June 16, 1925. 1,541,801

R. E. DURNING

VALVE LOCK

Filed Aug. 2, 1924

FIG. 1.

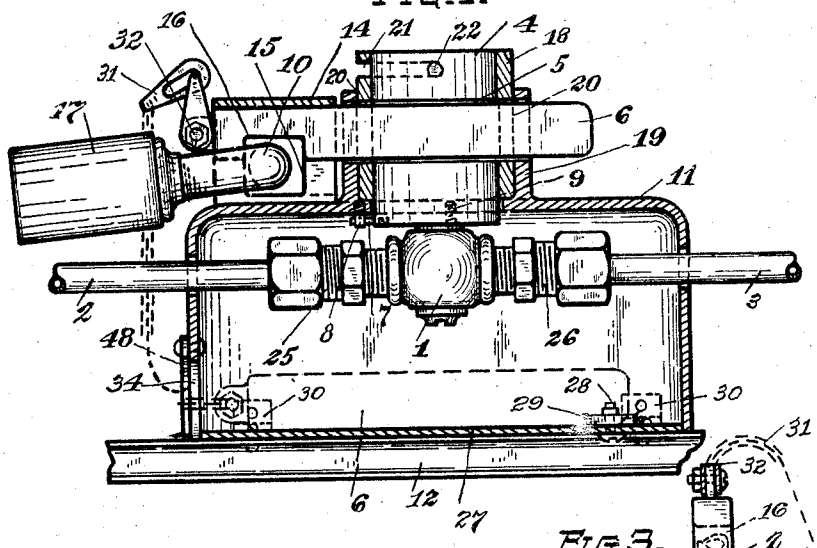


FIG. 3.

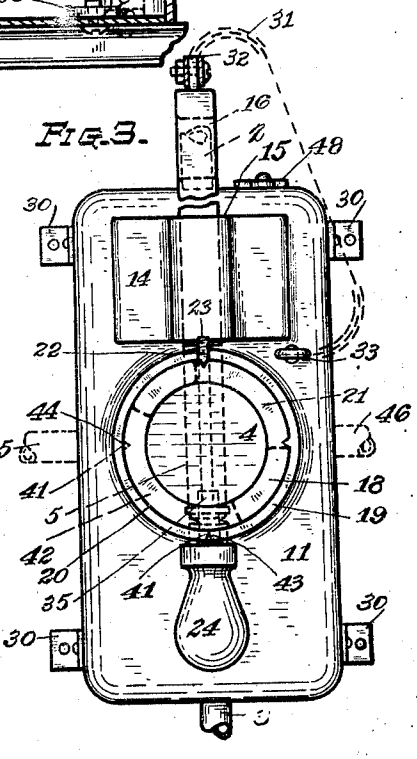


FIG. 2.

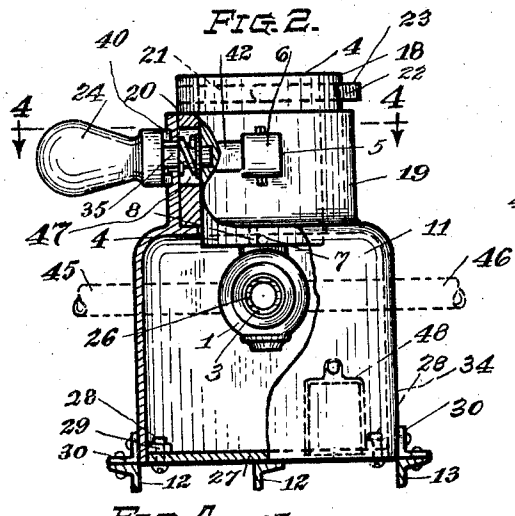
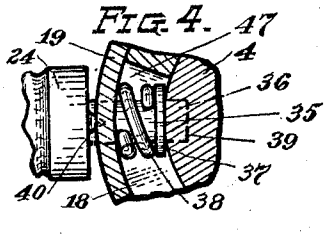


FIG. 4.



ROBERT E. DURNING,
INVENTOR,

BY William A. Hirtle,

Attorney.

Patented June 16, 1925. 1,541,801

UNITED STATES PATENT OFFICE.

ROBERT E. DURNING, OF BELLEVUE, PENNSYLVANIA.

VALVE LOCK.

Application filed August 2, 1924. Serial No. 729,835.

To all whom it may concern:

Be it known that I, ROBERT E. DURNING, a citizen of the United States of America, residing at Bellevue, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Valve Locks, of which the following is a specification.

The present invention relates to a means for locking the gasoline pipe line which ordinarily leads from the gasoline storage reservoir or tank to the carburetor on automobiles, and has for its object the provision of a means which may be locked with a "Yale" type of lock. As is well known in trade, the said type of lock last named possesses a valuable feature in connection with its use for locking the gasoline supply of an automobile, on account of the difficulty of obtaining a duplicate key that will unlock the "Yale" lock, and as a consequence the said supply of gasoline is prevented from reaching the carburetor of the engine, as is at once appreciated.

