

Jan. 21, 1941.

L. H. BRANNON ET AL

2,229,366

LOCK FOR GASOLINE TANK CAPS

Filed July 27, 1939

2 Sheets-Sheet 1

Fig. 1.

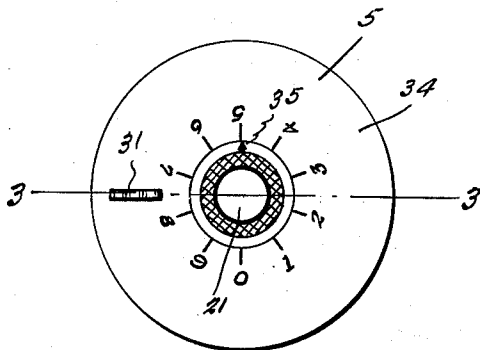


Fig. 2.

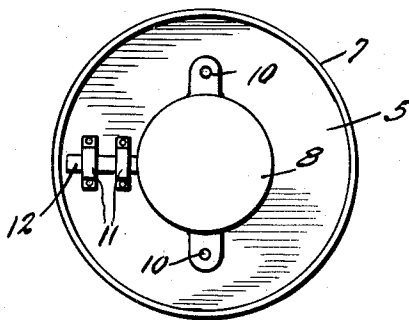


Fig. 3.

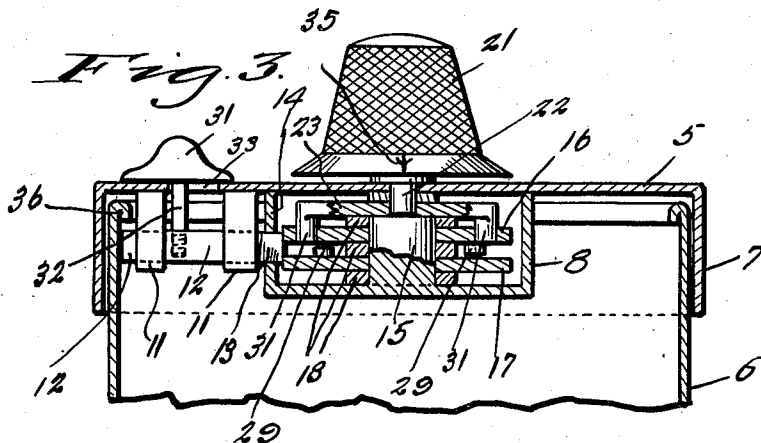


Fig. 5.

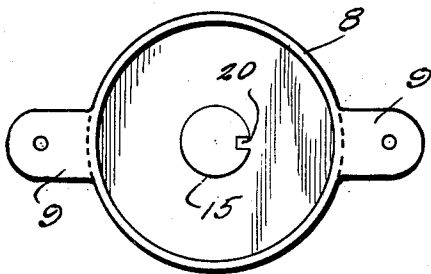
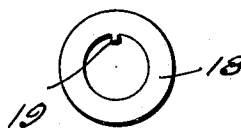


Fig. 6.



Inventor

L. H. Brannon

E. B. Walker

By

Clarence A. O'Brien
and Hyman Berman

Attorneys

Jan. 21, 1941.

L. H. BRANNON ET AL

2,229,366

LOCK FOR GASOLINE TANK CAPS

Filed July 27, 1939

2 Sheets-Sheet 2

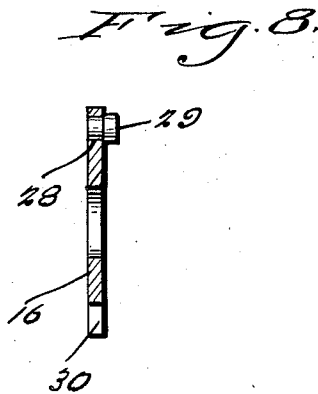
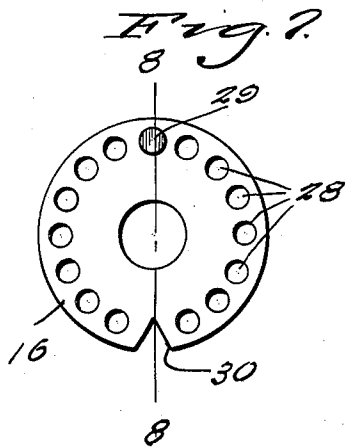


Fig. 9.

