No. 771,040. PATENTED SEPT. 27, 1904.

E. D. BOOZ.

SAFETY GAS COCK.

APPLICATION FILED APR. 18, 1904.

NO MODEL.

Fig. 1.

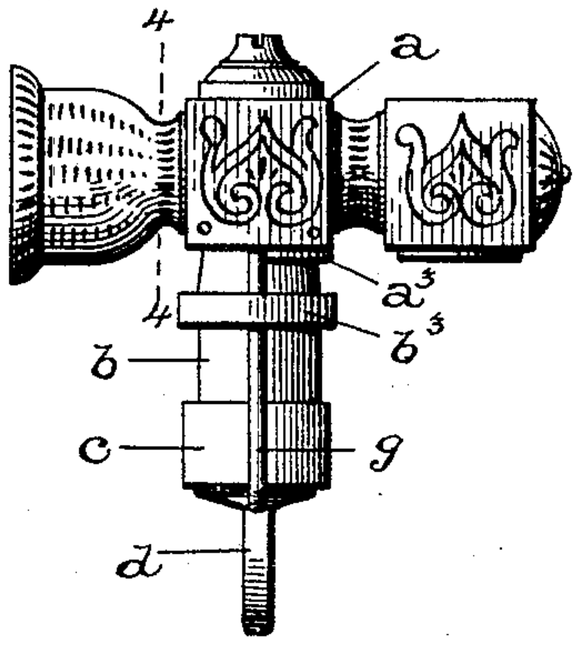


Fig. 2.

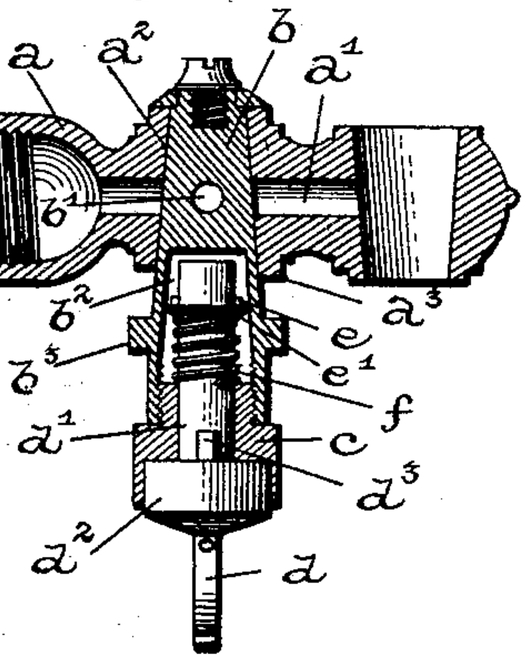


Fig. 3.

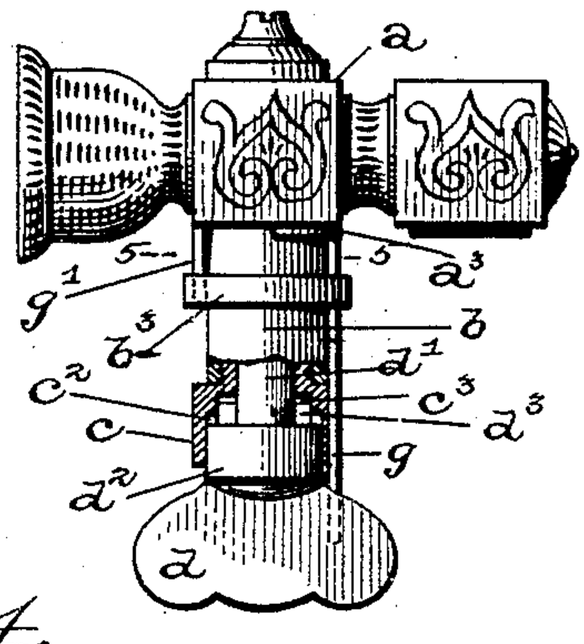


Fig. 4.

