

F. EGGE.
VALVE FOR GAS BURNERS.
APPLICATION FILED APR. 25, 1908.

909,878.

Patented Jan. 19, 1909.

Fig. 1.

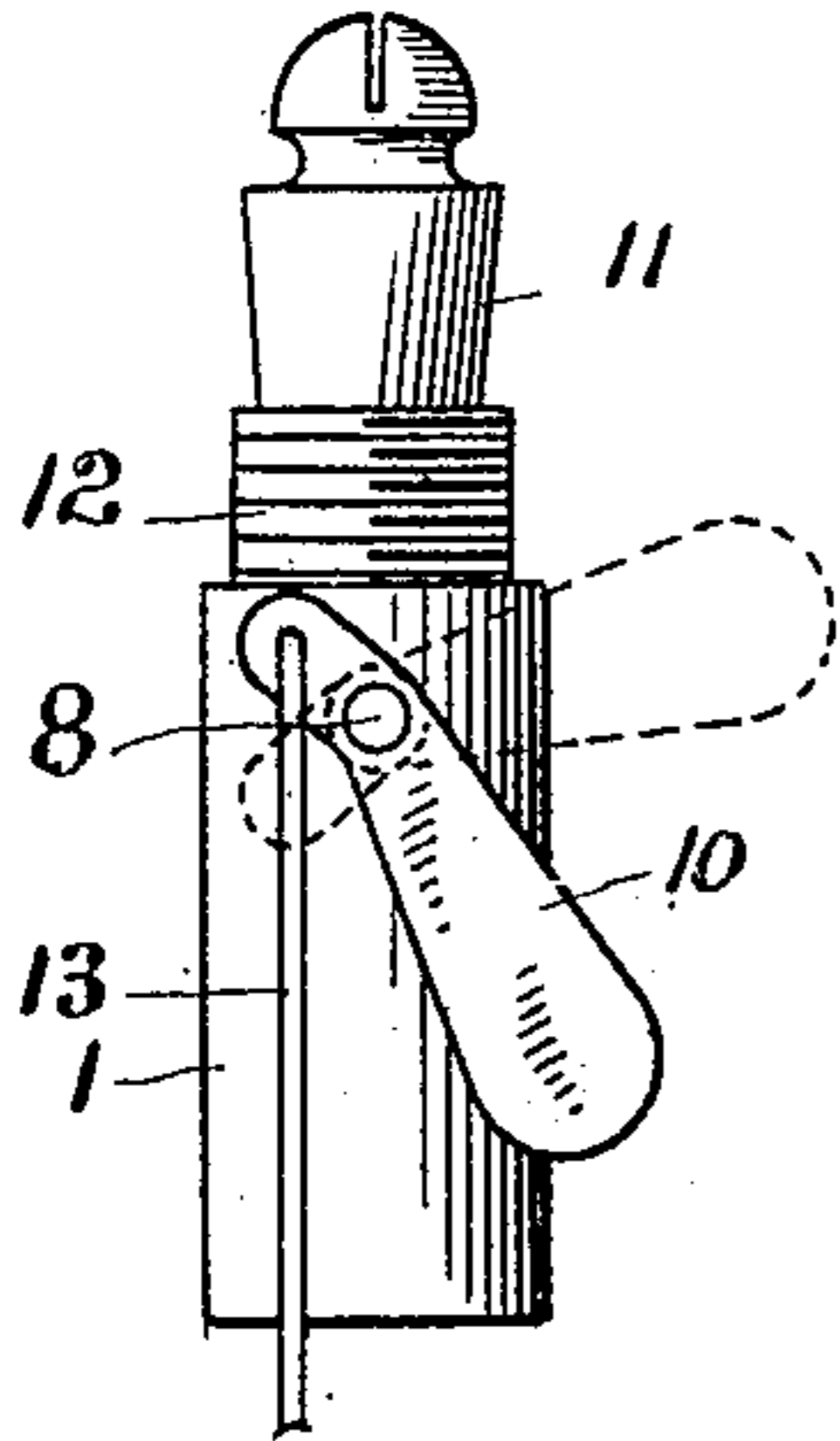


Fig. 2.

