May 10, 1949. A. M. MALLUK 2,469,973

GAS TANK DRAIN LOCK

Filed May 2, 1946

Fig. 1.

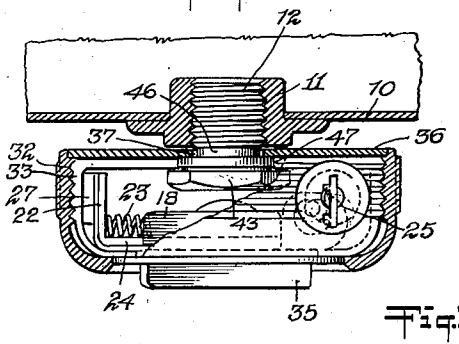


Fig. 3.

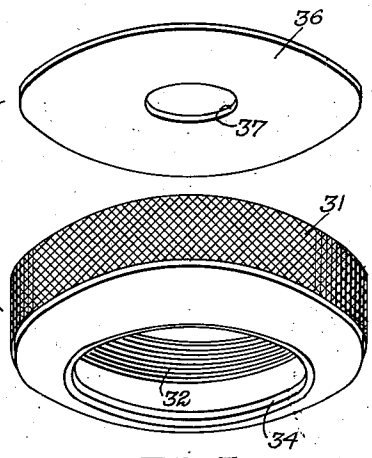


Fig. 2.

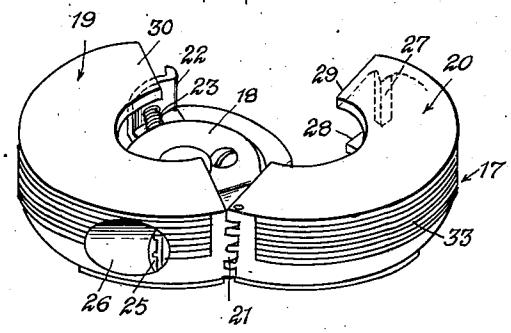


Fig. 7.

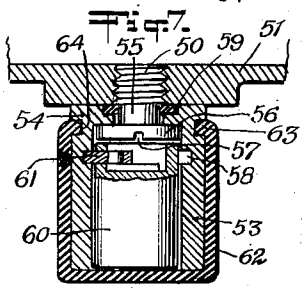


Fig. 4.

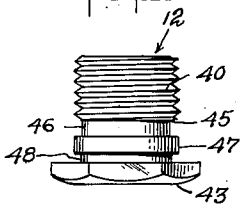


Fig. 5.

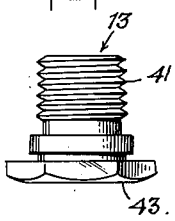
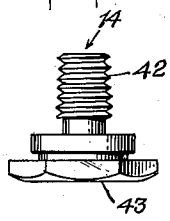


Fig. 6.



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GAS TANK DRAIN LOCK

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Application May 2, 1946, Serial No. 666,630

1 Claim. (Cl. 70—232)

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This invention relates to locks for liquid tanks. There are a great many locks adapted to close the entrance drain neck, or filling neck of fuel tanks so that the fuel will not be syphoned off or otherwise disturbed. However, almost every tank and particularly automobile gasoline tanks are provided with a drainage plug for cleaning purposes, and it is desirable that such plug be provided since tanks should be drained and cleaned periodically to prevent sediment, sludge and other foreign matter from contaminating the fuel.

An object of this invention is to provide a lock which will protect the drainage plug from tampering. The ordinary drainage plug may be removed with a wrench and the tank may be emptied regardless of whether or not the neck or filling spout is in itself protected.

An object of this invention is to provide a locking mechanism which will prevent tampering with the drainage plug.

A further object is to provide a lock which will be protected from the weather and the elements but which, nevertheless, may readily be operated by a person having a key.

A further object of my invention is to provide a device which can be readily adapted to all present day vehicles. The present day gas tank plugs come in three sizes, and previous locks would not fit all three sizes. An object of this invention is to provide in combination with the lock plugs having a standard base adapted to fit the lock but with different sized shanks to fit different tanks.

In the accompanying drawings—

Fig. 1 is a sectional side elevation of my improved plug lock.

Fig. 2 is a perspective view of the lock in open position.

Fig. 3 is a perspective view of the protective casing and washer.

