Nov. 17, 1931. T. F. CULLINAN 1,832,362

MOTOR LOCK

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Fig. 1.

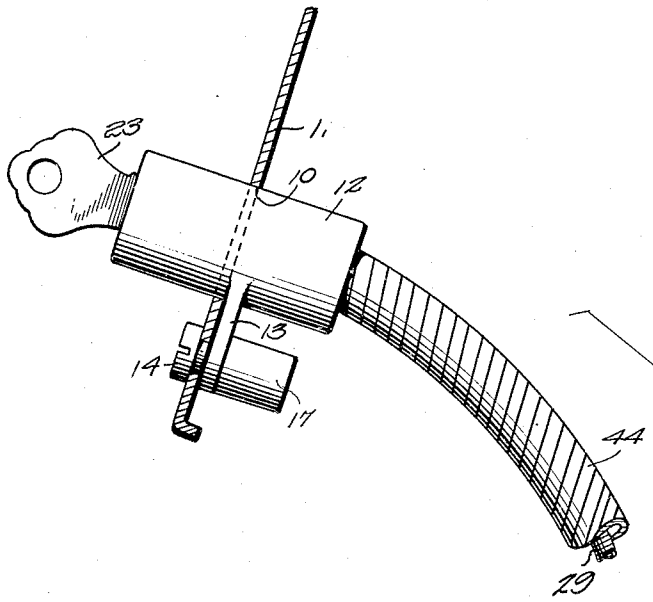

Fig. 2.

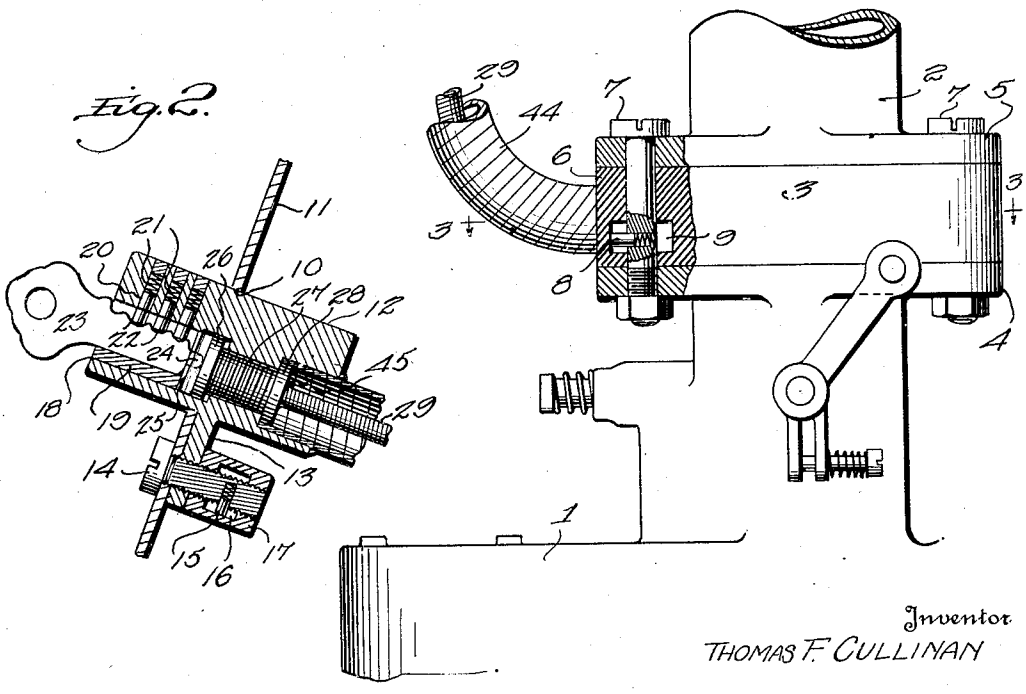

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Fig. 3.