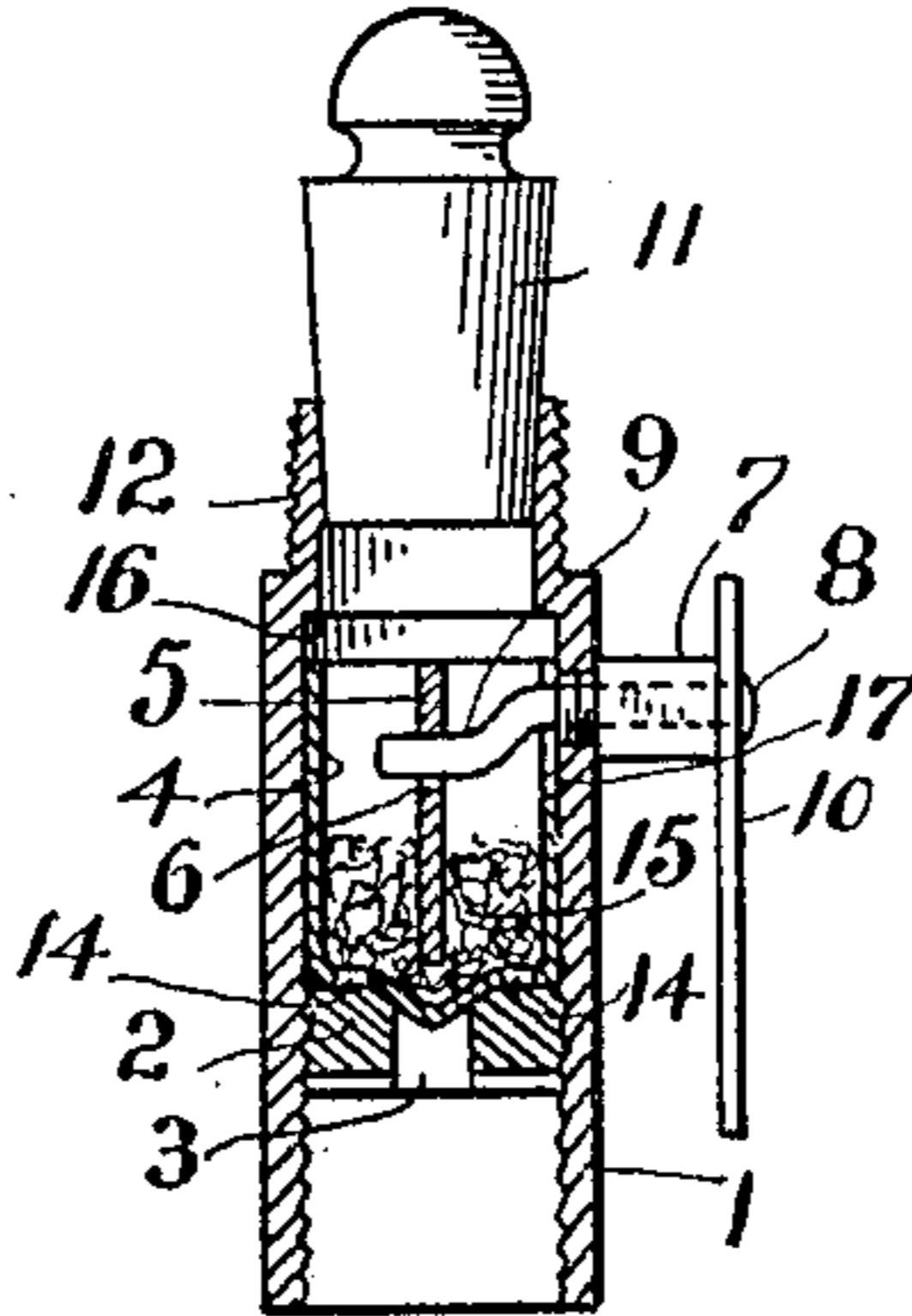


Fig. 3.

