D. R. COX AND D. A. KINNIE.

GASOLINE LINE LOCK.

APPLICATION FILED JUNE 27, 1921.

1,426,154.

Patented Aug. 15, 1922.

Fig. 1.

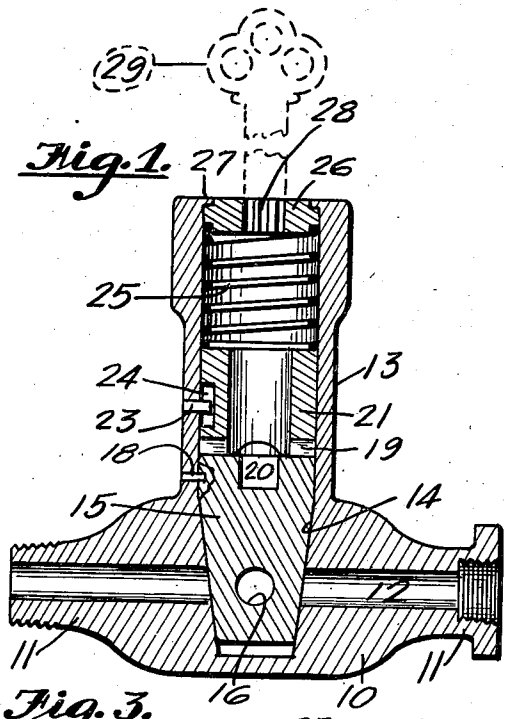


Fig. 2.

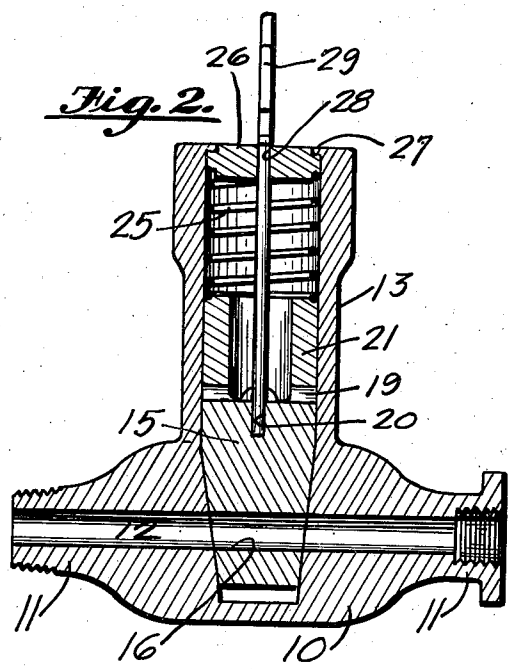


Fig. 3.

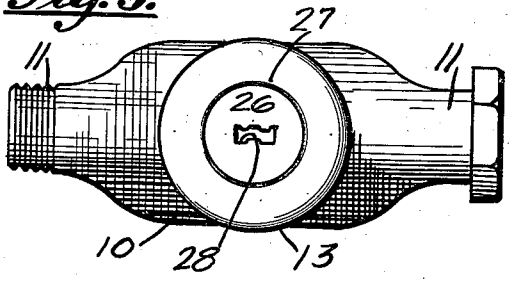


Fig. 5.

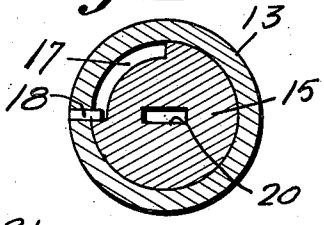


Fig. 6.

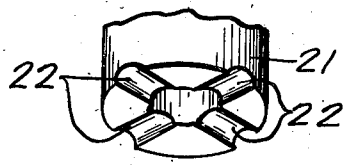


Fig. 4.

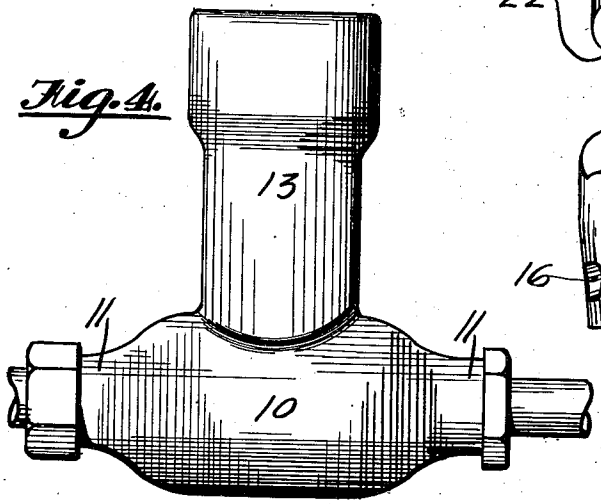
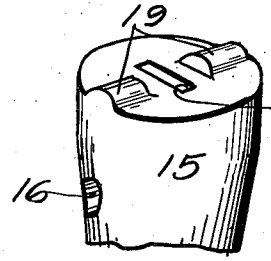


Fig. 7.



