April 18, 1933. E. L. CARNEY 1,903,892

TANK CAP

Filed March 21, 1932

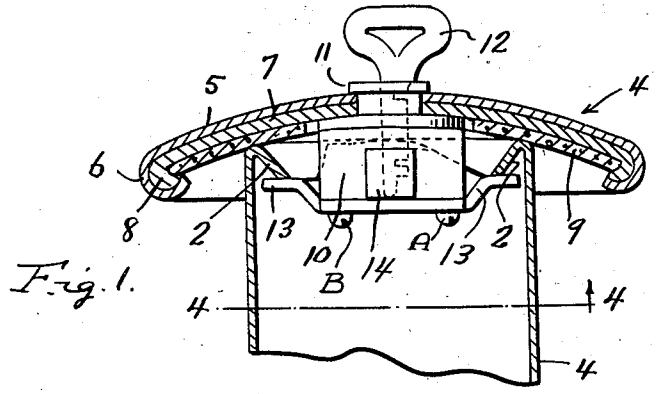


Fig. 1.

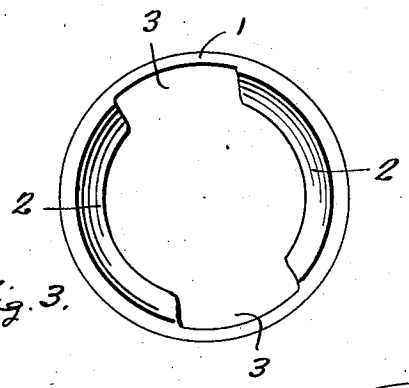


Fig. 3.

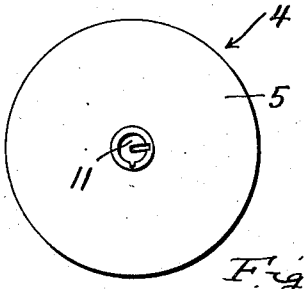


Fig. 2.

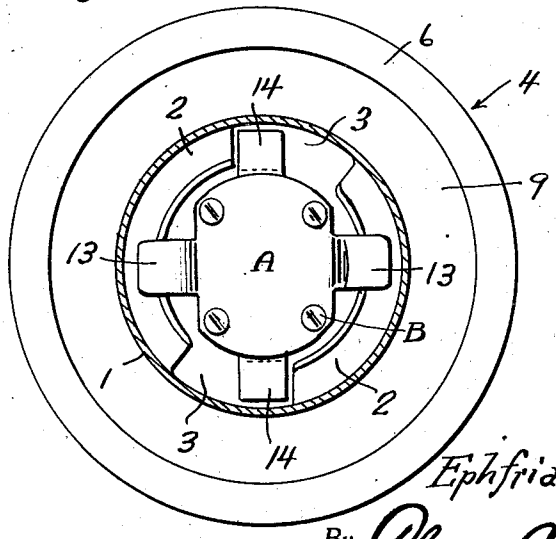


Fig. 4.

Inventor

Ephfriam L. Carney

By Clarence A. O'Brien

Attorney

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UNITED STATES PATENT OFFICE

EPHRIAM L. CARNEY, OF MURFREESBORO, TENNESSEE

TANK CAP

Application filed March 21, 1932. Serial No. 600,303.

The present invention relates to new and useful improvements in caps particularly for use on the gasolene tanks of automobiles and has for its primary object to provide, in a manner as hereinafter set forth, a cap of this character embodying novel locking means for preventing accidental or unauthorized removal of said cap after the same has been secured in position, thus also preventing the waste and smell of gasolene from the tank.

Another very important object of the invention is to provide a gasolene tank cap embodying a novel construction, combination and arrangement of parts through the medium of which damage to the cap by persons who may attempt to force the same open will be prevented.

Other objects of the invention are to provide a gasolene tank cap of the character described which will be simple in construction, strong, durable, efficient and reliable in use and which may be manufactured at low cost and attached to gasolene tanks in use at present without the necessity of materially altering said tanks.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a view in vertical section through a cap constructed in accordance with the present invention, showing the same in position on the filling neck of a tank.

Figure 2 is a top plan view of the cap.

Figure 3 is a top plan view of the tank neck.

Figure 4 is a view in horizontal section, taken substantially on the line 4—4 of Figure 1.