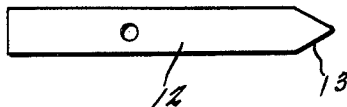


Fig. 10.

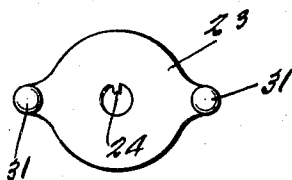
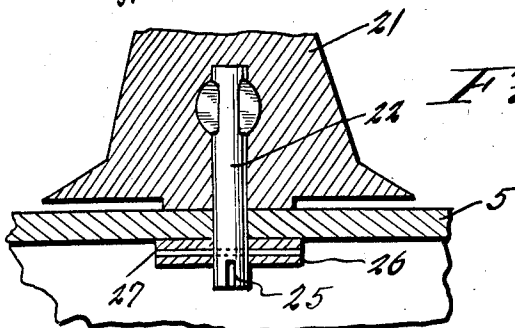
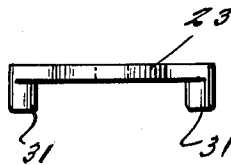


Fig. 11.



Inventor

L. H. Brannon
E. B. Walker

By *Clarence A. O'Brien*
and Hyman Berman
Attorneys

UNITED STATES PATENT OFFICE

2,229,366

LOCK FOR GASOLINE TANK CAPS

Lewis H. Brannon and Ernest B. Walker,
De Funiak Springs, Fla.

Application July 27, 1939, Serial No. 286,925

1 Claim. (Cl. 70-168)

This invention relates to means for locking the closure caps of gasoline tanks, particularly caps used on automobile storage tanks for gasoline.

More particularly the invention has reference to a keyless lock for such caps, and an object of the invention is to provide a lock of this character which can be very cheaply manufactured and will at the same time be well adapted for the purpose designed.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings, wherein:

Figure 1 is a top plan view of the lock equipped cap.

Figure 2 is a bottom plan view thereof.

Figure 3 is an enlarged detail sectional view taken substantially on the line 3-3 of Figure 1.

Figure 4 is an enlarged fragmentary detail sectional view showing the manner of mounting an indexed equipped knob on the closure cap.

Figure 5 is a plan view of the lock housing.

Figure 6 is a plan view of a washer.

Figure 7 is a plan view of one of the combination disks forming part of the lock.

Figure 8 is a sectional view therethrough taken substantially on the line 8-8 of Figure 7.

Figure 9 is a plan view of the locking bolt.

Figure 10 is a plan view of an actuator arm.

Figure 11 is an edge elevational view of the actuator arm.

Referring more in detail to the drawings it will be seen that in the preferred embodiment thereof the invention comprises a cap 5 that is adapted to fit on the filling neck 6 of an automobile gasoline storage tank.

Secured to the crown of the cap 5 within the confines of the flange 7 of the cap is a casing 8. The casing 8 is provided with attaching flanges or lugs 9 through the medium of which and screws or other fastening elements 10 said casing 8 is positively secured to the crown of the cap 5.

Also secured to the under side of the crown of the cap 5 at one side of the casing 8 are a pair of bolt guides 11 in which is slidably mounted a locking bolt 12. The bolt 12 has a tapered end 13 that works through an opening 14 provided therefor in the periphery of the casing 8.

Fixedly mounted within the casing 8 is a stud 15 about which is rotatable, as an axis, a pair of complemental combination disks or tumblers 16 and 17 respectively.

Arranged in alternation with the disks 16 and 17 are washers 18. The washers 18 are retained against rotating movement on the stud 15 through

the medium of keys 19 provided on the washers 18 and engaging in a way or groove 20 provided in the stud 15. Thus it will be seen that the intermediate washer 18 also serves to properly space the disks 16 and 17 relative to one another.

Mounted on the exterior of the cap 5 is a knob 21 that is provided with a pin or shank 22 that is journaled in an opening in the crown of the cap 5 and extends through said opening into the casing 8 to rest lightly on the upper end of the stud 15 as shown in Figure 3.

Mounted on the pin 22 to rotate therewith is an actuator arm 23. The arm 23 is secured to the pin 22 to rotate therewith through the medium of a key 24 accommodated within a way 25 provided on the inner end of the pin 22.

The knob 21 is secured on the cap 5 through the medium of a caller 26 arranged interiorly of the cap 5 and secured on the pin 22 through the medium of a locking pin 27 (see Figure 4).