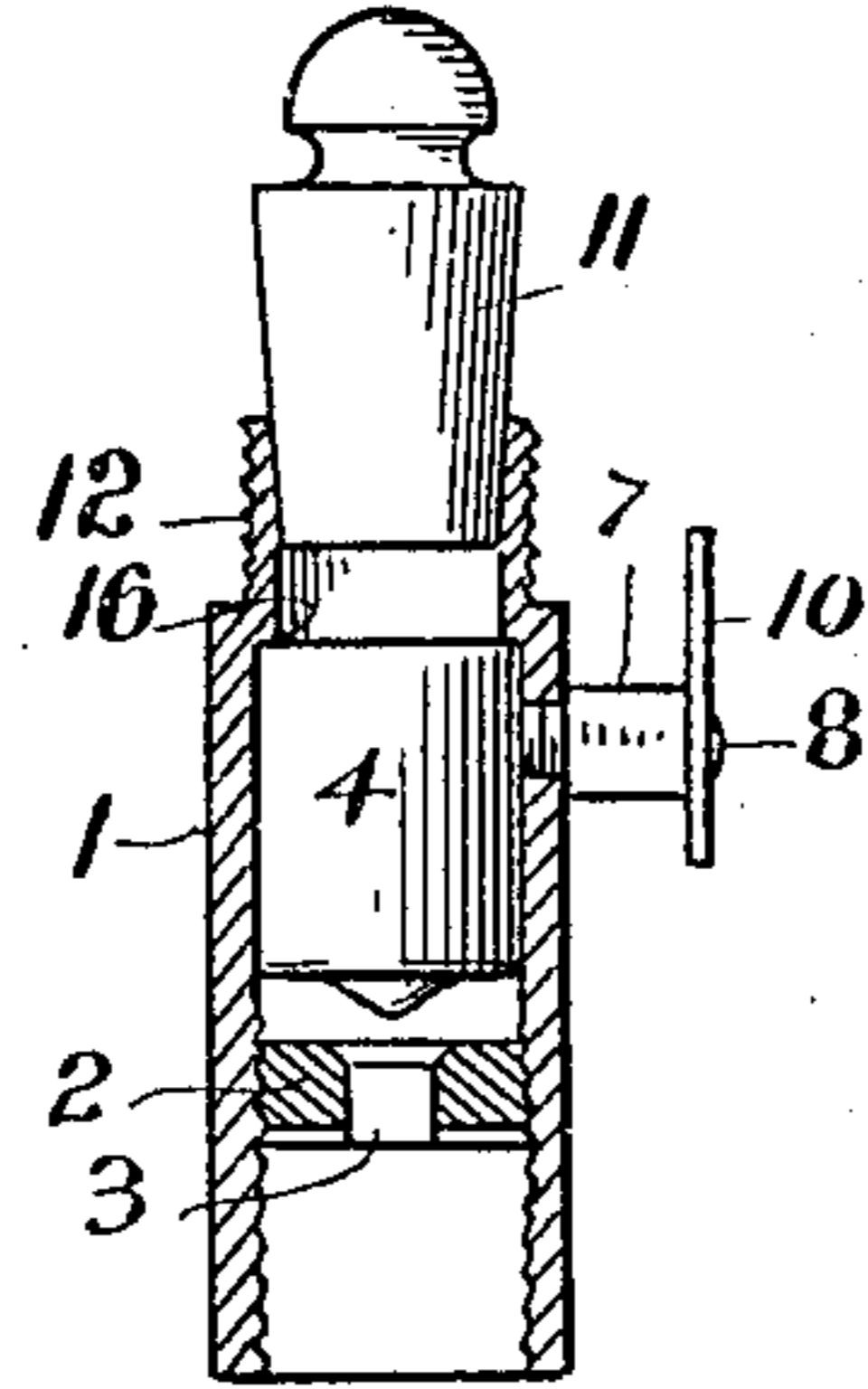


Fig. 5.

Fig. 4.