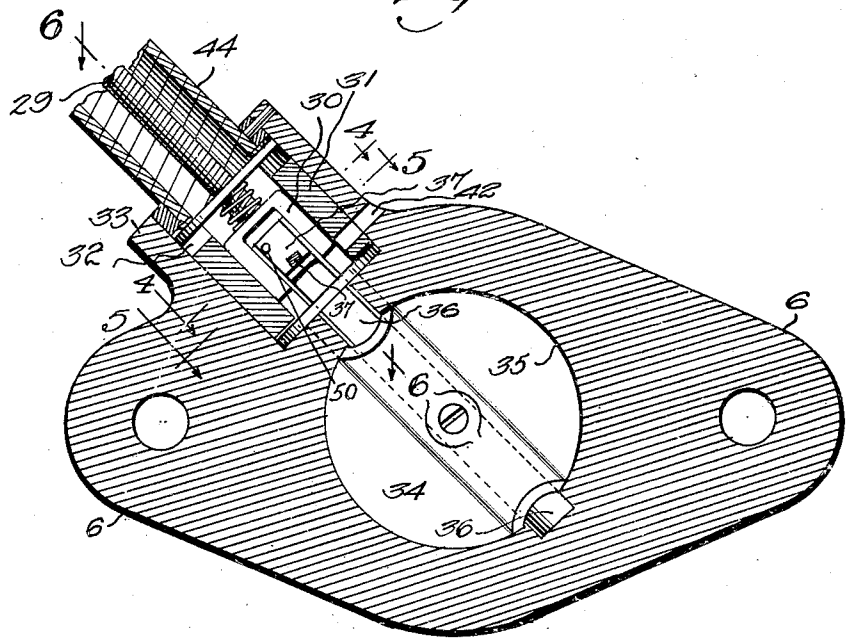


Fig. 4.

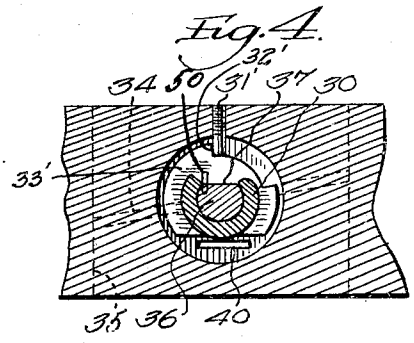


Fig. 5.

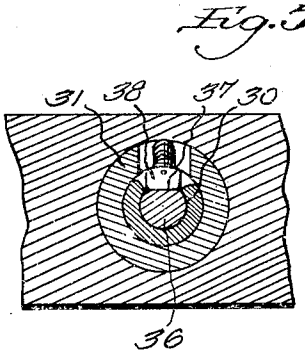
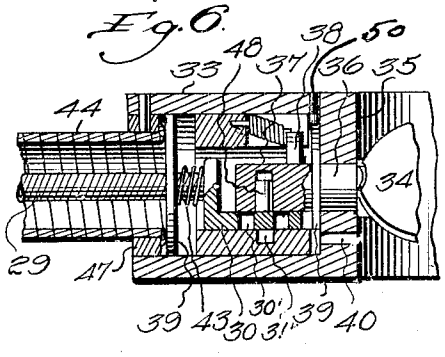


Fig. 6.



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Patented Nov. 17, 1931

1,832,362

UNITED STATES PATENT OFFICE

THOMAS FRANCIS CULLINAN, OF JOHNSON CITY, TENNESSEE

MOTOR LOCK

Application filed January 27, 1930. Serial No. 423,732.

My invention relates to improvements in motor locks and while particularly designed for use in connection with motors employed in automobiles or motor vehicles, may be capable of use in connection with motors of any character where it would properly function.

One object of my invention is the provision of a motor lock which will be operated and controlled directly from the dash or instrument board of the vehicle and thus be under perfect control of the driver of the machine.

Another object of my invention is the provision of a motor lock which cannot possibly be operated except by a person having the necessary key and which will thus be practically free from outside interference or access.

Another object of my invention is the provision of a motor lock of the character described which will be operated from the dash or instrument board and which can be instantly locked and released by the proper person and which will be entirely concealed from view to provide an ornamental and attractive adjunct to the automobile.

Another object of my invention is the provision of an automobile lock for the motor which will prove absolutely reliable under all conditions, which will be simple, strong and durable in construction to withstand the necessary uses, which can be produced at a small cost and which generally in every particular will prove practical, desirable and efficient.

With these objects in view, my invention consists of a motor lock embodying novel features of construction and combinations of parts substantially as described and claimed, and as shown in the accompanying drawings, in which:

Figure 1 represents a side elevation of the complete motor lock broken away and shown in proper relation to the carburetor and manifold.

Figure 2 represents a section of the key-operated mechanism of my lock and mounted in the dash-board.

Figure 3 represents a sectional view taken on line 3—3 of Fig. 1.

Figure 4 represents a sectional view taken on line 4—4 of Fig. 3.

Figure 5 represents a sectional view taken on line 5—5 of Fig. 3, and

Figure 6 represents a sectional view taken on line 6—6 of Fig. 3.

Referring by numeral to the drawings, in which similar numerals of reference are used to designate the same parts in all the views:

The numeral 1 designates the carburetor, 2 the manifold and 3 the block or mounting in which the butterfly valve is disposed, and the flanges 4 of the carburetor and 5 of the manifold are bolted to the flanges 6 of the valve mounting by means of the bolts 7, said bolts being prevented from improper release by means of the spring-actuated pin 8 which when the bolts are driven home move into the channels 9, and effectually prevent the removal of said bolts and provide a reliable locking means for said bolts.

