

E. D. BOOZ.
SAFETY GAS COCK.
APPLICATION FILED JAN. 4, 1908.

917,408.

Patented Apr. 6, 1909.

Fig. 1.

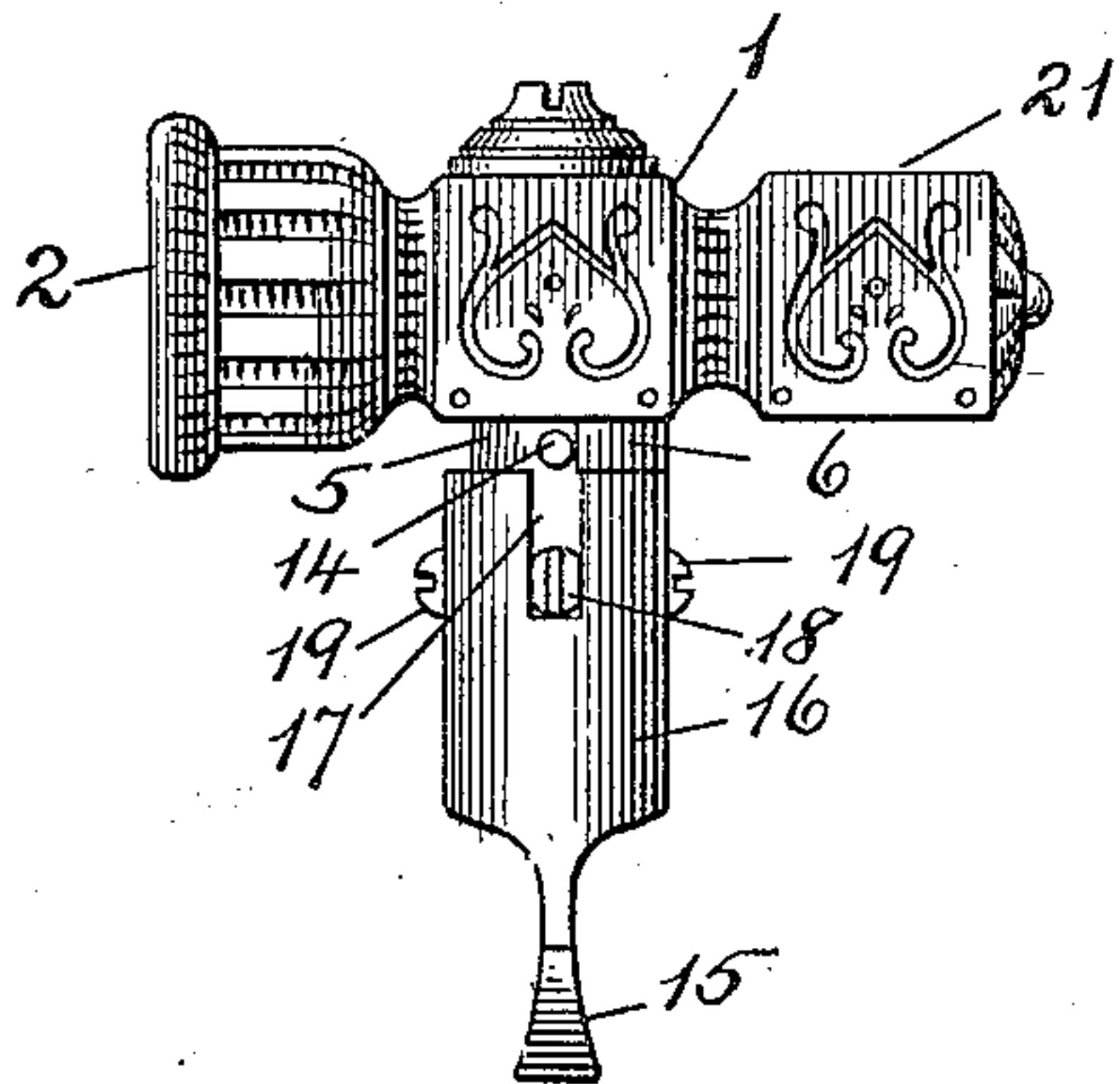


Fig. 2.