Referring now to the drawing in detail, it will be seen that the reference numeral 1 designates a portion of the filling neck of a gasoline tank (not shown), said neck terminating, at its upper end, in the inwardly and downwardly turned flanges 2, said flanges being spaced from each other to provide the openings 3. One end portion of each flange 2 is beveled to provide a cam surface for a purpose which will be presently set forth.

The cap is designated generally by the reference numeral 4 and, of course, is engageable on the upper end of the neck 1. The cap 4 includes a substantially concavo-convex outer disk 5 having a rounded marginal flange 6 and correspondingly shaped inner disk 7 having a rounded marginal flange 8 engaged in the flange 6. The disk 7 fits snugly within the disk 5. Then, mounted in the inner disk 7 is a gasket 9 of suitable material, preferably cork, having its periphery engaged in the flange 8 for retaining said gasket in position. The gasket 9, of course, is engageable directly with the neck 1 to provide a leak-proof joint.

Rigidly secured to the lower side of the inner disk 7 is a cylinder lock 10, the cylinder 11 of which projects rotatably through the disks 5 and 7 for receiving a key 12. A plate A is detachably secured to the lower side of the lock 10 by screws B and has projecting therefrom the integral arms 13 for engagement beneath the flanges 2 of the gasoline tank neck 1, as clearly seen in Figure 1 of the drawing. The slidably retractible bolts 14 of the lock 10 are engageable in the openings 3 to prevent unauthorized rotation of the cap, thus preventing the arms 13 from being disengaged from beneath the flanges 2.

In use, the cap is positioned on top of the neck 1 by passing the arms 13 through the openings 3. The cap is then rotated to engage the arms 13 beneath the flanges 2. The frictional contact between the disks 5 and 7 is sufficient to ordinarily cause said disks to rotate in unison, thereby facilitating the mounting or removal of the cap. The lock is then actuated to engage the bolts 14 in the openings 3 in which position, should it be attempted to rotate the cap, said bolts would engage the ends of the flanges 2, and frustrate the attempt. Should it be attempted to force rotation of the cap, the outer disk 5 will rotate independently of the inner disk

7, thus preventing excessive strain from being transmitted to said inner disk and consequently the lock and arms 13. When it is desired to remove the cap by one authorized to do so, the key 12 is inserted and the bolts 14 retracted after which the cap may be freely rotated to disengage the arms 13 from beneath the flanges 2.

It is believed that the many advantages of a cap constructed in accordance with this invention will be readily understood, and although the preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

In the drawing, the arms 13 are shown provided with upwardly offset free end portions, for use on certain automobiles. The cap may be expeditiously adapted to fit the tanks of various automobiles by simply removing the plate A and substituting therefor a plate on which the arms 13 are of the necessary shape.

What is claimed is:—

1. A tank cap comprising an inner disk, an outer disk rotatably mounted on the inner disk, means connecting the disks together in frictional contact with each other, and retaining means on the inner disk engageable with the tank for releasably securing the cap thereon, the first named means including a rounded, peripheral flange on the inner disk, and a rounded peripheral flange on the outer disk enclosing the first named flange.

2. A tank cap comprising a substantially concavo-convex inner disk, a rounded flange on the periphery of said inner disk, a substantially concavo-convex outer disk rotatably mounted on the inner disk, a rounded flange on the periphery of the outer disk enclosing the first named flange, the outer disk being frictionally engaged with the inner disk, a gasket mounted on the inner disk and engageable with the tank, arms mounted on the inner disk and engageable with the tank for releasably securing the cap thereon, and a key actuated lock mounted on the inner disk and engageable with the tank for preventing rotation of the inner disk relative to said tank.

3. A tank cap comprising a substantially concavo-convex inner disk, a rounded flange on the periphery of said inner disk, a substantially concavo-convex outer disk rotatably mounted on the inner disk, a rounded flange on the periphery of the outer disk enclosing the first named flange, the outer disk being frictionally engaged with the inner disk, a gasket mounted on the inner disk and engageable with the tank, arms mounted on the inner disk and engageable with the tank for releasably securing the cap thereon, and a key actuated lock mounted on the inner disk and engageable with the tank for preventing rotation of the inner disk relative to said tank, said lock including slidable bolts engageable with the tank and further including a cylinder projecting through the disks for the reception of the key.

In testimony whereof I affix my signature.

EPHFRIAM L. CARNEY.