

Jan. 23, 1934.

E. E. WHITE

1,944,535

CAP LOCKING DEVICE

Filed March 6, 1930

3 Sheets-Sheet 1

Fig. 1.

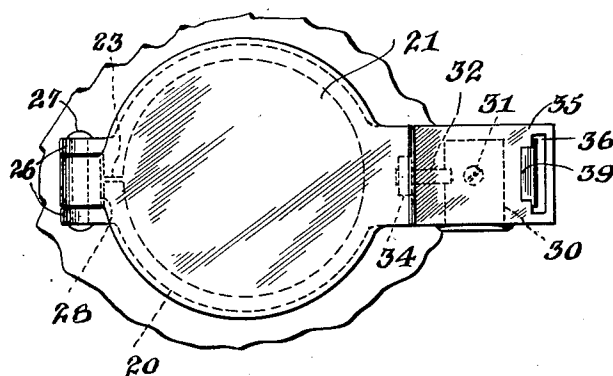


Fig. 2.

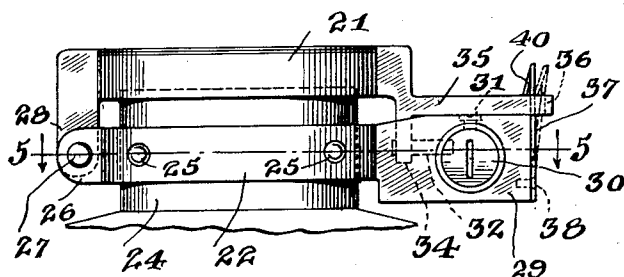


Fig. 5.

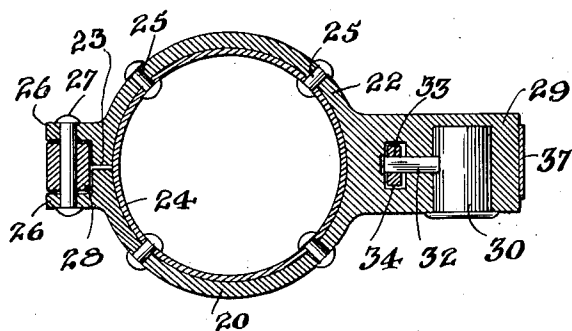


Fig. 3.

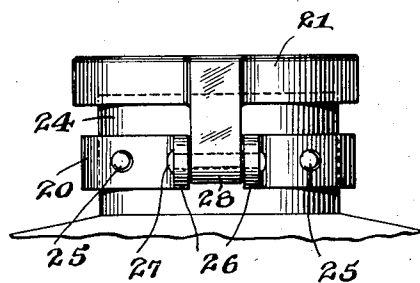


Fig. 4.

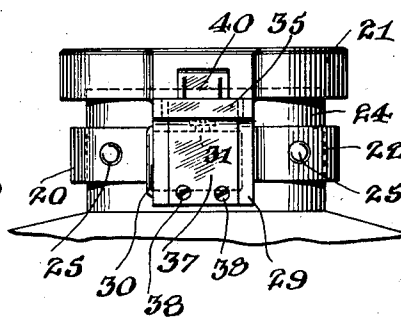
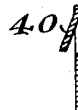


Fig. 6.



Fig. 7.



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Fig. 8.

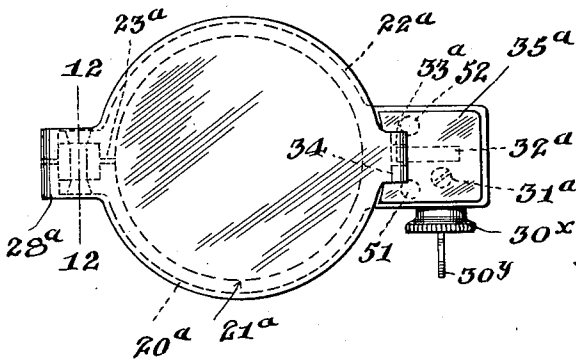


Fig. 10.

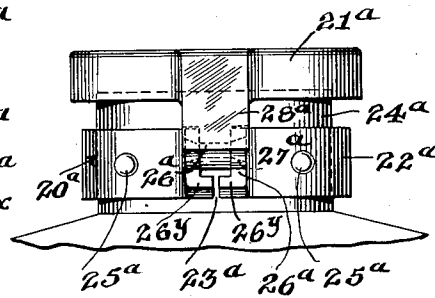


Fig. 9.