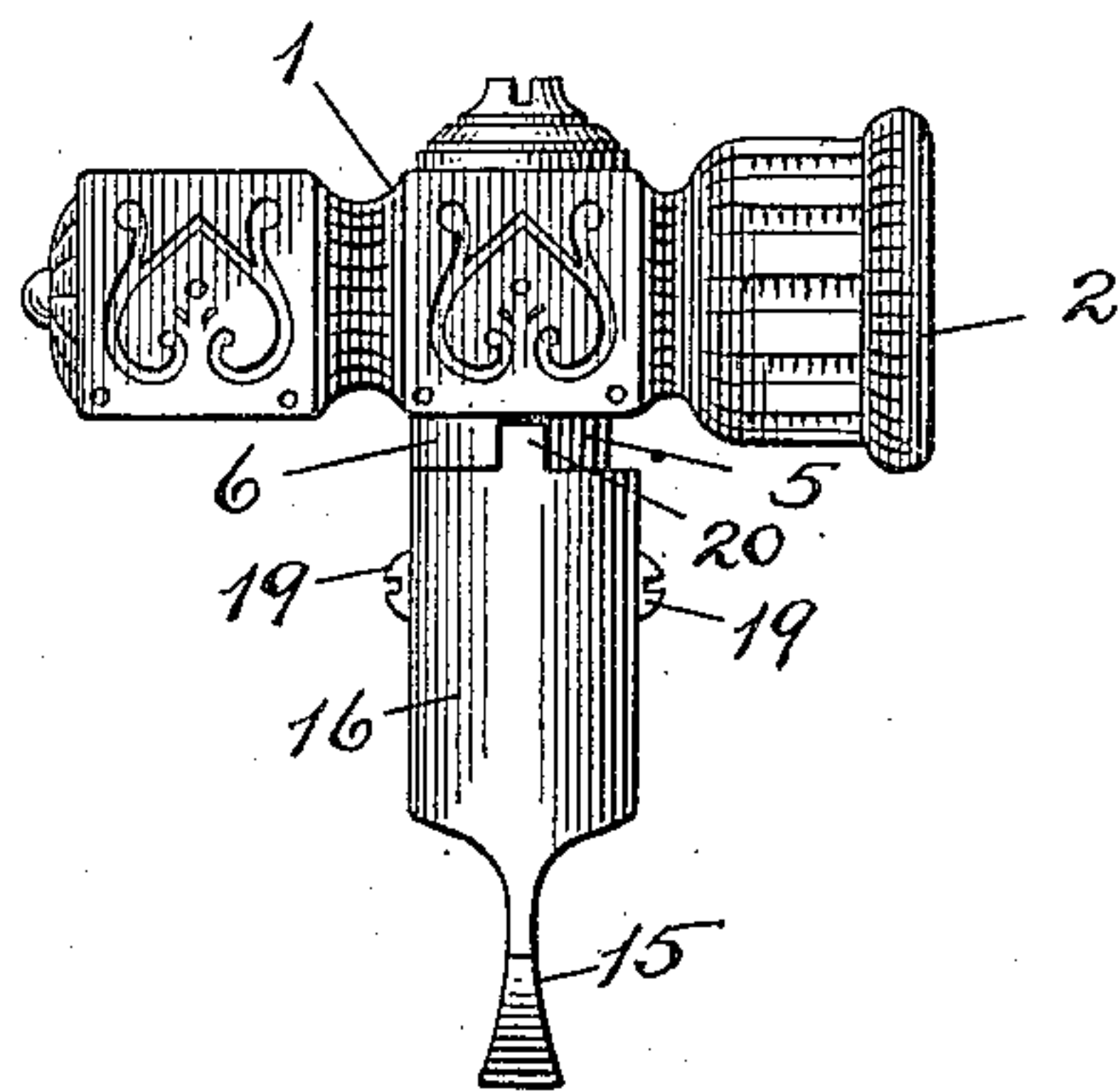


Fig. 3.

