G. BURKHARDT.

LOCKING VALVE.

APPLICATION FILED DEC. 18, 1914.

1,217,406. Patented Feb. 27, 1917.

Fig. 1

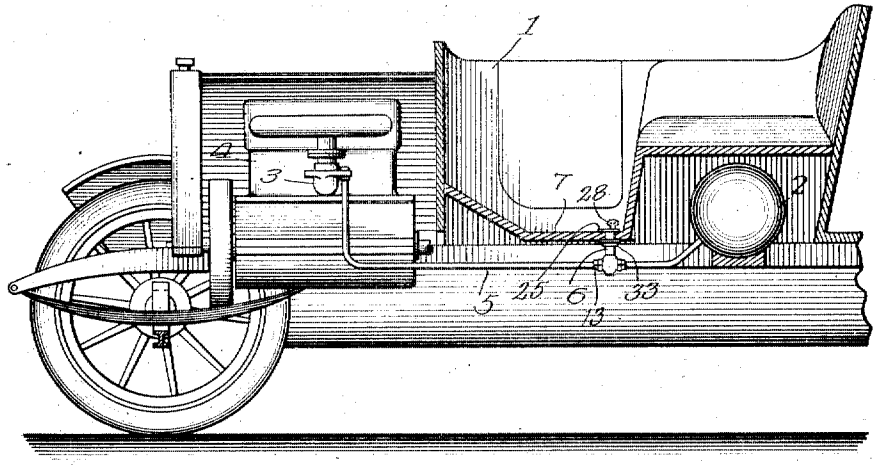


Fig. 2

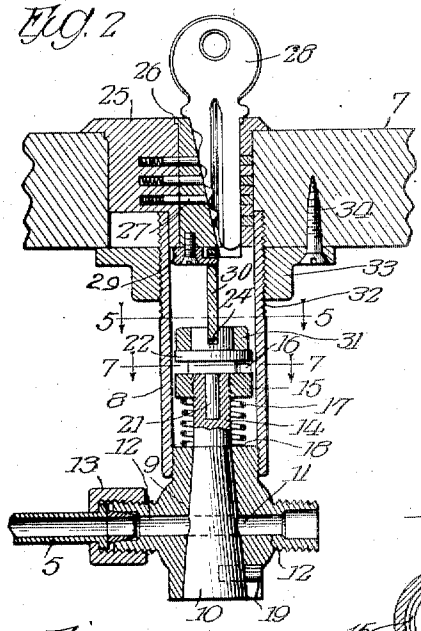


Fig. 3

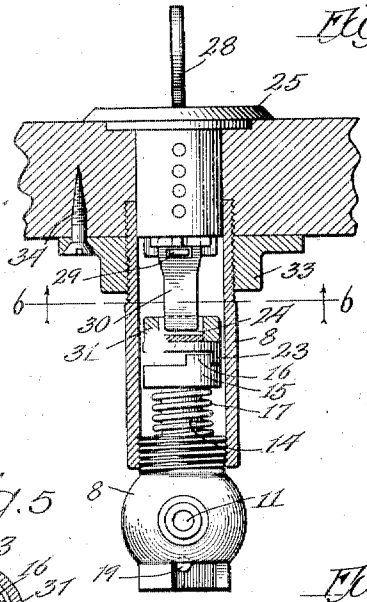


Fig. 4

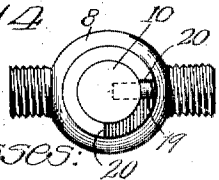


Fig. 5

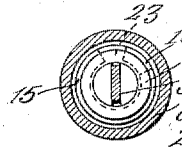


Fig. 6

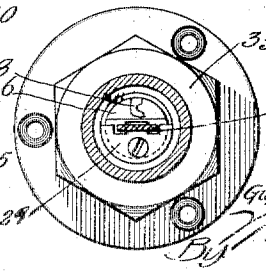


Fig. 7

Witnesses:

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LOCKING-VALVE.

1,217,400. Specification of Letters Patent. Patented Feb. 27, 1917.

Application filed December 18, 1914. Serial No. 877,865.

To all whom it may concern:

Be it known that I, GUSTAVE BURKHARDT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locking-Valves, of which the following is a specification.

My invention relates to a locking valve adapted for use in connection with the gasolene supply of motor-driven vehicles, although not necessarily limited to such use.

The theft of vehicles propelled by internal combustion engines, as well as their unauthorized use by garage employees and others, has become so common that means for preventing the operation of the machine except by authorized persons has long been desired.

A device for locking the valve in the gasolene supply pipe furnishes the most efficient means for accomplishing the desired result. In this connection it is desirable that the lock be of the cylinder type which is least readily operated by means other than the proper key, and that the key may be entirely removed from the lock when the valve is either in open or closed position. It is also desirable that the structure be of such a nature that it may be readily manufactured in varying lengths, whereby it may be quickly applied to various types of motor-driven vehicles now on the market.

It is a principal object of my invention to provide an efficient and relatively inexpensive device which may be readily applied to motor-driven vehicles and which permits the gasolene supply to be securely locked so that only persons having the proper key will be able to operate the machine.

