

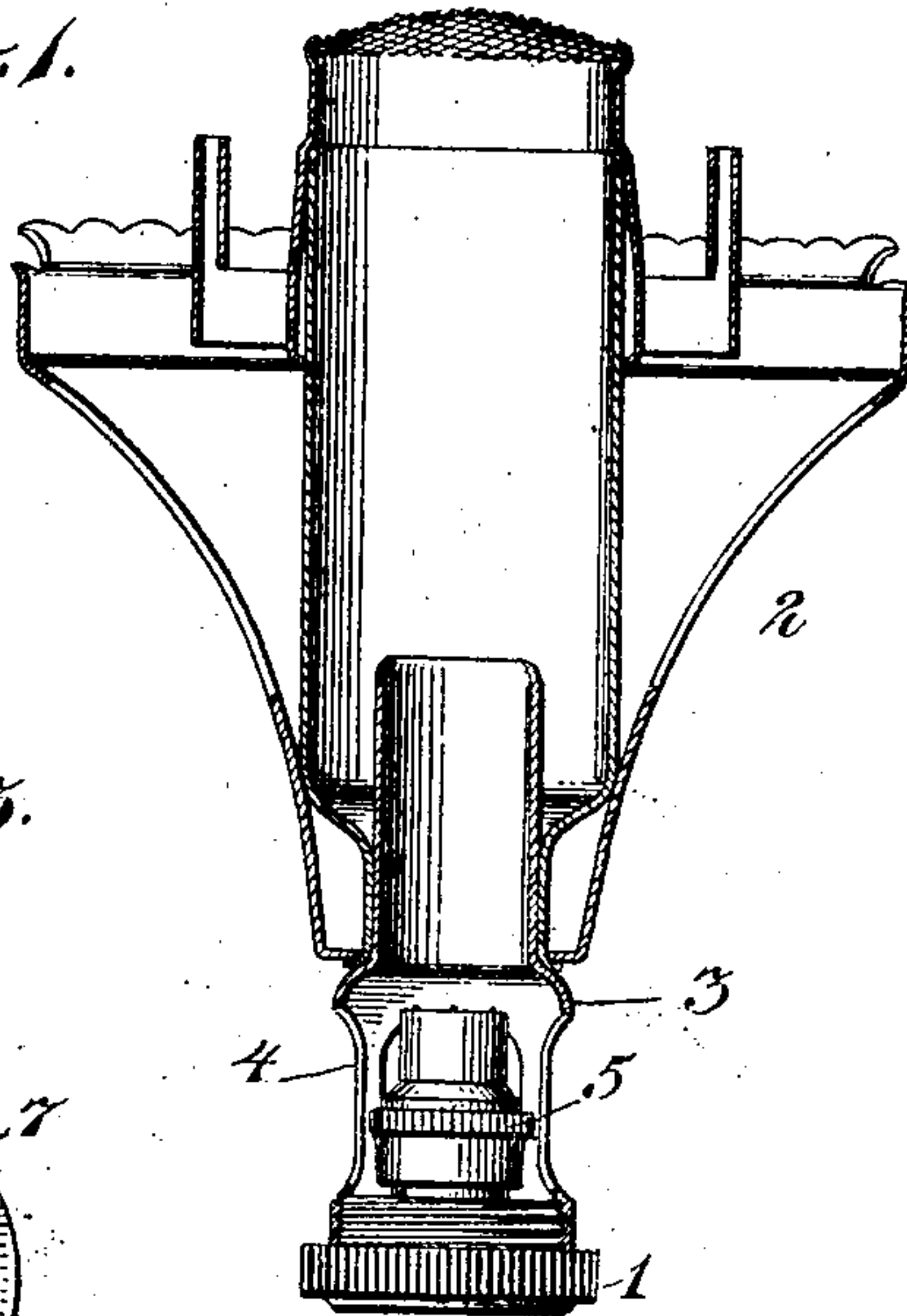
No. 810,590.

PATENTED JAN. 23, 1906.

