Jan. 9, 1923. 1,441,317

J. R. WALSH ET AL.
INTAKE MANIFOLD LOCK.
FILED AUG. 28, 1920.

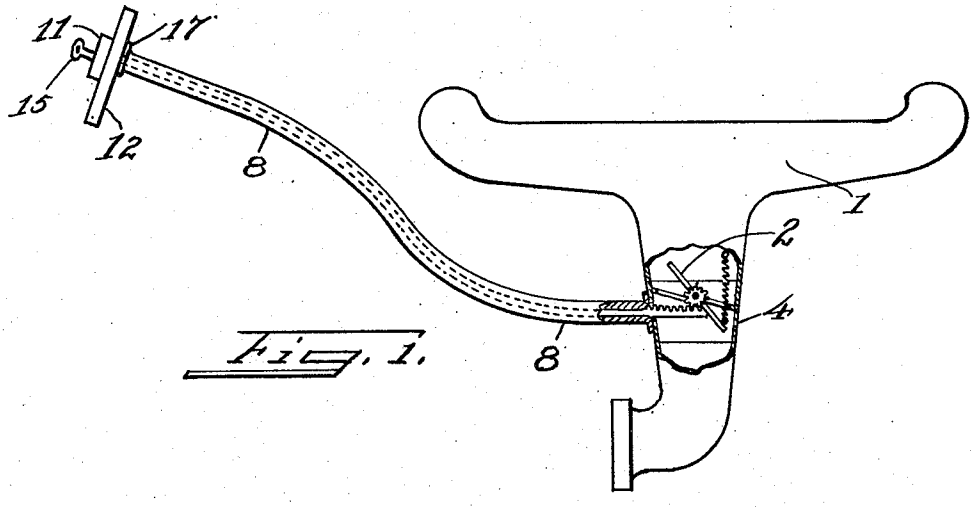


Fig. 1.

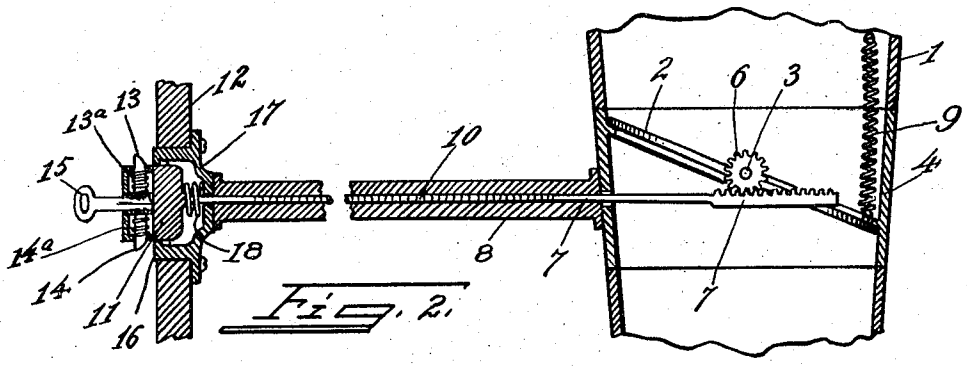


Fig. 2.

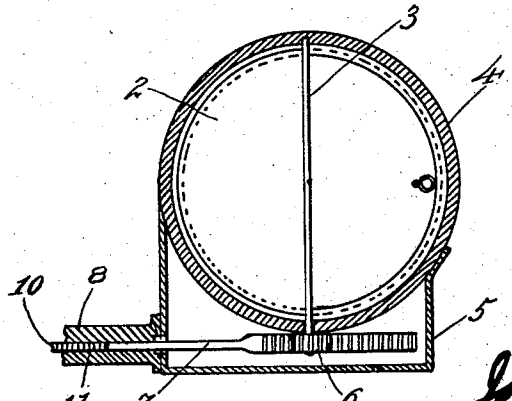


Fig. 3

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Patented Jan. 9, 1923. 1,441,317

UNITED STATES PATENT OFFICE.

JOHN R. WALSH AND JOHN J. OSTERMANN, OF COVINGTON, KENTUCKY.

INTAKE-MANIFOLD LOCK.

Application filed August 28, 1920. Serial No. 406,632.

To all whom it may concern:

Be it known that we, JOHN R. WALSH and JOHN J. OSTERMANN, citizens of the United States, and residents of Covington, in the county of Kenton and State of Kentucky, have invented a certain new and useful Intake-Manifold Lock, of which the following is a full, clear, and exact description, reference being made to the drawings forming part of this specification.