Other objects and advantages of my invention will appear as it is more completely understood by reference to the following specification in connection with the accompanying drawing in which—

Figure 1 indicates a portion of an automobile partly in section showing the locking valve installed;

Fig. 2 is a vertical section through my invention with the valve in open position;

Fig. 3 is an elevation of my device with a portion of the casing in section, the view being taken from a direction normal to the direction from which Fig. 2 was made;

Fig. 4 is a plan view of the lower end of my device;

Fig. 5 is a horizontal section on the line 5—5 of Fig. 2;

Fig. 6 is a horizontal section on the line 6—6 of Fig. 3, and

Fig. 7 is a horizontal section on the line 7—7 of Fig. 2.

Referring to the drawing, 1 indicates generally an automobile having a gasolene supply tank 2 and a carbureter 3 mounted adjacent an engine 4. A supply pipe 5 connects the tank 2 with the carbureter 3. My invention is indicated at 6 installed in its proper position with the casing extending through an opening in the floor 7 so that it is readily accessible from the operator's seat.

Referring to Figs. 2 to 7 my invention comprises a casing 8 in which is formed the valve seat 9. A valve plug 10 is mounted in the seat and has an opening 11 adapted to register with openings 12 in the valve seat which communicate at either end with the supply pipe 5. Suitable coupling devices 13 are provided.

The valve plug 10 is provided with an upwardly extending stem 14, which is provided at its upper end with a flange 15 integral therewith or suitably secured thereto, the flange 15 having a lug 16, or other suitable operating means thereon. A spring 17 is disposed between the flange 15 and an abutment 18 within the casing 8, and serves to force the valve plug 10 against its seat 9 and to take up wear. A pin 19 is mounted in the lower end of the valve plug 10 and cooperates with abutments 20 of the casing 8 to limit the rotation of the plug 10 to a quarter revolution. A slight clearance is provided between the pin 20 and the casing 8 to allow the plug 10 to be raised by the spring 17 as the plug 10 or its seat 9 becomes worn. Loosely journaled by means of an extension 21 in the stem 14 is an operating member 22 having a lug 23 thereon adapted to coöperate with the lug 16. The operating member 22 is provided at its upper extremity with a slot 24.

Suitably mounted and secured in the upper end of the casing 8 is a cylinder lock 25 provided with a cylinder 26, and the usual tumblers 27 adapted to be moved by the key 28 into position to free the cylinder 26 so that it may be rotated. Depending from a member 29 secured to the lower end of the cylinder 26 is a connecting member 30, the end of which is disposed in slot 24. The

member 30 is adapted to be made of varying lengths and it will be readily understood that by providing varying lengths of the upper tube portion of the casing 8 and of the member 30 my device may be readily assembled in lengths to suit various types of automobiles on the market in which the gasolene supply pipe 6 is disposed at different distances below the floor 7. A slight clearance is provided between the lower end of the connecting member 30 and the bottom of the slot 24 in order that the spring 17 may be allowed to raise the valve plug 10 and its stem 14 as the plug or its seat 9 become worn. An annular member 31 is disposed about the end of the operating member 22 to retain the operating member 30 in the slot 24. This I have found is desirable although not absolutely necessary since the top of the operating member 22 may be made of the full inner diameter of the casing and the slot 24 may be extended entirely across the top.

The outside of the casing 8, adjacent its upper end, is screw-threaded at 32 and a clamping member 33 similarly threaded is mounted thereon and adapted to engage the under side of the floor 7 and rigidly hold the device with respect to the floor. When the device is installed the screws 34 may be inserted to lock the clamping member 33 in place.

It is believed that the operation of my device will be apparent without further description of the structure thereof. Cylinder locks are generally so constructed that after the key has been inserted and turned it can not be withdrawn until the cylinder has made a complete revolution. As it is desirable to move the valve plug through only a quarter revolution and as it is also desirable that the key should be removable from the lock, in the present device, whether the valve is open or closed, I have provided intermediate means between the lock cylinder 26 and the stem 14 of the valve plug 10 which allow the cylinder to be turned through a complete revolution while the plug turns through only a quarter revolution. This means comprises a lost motion connection and includes the operating member 22 loosely mounted with relation to the valve stem 4 and provided with the lug 23 which will engage either side of the lug 16 on the flange 15 of the stem 14 and thereby turn the valve plug 10 through a quarter revolution in either direction, the movement of the plug 10 being limited by the pin 19 engaging the abutments 20 at the lower end of the casing 8. I have provided means for holding the plug 10 in close relation to its seat 9 and have provided sufficient clearance between the operating parts to allow the spring 17 to take up any wear between the plug 10 and its seat 9. I have also devised a structure which may be readily assembled in varying lengths so that it may be applied without adjustment to different styles of automobiles now on the market. Besides these advantages my device has an advantage of relative simplicity of the parts and a low cost of manufacture and it provides an efficient and readily operated means for locking the gasolene supply of motor-driven vehicles.

It will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing any of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

A locking valve comprising a tubular casing, a valve secured to one end of said casing including a valve seat tapering toward said casing and a tapered plug in said seat provided with a stem projecting into said casing, a flange on said stem, a spring surrounding said stem within said casing between said flange and a shoulder formed at the juncture of said casing and valve, a rotatable cylinder secured to the opposite end of said casing, key controlled means to normally prevent rotation of said cylinder, and an operative connection between said cylinder and the stem of said valve.

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Witnesses:
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