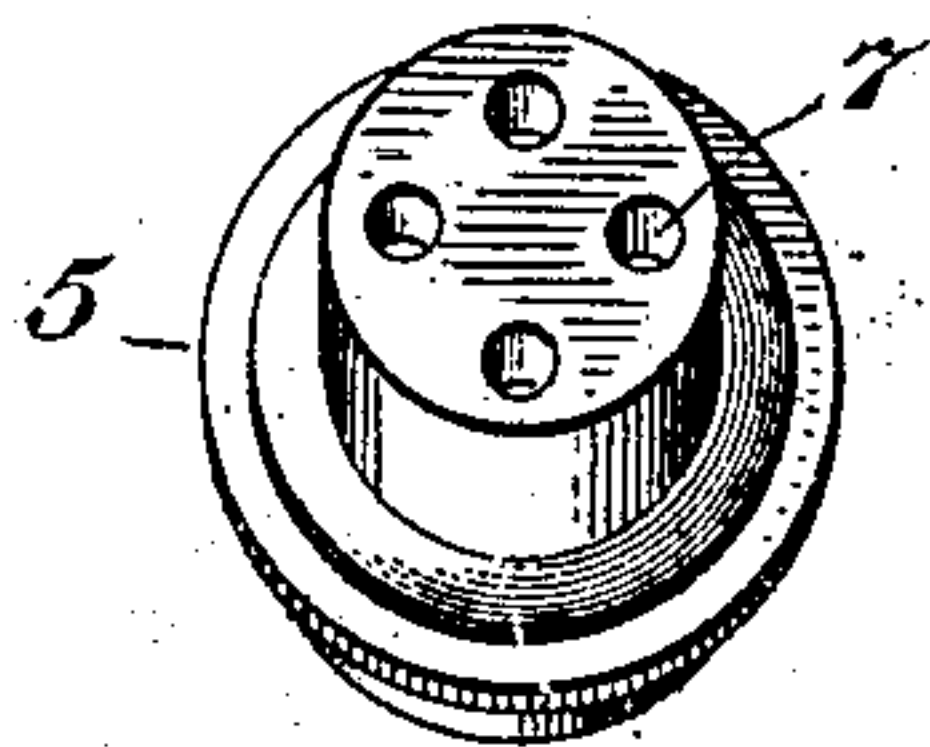
W. R. WHITEHEAD.  
VALVE.

APPLICATION FILED MAR. 9, 1904.

