

July 18, 1933.

A. ZAY

1,918,883

CAP

Filed Aug. 27, 1931

Fig. 1.

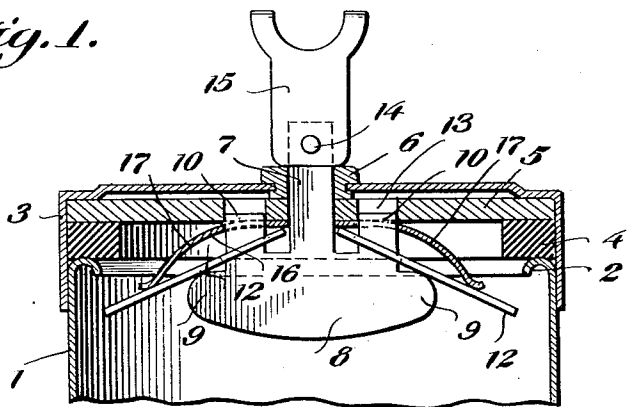


Fig. 2.

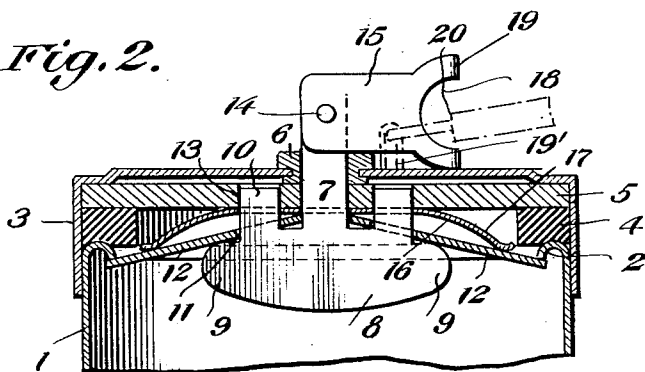


Fig. 3.

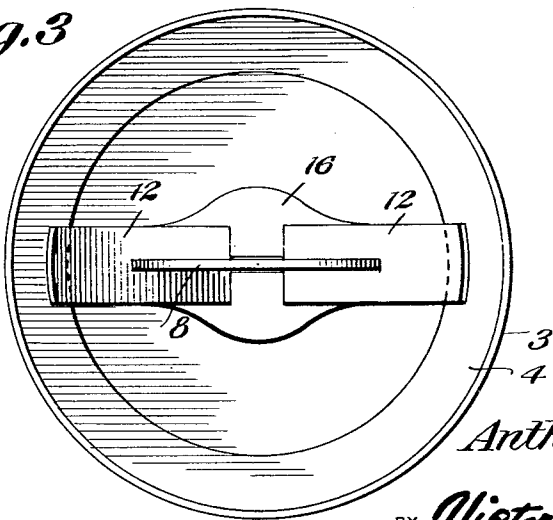
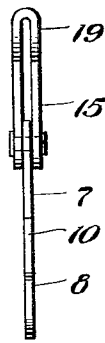


Fig. 5.



Fig. 4.



Anthony Zay
INVENTOR

BY Victor J. Evans
and Co. ATTORNEYS

UNITED STATES PATENT OFFICE

ANTHONY ZAY, OF CLEVELAND, OHIO

CAP

Application filed August 27, 1931. Serial No. 559,754.

My present invention pertains to a cap that affords a closure for various types of receptacles or the like, as for instance the cap for the radiator of an automobile, for the filler
5 spout of an automobile gas tank, for a jar or for any other article containing liquids in which cap is employed for closing or sealing the same, and the primary object is the provision of a cap for this purpose which
10 may be readily applied and effectively locked upon the receptacle to prevent the spilling of the contents thereof, to obviate the liability of displacement of the cap regardless of the vibration to which the same may be subjected
15 and to likewise afford a sealed joint between the cap and the receptacle.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in
20 connection with the accompanying drawing which forms part of the application, with the understanding, however, that the improvement is capable of extended application and is not confined to the exact showing of the
25 drawing nor to the precise construction described and, therefore, such changes and modifications may be made therefrom as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the ap-
30 pended claims.

In the drawing:

Figure 1 is a sectional view through the improvement arranged upon the neck or spout
35 of a receptacle.

Figure 2 is a similar view but showing the cap locked on the receptacle.

Figure 3 is a bottom plan view of the cap.

Figure 4 is a side or edge view of the head and lever elements of the improvement.

40 Figure 5 is a plan view of one of the lock plates.

While my improvement is admirably adapted for use in connection with the radiators and gasoline supply tanks for automob-
45 iles, and is primarily designed for employment in such connections the improvement is not to be restricted in its useful capacity as a closing element for any particular type of receptacle. It will be noted as the descrip-
50 tion progresses that when in applied position

the cap not only effectively seals the receptacle but cannot be displaced therefrom regardless of any vibration to which the same is subjected.

Referring now to the drawing in detail the
55 numeral 1 designates the neck or inlet spout for a liquid containing receptacle. The neck, at its outer end, is formed with an inwardly extending lip 2.

The cap 3 may and preferably is of ordi-
60 nary type to include a round top provided with a depending flange, but the flange in this instance has no threaded engagement with the neck 1. In the cap 3 there is a compressible washer 4 which is in the nature of a disc
65 or ring and which is in direct contact with the lip 2 when the cap is applied. The ring or disc washer 4, in the showing of the drawing, rests against a metal plate or disc 5
70 which contacts with the inner face of the cap and is frictionally or otherwise secured therein.