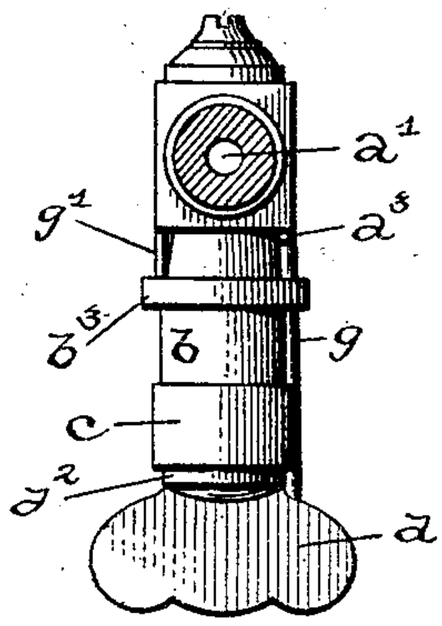


Fig. 5.

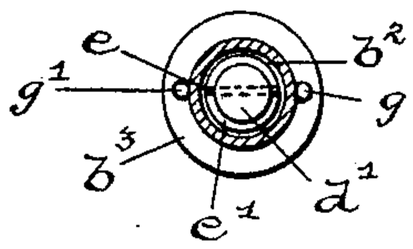
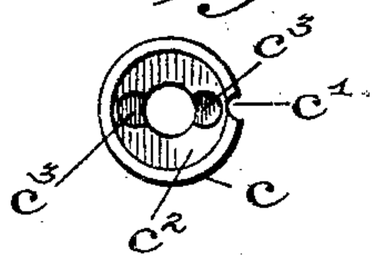


Fig. 6.



Witnesses

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No. 771,040. Patented September 27, 1904.

UNITED STATES PATENT OFFICE.

EDWARD D. BOOZ, OF BALTIMORE, MARYLAND.

SAFETY GAS-COCK.

SPECIFICATION forming part of Letters Patent No. 771,040, dated September 27, 1904.

Application filed April 18, 1904. Serial No. 203,589. (No model.)

To all whom it may concern:

Be it known that I, EDWARD D. BOOZ, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Safety Gas-Cocks, of which the following is a specification.

My invention relates to improvements in safety gas-cocks, and has for its object to provide a device of an improved construction to automatically lock the plug-valve when the latter is turned to the cut-off position and prevent the accidental turning of the valve again as the hand is removed from the key.

The invention is illustrated in the accompanying drawings, Figure 1 illustrating a side elevation of the device as the same appears when in the cut-off position; Fig. 2, a vertical longitudinal section through the cock and plug-valve, the latter being shown in the cut-off position. Fig. 3 illustrates a side elevation of the cock and plug-valve as the same appears when in the open position, the lower portion of the valve being sectioned. Fig. 4 shows a vertical section on the line 4 4 of Fig. 1. Fig. 5 is a horizontal section on the line 5 5 of Fig. 3, and Fig. 6 illustrates a bottom plan view of the cap-plug.

In the drawings, a designates the socket member of a gas-bracket which is to be attached to a supply-pipe in the usual manner. This socket member is provided with the usual passage-way a' and conical valve-seat a^2 and receives the conical plug-valve b, which is secured in the usual or any preferred manner. The socket member is also provided adjacent the valve-seat with the usual segment-flange or stop a^3. The plug-valve is provided with a horizontal port b', which when the plug is turned may be made to register with the passage-way a' in the socket member, so that gas may flow through the latter. Beneath the port b' the plug is provided with an interior chamber b^2, the wall of which at its lower end is screw-threaded, and said plug is also provided with an annular exterior horizontal flange b^3. A cap-plug c screws into the lower end of said plug-valve b and closes the lower end of the chamber b^2, and said cap-plug is provided with an exterior vertical groove c' and a bottom recess c^2. Two vertical pin-holes c^3 are also provided on the interior of the cap-plug for a purpose to be presently described.