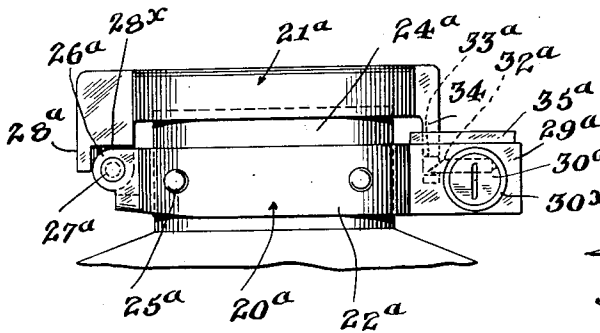


Fig. 11.

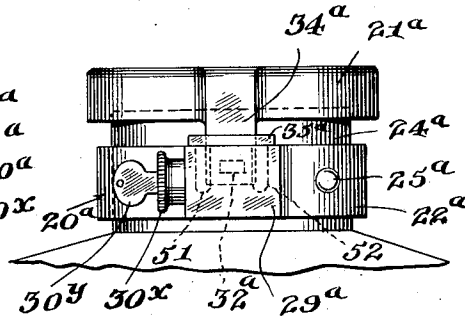
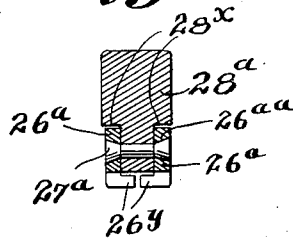


Fig. 12.



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Fig. 13.

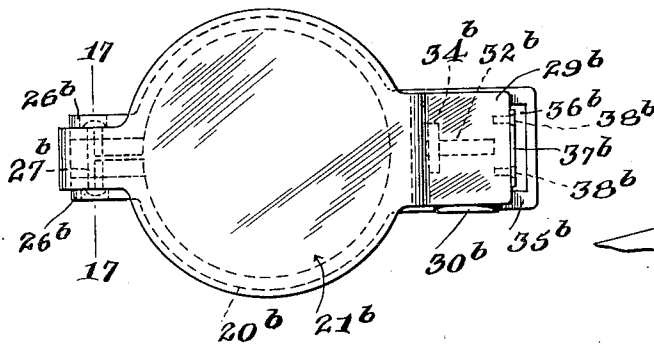


Fig. 15.

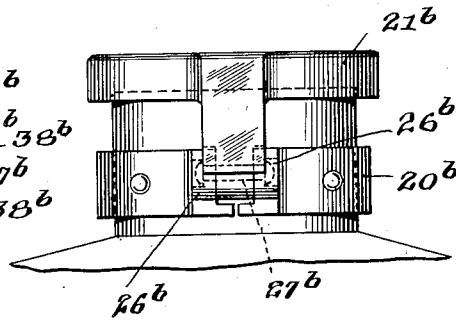


Fig. 14.

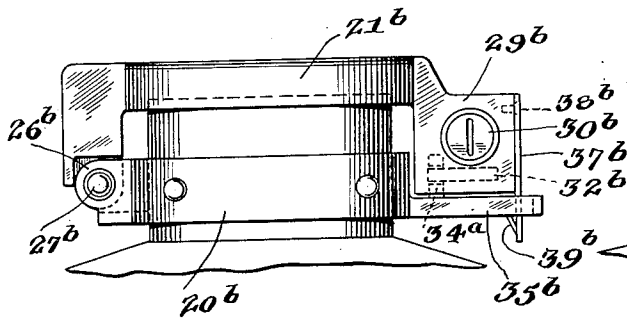


Fig. 16.

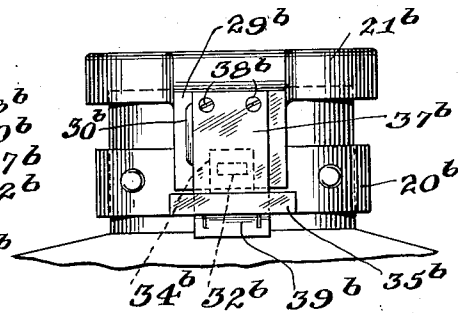
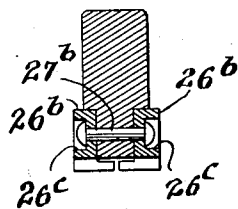


Fig. 17.



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UNITED STATES PATENT OFFICE

1,944,535

CAP LOCKING DEVICE

Edwin Ellis White, Paintsville, Ky.

Application March 6, 1930. Serial No. 433,662

3 Claims. (Cl. 70—90)

This invention relates to improvements in cap locking devices, and more especially to novel devices for locking the cap of the fuel tank of an automobile or the like.

5 The primary object of the invention is to furnish a structure including two principal members, one a stationary part to be positively secured to a filling tube, and the other a movable part forming a cap for such tube; these members being so combined that they may be used
10 as an accessory, or may form part of the original equipment of the automobile when the latter is manufactured.