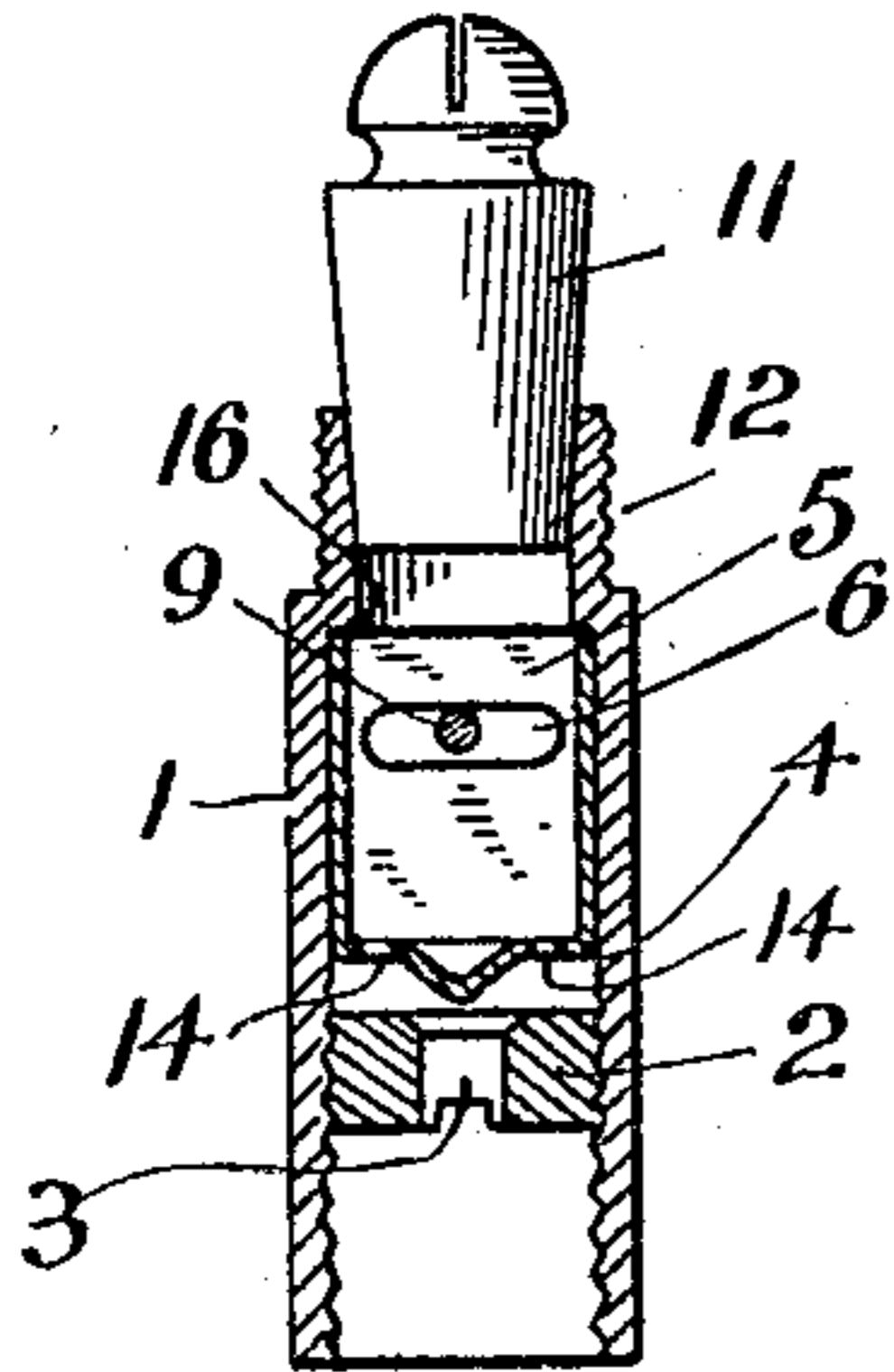
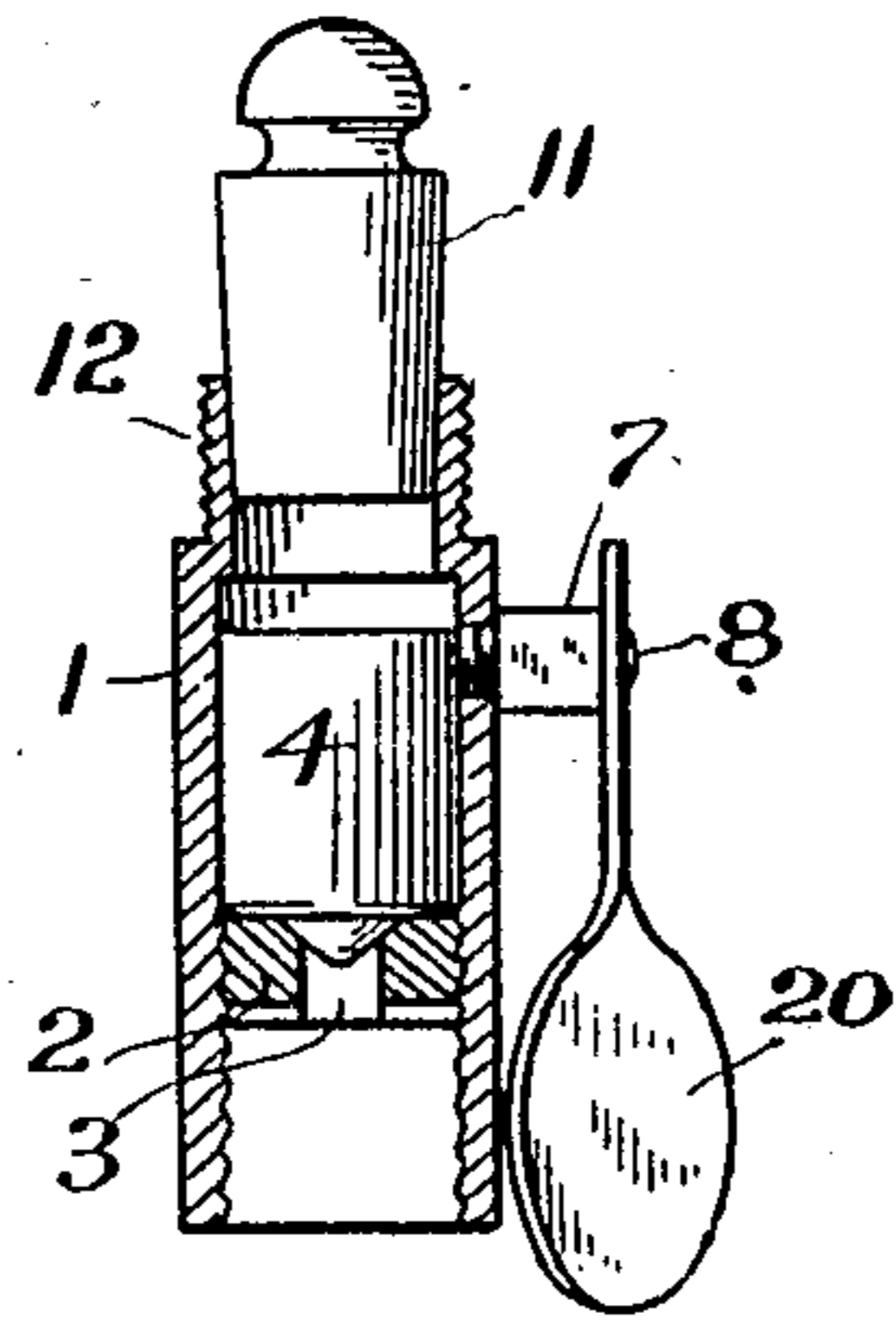