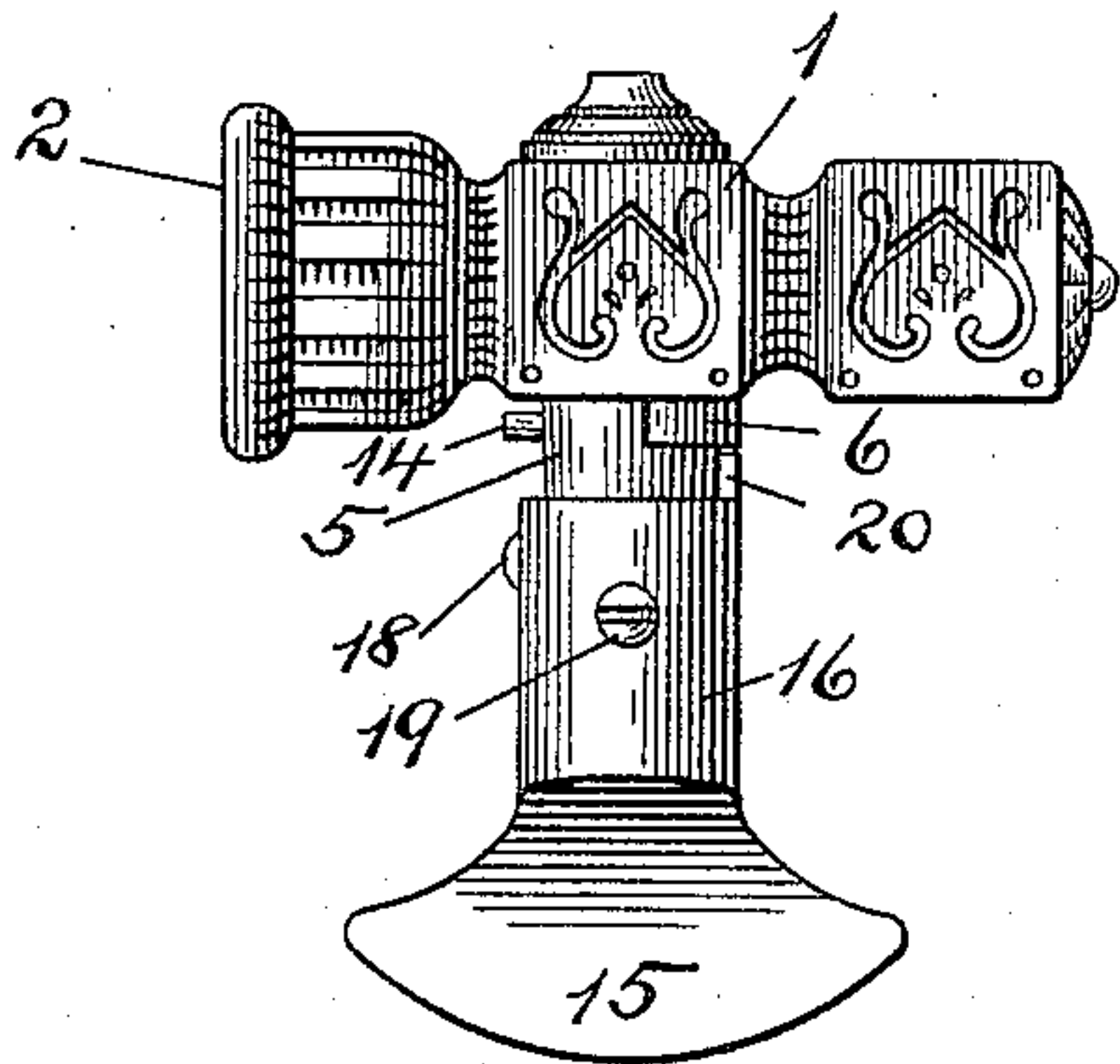


Fig. 4.

