Feb. 17, 1948. R. A. MYERS 2,436,016

TANK CAP LOCK

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Fig. 1.

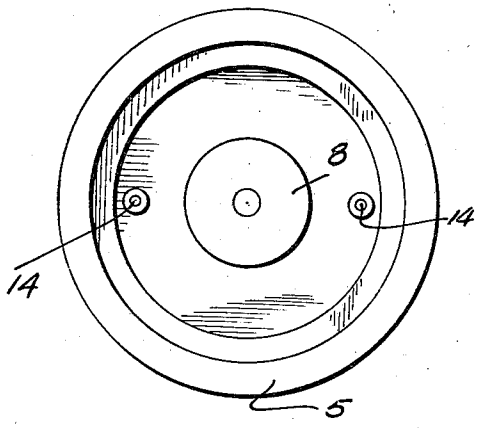


Fig. 2.

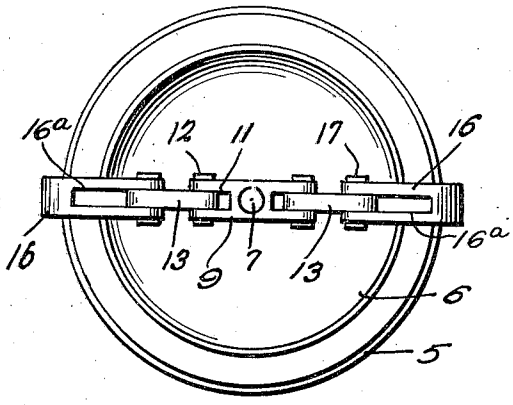
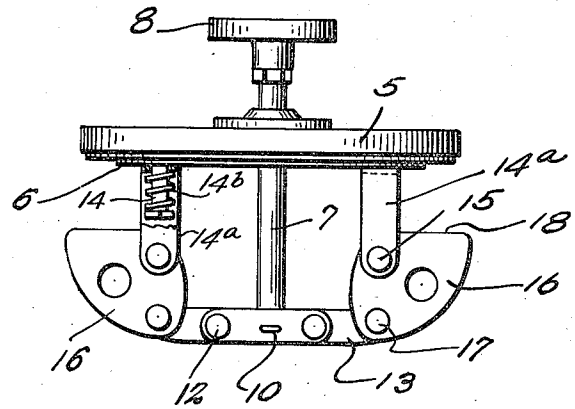


Fig. 3.



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Fig. 4

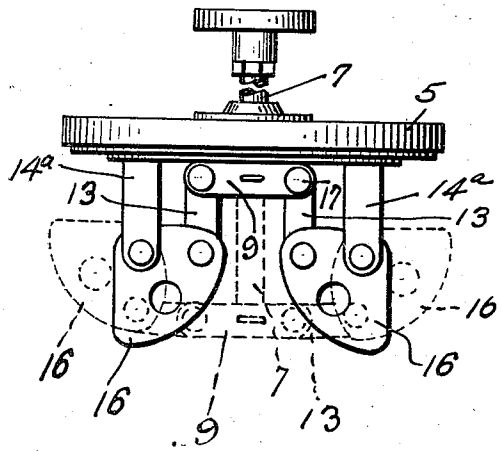


Fig. 5.

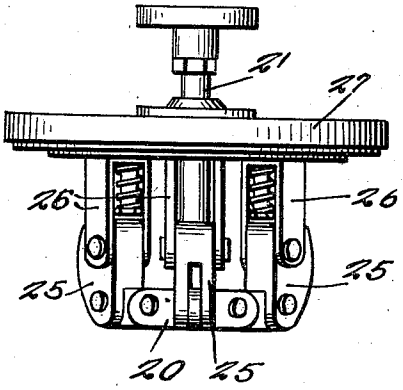


Fig. 6.

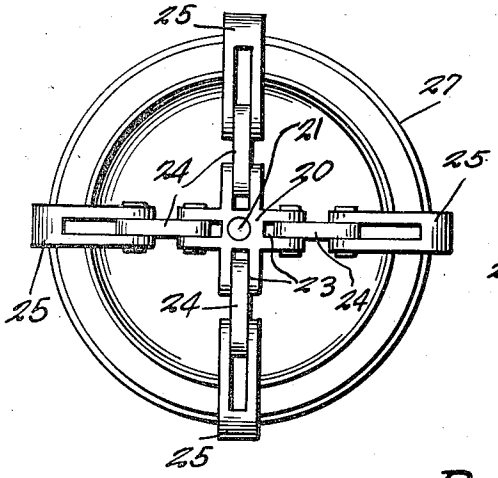
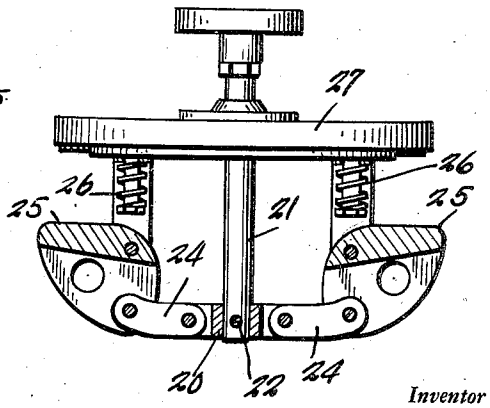


Fig. 7.



