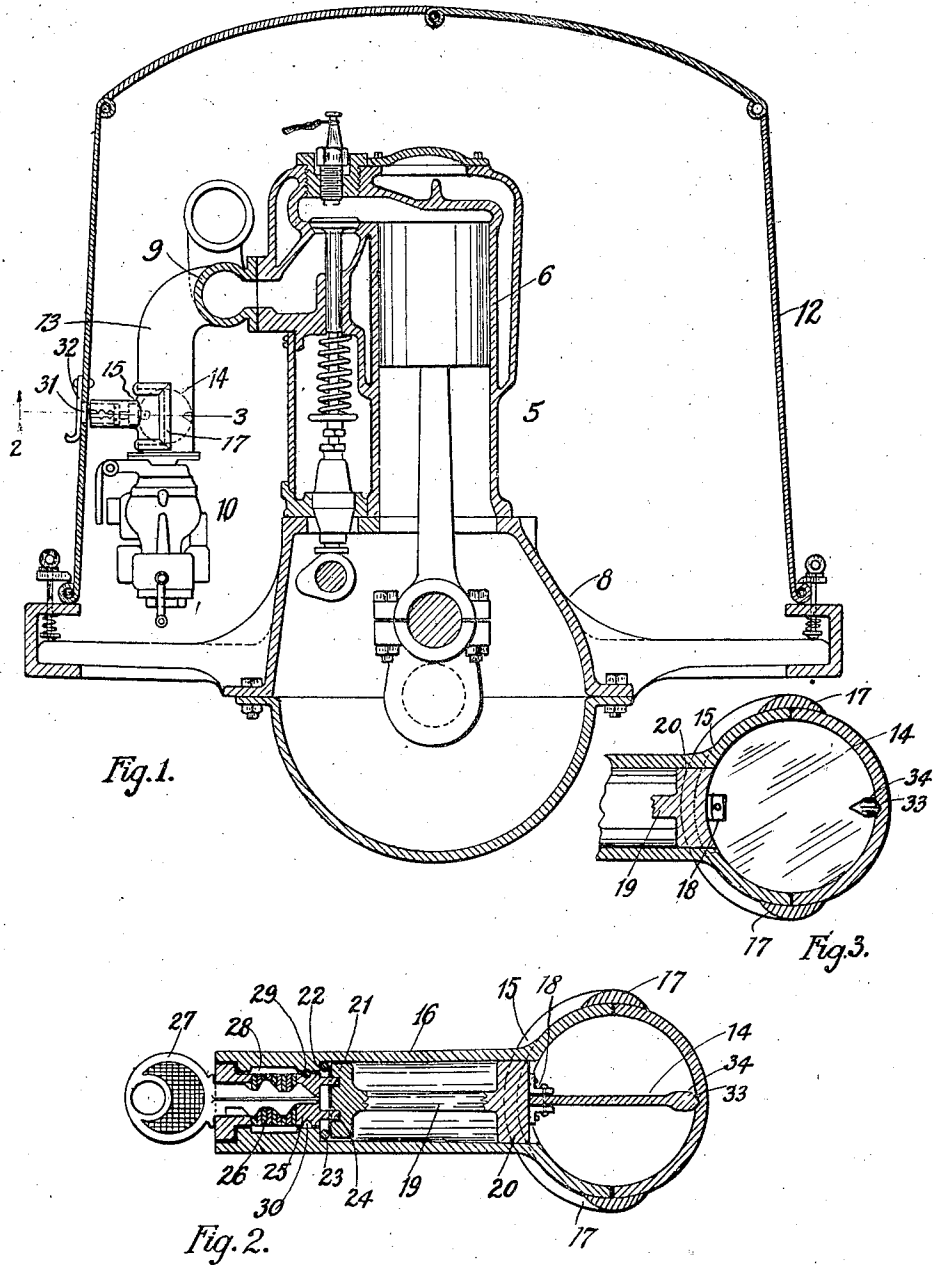


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MOTOR MANIFOLD LOCKING DEVICE.
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MOTOR-MANIFOLD-LOCKING DEVICE.

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To all whom it may concern:

Be it known that we, CHARLES E. COCHRANE and SAMUEL F. MCGREW, citizens of the United States, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Motor-Manifold-Locking Devices; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

Our invention relates to means for cutting off the explosive mixture from the intake manifold of internal combustion engines, in order to prevent an unauthorized person from operating the engine and stealing the automobile with which the engine is equipped. In our improvement we locate a cut-off in the conduit between the carbureter and the intake manifold, the construction being such that the cut-off may be locked in position to prevent the passage of the explosive mixture from the carbureter to the intake manifold, whereby it is necessary to have a key to unlock the cut-off. Any suitable lock of ordinary construction may be employed for this purpose. The regular Yale tumbler lock or a lock of any other suitable construction may be employed since our device is adapted for use with various types of locks.

Having briefly outlined our improvement, we will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof. In this drawing

Figure 1 is a section taken through the hood and one of the cylinders of an internal combustion engine, our improved cut-off being arranged in coöperative relation with the carbureter and manifold.

Fig. 2 is a section taken through the conduit where our improvement is located, the latter being also shown in section. The section is taken on the line 2-3 Fig. 1, the parts, however, being shown on a much larger scale.

Fig. 3 is a detail view similar to Fig. 2 showing the valve member closed.