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UNITED STATES PATENT OFFICE.

DANIEL R. COX AND DAVID A. KINNIE, OF PASADENA, CALIFORNIA.

GASOLINE-LINE LOCK.

1,426,154. Specification of Letters Patent. Patented Aug. 15, 1922.

Application filed June 27, 1921. Serial No. 480,603.

To all whom it may concern:

Be it known that we, DANIEL R. COX and DAVID A. KINNIE, citizens of the United States, residing at Pasadena, in the county of Los Angeles and State of California, have invented new and useful Improvements in Gasoline-Line Locks, of which the following is a specification.

Our invention relates generally to locking devices, and more particularly to a gasoline line lock; that is, a valvelike device that is capable of being locked so as to effectually cut off the flow of gasoline through the line or conduit that leads from a supply tank to the carburetor that is associated with an internal combustion engine.

The principal object of our invention is to provide a gasoline line lock that is of relatively simple structure, capable of being easily and cheaply produced, and which will provide effective means for preventing the unauthorized use of the vehicle to which the device is applied.

With the foregoing and other objects in view, our invention consists in certain novel features of construction and arrangement of parts that will be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:

Fig. 1 is a vertical section taken through the center of a gasoline line lock of our improved construction, and showing the valve plug thereof in position to close the passageway through the device.

Fig. 2 is a vertical section similar to Fig. 1, and showing the valve plug in position to permit the passage of fluid through the device.

Fig. 3 is a top plan view of the device.

Fig. 4 is a side elevational view of the locking device.

Fig. 5 is a horizontal section taken approximately on the line 5—5 of Fig. 1.

Fig. 6 is a perspective view of the lower portion of the member that is utilized for retaining the rotary valve plug in its different positions.

Fig. 7 is a perspective view of the rotary valve plug forming a part of the device.

Referring by numerals to the accompanying drawings, which illustrate a practical embodiment of our invention, 10 designates the body of the device that is preferably in the form of a short horizontally disposed cylinder having its end portions 11 reduced in diameter and constructed so as to be directly connected to the tubular members of a conduit such as a gasoline line.

Formed through this body 10 is an axially disposed bore or passageway 12, and formed integral with or fixed to the central portion of the body 10 and extending substantially at right angles thereto, is a tubular extension 13 the chamber within which is extended into and partway through the body 10 in order to form a valve chamber 14. This valve chamber tapers gradually toward its lower end, and it intersects the longitudinally disposed passageway 12.

Arranged for rotary movement within the tapered valve chamber 14 is a tapered valve plug 15 having a diametrically arranged opening 16 that is located so that when the valve plug is turned into proper position, said opening practically forms a continuation of the duct or passageway 12.

Formed in the upper portion of valve plug 15 is an arcuate slot 17 that is approximately 90° in length, and seated in the wall of tubular extension 13 and projecting into said slot is a pin 18, such pin and slot providing means for limiting the rotary movement of the valve plug.

Formed on top of the body of the valve plug 15 is a pair of oppositely disposed upwardly projecting lugs 19, and formed in the top of said plug between said lugs, is a key recess 20.

Arranged within the chamber in the tubular extension 13 immediately above plug 15, is a ring 21 in the underside of which is formed a series of four notches or recesses 22 that are disposed approximately 90° apart, and said notches being adapted to receive the lugs 19 on plug 15.

Seated in the tubular extension 13 is a pin 23 that projects into a vertically disposed slot 24 formed in the periphery of ring 21, said pin serving to retain the ring in proper operative position within the tubular member 13. Bearing on top of ring 21 is the lower end of an expansive coil spring 25 the upper end of which bears against the underside of a disc 26, which latter is mounted for rotary movement in

the upper end of the tubular member 13 and retained therein by a lip or flange 27 that projects from the inner edge of the upper portion of said member 13. Formed in the center of this rotatably mounted disc is a keyhole 28 that is adapted to receive the shank of a key such as 29 and the lower end of said shank being adapted to engage in the recess 20 in plug 15 when the key is inserted into the locking device.

