July 1, 1924. 1,499,629

C. L. ARNOLD

CLOSURE FOR TANKS OR THE LIKE

Filed Jan. 10, 1923

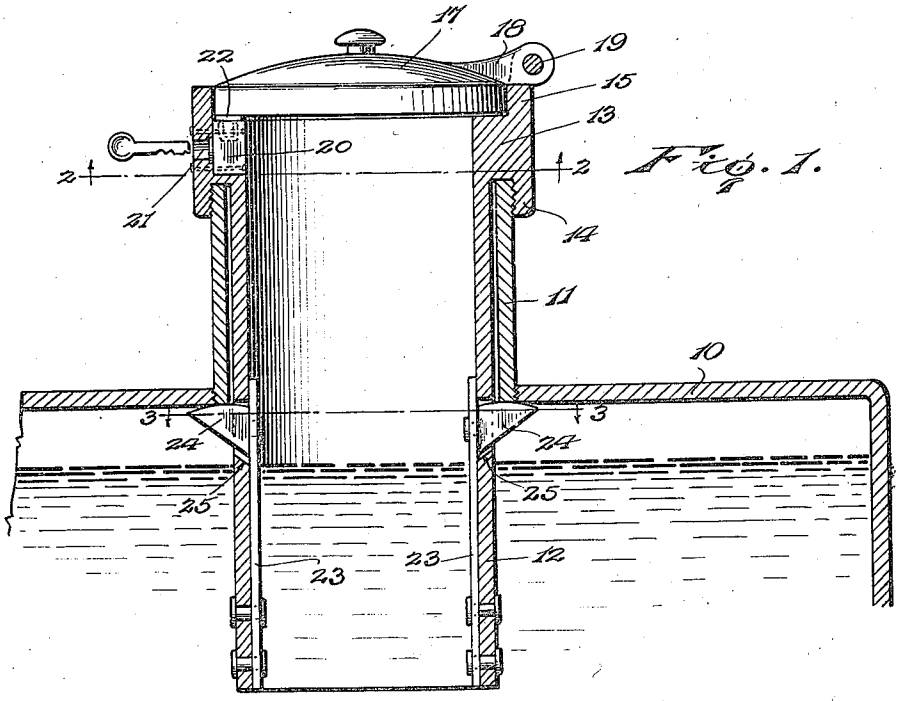


Fig. 1.

Fig. 2.

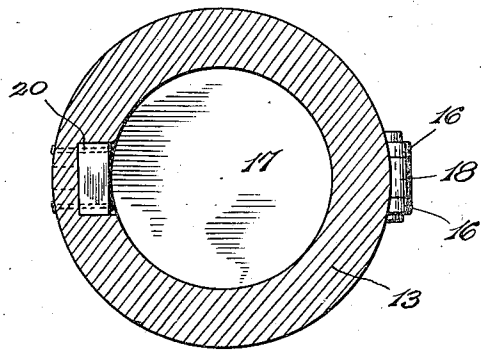


Fig. 3.

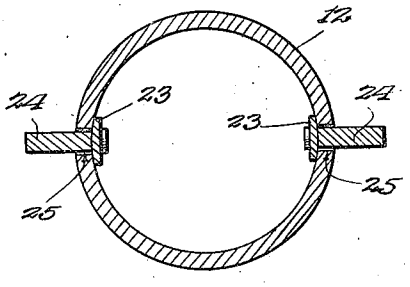
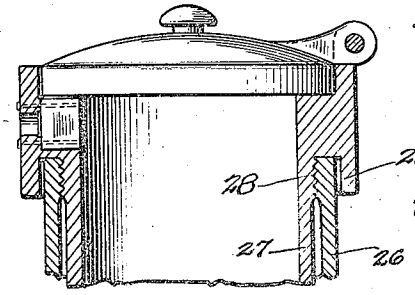


Fig. 4.



Inventor

C. L. Arnold.

By Lacy & Lacy. Attorneys

Patented July 1, 1924. 1,499,629

UNITED STATES PATENT OFFICE.

CLARENCE L. ARNOLD, OF COLUMBUS, GEORGIA.

CLOSURE FOR TANKS OR THE LIKE.

Application filed January 10, 1923. Serial No. 611,876.

To all whom it may concern:

Be it known that I, CLARENCE L. ARNOLD, citizen of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented certain new and useful Improvements in Closures for Tanks or the like, of which the following is a specification.

This invention relates to an improved closure for tanks, casks, drums, barrels, or the like, and seeks, as one of its principal objects, to provide a device which will prevent the loss, by theft, of the contents of the container to which the device is applied.

The invention has as a further object, to provide a device which may be employed as a closure for motor vehicle radiators, supplanting the radiator cap, or which may be employed to supplant a gasoline tank cap, eliminating the possibility of loss of such a cap.

And the invention has as a still further object to provide a device which may be readily applied and which may be locked closed.

Other and incidental objects will appear hereinafter. In the drawings:

Figure 1 is a sectional view showing my improved device applied to a gasoline tank,

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1, looking in the direction of the arrows,

Figure 3 is a transverse sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows, and

Figure 4 is a detail sectional view showing a slight modification of the invention.

Referring now more particularly to the drawings, I have illustrated the use of the invention as employed in connection with a tank 10 which, for the purpose of the present showing, may be considered to typify a gasoline tank, drum, cask, barrel or other container. The usual filler neck or pipe of the tank is indicated at 11, this pipe being detachably threaded at its lower end through the wall of the tank and provided at its upper end with threads to accommodate the customary cap. The present invention supplants said cap.

