Nov. 13, 1923. 1,474,211

H. W. SCHOFF

AUTO LOCK

Filed Dec. 30, 1922 2 Sheets-Sheet 1

Fig. 9.

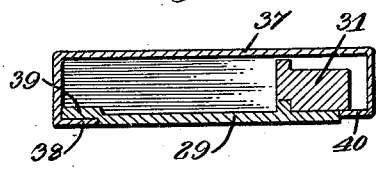
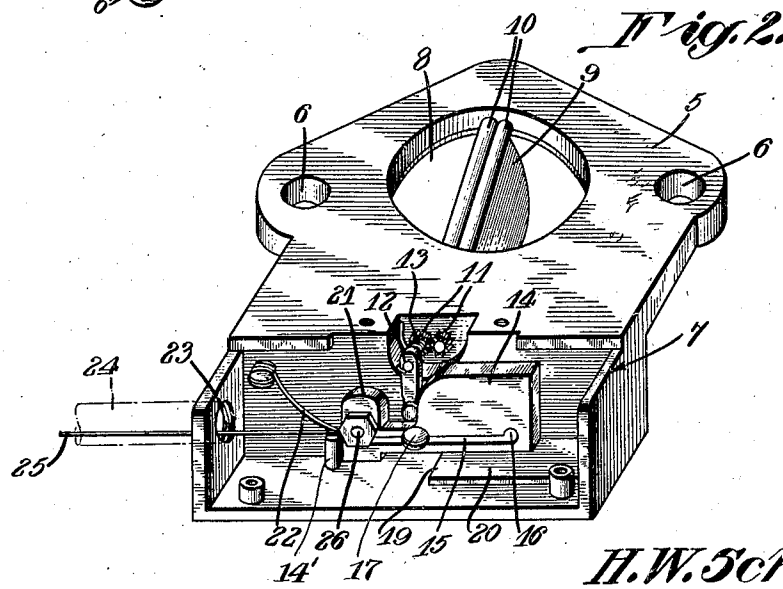


Fig. 1.

Fig. 2.



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Filed Dec. 30, 1922 2 Sheets-Sheet 2

Fig. 3.

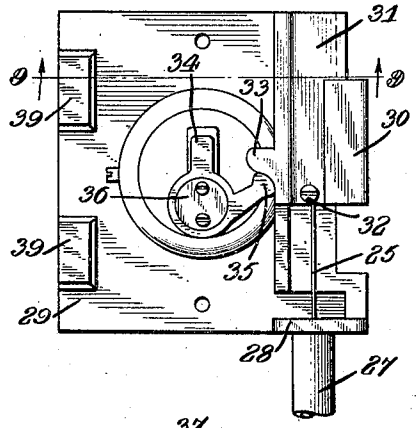
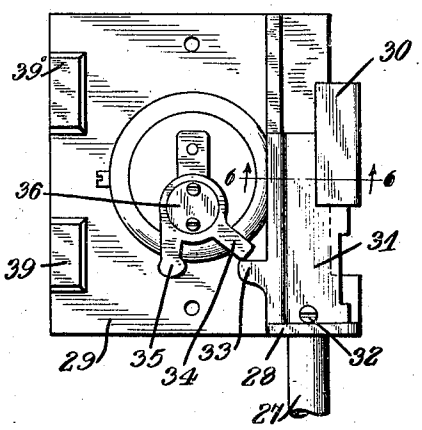


Fig. 4.



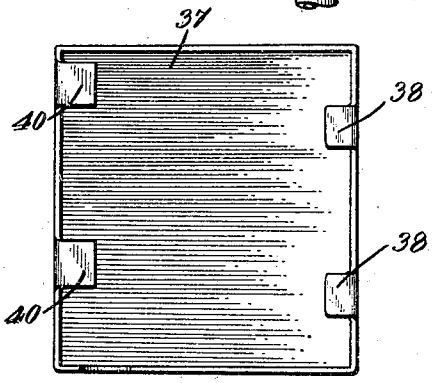


Fig. 5.

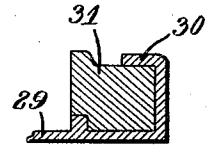
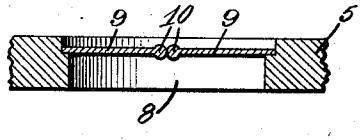


Fig. 6.