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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VALVE FOR GAS-BURNERS.

No. 909,878.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK EGGE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Valves for Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in valves for gas burners, and has for its object the prevention of accidents or injurious effects ordinarily caused by the blowing out of the gas flame, or by the relaxation of the gas pressure followed by subsequent pressure.

With these ends in view my invention consists in the details of construction and combination of parts hereinafter fully described and then particularly pointed out in the claim which concludes this description.

In the accompanying drawing Figure 1 is an elevation of a burner equipped with my improvement—Fig. 2 a sectional elevation of the same—Fig. 3 a sectional elevation showing the valve in solid lines and in elevated position—Fig. 4 likewise a sectional elevation taken in a plane at right angles to the plane at which the section shown at Fig. 2 is taken—Fig. 5 a sectional elevation of another form of my improvement with the valve elevated, and Fig. 6 a sectional elevation of the construction shown at Fig. 5 with the valve closed.

Similar numbers of reference denote like parts in the several figures of the drawing.

Heretofore various constructions have been contrived in the nature of safety valves for gas burners, but most of these constructions are defective in that the jarring of the burner will cause the valve to operate; also, the valves have been so constructed and operated that whenever it became necessary to turn out the gas the usual cock on the burner had to be operated. My improvement is exceedingly simple, overcomes these defects and will be best understood from the following description.

1 is the body of the burner interiorly threaded at its lower end for attachment to a gas fixture, and 2 is a valve seat located within the body 1 and having the usual opening 3 for the passage of the gas.

4 is the valve which fits snugly within the

body 1 but is capable of a free vertical play and is adapted at its lower surface to cooperate with the valve seat 2 in the usual manner to open and close the passageway 3 for the gas.

5 is a web carried by the valve and having therein a horizontal slot 6.

7 is a hollow nipple fixed within the side of the burner and leading into the same, and freely journaled within this nipple is the outer portion 8 of a shaft, the inner portion of said shaft being formed into a crank 9 which latter extends through the slot 6.