The same reference characters indicate the same parts in all the views. Let the numeral 5 designate an internal combustion engine; 6 one of the cylinders thereof; 8 the

crank case; 9 the intake manifold; 10 the carbureter and 12 the hood. In the conduit 13 which connects the carbureter with the intake manifold, we locate a cut-off valve 14 of suitable construction. In the drawing an ordinary butterfly or disk valve is illustrated though it must be understood that the invention is not limited to any specific construction of valve piece as various modifications of this feature may be employed without in any way departing from the spirit of the invention. The conduit 13 is provided with an opening which extends half way around the same, and this opening is closed by the expanded semi-cylindrical extremity 15 of a hollow cylindrical member 16 which extends outwardly from the conduit at right angles thereto. This semi-cylindrical part 15, is fitted to the edge of the conduit which surrounds the opening in the latter, and brazed or soldered in place as shown at 17 so that it may be removed and attached at will. The difficulty, however, and the tools required in order to effect such removal, are such that it will be hardly practicable for an automobile thief to resort to this act; but if he should succeed in removing the device, the opening in the conduit 13 is so large that the intake of air would make it impossible for a sufficiently rich explosive mixture to enter the cylinders of the engine to produce explosions. Hence our improved lock is a perfect safeguard against automobile thefts.

Connected with the valve piece or cut-off 14 as shown at 18, is a stem 19 whose inner extremity is enlarged to form a plug 20 which closely fits within the member 16, in order to prevent the passage of the explosive mixture around the disk or valve piece when the latter is in the closed position. The outer extremity of the stem 19 is also enlarged as shown at 21 to fit closely within the member 16, the latter being interiorly shouldered as shown at 22 in order to prevent the removal of the stem through the outer open extremity of the member 16. Between the enlargement 21 and the shoulder is a gasket 23 which forms a tight joint. Connected with the enlargement 21 by means of projections 24 is the barrel 25 of a suitable lock, said barrel being equipped with tumblers 26 which when the key 27 is not inserted, extend outwardly into recesses 28 formed in opposite sides of the member 16, thus making it impossible to turn the barrel except by the use of the key, hence the valve piece 14 cannot be moved out of its position when arranged to cut off the

passage of the explosive mixture from the carbureter to the intake of the engine. The lock barrel is held in place within the outer portion of the member 16 by means of a pin 29 which is passed through a segment of the member 16, and engages a circumferential groove 30 formed in the lock barrel, thus allowing the latter to rotate within the member 16, but preventing its removal.

It will thus be understood that the stem 19 is connected with the valve piece or cut-off 14, and is so arranged within the cylindrical member 16 that the explosive mixture may be effectually cut off from the intake of the engine when the valve piece 14 is properly adjusted. In the drawings this valve piece is shown in the normal position or in position to allow the explosive mixture to pass freely from the carbureter, through the conduit 13 to the intake. When however, the owner of the automobile equipped with our improvement leaves the same, he will insert the key 27 into the lock barrel and rotate the latter sufficiently to cause the valve piece or cut-off 14 to assume the horizontal position within the conduit 13, after which he will remove the key and the cut-off will be locked in position to prevent the passage of the explosive mixture to the intake of the engine hence no use can be made of the engine and the automobile is safe from theft.

As illustrated in the drawing, the hood 12 is provided on the side adjacent our improvement with an opening 31 through which the key 27 may be inserted for the purpose of operating the cut-off either for locking or unlocking purposes. This opening is preferably normally closed by an adjustable cover 32 which may be pivoted or hinged in such a manner as to normally maintain its position of adjustment, thus preventing dust or dirt of any kind from entering the key-hole of the lock.

Attention is called to the fact that the conduit 13 is provided with a recess 33 which receives a pointed or rounded part 34 formed on the valve piece 14, whereby the latter is accurately held in place within the conduit.

Having thus described our invention, what we claim is:

1. In a motor manifold locking device, the combination with a conduit in communication with the intake manifold of an internal combustion engine, said conduit having a relatively large side opening formed by removal of a portion of the conduit wall, of a cut-off valve located in said conduit, a tubular member united to said conduit by means of fusible metal to close said opening, a lock located in said tubular member, and an operative connection between said lock and said cut-off.

2. In a device of the class described the combination with a conduit in communication with the intake manifold of an internal combustion engine, said conduit having a relatively large side opening formed by removal of a portion of the conduit wall, of a cut-off located in said conduit, a tubular member brazed to said conduit to close said side opening, a lock located in said tubular member, and an operative connection between said lock and said cut-off.

3. The combination with a conduit for the passage of fluid to an internal combustion engine, said conduit having a relatively large side opening, a cut-off member arranged within said conduit, a tubular member having its extremity expanded and brazed to the conduit to close such side opening, a lock located in said tubular member and a rotary stem connecting the lock and the cut-off member.

4. The combination with a conduit for the passage of fluid to an internal combustion engine, said conduit having a relatively large side opening, a cut-off member arranged within said conduit, a tubular member having its inner extremity expanded and brazed to the conduit to close such side opening, a lock located in said tubular member and a rotary stem connecting the lock and the cut-off member, the inner extremity of said stem consisting of a plug which tightly closes the tubular member adjacent to the conduit.

5. The combination with a conduit through which the explosive mixture passes to an internal combustion engine, said conduit having a semi-cylindrical opening, a cut-off member arranged within the conduit, adjacent said opening, a tubular member having its inner extremity expanded to form a semi-cylindrical part adapted to close said opening in the conduit and brazed to the latter whereby it is attachable and detachable, a lock within said tubular member, and an operative connection between said lock and the cut-off member.

6. In a device of the class described the combination with a conduit in communication with the intake manifold of an internal combustion engine, said conduit having a relatively large side opening formed by removal of a portion of the conduit wall, of a cut-off located in said conduit, a tubular member soldered to said conduit to close said side opening, a lock located in said tubular member, and an operative connection between said lock and said cut-off.

In testimony whereof we affix our signatures.

CHARLES E. COCHRANE.
SAMUEL F. MCGREW.