This invention relates to locks for carbureters and manifolds of internal combustion engines, whereby an unauthorized person cannot move a motor vehicle under its own power, unless possessed of the key for opening the lock.

We are aware that it has been proposed in the past to provide means for cutting off the flow of fuel to an automobile engine, in order to prevent the stealing of the vehicle, but according to our experience these devices have not been practical and are easy to render ineffective by a person familiar with them.

It is our object to provide means for shutting off the fuel to the engine through the intake manifold by means of a valve controlled from the driver's seat of a motor vehicle, this valve being such that if the controlling devices therefor are broken it will seat of itself in position to prevent flow of gas through the manifold.

We accomplish our objects above stated and other advantages by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings,

Figure 1 is a side elevation partly broken away showing our invention as applied to a motor vehicle.

Figure 2 is a detail sectional view taken vertically through the device as installed. The sectional view is shown broken away to illustrate the locking rod in two positions the portion on the left with the device unlocked and the portion on the right locked.

Figure 3 is a central horizontal section taken through the device.

The intake manifold of an internal combustion engine is shown at 1 within the trunk of which is set a butterfly valve 2, the same being inserted in any convenient manner, and adapted when closed to shut off such a substantial portion of the trunk of the manifold that a motor vehicle to be driven by fuel passing through the manifold will not operate.

The valve has a shaft 3 which is set into the manifold trunk and supports the valve on a suitable axis. One method of inserting the valve is to insert a section 4, into the trunk, in which the valve disk is mounted, and the pin or shaft set at one end in a small socket drilled in the inside of the trunk the pin being set through a hole bored through the wall of the section just below the slot. The insert section will be welded into place.

A casing 5 is made part of the insert, the same being adjacent the valve, said casing being welded into place. A pinion 6 on the outer end of the valve shaft is engaged within this casing by a rack 7, mounted and guided in a tube 8 extending from the casing or housing 5.

A spring 9 is provided suitably hung inside of the manifold, and engaged with the butterfly valve to pull it to closed position, should it be otherwise released.

The rack is engaged and operated by a flexible shaft 10 extending through the tube 8 which is heavy, case-hardened tubing and has a small passageway to the dash 12 of a motor car. On the end of the flexible shaft is lock 11 which has two dogs 13 and 14 therein under control of suitable springs 13^a, 14^a which tend to push them outwardly. A key 15 acts to control the dogs by means of any form of lock which will pull them inwardly when the key is revolved.

The lock dogs engage behind the ribs 16, of a casing 17, in which the lock slides, this casing being connected to the case-hardened tube. To close the butterfly valve the lock is pushed in, and when it is desired to operate the car the key is used to release the lock dogs. We mount a spring 18 within the casing 17 behind the lock 11, which acts to thrust the lock outwardly, to open the butterfly when the dogs are released. The tension of the spring 18 is much greater than that of the spring 9, so that the moment the dogs 13 are released by turning the key, the spring 18 pushes out the locking rod and opens the valve, and this is against the tension of the spring 9.

The operator may thus lock the car against theft, which involves a thrusting in by him of the movable lock member on the end of the shaft. A thief will have to break the lock or the case-hardened tube to get fuel to the engine. This he will not be able to

do, but if he did manage to break the tube or tear it away the spring 9 would close the valve.

Thus unless the thief take the intake manifold to pieces he will be unable to get gaseous fuel to the engine, which amounts to practical assurance that he will not steal the vehicle under its own power.

It is contrary to most traffic laws to lock the wheels of a vehicle against movement, either by transmission or external locks. It is ineffective to merely lock shut the gasoline pipe to a vehicle, because it can be quickly short cut by rubber tubing. It is also stated to be simple to shunt out of the way an ignition lock to a vehicle. All of these devices do not require the engine to be taken to pieces, and to successfully drive away a car equipped with our lock will necessitate dismounting the intake manifold or breaking it to pieces, which would disable the car.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

In combination with the trunk of an intake manifold, a butterfly valve located therein and inaccessible from without the manifold when the same is mounted on the engine, spring means acting to maintain the butterfly closed, a flexible shaft and hard metal casing therefor, operative connection between the shaft and the valve to positively operate the same in all movements thereof, a lock casing connected to the shaft casing, a lock mounted on the end of the shaft and movable in said casing, said lock being so arranged as to close the butterfly when thrust into the lock casing, and open it when permitted to move partially out of the casing, and spring means for thrusting the lock to valve opening position, said means being stronger than the spring on the valve.

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