Another object of the invention is to provide
15 a combination of this kind, which cannot be removed by an unauthorized person when the cap is locked, without rupturing the filling tube, so that the device will function as a theft preventing means. In this connection, it will be noted
20 that if a motor vehicle equipped with my device is stolen, the thief cannot refill the fuel tank without breaking the filling tube of the latter, and obviously, a filling tube so ruptured, will indicate that the car has been stolen.

25 If a device of this kind forms part of the original equipment of a motor vehicle, some operators will prefer not to be bothered with using a key to unlock the cap, and for users of this sort, my structure is provided with an auxiliary latch
30 which will hold the cap in place without locking the same, and which may be operated manually to release the cap. Therefore, another object of the invention is to furnish a combination of the character mentioned, including a key operated
35 lock, and a manually actuated latch, either one of which may be used to secure the cap in closed position.

With the foregoing objects outlined and with other objects in view which will appear as the
40 description proceeds, the invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

45 Referring to the drawings,

Fig. 1 is a top plan view of one form of the device.

Fig. 2 is a side elevation, and

50 Figs. 3 and 4 are front and rear elevations respectively of the device.

Fig. 5 is a horizontal sectional view on the line 5—5 of Fig. 2.

55 Figs. 6 and 7 are vertical sectional views of portions of spring latches which may form part of the structure.

Figs. 8, 9, 10 and 11 are views similar to Figs. 1 to 4 inclusive, but illustrating a modification.

Fig. 12 is a vertical sectional view of a detail on the line 12—12 of Fig. 8.

Fig. 13 is a top plan view of another embodiment of the invention. 60

Figs. 14, 15 and 16 are side, rear and front elevations respectively of the embodiment shown in Fig. 13.

Fig. 17 is a vertical sectional view of a detail 65 on the line 17—17 of Fig. 13.

Referring first to the form of the invention shown in Figs. 1 to 5 inclusive, 20 indicates the tube engaging member, and 21 the cap member of the combination. These members are made
70 of metal and the member 20 comprises a collar 22 which may be split as at 23, to allow the same to embrace the filling tube or neck 24 of the fuel tank or the like. The collar is to be permanently secured to the tube by means which will require
75 rupturing of the tube if an attempt is made to remove the collar by an unauthorized person when the cap member is locked. For example, the collar may be secured to the tube by welding or brazing, or may be attached by means of rivets
80 or bolts 25.

Ears 26 at one side of the collar are secured by a hinged rivet 27 to a lug 28 which depends from and forms part of the cap member; the
85 opposite side of the collar being projected radially and enlarged to provide a lug 29. This lug houses any suitable key operated lock 30 which is secured in place, for example, by a screw 31, which is inserted from the upper surface of the
90 lug.

The lock actuates a retractable bolt 32 that is designed to enter an aperture 33 in a tongue 34 which is rigidly united with, and forms part of the cap member. The latter also includes a projecting cover plate 35, which prevents access to
95 the screw 31 when the cap is locked, and which is also provided with a vertical slot 36 to receive a spring latch 37 that may be secured to the lug 29 by means of screws 38. The latch may have a solid nose 39 at its upper end, as shown in Fig. 6,
100 or the nose 39 may be struck from the metal to which the latch is formed, as indicated in Fig. 7. As is usual in latches of this character, when in one position, it will prevent movement of a part, but when in another position, will release such
105 part. In the present construction, the latch is to be manually operated, and when it is in the position shown in Figs. 1 and 2, it will hold the cap in place, but when it is moved to the dotted line position shown in Fig. 2, it will release the 110

cap. By passing the latch through a slot in the cover plate 35, the latch will be prevented from moving outwardly so far as to become inoperative.

It will be understood from the foregoing that
5 when a device of this character is attached to the filling tube of a fuel tank, the operator, if he prefers, can lock the cap by means of the key operated lock 30, but in case this is not desired, he may employ the latch 37 to hold the cap in
10 position. Consequently, one who purchases a motor vehicle with such a cap, need not use the key operated lock unless he so desires.

In the embodiment of the invention illustrated in Figs. 8 to 12 inclusive, the filling tube engaging
15 member is shown at 20a, and the cap member at 21a. Here, the first member also includes a collar 22a that is split, as shown at 23a, and secured to the filling tube 24a by any suitable means such as the rivets 25a. Like in the first embodiment of
20 the invention, the collar is integral with ears 26a which support the hinged rivet 27a which secures the lug 28a of the cap member to the collar. As a further insurance against removing the cap in this structure, the heads of the hinge rivet are
25 counter-sunk into the ears, as indicated at 26aa, so as to prevent the head of the rivet from being sawed off. Furthermore, the lower end of the lug 28a is recessed at opposite sides, as shown at 28x, and this provides overhanging outside shoulders which are arranged about the upper and
30 outer portions of the ears 26a, so as to prevent the pivot pin being reached from the outer side or from above. In addition, the ears are extended rearwardly and turned toward one another, as
35 shown at 26y, to prevent the hinged rivet from being reached from below.