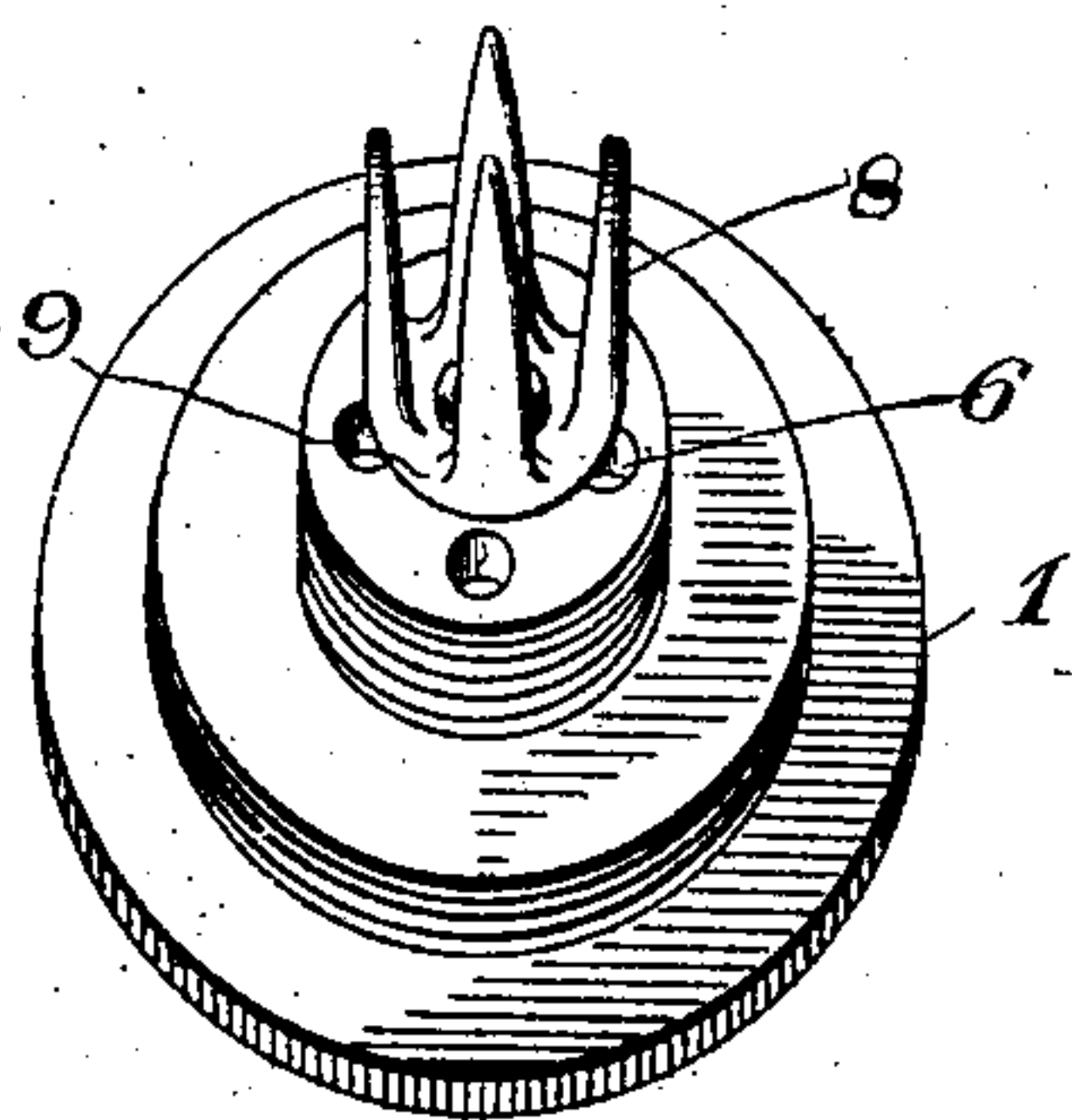
*Fig. 1.*



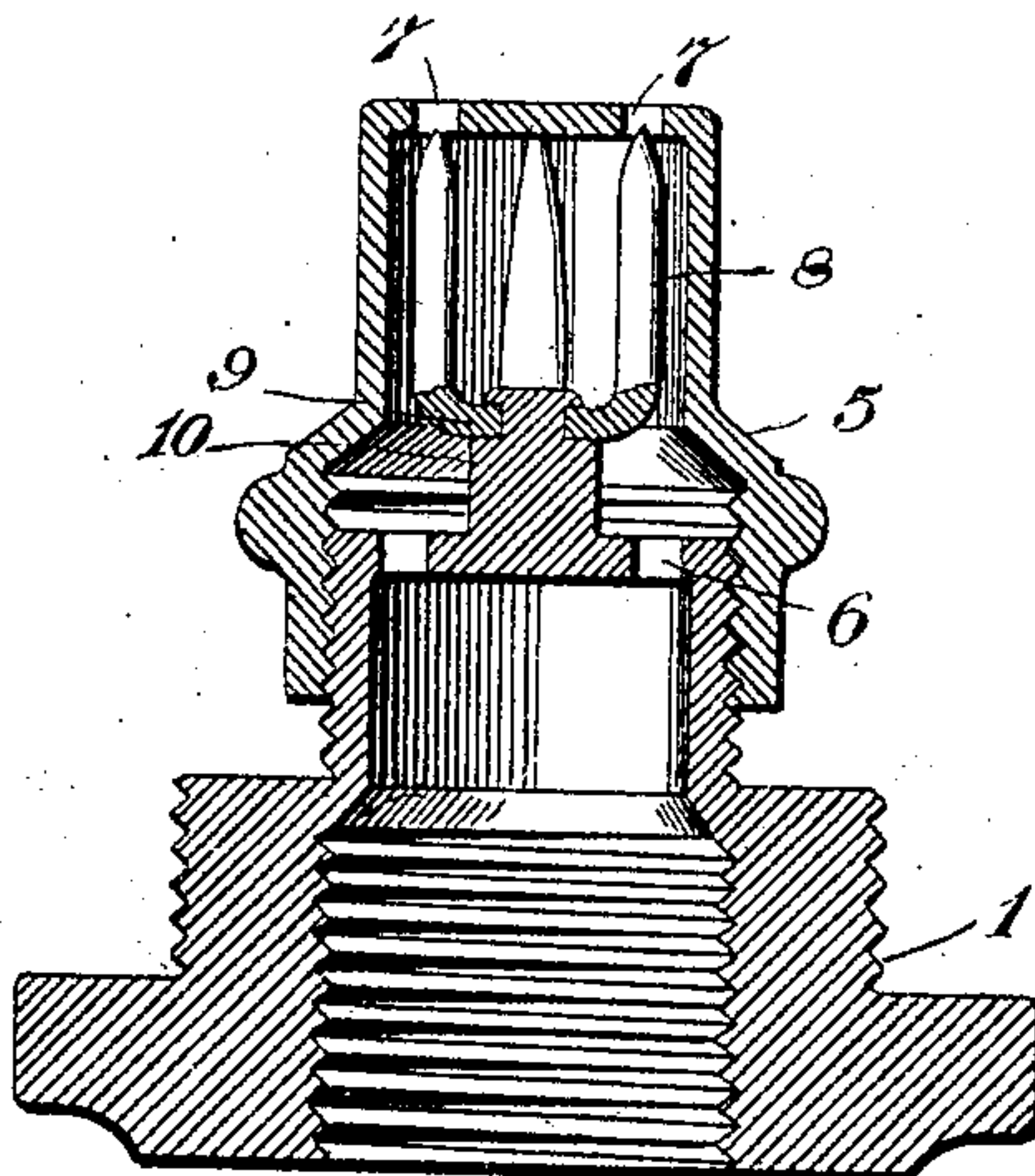
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

WILLIAM RUSSELL WHITEHEAD, OF TRENTON, NEW JERSEY.