A peripherally grooved boss 6 is secured in a central opening in the top of the cap 3 to project both inwardly and outwardly there-
75 from and the said boss may be secured to the disc 5. The boss 6 is provided with a central substantially rectangular opening through which passes the straight and central arm 7
80 on a head member 8. The head is in the nature of a flat plate which is somewhat elongated and which has its ends curved or rounded, as at 9. The inner edge of the plate, adjacent to the rounded ends thereof, is formed
85 with flat extensions in the nature of fingers 10 which are of a length materially less than that of the arm 7. Each finger 10 is designed to pass through a substantially rectangular opening 11 in a lock plate 12. The slots or
90 openings 11 of the lock plates 12 are arranged adjacent to what I will term the inner ends of such plates and as the fingers 10 freely pass through the said openings 11 the plates will naturally gravitate on the said fingers to
95 assume the inclined positions disclosed by Figure 1 of the drawing and whereby the outer or active ends of the said plates are sustained away from the lip 2 of the neck 1 to permit of the cap 3 being freely arranged
100 on the neck and likewise to permit of the lock

plates being disposed below the lip. The disk 5 is provided with slots or openings 13 whose walls afford guides for the fingers 10, and there is removably pivoted, as at 14, to the 5 outer or projecting end of the arm 7 a bifurcated lever 15.

In order to urge the lock plates 12 to their angular positions on the head 8 there is centrally arranged on the arm 7 a spring plate 10 16 that has oppositely directed downwardly arched arms 17 that are in contact with the respective lock plates 12.

The lever 15 is struck from a single plate which is bent upon itself, the said bent portion being widened, rounded and provided with a central concaved end 18 that affords oppositely directed finger grips 19, respectively, and when the cap is in position and the lever swung on its pivot 14 to raise the head 8 20 and to force the lock plates 12 into locking engagement with the lip 2, one of these grips 19 are in contacting engagement with the outer face of the cap.

The inner corners of the lever 15 are rounded so that the same may freely ride over the outer face of the boss 6 when the lever is swung to lock the cap in the neck. By providing the removable pivot 14 the lever can be readily removed from the arm 7 and all of the 30 parts of the improvement may be removed from the cap. This, of course, is only necessary in case of breakage of some of the parts and the parts are of such construction that the same are not liable to easy breakage. The 35 pivot 14 may be in the nature of a rivet to prevent the surreptitious separation of the lever from the arm and there may be fixed on the top of the cap a bracket or bail 19' to be received between the arms of the lever 40 and to register with openings in the said arms when the lever is swung to locking position, and through these registering openings there may be passed the hasp of a padlock 20 which effectively locks the cap on the neck, 1.

45 Having described the invention, I claim:

1. In a cap for a container, the latter having a neck with an inwardly extending lip, a head arranged in the cap, an arm formed with and rising from said head and extending through the cap, lock plates swingably 50 carried by the head and normally disposed to pass into the neck below the lip, a lever pivotally secured to the outer end of the arm and being swingable at right angles with respect to the latter and against the cap to impart an upward movement to the head for forcing the lock plates in gripping engagement with the lip, and a washer in the cap and engageable with the lip to provide a leak 60 proof connection between the cap and lip.

2. In a cap for a container, the latter having a neck with an inwardly extending lip, a head arranged in the cap, fingers formed

on said head and rising therefrom, an arm formed on said head and rising centrally therefrom, said arm passing through the cap, lock plates having openings adjacent one of their ends for loosely and slidably receiving the fingers to permit the lock plates to normally assume a position to freely enter the neck below the lip, an arched spring mounted on the arms and fingers and contacting the lock plates to hold the latter under tension, and a lever pivotally secured to the outer end of the arm and adapted when swung against the cap to move the head upwardly for forcing the lock plates in gripping engagement with the lip to secure the cap to the neck. 70 75 80

3. In a cap for a container, the latter having a neck with an inwardly directed lip, a disk in said cap, an elongated flat head arranged in the cap, fingers formed on and rising from the head and mounted for slidable movement in said disk, an arm formed on and rising centrally from the head, said arm passing through the cap, lock plates having openings adjacent one of their ends through which the fingers freely pass to permit the lock plates to normally assume a position for allowing the latter to freely enter the neck below the lip, a lever pivotally secured to the upper end of the arm and movable laterally in either direction against the cap to draw the head upwardly and to force the lock plates in gripping engagement with the lip for securing the cap to the neck and means for locking the lever against the cap with the lock plates in operative position. 85 90 95 100

4. In a cap for a container, the latter having a neck provided with an inwardly directed lip, a head arranged in said cap, fingers formed on the head and rising therefrom, an arm formed on the head and rising centrally therefrom between the fingers, a boss secured in the top of said cap and having an opening for the passage of the arm there-through, lock plates loosely mounted on the fingers to permit the lock plates to normally assume a position for allowing them to freely enter the neck for disposal below the lip, spring means carried by the head and engageable with the lock plates to hold the latter under tension, a lever pivotally secured to the upper end of the arm and having a widened forked upper end to provide finger grips, and said lever being movable on its pivot laterally in either direction for drawing the head upwardly through the medium of the arm for forcing the lock plates in gripping engagement with the lip, and a gasket arranged in said cap and engageable with the neck to provide a leak proof connection between the cap and neck. 105 110 115 120 125

ANTHONY ZAY.