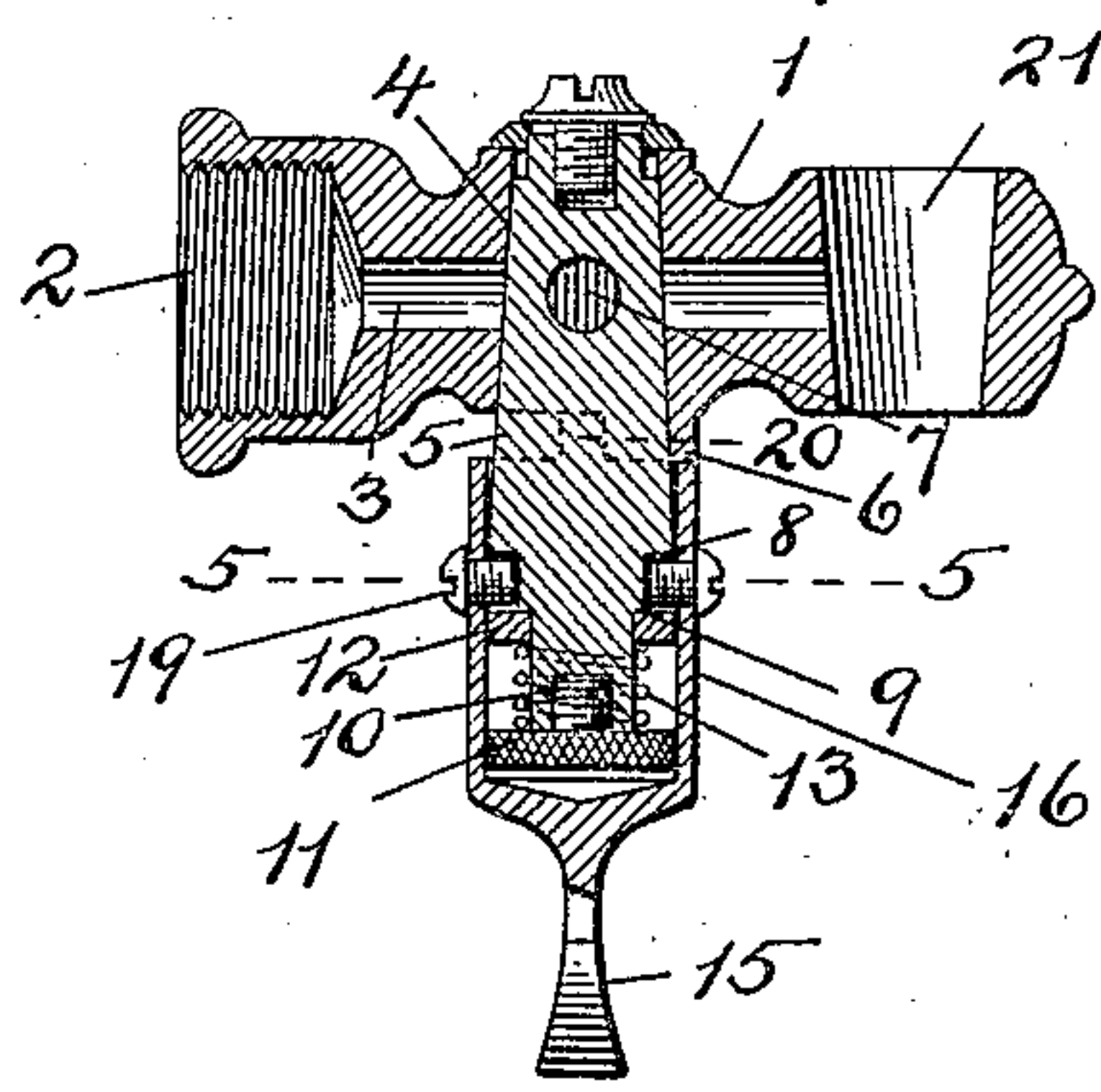
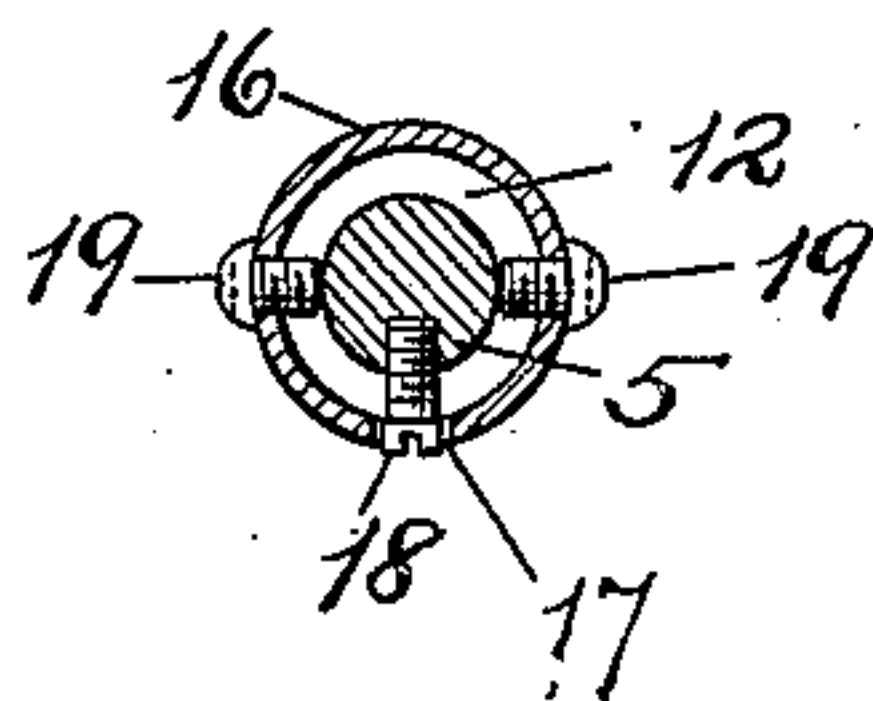