Rigidly secured to the outer extremity of the shaft 8 is a gravity lever 10. This lever is of such dimensions and weight and is so secured to the shaft 8 that the outer or heavy end of this lever will normally drop by gravity thereby throwing the crank to its lowest position and forcing the valve downwardly into closed position, as shown at Fig. 2. When the valve has been brought into a closed position in the manner above described no amount of gas pressure can elevate said valve since the position of the crank is very nearly on a dead center.

An ordinary tip 11 may be utilized in the top of the burner, or any suitable burner head may be secured to the top portion of the body 1, and in this connection I would say that I have shown this top portion reduced and threaded merely for the purpose of illustrating how my improvement may be equipped to receive an extra burner.

In utilizing my improvement the gas is always turned on, and by pulling any suitable chain or cord 13 depending from the small end of the lever, or by bodily elevating the heavy or large end of the lever the crank 9 will be operated to elevate the valve so that the gas may get beneath the same and by its pressure keep the valve sustained in elevation. Small perforations 14 are provided in the bottom of the valve to allow for the passage of the gas to the burner tip, and in order to prevent undue blowing of the gas, the inside of the valve may be packed loosely with some suitable substance such as cotton which I have illustrated at 15 in Fig. 2. The pressure of the gas is sufficient to keep the valve in elevation, or, in other words, to sustain the weight of the valve and the gravity of the lever 10, but when this pressure decreases down to a certain limit, the gravity of the lever and the weight of the valve will cause the heavy end of said

lever to drop and thereby lock the valve in closed position against its seat thus cutting off further supply of gas. This is an exceedingly safe provision since, in instances
5 where a coin operated meter is employed, after the pressure has gone down owing to the consumption of the amount of gas paid for, and said pressure is subsequently renewed by the insertion of another coin, no
10 gas can possibly escape through the tip since the valve will be in its closed and locked position. Moreover, it frequently becomes necessary, of course, to extinguish the gas flame, and this is ordinarily accomplished by
15 operating the local cock that is on the fixture, but in my improvement it is merely necessary to depress the heavy end of the lever so as to bring the valve to its closed and locked position.

20 A shoulder 16 near the upper part of the interior of the body 1 acts as an abutment to limit the upward movement of the valve, and the part 8 of the shaft passes through a vertically disposed elongated gate 17 in the
25 side of the valve whereby the latter is prevented from turning around. However, this shoulder 16 and the arrangement of the part 8 in connection with the side of the valve, which I have just described, refer to mere
30 mechanical details and I do not wish to be limited in these respects.

Referring to Figs. 5 and 6 I have shown a slight modification of my improvement in which a swinging connection for the crank
35 is attached to the valve, so that after the latter has reached the limit of its elevated position the large or heavy end of the lever will stand upright in proximity to the flame, so that said lever will be free to drop in
40 either direction, the construction of which modification I will now describe. Instead of a rigid web I employ a device which consists of two downwardly extending diverging legs 18 surmounted by a socket portion
45 19, the lower terminals of which legs are pivotally connected with the valve in any suitable manner, while the crank 9 extends loosely through said socket portion. Furthermore, I utilize a lever 20 secured to the
50 part 8 in the manner hereinbefore described

but having its large or heavy end deflected after the manner of the blade of a propeller wheel. When the cord 13 is operated to elevate the valve and the gas is lighted, the pressure of the gas will keep this large end
55 of the lever elevated in close proximity to the flame which latter I have shown at Fig. 5 in outline, and any force of air sufficient to blow out the gas flame will likewise act against the lever throwing the same to its
60 lowermost position thereby bringing the crank to its lowest position and locking the valve in closed condition. The large end of the lever is deflected, as described, in order that it may be acted upon by a gust of air
65 irrespective of the direction from which the latter comes, and since said lever is free to swing downwardly in either direction the valve will be closed in both instances.

In both constructions, as shown at Figs. 70 2 and 5, the valve is operated by a crank connection and a gravity lever by which said crank is turned, and it is immaterial whether the element with which the crank engages is stationary or not, so long as the valve par-
75 takes of the movements of said elements.

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

A device of the character described, comprising a hollow straight gas burner body, a valve seat within said body and having a passageway for the gas, a valve provided with gas exits and snugly fitting within
80 said body and capable of a free vertical movement and adapted to seat itself by gravity, a shaft journaled at the side of said body and carrying a crank which extends within the latter, connections between said
85 crank and a valve whereby the elevating and lowering of said crank will effect the corresponding movements of the valve, and a gravity lever secured to said shaft outside
90 said body.

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

FREDERICK EGGE.

Witnesses:

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