Each of the disks 16, 17, as shown in Figure 7, is provided with a circular series of apertures 28, and a stud 29 adapted to be positioned in a selected one of the apertures 28.

Also each disk 16, 17, is provided in the periphery thereof with a substantially V-shaped notch 30.

The arm 23 is also provided with a pair of diametrically disposed pins or studs 31 that are adapted to be placed in selected openings 28 in the disks 16 so as to transmit rotative movement of the knob 21 to the said disk 16. In this connection, and as will be hereinafter more fully described, it will be appreciated that the stud 29 on the disk 16 will also co-act with the stud 29 on the disk 17 for transmitting movement of the disk 16 to the disk 17.

Also for projecting and retracting the bolt 12 there is provided a slide 31 provided with a shank 32 that is accommodated within a slot 33 provided in the crown of the cap 5 and has threaded engagement in an opening therefor provided in the bolt 12.

Also arranged on the exterior of the crown of the cap 5 is a circular series of numerals or other suitable dial indicia 34 against which an index 35 on the knob 21 is readable for operating the combination lock.

When the cap 5 is locked on the tank 6 the peripheral edges of the disks 16 and 17 are engaged with the end 13 of the bolt 12 for holding the bolt projected, and the free end of the bolt engaging under the bead or rim 36 of the inlet neck 6 of the gasoline tank. To unlock the cap the dial 21 is turned in the proper direction to

bring the stud 29 on the disk 16 into engagement with the stud 29 on the disk 17 for transmitting rotative movement to the disk 17 until the latter has moved into a position bringing the notch 30 of said disk 17 into alignment with the end 13 of the bolt 12. In this connection it will be understood that the operator, having knowledge of the combination will, by reading the index 35 against the graduations 34, know when disk 17 has been moved to the position just mentioned. The operator then rotates the knob 21 in a reverse direction until the index 35 is opposite that numeral of the graduation 34 that indicates that the notch 30 in the disk 16 is in registry with the notch 30 in the disk 17 and, consequently, in alignment with the end 13 of the bolt 12. The bolt 12 is then free to be slid into a retracted position, and the operator then pushing on the slide 31 thus shifts the bolt, the pointed end 13 of the bolt entering the registering notches 30 so that squared end of the bolt clears the bead or rim 36 of the neck 6, permitting the cap 5 and associated parts to be removed from the neck 6.

In order to re-lock the cap it is only necessary to replace it and give the knob 21 a few turns in either direction. This throws the notches 30 out of alignment with the bolt 12 and out of registry with one another, resulting in the bolt 12 being projected to engage the squared end thereof under the bead 36 of the filling neck 6.

Obviously, different combinations can be made by placing the pins 29 in selected openings 28 in the respective disks 16 and 17, and also by placing the studs 31 on the arm 23 in different openings 28 in the disk 16.

It is thought that a clear understanding of the construction, utility, operation and advantages of a tank cap lock embodying the features of the present invention will be had without a more detailed description.

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

A springless lock comprising a casing having a hole in its top and a hole in a side part thereof and a stud rising from its bottom with its upper end spaced from the top, disks rotatably arranged on the stud and each having an annular row of holes therein and a notch in a peripheral part thereof, spacers keyed to the stud and separating the disks from each other and the bottom disk from the bottom of the casing, a small stud adapted to be placed in any one of the row of holes in each disk, said small studs contacting each other, when one of the disks is turned, to cause movement of the adjacent disk, a knob having a shank at its lower end passing through the hole in the top of the casing with its lower end resting on the top of the first-mentioned stud, a washer on the shank and connected therewith for holding the shank in the casing, an arm keyed to the lower end of the shank and passing across the top of the first-mentioned stud and having projections extending downwardly from its ends, said projections adapted to engage any one of a pair of holes of the row of holes in the top disk, said disks being of the same diameter and the spacers being of less diameter than the rows of holes and one spacer being located between the top disk and the arm, a springless bolt supported for sliding movement exterior of the casing and having one end extending into the hole in the side part of the casing and manually reciprocated, the inner end of the bolt engaging the notches, when the notches are aligned with said inner end of the bolt, with the bolt in retracted position, the inner end of the bolt engaging peripheral portions of the disks when the bolt is projected and the notches are out of alignment with the bolt.

LEWIS H. BRANNON.
ERNEST B. WALKER.