June 19, 1923. 1,459,686

J. T. O'GORMAN

AUTOMATIC LOCK COCK

Filed June 24, 1922

Fig. 1.

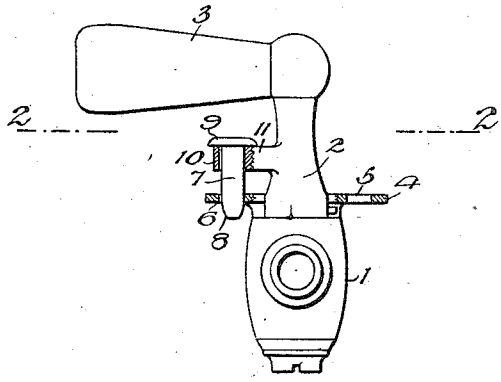


Fig. 4.

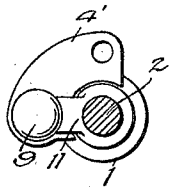


Fig. 2.

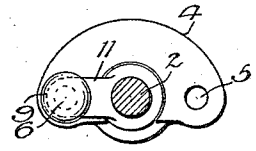
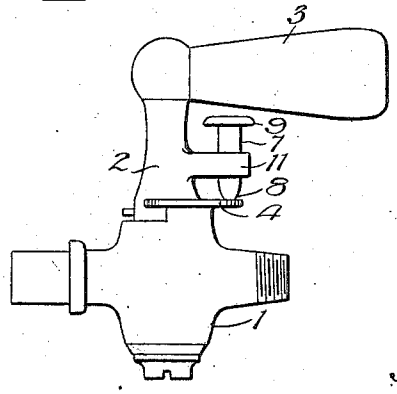


Fig. 3.



WITNESSES

H. T. Walker

A. L. Kitchin

INVENTOR

John T. O'Gorman

BY Munn & Co.

ATTORNEYS

Patented June 19, 1923. 1,459,686

UNITED STATES PATENT OFFICE.

JOHN T. O'GORMAN, OF NEW YORK, N. Y.

AUTOMATIC LOCK COCK.

Application filed June 24, 1922. Serial No. 570,631.

To all whom it may concern:

Be it known that I, JOHN T. O'GORMAN, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county of Bronx and State of New York, have invented a new and Improved Automatic Lock Cock, of which the following is a full, clear, and exact description.

This invention relates to safety devices for valves and particularly to an improved locking device for a gas cock or other form of valve adapted to be moved from an open to a closed position or the reverse.

The object of the invention is to provide a safety lock for cocks or valves which will automatically become locked when moved to a closed position but which will permit the valves to be adjusted when in any other position.

Another object of the invention is to provide a lock for gas cocks wherein the lock may be readily manipulated by the same hand which opens and closes the cock.

In the accompanying drawing—

Figure 1 is an elevation of a gas cock with certain parts in section and disclosing an embodiment of the invention.

Figure 2 is a sectional view through Figure 1 approximately on line 2—2.

Figure 3 is a side elevation of the structure shown in Figure 1.

Figure 4 is a view similar to Figure 2 but showing a cock which rotates for only a quarter of a turn.

Referring to the accompanying drawing by numerals, 1 indicates the body of a cock of a well known construction and 2 the valve member or key therefor. A suitable lever 3 is secured to plug 2. The construction just described is old and well known and in the drawing a conventional gas cock has been shown though the invention could be applied to other forms of valves if desired. A flange 4 is associated with the casing 1 and may be integral therewith or may be rigidly secured thereto, said flange having diametrically opposite apertures 5 and 6. These apertures are of such a size as to receive the locking pin or bolt 7 which locking pin or bolt is rounded at the lower end 8 and is provided with a head 9 at the upper end. This pin loosely fits in an aperture 10 in the arm 11 which arm is either integral with the plug 2 or rigidly secured thereto. This arm is preferably positioned directly below the handle 3 and at such a height therefrom that when the bolt 7 is raised the head 9 will strike the handle 3 before the bolt leaves the aperture 10 so that it will be prevented from leaving said aperture until the handle 3 is removed. As the handle 3 is held in place by a suitable bolt structure of a well known kind, it will be evident that the bolt may be removed whenever desired by removing the handle though ordinarily it is positively prevented from being removed. This prevents accidental loss of the locking bolt 7 and insures that it shall always be in position for operation.

As shown in Figures 1 and 2, the cock is illustrated as being closed. In case it should be desired to open the cock, a person may grasp the handle 3 and in doing so let some of the fingers engage the head 9 and raise the bolt 7 until it is disengaged from the flange 10. The handle 3 may then be swung around to the desired point. As soon as the bolt 7 is moved away from a point above the aperture 6 it may be released and will readily slide over the flange 4 when locking the valve. By reason of this characteristic, the valve may be opened or closed to the desired extent freely but as soon as it is moved to a fully closed position, the bolt 7 will drop into the aperture 6 or if it is moved to a fully closed position on the opposite side it will drop into the aperture 5.

As shown in Figure 4, the valve is formed to open by a quarter of a turn and close by a reverse movement whereas in the construction shown in Figure 1 the valve may open by a quarter of a turn and close by a reverse movement or it may open by a quarter of a turn and close by continuing the movement for a quarter of a turn so that in a half revolution of the plug 2, the valve will have been fully opened and then fully closed. The construction shown in Figure 4 is identical except that the flange 4′ is substantially a quarter circle instead of half as shown in Figure 2 and, consequently, there is only one aperture for receiving the bolt 7.

What I claim is:—

1. The combination with a valve or cock having a casing, a plug and a handle for moving the plug to an open or closed position, of a flange secured to the casing having diametrically opposite apertures, an arm extending from said plug beneath said handle, and a bolt slidingly mounted in said arm, said bolt having a head for preventing the

bolt from leaving the arm in one direction, said arm being positioned sufficiently near said handle to cause the head of said bolt to strike the handle when moved in the opposite direction a predetermined distance, said bolt being adapted to ride on said flange when the valve is open or partially open and to automatically drop into either of said apertures when the valve is moved to a closed position.

2. The combination with a valve having a stationary part and a movable part, a handle on the movable part for moving the same, a flange connected with the stationary part by an arm connected with the movable part at a spaced relation from the handle of the same, said flange having a plurality of apertures, and said arm having an opening adapted to align with said apertures, a sliding bolt arranged in said opening and of such a length as to slide into said apertures locking the movable part against movement and engaging the handle when moved upwardly to prevent its removal from the arm, said bolt being adapted to ride over the flange and automatically drop into any of the apertures in the flange when moved in alignment therewith.

JOHN T. O'GORMAN.