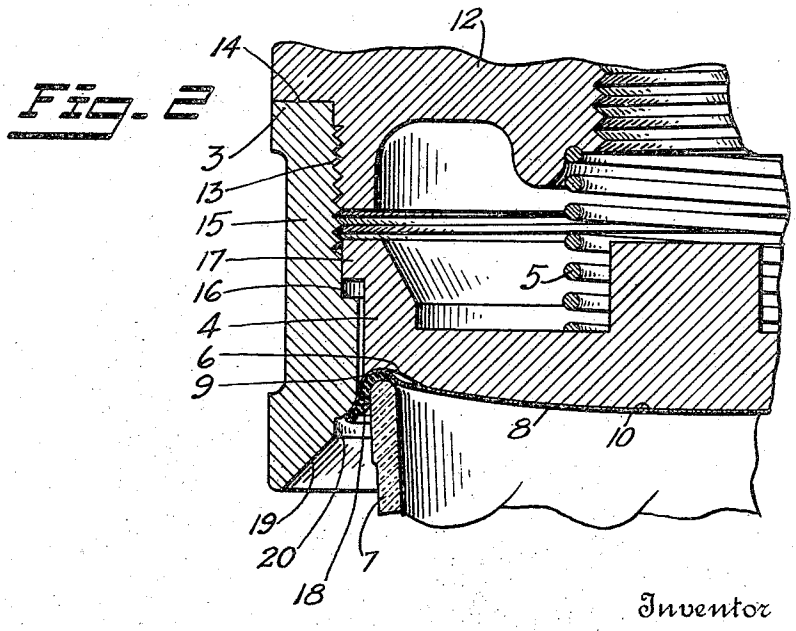



Fig. 2




Inventor

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By his Attorney

William A. Reid.

# UNITED STATES PATENT OFFICE.

CHARLES HAMMER, OF QUEENS, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO AMERICAN METAL CAP CO., OF BROOKLYN, NEW YORK.

## CHUCK FOR JAR-CLOSURES.

1,244,494. Specification of Letters Patent. Patented Oct. 30, 1917.

Application filed May 1, 1916. Serial No. 94,803.

*To all whom it may concern:*

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

The object of the present invention is to provide a form of chuck for sealing or securing a sheet metal cap or cover to a jar wherein the cap is caused to bind securely on the upper edge of the jar, and at the same time the cap at the portion intermediate of the jar portion is caused to reform, whereby the material at such intermediate portion is in a manner caused to expand or flow outwardly to increase the area of the flange portion that is drawn downwardly around the outer edge of the jar.

In the accompanying drawing illustrating one embodiment of my invention, Figure 1 is a vertical axial section through the chuck, and the upper portion of the jar with a closure thereon, at the first stage of the operation; and Fig. 2 is a fragmentary similar view at the conclusion of the sealing operation.

As shown I provide a chuck comprising essentially two members; a body denoted generally by 3, in which slides a plunger 4, that is pressed downwardly in the body by a coil spring 5, permitting the plunger to yield upward in the sealing operation.

The lower edge of the body is made converging upwardly to engage the flange of the cap, and force it both downwardly and inwardly against the jar. The plunger 4 is provided with an annular recess or groove 6 on its lower face at the margins, and such portion, when the chuck is applied to the jar 7 having a cap 8 placed thereon, will engage the upwardly projecting flange portion 9 of the cap. The lower face of the plunger intermediate of the groove 6 is made comparatively shallow to permit the closure 8, that as shown is flat between the upwardly extending grooved portion 6, to move upwardly at the outer portion. In the form shown the lower face 10 of the plunger between the groove 6 is made convex and very shallow. This will leave considerable space at the outer portions of the flat top of the closure 8 for flowing or expansion of the metal.

In the particular arrangement set forth I form a body member of a head 12 provided with a screw-threaded portion 13 extending from the shoulder 14; and a sleeve 15 is internally screw-threaded to engage the threads 13 to form the flanged or cylindrical portion of the body; which sleeve is screwed up to engage the shoulder 14 and preferably locked in this position. The sleeve portion 15 is provided with an intermediate shoulder 16, that is annular and is engaged by a flange 17 on the plunger, by the action of the spring 5. It will be understood that the plunger fits snugly in the sleeve portion 15, and is placed therein before the sleeve is secured to the head 12. When the members are brought together as shown, the spring will normally hold the plunger seated on the shoulder 16, and permit the plunger to move upwardly in the head for a short distance.

The cap 8 is shown as having its flanged portion 9 extending outwardly and downwardly, in which is placed a washer 18 of suitable composition, that is compressible to form an air-tight joint.

The lower edge of the sleeve portion 15 has an inclined wall 19, which as shown is provided with a reëntrant portion or groove 20, above which the lower edge of the sleeve may be rounded off as shown.

When the cap is applied to the jar, the chuck is brought down thereon, and the reëntrant portion 20 will engage the outer edge of the flange and serve to center the cap in the chuck. Pressure being applied downwardly to the chuck, the plunger will engage the uppermost portion of the closure by the groove 6, while the inner portion of the lower edge of the sleeve 15 will engage the projecting flange and force it downwardly and at the same time inwardly. The space between the convex lower face of the plunger, and the flat portion of the cap will permit the metal of the cap to flow outwardly at the outer portions, and as the chuck is brought down, the plunger will recede into the body as indicated in Fig. 2, while the sleeve portion 15 will engage the outer flange and force the metal downwardly and inwardly. This will also serve to compress the washer 18 that will fill the space between the upper rounded edge of the jar and the adjacent portion of the cap, as indicated in Fig. 2. The washer may be held in place by the bead on the outer edge of the cap.

It will thus be seen that the plunger permits the cap to reform, and the material thereof inside of the flange portion will flow outwardly and downwardly to properly engage the edge and the outer face of the jar. It will be understood that the reforming of the flange of the cap is done by the walls of the sleeve 15, and that the plunger is yieldable under strong spring pressure to assist in this reformation, yet to yield sufficiently to permit the metal to assume the desired configuration.

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

1. A chuck for sealing wide-mouth jar closures, comprising a sealing head formed with an opening having a continuous cylindrical side wall, adapted to receive a cap, and a plunger slidably supported in the head to yield upwardly under downward sealing pressure on the body, the plunger having a small concave groove at the margins of its bottom face and having a very shallow convex face inside of the groove for engagement with the closure, the said cylindrical wall having the lower edge flared outwardly adjacent the plunger.

2. A chuck for sealing wide-mouth jar closures, comprising a sealing head formed with an opening having a continuous cylindrical side wall, adapted to receive a cap, and a plunger slidably supported in the head to yield upwardly under downward sealing pressure on the body, the plunger having a very small concave groove at the margins of its bottom face and having a very shallow convex face inside of the groove for engagement with the closure, the said cylindrical wall having the lower edge flared outwardly adjacent the plunger, with a reëntrant annular groove at the inner part of the flared portion.

3. A chuck for sealing wide-mouth jar closures, comprising a sealing head formed with an opening having a continuous cylindrical side wall, provided with an annular shoulder in its bore and adapted to receive a cap, and a plunger slidably supported in the head and having an abutment on its periphery arranged to engage the said shoulder, a coil spring between the plunger and head for pressing the plunger downward to permit it to yield upward under sealing pressure on the body, the plunger having a small concave groove at the margins of its bottom face and having a very shallow convex face inside of the groove for engagement with the closure, the said cylindrical wall having the lower edge flared outwardly adjacent the plunger.

CHARLES HAMMER.

Witness:
WILLIAM H. BOURNE.