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SAFETY GAS-COCK.

No. 917,408.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed January 4, 1908. Serial No. 409,247.

To all whom it may concern:

Be it known that I, EDWARD D. BOOZ, a citizen of the United States, residing at Baltimore, in the 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 present invention has particular reference to the class of cocks shown and described in Letters Patent of the United States No. 771,040 granted to me September 27th, 1904 and is an improvement on the device therein disclosed.

The accompanying drawing illustrates the invention in which,

Figure 1, shows an elevation of one side of the device in the normal cut-off position. Fig. 2, illustrates an elevation of the opposite side of the cock also in the cut-off position. Fig. 3 shows another side elevation of the cock with the plug valve however turned to the open position. Fig. 4 illustrates a central vertical sectional view of the cock and plug valve as the same would appear in the cut-off position, and Fig. 5 shows a horizontal cross-sectional view through the lower end of the plug-valve,—the section being taken on the line 5—5 of Fig. 4.

Referring to the drawing by numerals, 1, designates the socket member of the gas cock which is to be attached to the gas supply pipe in the usual manner by means of the internally-threaded end, 2. This socket is provided with the usual passageway, 3, and conical valve seat, 4, in which the conical end of the plug-valve, 5, is fitted and secured in any preferred manner. This socket-member is also provided adjacent the valve-seat with the usual segment-flange or stop, 6.

The conical end of the plug-valve, 5, is provided with a horizontal port, 7, which, by turning the plug, may be made to register with the passageway, 3, in the socket member so as to permit the flow of gas through the cock to the burner.

The lower end of the plug valve is provided with circumferential shoulders, 8, and, 9, which in the present instance are formed by

reducing the diameter of the plug, while the extreme lower end of said plug is provided with a central socket in which a screw, 10, with an enlarged head, 11, is engaged,—the diameter of the screw head being greater than the diameter of the lower end of the plug. A washer plate, 12, surrounds the lower end of the plug and has a vertical sliding movement thereon below the shoulder, 9, while a coiled spring, 13, surrounds the end of said plug and between the screw head, 11, and the washer plate, 12, so as to normally press the washer plate up and seat it against the shoulder, 8. It will thus be understood that the washer-plate is yieldingly sustained about and with respect to the plug. Beneath the socket-member and in the same horizontal plane as the segment-flange or stop, 6, I provide a laterally-projecting lug or pin, 14, on the plug which, by contact with the flange or stop, 6, on the socket will limit the rotation of the plug with respect to the socket when the port, 7, in the plug has been turned at right angles with respect to and out of communication with the passageway, 3, in the socket-member. In addition to this rigid stop, 14, on the plug I desire to prevent the accidental movement of the plug valve during the act of withdrawing the hand and to also provide an improved construction whereby the operator may know when the plug-valve has been properly cut-off.

