Aug. 15, 1939. W. M. McNEELY 2,169,656

GAS CAP FOR AUTOMOBILE TANKS

Filed Nov. 16, 1937

Fig. 1.

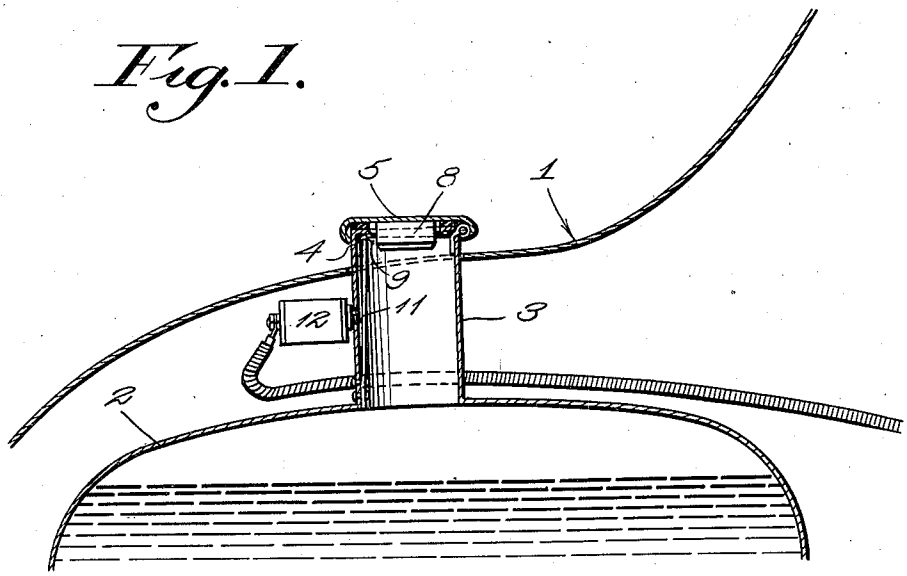


Fig. 2.

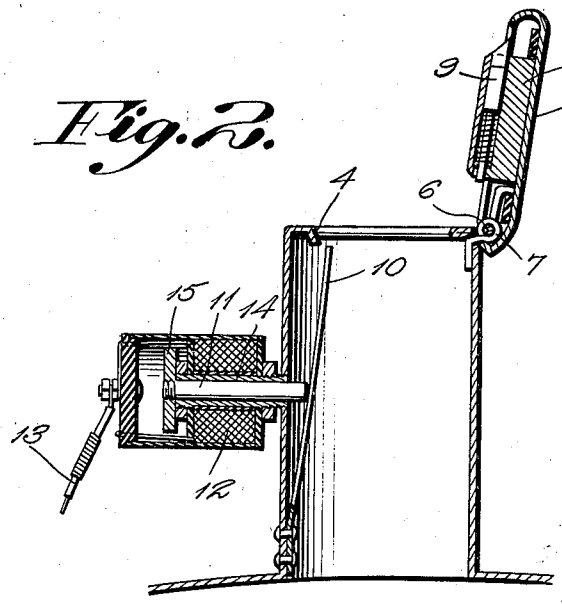
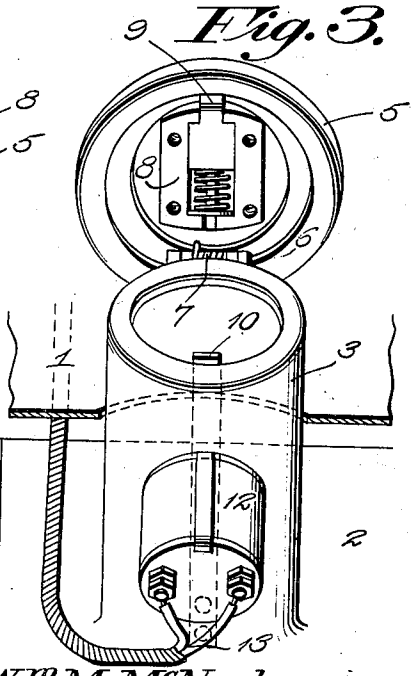


Fig. 3.