To rotate valve plug 15 and shift the same from one position to another, key 29 is inserted through keyhole 28 and moved downwardly until the lower end of the key is positioned in recess 20, and, by now giving the key a quarter of a turn the plug is rotated to cut off, or establish, flow of liquid through the passageway 12 and diametrical port 16. Obviously, when a flow of liquid through the device is established, port 16 is in alinement with passageway 12, as shown in Fig. 2. When the flow of liquid is cut off, said port occupies a position crosswise or at right angles to passageway 12 as illustrated in Fig. 1.

As plug 15 is rotated approximately a quarter of a turn to establish or cut off the flow of liquid through the device, the lugs 19 on top of said plug will ride from one pair of recesses 22 in the underside of ring 21 to the other pair of recesses, and, in so doing, ring 21 is moved upward a short distance against the resistance offered by spring 25.

This construction and arrangement provides efficient means for holding the plug against movement in either direction as it has been partially rotated or shifted from one position to another.

The pin 18 engaging in arcuate slot 17 limits the rotary movement of the valve plug 15, and the pin 23 operating in slot 24 permits the ring 21 to be elevated as the valve plug is rotated and restrains said ring from rotary movement. By the use of a tapered plug in a tapered chamber and the arrangement of a spring for imparting downward pressure upon the plug, the valve is self-grinding and self-seating in operation, and as a result there will be very little, if any, leakage of fluid between the valve plug and the body of the device surrounding the same.

A device of our improved construction is comparatively simple, may be easily and cheaply produced, and is very effective in performing its intended functions. While we have shown and described the device as being particularly intended for use for locking gasoline lines, it will be understood that the device may be advantageously employed wherever it is desired to effectively prevent the unauthorized use or drawing of liquids through a supply tube.

It will be readily understood that minor changes in the size, form and construction of the various parts of our locking device may be made and substituted for those herein shown and described, without departing from the spirit of our invention, the scope of which is set forth in the appended claims.

We claim as our invention:

1. A gasoline line lock comprising a substantially tubular member adapted to be located in the gasoline line, a tapered valve plug arranged for rotation within said tubular member and provided with a port that is adapted to coincide with the opening through said tubular member, spring pressed means for maintaining the valve plug in position within said tubular member, a pair of lugs formed on top of the valve plug, there being a series of radially disposed recesses formed in the under side of said spring pressed means, which recesses are adapted to receive said lugs, and means for rotating said valve plug.

2. In a gasoline line lock, a substantially tubular member provided with a tapered valve chamber that intersects the opening through said tubular member, a valve plug arranged for operation within said chamber and having a port that is adapted to coincide with the opening through the tubular member, a spring pressed member retained for vertical movement above said plug, a pair of lugs formed on top of the valve plug and there being a series of radially disposed recesses formed in the under side of said spring pressed member, which recesses are adapted to receive the lugs on the plug.

3. In a gasoline line lock, a substantially tubular member provided with a tapered valve chamber that intersects the opening through said tubular member, a valve plug arranged for operation within said chamber and having a port that is adapted to coincide with the opening through the tubular member, a spring pressed member retained for vertical movement above said plug and bearing thereupon, the lower end of said member and the upper end of said plug having interengaging parts, and a key adapted to be inserted through the spring pressed member and to engage in a recess formed in the top of the valve plug for imparting rotary movement thereto.

4. In a gasoline line lock, a substantially tubular member provided with a tapered valve chamber, a valve plug arranged for rotary movement within said valve chamber and having a port that is adapted to register with the opening through said tubular member, there being a key recess formed in the top of said valve plug, a spring pressed member disposed above and bearing upon said valve plug, said member and said valve plug having interengaging parts that are effective in retaining the valve plug in either one of its shifted positions, and a key adapted to be inserted through the spring pressed

member to engage in the key recess in said plug for imparting rotary movement thereto.

5. In a gasoline line lock, a substantially tubular member adapted to be located in a gasoline line, a valve plug arranged for rotation within said tubular member at right angles to the opening therethrough, said plug being provided with a port that is adapted to communicate with the opening through the tubular member, a tubular member extending substantially at right angles from the first mentioned tubular member above the valve plug therein, a spring pressed member arranged for sliding movement in said tubular extension and bearing upon the upper end of the valve plug, said spring pressed member and valve plug having interengaging parts for retaining the valve plug in either one of its shifted positions, and a key adapted to be inserted through said tubular extension and through said spring-pressed member for engaging and rotating said valve plug.

In testimony whereof we have signed our names to this specification.

DANIEL R. COX.
DAVID A. KINNIE.