Like in the first form of the invention, here also the collar is integral with a lug 29a which houses
40 a key operated lock 30a, but in this embodiment, the lock is similar to a night latch, so that it may be operated either by its projecting knob 30x, or by a key 30y. Such a lock will have two buttons 51 and 52 which project upwardly from the lock, and may be reached by the operator when the
45 cap is opened, whereby when the push button 51 is depressed, the lock may be opened by the external knob 30x, but when the other push button is in depressed position, the lock can only be opened by the key 30y. It will therefore be seen
50 that this construction also permits the operator to open the cap either by turning the knob 30x, or using the key 30y, as he prefers.

Here also the lock actuates a bolt 32a which enters an opening 33a in a tongue 34a which
55 depends from, and is integral with the cap member. It is intended in this modification that the bolt 32a be spring pressed, so that it will automatically latch when the cap is closed, regardless of the positions of the buttons 51, 52.

The tongue also carries a cover plate 35a which,
60 when the device is locked by the means requiring a key, prevents an unauthorized person from reaching the buttons 51, 52, or the screw 31a that is employed to secure the lock in its housing.

In the modification shown in Figs. 13 to 17 inclusive, the filling tube embracing member 20b
65 is secured to the tube by any suitable means, such as those heretofore described, and the ears 26b of this structure have counter-sinks 26c to house the heads of the hinge rivet 27b to prevent such
70 heads from being removed by the use of a saw. The remainder of this hinged structure is similar to that described in connection with Figs. 9 to 12 inclusive, but in this form of the invention, instead of placing the projecting lug 29b on the

collar, I rigidly unite the same with the cap member 21b. Here the lug houses a key operated lock 30b which actuates a bolt 32b. This bolt
80 cooperates with an apertured tongue 34b that extends upwardly from, and is integral with a cover plate 35b which extends across the lower face of the lug, and is rigidly united with the collar. If a screw is used to secure the lock in place, the
85 plate 35b can hide the head of this screw to prevent the same from being reached by an unauthorized person.

Like in the first form of the invention, this embodiment includes a spring latch 37b which is
90 secured to the lug 29b by means of screws 38b, and it has a nose 39b which cooperates with a slot 36b in the cover plate. Obviously, if the member 30b is unlocked, the operator can release the cap by simply forcing the nose 39b outwardly to the position where it can pass through the
95 slot 36b when the cap is raised.

From the above it will be understood that the present invention may be applied as an accessory,
or may form part of the equipment of a motor vehicle when the latter is manufactured, and if
100 an operator prefers, he can secure the cap in position simply by the manually operated means, but on the other hand, if one wishes to use the cap to prevent the theft of motor fuel, and to serve as an indicator in case the car is stolen,
105 he can lock the cap and use the key to release the same.

While I have disclosed what I now consider to be preferred embodiments of the invention in
such manner that the same may be readily understood by those skilled in the art, I am aware that
110 changes may be made in the details disclosed, without departing from the spirit of the invention, as expressed in the claims.

What is claimed and desired to be secured by Letters Patent is:

1. In a structure of the character described, a filling tube engaging member, a cap member,
means pivotally connecting said members, a lug carried by one member and having a recess, a
120 cover plate carried by the other member and adapted to cover the recessed face of the lug, a lock housed in the lug and provided with a bolt, and a tongue projecting from the cover plate and adapted to enter said recess and engageable with the bolt.
125

2. In a structure of the character described, a filling tube engaging member consisting of a split ring having radially extending lugs at the point where the split is located, a cap member
130 having a lug positioned between the first mentioned lugs, means pivotally connecting all of said lugs, a special lug carried by one of said members and positioned diametrically opposite the other lugs, a cover plate carried by the other one of said members and engaging one surface of
135 the special lug, a lock housed in the special lug and provided with a bolt, and a tongue projecting from the cover plate and engageable with said bolt.

3. In a structure of the character described, a filling tube engaging member, a cap member,
means pivotally connecting said members, a lug carried by one member, a cover plate carried by
140 the other member and concealing a portion of the lug, a lock housed in the lug and provided with a bolt, a screw holding the lock in the lug and having its head concealed by said cover plate, and a tongue projecting from the cover plate and engageable with said bolt.
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