Figures 4, 5 and 6 are side elevations of three plugs adapted to fit tanks now in use.

Fig. 7 is a cross-sectional elevation of a modified form of my invention adapted to use any of the plugs shown in Figs. 4, 5 and 6.

Every tank, such as tank 10, is provided with a plug drain consisting of a housing 11 adapted to receive the plug 12. These plugs may vary in diameter, as shown by the plugs 13 and 14, but there are only three plugs, namely, plugs having the same diameter as 12, 13 and 14, in common use. One of the advantages of my mechanism over the prior art rests in the fact that I provide plugs having different diameters but with standard bases, as will be more fully described hereafter. My lock 17 consists of a base plate 18, a side member 19 and an additional side member 20 hinged to the member 19 at 21. A spring latch-hook 22 is pressed outwardly by a spring 23 connected by means of a rod 24 to the lock 25, which is seated in the recess 26, in the annular face of the side member 19. A catch member 27 is adapted to engage the spring latch 22 to hold the lock in a closed position. The member 20 has a lower wall 28 and an upper wall 29, both of which extend inwardly, the lower wall 28 contacting the base 18 while the upper wall forms with the corresponding wall 30 of the member 19 an annular opening adapted to engage the plug. In order to protect the lock in the closed position, I provide a cover 31, which may be made of rubber, natural or plastic, and which is internally threaded at 32 to engage the threads 33 on the annular sides of the lock 17. An opening 34 is provided in the base of the cover 31 so that the cover may be removed. The bottom of the base plate is provided with a fin or key 35 in order that it may be held against rotation when the cover is applied or removed. If desired, the fin or key 35 may be omitted and a kerf or slot used in its place. A washer or gasket 36 may be provided to protect the top of the lock if desired. The washer or gasket as shown in Fig. 3 has an opening 37 to allow the passage of the plug. Shown in Figs. 4, 5 and 6 plugs 12, 13 and 14 have different diameter shanks 40, 41 and 42 terminating in a standard sized head 43. Each plug is threaded only to the point 45 and is recessed at 46. It has an annular flange 47, which is identical in each case, and a second recess 48. The annular opening formed when the lock is closed is slightly larger than the flange 47 but smaller than the upper surface of the head 43. In installing my device the plug 12, 13 or 14, depending upon the internal size of the housing 11, is substituted for the conventional plug. The washer 36, if used, is then placed over the head of the plug and the lock 17 snapped into place. The cover 31 is then screwed on to the lock and the operation is complete.

It will be understood that because of the fact that the annular opening formed in the lock is larger than the flange 47 the whole lock may be rotated without unscrewing or tightening the plug. The fin, or key, 35 may be held while the cover is put on to prevent the lock from rotating and similarly it may be held when the cover is removed to prevent rotation. It will be understood that my lock will be used in connection

with a tank lock similar to that shown in my Patent No. 2,375,671.

In the form shown in Fig. 7 a similar plug **50** is inserted in the tank **51** through the tubular member **53**. The tubular member **53** is provided with an inwardly extending annular collar **54** adapted to surround the shank **55** of the plug **50** and rest on the head **56** of the plug **50**, and the head **56** of the plug **50** is provided with a kerf **57** so that it may be screwed into position through the tubular member **53**. The tubular member **53** is provided with an annular groove **58**. There is also provided a lock plug **60** with a locking ear **61** adapted to engage the annular groove **58** so as to prevent anyone unscrewing the plug **50**. A gasket **59** may be provided and a covering **62** of rubber or other protective material having an inwardly extending top edge **63** engaging the recess **64** in the tubular member **53**. It will be understood that a key will be provided to move the ear **61** in and out of engagement with the groove **58**. It will also be appreciated that there will be enough clearance between the shank of the stud and the inwardly extending walls of the tubular member so that rotation of the tubular member will not unscrew the plug.

I claim:

In combination with a tank drainage plug having a universal head and an annular flange of smaller diameter adjacent said head, of a lock to cover said plug, said lock comprising a base, a pair of hinged members, one of said members engaging said base and each of said members having semi-annular recesses adapted to cover said head and loosely surrounding said annular flange whereby said lock may be freely rotated without turning said plug, a cover for said lock and means for holding said lock stationary while the cover is removed or placed on said lock.

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