In carrying the invention into effect, I employ a tubular shell 12 which is of a diameter to freely fit through the pipe 11 projecting into the tank and formed on the shell at its upper end is an annular overhanging boss or lip 13 provided at its lower edge with a depending annular flange 14 and at its upper edge with an upstanding annular flange 15. As will be observed, the flange 14 is internally threaded to engage the threads at the upper end of the pipe 11 so that the device may thus be readily attached to said pipe and upstanding from the flange 15 at one side thereof are spaced hinge lugs 16. Freely fitting within the flange 15 to rest upon the boss 13 closing the shell is a cover 17 having a hinge lug 18 received between the hinge lugs 16 and extending through said lugs is a pivot pin 19 swingingly supporting the cover. Formed in the boss 13 opposite the lugs 16 is a recess accommodating an appropriate lock 20 bolted or otherwise secured to the boss to lie flush with the upper face thereof. As shown in Figure 1, the boss is provided with an opening 21 adapted to accommodate the key of the lock so that the lock may be readily actuated and mounted upon the cover at its lower side is a keeper 22 normally engaged by the lock securing the cover closed.

Mounted within the lower end portion of the shell 12 are companion catch members comprising flat springs 23 riveted or otherwise secured at their lower ends to the shell and appropriately secured to the upper end portions of said springs are lugs 24 projecting freely through suitable slots 25 in the shell to engage beneath the lower end edge of the pipe 11 contacting the wall of the tank 10. As will be noted, the springs 23 extend across the slots so that the springs will rigidly sustain radial stress upon the lugs and, preferably, the lugs are provided with curved upper edges so that upward pull upon the lugs will tend to ride the lugs radially outward with respect to the axis of the shell. On the other hand, the lower edges of the lugs are inclined or beveled upwardly to the tips thereof. Consequently, the device may be applied by inserting the lower end of the shell in the pipe 11 when, by pushing downwardly upon the shell, the beveled lower edges of the lugs will engage the upper end edge of the shell for flexing the springs 23 and shifting the lugs inwardly within the shell. The lugs will then ride over the inner face of the pipe until said lugs clear the lower end edge of the pipe, the shell being rotated, of course, to engage the flange 14 thereof with the upper end of the pipe. Accordingly, as the shell is turned to seat the boss 13 against the upper end edge of

the pipe, the lugs 24 will be caused to clear the lower edge of the pipe when said lugs will be moved radially outward by the springs 23 to engage beneath the pipe locking the device upon the tank. Thus, when the cover 17 is secured by the lock 20, theft of the contents of the tank will be prevented and, as will be seen, the device may be applied to a radiator or the like to supplant the usual closure cap of the radiator for eliminating the possibility of loss or theft of such a cap.

In Figure 4 of the drawings, I have illustrated a slight modification of the invention. In some instances, the filler pipe or neck of a tank or the like, as conventionally illustrated at 26, is internally threaded, and to meet such a condition, the shell of the device, indicated at 27, is externally threaded, as indicated at 28, to engage within the pipe or neck, the threads upon the bottom flange 29 of the boss at the upper end of the shell being eliminated. Otherwise, this modified structure is identical with the preferred form of the invention and further description thereof is accordingly believed unnecessary.

Having thus described the invention, what is claimed as new is:

1. The combination with a container having a filler pipe, of a closure including a shell extending within the pipe, means securing the shell to the outer end of the pipe, means carried by the shell to engage the pipe locking the shell against outward displacement, and a lock controlled movably mounted cover closing the shell.

2. The combination with a container having a filler pipe, of a closure including a shell extending within the pipe and having threaded engagement with the outer end thereof, means carried by the shell to engage the pipe locking the shell against outward endwise movement, and a lock controlled movably mounted cover closing the shell.

3. The combination with a container having a filler pipe, of a closure including a shell extending within the pipe, means securing the shell to the outer end of the pipe, spring pressed catch members carried by the shell to project beneath the inner end of the pipe locking the shell against outward endwise movement, and a lock controlled movably mounted cover carried by the shell.

4. A closure including in combination with a container having a filler pipe, a shell adapted to extend through the filler pipe into the container engaged with the outer end of said pipe, a lock controlled cover closing the outer end of the shell, the shell being provided with slots, springs secured within the shell to extend across said slots, and lugs mounted upon the springs and normally held thereby to project through the slots beneath the wall of the container locking the shell against outward endwise movement.

5. A closure including in combination with the filler pipe of a container, a shell adapted to extend through the filler pipe, and spring pressed means carried by and extending through the wall of the shell to be automatically projected beneath the inner end of said filler pipe when the shell is inserted therein for locking the shell against outward displacement.

6. A closure including in combination with the filler pipe of a container, a shell adapted to extend through the filler pipe, a spring extending longitudinally of the shell at its inner side, and a lug mounted upon said spring to extend through the shell and automatically projectible beneath the inner end of said pipe when the shell is inserted therein for locking the shell against outward displacement.

7. A closure including in combination with the filler pipe of a container, a shell adapted to extend through the filler pipe and provided at its outer end with a flange to fit over said pipe, means upon the shell near its outer end securing the shell to the outer end of the pipe, and spring pressed means upon the shell at its inner side and automatically projectible through the wall of the shell beneath the inner end of the pipe when the shell is inserted therein for locking the shell against outward displacement.

8. The combination with a tank having a wall, and a filler pipe carried by said wall, of a shell extending through the pipe and secured near its outer end to the outer end of the pipe, and means carried by the shell and automatically engageable beneath the inner end of the pipe to overhang the wall of the tank at its inner side locking the shell against outward displacement.

In testimony whereof I affix my signature.

CLARENCE L. ARNOLD. [L. S.]