As will be seen as the description proceeds herein, I have provided a very simple arrangement of parts which accomplish the end sought directly, and efficiently, with no complicated parts liable to get out of order, and as a corrollary, it is believed such a locking means will appeal to the average owner of an automobile on account of its simplicity in parts as well as its operation.

In the accompanying drawings forming part of the present specification, I have illustrated a complete example of the invention in hand, constructed according to the best mode I have so far devised for the practical application of the principles of my invention.

In the drawings Figure 1 is a longitudinal section taken centrally thereof, of my invention applied to a pipe line.

Figure 2 is a view of Figure 1, taken in elevation, and partly in section, looking from the left of said Figure 1.

Figure 3 is a plan view of Figure 1.

Figure 4 is a partial horizontal section of a feature of the device, taken on line 4—4 of Figure 2.

The numeral 1 indicates in the drawings an ordinary "two-way" (or if preferred "four-way") valve, mounted on the gasoline line of piping 2 leading from the gasoline reservoir (not shown) of an automobile, and said valve which is usually of the "globe" type is connected to the pipe 3 which in turn leads to the carburetor of the engine (not shown in the drawings). It is apparent from the figures shown that if the valve 1 cannot be operated by unauthorized persons, as will be explained, that the supply of gasoline cannot reach the engine, and as a result the automobile cannot be operated, and theft is impossible.

The valve 1 has a stem 4, which is formed cylindrical in shape, and same has a passage 5 therethrough, for the purpose of admitting a locking slug or key 6 as shown in Figure 1. The part 4 has a prong 7 which engages the stops 8 and 9 in order to limit the travel of the valve stem 4. The valve 1 is completely enclosed by the casing 11, which is suitably mounted on the beams, (or other parts) 12, 13, etc., of the automobile. The casing has an upstanding U-shaped part 14, which is provided with a transverse perforation 15, and the key 6 has a cutaway portion 16 formed complementary to the said perforation 15, both being adapted to receive the lock ring 10 of the lock 17, which last is preferably of the "Yale" type of lock. The casing 11 has mounted therein the tubular part 18, which may be a driven fit into the neck 19 of the casing 11, or threads may be provided at 20, in order to secure the tube 18 in position. The said tube 18 has a slot 21 which is approximately one-quarter the length of its circumference, as is seen in Figures 1 and 2 of the drawings, the purpose of said slot it is seen is to accommodate the transverse bolt or pin 22.

The said pin 22 passes through the tubular part 18, and also through the valve stem drum 4, and forms a means of supporting said valve stem drum in the tube 18, and the casing neck 19. The end 23 of the pin 22, is extended and preferably threaded, so that a handle similar to handle 24 suitably modified with a female thread may be attached to said pin, and thus provide a means of rotating the valve stem 4, if desired. When such use is not required, the end 23 is sheared even with the exterior of the tube 18.

The pin 7 is mounted in the drum 4, and the stops 8 and 9 are mounted in the inner side of the casing 11, as is at once understood from the drawings. The pipes 2 and 3 are suitably connected at 25, 26 respectively by couplings to the valve 1 as shown, said couplings being completely within the

casing 11, and cannot be reached surreptiously in any way, as the said casing is provided with a bottom plate 27. The bottom plate is fastened by the screws 28, 28 to the inwardly disposed lugs 29, 29 integrally formed with the casing 11. The casing 11 is preferably attached to channels 12, 13 which are a part of the automobile by means of the riveted lugs 30, 30, etc. It is seen from Figure 2, that the bottom plate 27 cannot be removed, on account of being superimposed on the beams or floor of the automobile, and the casing held down by the riveted lugs 30. The key or slug 6 has a chain 31 attached at 32 to same, the other end of said chain being preferably attached to the screw-ring 33, to prevent said key being lost when the automobile is in use, and it will be noted that the perforation 34 is made in the casing 11, in order to place said key in the chamber of said casing when desired.

The preferred way of moving the valve stem drum 4 is by means of the handle 24, which is provided with a stem 35, the inner end 36 of which engages slidably a recess formed for it in the drum 4, as illustrated in detail in Figure 4 of the drawings. On the said handle stem is the collar 37 which is preferably formed integral therewith, and against which the coil spring 38 bears as shown. The spring 38 also bears against the inner wall of the casing neck 19 as shown. It is evident that the handle can reciprocate in the slot 39 when the handle 24 is manually operated to overcome the spring 38, and as a result the prongs 40, 40 can be disengaged from their recesses 41, 41 formed in the outer wall of the casing 19, for a purpose to be described. The casing neck it will be noted has a recess or slot 42, so that the handle stem 35, can travel therein, and operate the valve stem drum 4. When the key 6 is removed from the valve stem, as seen in Figure 3, the handle 24, can be disengaged from the notches 41, and the valve stem rotated from point 43 to 44, or vice versa; thus opening or closing the valve 1 as may be desired. The said notches or recesses 41, 41 provide a means of holding the valve open or shut without manually holding the handle 24.