Mounted in an opening 10 of the dash-board 11 is the cylindrical member 12, which member is provided with a depending portion 13 which forms a means of securing the member 12, through the medium of the screw 14 carrying the spring locking pin 15 which seats in the channel 16 of the fastening nut 17, thus securing said cylindrical member 12 to the dash-board in a manner to prevent its improper removal.

The outer portion of the cylindrical member is formed with an annular chamber 18 in which is mounted the rotary barrel 19 having the series of openings 20 to allow the passage of the series of spring-actuated locking pins 21, which are adapted to be engaged by the notches or recesses 22 of the key 23, which key operates to raise said bolts and permit the turning of the rotary barrel 19, as will be readily understood. The key is formed at its inner end with a lug 24 which is adapted to engage the key-way 25 in the outer head 26, of the threaded member 27, which rotates in said cylindrical member 12, and which is also provided at its inner end with the head 28.

From this construction it will be observed that the key is inserted in the rotary barrel in the usual manner and the lug thereon fits in the key-way of the threaded member 27, and is capable of a complete revolution by

the similar revolution of the barrel, and connected with said head 28 is the inner end of the torsional cable or connection 29, whose other end is connected to the yoke 30, which is mounted in a ring 31 disposed in the chamber 32, of the projecting portion 33, of the valve mounting. While the barrel is given a complete turn, the yoke which is connected to the torsional connection is only given a one-fourth turn by reason of its construction and the fact that such construction is desired in giving only a quarter-turn to the butterfly valve 34, mounted in the opening. Said valve carries the stem 36, which is provided with a flat portion 37, engaged by the spring dog or pawl 38, which holds the stem against accidental or improper movement. Said stem 36, is engaged by the yoke 30, and through the turning of said yoke is given a quarter-turn and imparts a similar turn to the butterfly valve 34. The butterfly valve is limited in its movement by means of the pin 31′ engaging the notch 32′ in the rotary member 33′. The stem on the valve is properly guided and retained by means of the pin 48. Interposed between the yoke and between the ring and inner portion of the chamber in the projection are washers 39. An inlet 40 is provided in the wall 41, which leads to the inlet 42 to the outer atmosphere, and a spring 43 is placed between the washer and yoke to retain the parts in proper location.

From the foregoing description taken in connection with the drawings, it will be understood that the key is inserted in the rotary barrel and said barrel is given a full turn, the effect of which is to tighten the torsional connection and give it a part turn, which turns the butterfly valve a quarter-turn and that a similar movement of the barrel in the opposite direction returns the valve to the reverse position, thus a turn in one direction opens the valve while a turn in the opposite direction closes the valve, and for the purpose of protecting the torsional connection, I provide the metal covering 44, one end 45 of which is secured to the cylindrical member carried by the dash-board and the other end 46 is secured by the clamping ring 47, mounted in the chamber of the projecting portion of the valve mounting.

In Figures 4, 5 and 6 is shown most important details of construction of my invention and it will be noted that the spring 43, holds the yoke 30, in normal position, and that should the connection 29, be broken, the yoke will move inward uncovering the recess 31″, and the opening 30′, in the yoke 30, registers with the recess 31‴, allowing the pin 48, to drop therein and absolutely lock the stem 36, and prevent access to or movement of the valve 34, and this is a guard or theft preventing means.

It will also be noted that the spring dog or pawl 38, bears normally upon the flat face 37, of the said stem 36, and holds it in proper place, and also that the yoke 30, is limited to a quarter turn by the lug or stop 50, seen in Figures 4 and 6.

I claim:

1. In a motor lock of the character described, a valve including a torsional connection and a mounting or block, an extension leading from said block and formed with a chamber, a valve pivoted in said block, a stem extending from said valve into the chamber of said extension, a collar mounted in said chamber and surrounding said stem, said collar being capable of a part revolution in said chamber, a stop for limiting the movement of said collar, a yoke shaped member mounted in said partially rotatable collar and capable of a rotary and sliding movement, a spring cushioned connection with said torsional connection and said yoke shaped member, and means for locking the valve in closed position upon breakage of the torsional connection between the lock and yoke shaped member.

2. In a motor lock of the character described, a valve including a torsional connection and a mounting or block, an extension at one edge of said block formed with a chamber, a valve pivoted in said block and having a stem extending into said chamber, a collar surrounding said stem and formed with a cut out portion, a pin mounted in said extension of said block and serving to lie in the path of said cut out portion to limit the turning of said collar, a yoke shaped member fitting in said collar and having connection with the torsional connection from the lock, a sliding pin in the stem of the valve, a recess in said collar to receive said sliding pin to lock said valve upon breakage of the torsional connection with said sliding yoke shaped member, and a spring between the yoke shaped member and torsional connection to force said member inward to cause register of the sliding pin in the stem and the recess in said collar.

In testimony whereof I affix my signature.

THOMAS FRANCIS CULLINAN.