Fig. 7.



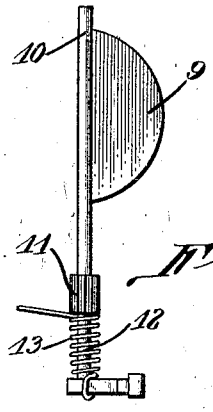


Fig. 8.

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Patented Nov. 13, 1923. 1,474,211

UNITED STATES PATENT OFFICE.

HENRY W. SCHOFF, OF RIVER FOREST, ILLINOIS.

AUTO LOCK.

Application filed December 30, 1922. Serial No. 609,986.

To all whom it may concern:

Be it known that I, HENRY W. SCHOFF, a citizen of the United States, residing at River Forest, in the county of Cook and State of Illinois, have invented a new and useful Auto Lock, of which the following is a specification.

This invention has reference to motor vehicle locks and aims to provide novel means associated with the intake manifold of a motor to restrict the passage of fuel from the carburetor to the cylinders of the motor.

An object of the invention is to provide a device of this character including pivoted closures adapted to be controlled from the operator's seat, whereby the operator may prevent the passage of fuel through the intake manifold of a motor.

A further object of the invention is to provide means for automatically returning the closure to its open position after the lock associated with the device has been actuated to unlock the device, thereby insuring against the closure remaining in its closed position.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:—

Figure 1 is an elevational view disclosing the relation between the lock on the instrument board and lock positioned in the intake manifold.

Figure 2 is a perspective view of the lock positioned in the intake manifold, the cover thereof being removed.

Figure 3 is an elevational view of the lock used on the instrument board, the cover thereof being removed.

Figure 4 is an elevational view of the lock positioned on the instrument board disclosing the mechanism thereof in its unlocking position.

Figure 5 is a bottom plan view of the cover.

Figure 6 is a sectional view taken on line 6—6 of Figure 4.

Figure 7 is a sectional view through the closure, used in the intake manifold.

Figure 8 is an elevational view of one of the sections of the closure.

Figure 9 is a sectional view taken on line 9—9 of Figure 3.

Referring to the drawings in detail, the reference character 5 designates a plate which is positioned between the outlet opening of a carburetor and the inlet end of an intake manifold of a motor, openings 6 being provided to receive the usual connecting bolts employed at this point.

Formed integral with the plate is a box-like structure indicated at 7 which is provided with a cover not shown, and which houses the mechanism employed for operating the closures or valve sections designed to control the passage of fluid through the intake manifold.

As shown an opening 8 is formed in the plate 5, the opening being circular in formation and of a diameter equal to the diameter of the usual intake pipe of a manifold so that the walls of the opening form continuations of the intake pipe. Operating within the opening are the segmental closures or valve members 9, each of which is supported on a shaft 10, the shafts being positioned in suitable openings in the wall providing bearings for the shafts.

These shafts extend beyond one wall of the box-like structure 7 and are supplied with pinions 11 which are in mesh, so that movement of one shaft will result in a relative movement of the adjacent shaft. One of these shafts is of a length greater than the opposed shaft where the same supports the depending arm 12 there being provided a spring member 13 coiled around this extension and associated with the arm 12 in such a way as to cause the arm 12 to move to a position as shown by Figure 2 of the drawings, after the mechanism has been operated to release the arm, in a manner to be hereinafter more fully described.

Movable through the box-like structure is a sliding block 14 that moves between the pin 14′ secured to the bottom wall of the box-like structure and extends upwardly to engage the member 14 and provide a guide therefor. This block extends up-

wardly to contact with the arm 12 when the same is moved longitudinally of the box-like structure 7 to accomplish the operation of the shafts 10. A slot 15 is formed in the block 14, which slot has an enlarged end portion 16 to accommodate the screw 17 when the block 14 has been moved a predetermined distance in the box-like structure 7 as by means of an instrument forced within the box-like structure to operate the block, thereby permitting the block to fall down to a position behind the shoulder 19 at one end of the plate 20, and prevent reverse movement of the block it being understood that the spring member 22 to be hereinafter more fully described is of sufficient strength to prevent the block 14 from moving to a position behind the shoulder 19 under the normal operation of the lock.