Wm M. McNeely INVENTOR

BY Victor J. Evans & Co.

ATTORNEYS

WITNESS R. E. Wise.

Patented Aug. 15, 1939 2,169,656

UNITED STATES PATENT OFFICE

2,169,656

GAS CAP FOR AUTOMOBILE TANKS

William M. McNeely, Memphis, Tenn.

Application November 16, 1937, Serial No. 174,870

1 Claim. (Cl. 292—254)

This invention relates to gas tank caps and locking means therefor and has for the primary object the provision of a device of the above stated character which may be readily installed and will provide efficient protection against theft of gasoline from an automobile while unattended and may be conveniently released from a place within the automobile such as the dash of the latter so that the driver without leaving the seat of the vehicle may operate the device to permit filling of the tank with gasoline, the cap and locking means being so constructed that the cap becomes locked when moved into position of closing the tank and is self-opening when released by the driver or person within the automobile.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a fragmentary vertical sectional view showing my invention adapted to a gasoline tank of a motor vehicle.

Figure 2 is a vertical sectional view showing the filling neck of a gasoline tank and the cap occupying an open position.

Figure 3 is a fragmentary perspective view, partly in section, illustrating the same.

Referring in detail to the drawing, the numeral 1 indicates a fragmentary portion of a motor vehicle body, 2 a fragmentary portion of the gasoline tank concealed in the body and having a filling neck 3 extending outwardly of the body to permit filling of the tank with gasoline in the usual manner. A keeper 4 is formed on the receiving end of the neck and hinged to said neck opposite to the keeper is a cap 5. The hinge for the cap 5 is indicated by the numeral 6 and includes a spring 7 which acts on the cap to position the same to open the filling neck. A housing 8 is carried by the inner face of the cap and slidably supports a spring pressed latch bolt 9 which is adapted to engage the keeper 4 when the cap is moved into neck-closing position and thereby secure the cap against unauthorized opening. A flexible element 10 is secured on the inside of the neck and to the latter and is engaged by the latch bolt when the latter contacts the keeper. The flexible element 10 has a certain amount of resiliency and is engaged by a plunger 11 forming a core to an electrical solenoid 12, the latter having conductors 13 connected thereto which lead to an electric switch and electrical source (not shown). The solenoid 12 includes a sleeve 14 in which the plunger or core 11 slides and is screw threaded and adapted to be threaded in an opening formed in the neck 3 of the tank permitting the solenoid to be arranged exteriorly of the filling neck and to permit the plunger to enter the neck for engagement with the flexible element 10. The core also includes an armature head 15 adapted to be attracted by the energization of the winding of the solenoid which imparts movement to the core or plunger and forces the flexible element 10 to retract the latch bolt 9 permitting the spring 7 to move the cap into an open position. After the filling of the tank with gasoline, the attendant closes the cap, the latch bolt moves into engagement with the keeper and prevents said cap from again assuming open position until released by the energization of the solenoid. As the latch bolt 9 engages the keeper 4 it also engages the flexible element 10 and forces the plunger 11 to slide, positioning the armature head 15 away from the winding of the solenoid. The solenoid including the sleeve 14 for slidably supporting the core or plunger 11 and acting as an attaching medium of the solenoid on the filling neck, will prevent electrical sparks that may be developed by the energization of the solenoid from contacting gasoline within the filling neck. The solenoid is preferably mounted in the body 1 of the automobile so that the solenoid cannot be conveniently tampered with. The control switch (not shown) for the solenoid is conveniently located within the body of the automobile so that the driver in a seated position may release the cap 5. Thus it will be seen that when the automobile has its doors locked and windows closed and left by the attendant, the present device cannot be operated without mutilation of the vehicle thereby greatly retarding the theft of gasoline from the automobile when left unattended.

What is claimed is:

In a latch mechanism of that type for securing a closure member latched to a hollow member, a housing adapted to be fixed to one of said members, a spring pressed latch bolt slidably mounted in said housing and normally maintained by the spring in a projected position relative to said housing, and a flexible element adapted to be secured to the other member and engaging said bolt when in projected position and operable to effect operation of said bolt to a retracted position.

WILLIAM M. McNEELY.