An operating-key d has a stem d', which extends through the cap-plug c, and also has a circular head d^2, which fits into the recess c^2 of the cap-plug, and two vertically-extending pins or fins d^3, which take in the holes c^3 of the cap-plug. A pin e extends horizontally through the stem d' and projects slightly at either side thereof, and a washer e' has position on the stem beneath the pin e. A spiral spring f surrounds said stem and has its upper end contacting with the washer and its lower end seated on the cap-plug c. This spring f serves to keep the stem d' normally pressed up.

A pin g is secured in the key d and extends vertically in a direction parallel with the stem d'. This pin g passes through the vertical groove c' in the cap-plug and also through the horizontal flange b^3 on the exterior of the plug-valve, and the upper end of said pin terminates above the said flange. It will thus be seen that the horizontal flange b^3 serves as a guide-bearing for the pin g. When the stem is pressed up, as in Fig. 1, the upper end of the pin g will engage one of the ends of the segment-flange a^3 on the socket member. A stationary pin g' is secured in the horizontal flange b^3 and extends vertically toward the socket member a. This pin g' has position at the side of the valve-plug and diametrically opposite the vertically-movable pin g, as clearly seen in the drawings. When the valve is in the cut-off position, the movable pin g has position in front of one end of the segment-flange stop a^3, while the stationary pin g' on the flange b^3 has position at the opposite end of said stop. This is a useful construction in that it insures that the fixed pin will always contact with the stop a^3 when the valve-plug is given a half-turn, and the movable pin will automatically lock the valve to prevent accidental turning.

The operation of the device is simple and as follows: When the valve-plug b and stem d' are in the position shown in Figs. 1 and 2, the ports are in the cut-off position and are locked in that position by the pins g and g',

contacting with opposite ends of the segment-flange or stop a^3. The pins or fins d^3 on the circular head d^2 permit vertical movement of the key independently of the plug-valve, but prevent the key from being rotated independently of the plug-valve. In order to turn the valve so that the pocket b' will register with the passage-way a' of the socket member, the stem must be pulled down vertically through the valve-plug. This downward movement of the stem causes the pin g to move downwardly through the horizontal flange b^3 and the vertical groove c' in the cap-plug and takes a position below the segment-flange stop a^3. While the pin g is in this lowered position the stem and plug-valve may be turned together in a horizonal plane, and the end of the said pin g will pass beneath the said segment-flange stop and hold the stem in the lowered position while the ports are in register.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a gas-cock the combination of a socket member having a passage-way and a segment stop-flange; a plug-valve in said socket member; a pin carried at one side of said plug-valve and arranged to contact with said stop-flange when the valve is in the cut-off position, and a pin extending vertically at the opposite side of said plug-valve and movable in a lengthwise direction beneath said socket member.

2. In a gas-cock the combination of a socket member having a passage-way and a segment stop-flange; a plug-valve in said socket member; a pin carried by said plug-valve and having a fixed position with respect to said valve; a key movable in a horizontal plane with said plug-valve but movable in a vertical plane independently of said valve, and a pin extending vertically from said key and in a direction parallel with the plug-valve and terminating beneath the socket member, said pin arranged to be moved in a lengthwise direction when the key is moved vertically.

3. In a gas-cock the combination of a socket member having a passage-way and a segment stop-flange; a plug-valve in said socket member and having an annular exterior flange; a pin rigidly secured in the flange of said plug-valve and extending vertically therefrom; a removable cap-plug at the lower end of said plug-valve and having a bottom recess; an operating-key having a head which fits into the recess of said cap-plug, said key and head arranged to be moved vertically with respect to said valve-plug, and a pin extending vertically from said key and passing through the annular flange of the valve-plug and terminating beneath the socket member.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD D. BOOZ.

Witnesses:
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