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TANK CAP LOCK

Rufus A. Myers, Chicago, Ill.

Application August 30, 1944, Serial No. 551,896

1 Claim. (Cl. 220—25)

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The present invention relates to new and useful improvements in caps for the filler necks of tanks and similar devices and has for its primary object to provide means for locking the cap in position on the neck.

More specifically the invention comprises the provision of a plurality of locking cams pivotally mounted on the underside of the cap and adapted for movement into and out of engagement with the inside of the tank at the edge of the opening therein together with a plunger slidably carried by the cap for moving the cams into and out of locking position.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in use, relatively inexpensive to manufacture, easy to manipulate and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view.

Figure 2 is a bottom plan view.

Figure 3 is a side elevational view.

Figure 4 is a similar view showing the cams in locking and unlocking position.

Figure 5 is a side elevational view of a modified form of the invention.

Figure 6 is a bottom plan view thereof, and

Figure 7 is a side elevational view with the cam actuating means and the cams shown in section.

Referring now to the drawings in detail and first with respect to the form of the invention illustrated in Figures 1 to 4, inclusive, the numeral 5 designates a tank cap in the form of a disk having a gasket 6 secured to its underside and adapted for seating on the edge of the neck or other filler opening of a tank of conventional construction.

A plunger 7 is slidably mounted through the central portion of the cap having a handle 8 at its upper end.

A block 9 is secured to the lower end of the plunger by a pin 10, the block having bifurcated portions 11 at its opposite sides through which pins 12 are inserted for pivotally attaching one end of links 13 thereto.

Pins 14 extend downwardly from the underside of the cap 5 on which U-shaped legs 14*a* are freely mounted in inverted relation and tensionally held upwardly against the cap by coil springs 14*b* mounted on the lower ends of the pins.

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The cams 16 are of generally segmental formation to provide a plurality of corners on the cams, one of said corners being pivotally mounted on the pin and another of said corners having a slot 16*a* formed therein provided with a transverse pin 17 and on which the outer end of the link 13 is pivotally attached.

One edge of the cam is substantially flat as shown at 18 and disposed in substantially parallel relation with the underside of the cap 5 and adapted for extending under the top of a tank (not shown) when inserted through the filler opening thereof, when the cams are arranged in the position as shown by the dotted lines in Figure 4 of the drawings whereby to lock the cap in position on the filler neck of the tank.

By pulling the plunger 7 upwardly the cams will be pivoted on the legs 14*a* to move the cams into the full line position as shown in Figure 4 of the drawings whereby the cap will be released from the tank and may be removed therefrom.

The coil springs 14*b* yield to variations in the thickness of the tank metal to provide for the tight sealing engagement of the cap on the neck of the tank.

In the form of the invention illustrated in Figures 5 to 7, inclusive, a block 20 is secured to the lower end of the plunger 21 by a pin 22, the block having four bifurcated extensions 23 to which links 24 are pivotally attached at their inner ends and with their outer ends pivotally attached to a corresponding number of cams 25 pivotally supported at the lower ends of legs 26 attached to the underside of the cap 27. Otherwise the construction and manner of operation of the device is similar to that heretofore explained.

It is believed that the details of construction and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention, what I claim is:

A tank cap adapted for closing an opening in a tank comprising a disk adapted to fit over said opening, legs mounted on said disk and adapted to be extended into said opening, segmental three-cornered cams with a straight edge in a substantially common plane in operative position pivoted at the inner corner adjacent the straight edge corner thereof on the lower ends of said legs for swinging movement to engage the straight edge thereof under the edge of said opening, an axial plunger slidable in said disk and having a

lower end head, and links connecting said head with the inner corner remote from the straight edge corner of said cams whereby sliding of said plunger will swing said cams, said legs being U-shaped to provide longitudinal guide slots therein, said cams swinging in said slots and being thereby prevented from lateral play, the mounting for said legs comprising studs on said disk on which said legs are slidably mounted and spring-tensioned whereby said straight edges of said cams are adapted to yieldingly engage the under edge of the opening to compensate for variations in the thickness of the material surrounding the opening.

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