At the forward end of the block 14 is an upwardly extended enlargement 21 that contacts with the spring member 22 secured to one wall of the box-like structure 7, whereupon movement of the block 14 in one direction exerts a tension on the spring 22 so that when the block member 14 is released, the spring 22 will return the same to its normal or inactive position as shown by Figure 2 of the drawings.

It might be further stated however that the structure of the members 9 is such as to completely close the opening 8 when they have been moved to their active positions, thereby cutting off the passage of fuel through the intake manifold.

An opening indicated at 23 is provided in one end of the box-like structure, the wall thereof being threaded to accommodate the threaded end of the pipe 24, through which the controlling wire 25 moves. One end of the controlling wire has connection with the block 14 as at 26 so that movement of the controlling wire will result in a movement of the block 14.

Associated with the pipe 24 is a pipe 27 which is of less diameter than the pipe 24 to permit the same to move or telescope within the pipe 24, thereby adapting the device for use in connection with automobiles of various sizes, it being obvious that by moving the pipes 24 and 27 with respect to each other, the lengths of the pipes may be varied.

The upper end of the pipe 27 is threaded and is positioned in a suitable opening in the flange 28 formed integral with the plate 29 providing the base of the locking mechanism which is supported on the usual instrument board of a motor vehicle.

This plate 29 is provided with an inwardly extended flange 30 formed intermediate the ends of one of the side edges of the plate as shown by Figure 4, the extremity of the flange being disposed in spaced relation to the plate 29 to provide a guideway for the movable actuating block 31. The controlling rod 25 has connection with this block 31 as at 32, whereby upon movement of the block 31, the wire 25 is also operated to accomplish the movement of the block 14, and parts associated therewith.

A laterally extending lug indicated at 33 is formed on the block 31 and is designed to contact with the fingers 34 and 35 carried on the shaft 36 of the usual lock structure to accomplish the moving of the controlling wire 25.

The cover for the plate 29 is indicated at 37 and is provided with inwardly extended fingers 38 formed at one side thereof, which fingers are adapted to be positioned in the depressions 39 of the plate to secure the cover against lateral movement. Fingers 40 extend inwardly from the opposite side of the cover 37 and are adapted to lie under the movable block 31, whereby the cover is locked to the plate 29 and may only be removed by operating the lock to move the block 31 to the limit of its upward movement.

In the use of the device assuming that it is desired to cut off the passage of fuel to the intake manifold of a motor vehicle, the lock mechanism is operated and the shaft 36 rotated. As the shaft is rotated the block 31 is moved to a position as indicated by Figure 3 of the drawings, whereupon the controlling rod 25 moves the block 14 causing the closures 9 to move to their closed positions.

When it is desired to open the passageway, leading to the intake manifold, the locking shaft 36 is operated whereupon the springs 22 and 13 operate to return the mechanism to its original and unlocked position.

What is claimed is:—

1. In a device for cutting off the passage of fluid through an intake manifold, a plate having an opening and secured at one end of the intake manifold, hinged valve members supported by the plate and adapted to close one end of the intake manifold shafts for supporting the valve members, pinions carried by the shafts, an arm carried by one shaft, a sliding block cooperating with the arm for moving the arm and shafts to close the valve members, means for moving the block, and means for locking the block against movement.

2. In a device of the character described, a plate having an opening and adapted to be secured to one end of an intake manifold, a box-like structure forming a part of the plate, a sliding block operating in the box-like structure, valve members supported in the opening, shafts supporting the valve members, an arm carried by one of said shafts and adapted to lie in the path

of travel of the sliding block to move the shafts, means for moving the sliding block to operate the shafts, and means for preventing movement of the block in the reverse direction.

3. In a device of the character described, a plate having an opening formed therein and adapted to be secured to one end of an intake manifold, valve members supported in the opening and adapted to normally close the opening to restrict the passage of fluid therethrough, shafts supporting the valve members, a depending arm carried by one of the shafts, a slidable block supported by the plate and adapted to move into engagement with the arm to move the shafts, a plate on which the block moves, one edge of the plate presenting a shoulder, means for moving the block, and said block adapted to move down behind the shoulder to restrict movement thereof when the same has been moved to the limits of one of its movements, and means for locking the block against movement.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY W. SCHOFF.

Witnesses:
ETHEL M. COLEMAN,
ALICE M. GRIFFEN.