The operation of the device in hand is as follows. As seen from the Figure 1 of the drawings the valve 1 is in locked position with the key or slug 6 passing through the upstanding part 14, the casing neck 19, the tube 18 and the valve stem drum 4; the ring of the Yale lock 17 being in position and preventing the removal of the slug 6 from said valve stem. When it is desired to use the automobile, the Yale lock is removed, the key 6 taken out and placed in the chamber of the casing 11. The handle 24 is then disengaged from the notches at 44, and rotated to the position shown in Figure 3, and in engagement with notches at 43. Gasoline can then pass through the valve 1 to the pipe 3, and to the carburetor of the engine, as before explained. When the trip is concluded the handle 24 is swung back to point 44, the slug 6 replaced through the valve stem as in Figure 1, the Yale lock replaced in position to lock same, and the automobile is safe against unauthorized operation.

It is noted in passing that the valve may be made a "four-way" valve with additional pipes 45, 46 entering the casing and leading to other parts of the engine, as has been found desirable in connection with the use of a vacuum tank and other devices in some instances, but as this is a matter which pertains to the valve per se rather than the locking device in hand, same will not be more fully described in this place.

From the above it is evident that I have provided a very useful device, which is exceedingly simple in the parts, and use, and yet is certain to accomplish the much desired result of preventing theft of automobiles, as it is a commonly known fact that automobile theft is accomplished at the present time, by duplication of the keys necessary to unlock the locks in current use on automobiles.

I claim:—

1. In a valve lock, a valve, an enclosing casing having an upwardly disposed neck, and a U-shaped member formed thereon provided with transverse perforations, a valve stem drum rotatably mounted in the casing neck, a locking key having a recess formed complementary to the U-shaped member perforations, and locking means passing through said key and U-shaped member for holding the key in locked position.

2. In a valve lock, a valve, an enclosing casing having an upwardly disposed neck, a tubular member mounted in the latter, a valve stem drum revolubly mounted in the tubular member, a U-shaped member having transverse perforations formed on the casing, a locking key passing through the casing neck, the tubular member, and the valve stem drum, and means for securing the said locking key in locked position.

3. In a valve lock, a valve, a casing enclosing the valve and pipe connections leading to and from said valve, an upwardly disposed tubular neck formed on said casing provided with a horizontal passage, a peripheral slot, and a number of notched recesses in its side wall, a U-shaped member having transverse perforations therethrough formed on the casing, a valve stem drum rotatably mounted in the tubular neck and having a horizontal passage through it adapted to register with the horizontal pas-

sage through the tubular neck, a handle for operating the valve stem drum reciprocably mounted in the latter, a pair of prongs on the handle adapted to engage the notched recesses of the casing neck, resilient means for holding said prongs in engaged positions in the notched recesses, a key having a recess formed complementary to the U-shaped member perforations, passing through the casing neck and valve stem horizontal passages, and locking means for the key adapted to engage the perforations of the U-shaped member and the complementary recess of the key, for locking said key in position.

4. In a valve locking device, operating means comprising a tubular casing neck having a horizontal slot in its periphery, and a plurality of notched recesses on its outer wall, a tubular member mounted in the casing neck having a peripheral slot formed complementary to the slot of the casing neck, a valve stem drum rotatably mounted in the tubular member and having a radial depression formed therein, an operating handle having a pair of prongs adapted to engage aforesaid notched recesses, a collar on the handle, and a resilient spring engaging the collar, and the inner wall of the casing neck for resiliently holding the handle in reciprocating position in the radial depression of the valve stem drum.

5. In a valve lock, a valve, an enclosing casing covering said valve and pipe connections thereto, an upwardly disposed casing neck on the casing, a tubular member mounted in the casing neck having a peripheral slot, a valve stem drum revolubly mounted in the tubular member and having a pin passage therethrough, a transverse pin passing through the drum and in engagement with the peripheral slot of the tubular member, a locking key passing through the casing neck the tubular member and the valve stem drum, and means for locking said key in position.

6. In a valve lock, a valve, an enclosing closing having a neck formed thereon, a valve stem drum revolubly mounted in the casing neck, a U-shaped member on the casing, a locking key having a recess formed therein, passing through the U-shaped member, the casing neck and the valve stem drum, and means for locking said key in position.

7. In a valve lock, a valve, an enclosing casing, having a casing neck formed thereon, an upper horizontal peripheral slot in the casing neck, a U-shaped member on the casing, a valve stem drum mounted in the casing neck, a transverse pin carried in the valve stem drum, slidably engaging the casing neck horizontal slot, a reciprocating locking key, passing through the U-shaped member, the casing neck, and the valve stem drum, and means for locking the said locking key in position.

8. In a valve lock, a valve, an enclosing casing covering said valve and pipe connections thereto, a casing neck on the casing, an upper horizontal peripheral slot in the casing neck, a valve stem drum revolubly mounted in the casing neck, a transverse pin forming a turning means, mounted in the valve stem drum, and adapted to operate in the horizontal casing neck slot, a locking key engaging the casing neck and the valve stem drum, and means for locking the key in position.

In testimony whereof I affix my signature.

ROBERT E. DURNING.

Witnesses:
WILLIAM A. HIRTLE,
L. J. BROWN.