By further reference to the drawings it will be seen that an operating key, 15, is provided at the lower end of the plug-valve and that said key has a cylindric upper end, 16, which fits over and incloses the lower end of the plug as well as the screw, spring and washer plate. At one side the cylindric upper end of the key is provided with a vertical slot, 17, which receives the outer end of a screw or lug, 18, that is rigidly carried by the plug-valve, as shown in Figs. 1 and 5. This screw or lug has no connection whatever with the cylindric end of the key and merely prevents the latter from being turned independently of the plug but permits the key to be moved vertically with respect to the plug.

Suitable screws, 19, pass through and are carried by the wall of the cylindric end of the key and the inner ends of these screws project between the shoulder, 8, on the plug and the washer-plate and are yieldingly-sustained by said washer-plates so as to hold the cylindric end of the key up and around the

end of the plug-valve. The upper marginal edge of the cylindric end of the key is provided with a vertical lug, 20, which projects toward the socket member and normally has position in the same horizontal plane as the pin, 14, and stop-flange, 6, but at the diametrically-opposite side of the plug valve from the pin, 14. It will be understood that the tapered socket, 21, at the end of the socket member is provided for the reception of the usual plug on the gas bracket arms, the illustration of which is believed to be unnecessary.

In Figs. 1, 2 and 4 the cock is shown in the normal or cut-off position at which time the pin, 14, on the plug-valve contacts with one end of the segment stop flange, 6, of the socket member and the lug, 20, at the upper end of the key cylinder confronts the opposite end of the segment flange so as to prevent the turning of the plug valve in either direction. It will be understood that the lug, 20, is held up at the end of the stop flange, 6, by the spring, 13, pressing against the washer plate, on top of which latter the screws, 19, are seated and by means of this spring the cylindric walls of the key may be drawn down to pull the lug, 20, away from the stop-flange, 6. The operation therefore of turning the plug-valve to the open position is effected by first pulling the key and its cylindrical upper end down and thus lower the lug, 20, so it will have position in a plane below the segment-flange, 6, in which position the key and plug valve may be turned as shown in Fig. 3.

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

1. In a gas cock the combination with the socket member having a passageway and a valve seat, of a plug valve having a port to register with said passageway and the lower end of the plug valve carrying a movable washer plate; means for yieldingly sustaining the washer plate from the plug; a key having a cylindrical upper end which receives the lower end of the plug and incloses the mov-

able washer plate, and means for suspending the key from the upper side of the inclosed yielding washer plate.

2. In a gas cock the combination with the socket member having a passageway and a valve seat, of a plug valve having a port to register with said passageway and the lower end of the plug valve carrying a movable washer plate; a spring interposed between the bottom side of the movable washer plate and the lower end of the plug for pressing the plate up; a key having a cylindrical upper end which incloses the end of the plug and the washer plate,—said cylindrical end of the key having a slot that extends downwardly from its upper edge and a lug projecting upwardly from said edge; means carried by and extending inwardly from the cylindrical wall of the key and projecting over the upper side of the washer plate for sustaining the key from said plate, and means on the plug and projecting outwardly through the key slot to prevent independent rotation of the two.

3. In a gas-cock the combination with the socket member having a passageway, a valve seat and a stop-flange, of a plug valve fitting the seat of the socket-member and having its lower end projecting below said member,—said projecting end of the plug-valve having circumferential shoulders one above the other; a washer-plate movable vertically on the lower end of the plug-valve beyond said shoulders; a key having a cylindrical end which incloses the shouldered end of the plug-valve and also the washer-plate; means for sustaining the cylindric end of the key from the upper side of the washer-plate; a projection on the cylindric end of the key for engaging the stop-flange on the socket member, and a rigid projection on the plug-valve to also engage said stop-flange.

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

EDWARD D. BOOZ.

Witnesses:

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