## VALVE.

No. 810,590.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed March 9, 1904. Serial No. 197,284.

*To all whom it may concern:*

Be it known that I, WILLIAM RUSSELL WHITEHEAD, a citizen of the United States, and a resident of Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves, and more particularly to check-valves for use in connection with gas-burners.

In burners of the Welsbach type which embody a Bunsen-burner tube it is obviously necessary in order to obtain the best results in the way of light that the amounts of gas and air received into the burner-tube should be in proper proportions. An attempt is ordinarily made to regulate this by the size and number of the respective openings through which the gas and air are entered into the burner-tube; but as the gas-pressure varies more or less in different localities no one standard set of openings can be fixed upon for general use that will give the best or desired results.

It has therefore been the object of my invention to provide a simple and effective means for properly controlling the escape of the gas into the burner-tube according to the pressure of the gas at the place where the burner is used. To this end I have provided the improved valve, as hereinafter set forth in detail, and pointed out in the claims.

Referring to the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of a burner embodying my invention with the mantle and globe removed. Fig. 2 is an enlarged sectional detail through the valve-containing base of the burner, and Figs. 3 and 4 are perspective views of the two parts constituting such base.

Referring now in detail to the several views, the tubular base-cap 1 of the burner, interiorly threaded for detachable connection with a supply gas-pipe, whether forming part of a lamp or otherwise, and provided with suitable escape-orifices for the gas in its upper end, and the burner-head, (indicated generally by 2,) attached to the base-cap and embodying the burner-tube 3, having air-receiving openings 4 adjacent to its lower end, are all, in so far as described, of usual construction and arrangement.

In accordance with my invention and as more clearly illustrated in Figs. 2 to 4, inclusive, the base-cap 1 is provided with a cham-

bered cap 5 at the upper end thereof, into which its escape-orifices (indicated at 6) open, this chambered cap being in turn provided with a plurality of orifices 7 in its upper end, through which the gas escapes into the burner-tube 3 for admixture with the air received therein. As a simple and effective means for regulating the escape of the gas through these orifices 7 of the cap 5 for the purpose hereinbefore referred to a plurality of needle-valves 8 are provided, which are adapted to be entered a greater or less distance into or through the orifices 7, and thereby regulate their size, and consequently the amount of gas that may escape therethrough. To provide for this adjustment between the valves 8 and the orifices 7, the valves are carried by a supporting-head 9; which is rotatably mounted upon a centrally-located stud 10 on the end of the base-cap in a position to be inclosed within the cap 5, and the latter has a screw-threaded connection with the base-cap whereby it may be turned thereon, so as to adjust the position of its orifices 7 back and forth longitudinally with respect to the valves, the rotatable support of the latter permitting of their movement with the cap 5 as the latter is turned for the purposes of adjustment or otherwise.

The use of the valves in connection with the escape-orifices as described constitutes a simple and very effective means for regulating the amount of gas discharged into the burner-tube; the needle-valves serving to regulate the amount of gas required with the greatest accuracy and also serving to properly direct the flow of the gas at whatever position they may be with respect to the escape-orifices.

Having thus set forth one embodiment of my invention, I do not wish to be understood as confining myself to the particular details of construction and combination of parts shown and described, as the same may be more or less materially modified without departure from the invention, for

What I claim is—

1. In combination, a rotatable head carrying a plurality of needle-valves, a support for the head, and a part provided with a plurality of orifices into which the valves extend, the said part being rotatably movable for adjustment in a longitudinal direction with respect to the valves.

2. In combination, a rotatable head carrying a plurality of needle-valves, a support for

the head, and a part provided with a plurality of orifices into which the valves extend, the said part having a screw-threaded connection with the head-support for longitudinal adjustment with respect to the valves.

3. In combination, a rotatable head carrying a plurality of needle-valves, a base-cap on which the head is mounted, and a chambered cap provided with a plurality of openings into which the valves extend, the said chambered cap having a screw-threaded connection with the base-cap and inclosing the valve-carrying head, for the purpose set forth.

4. In combination, a rotatable head part

carrying a plurality of needle-valves, a support for the head part, and a cap part provided with a plurality of orifices into which the valves extend, one of said parts being rotatably mounted for the purpose of longitudinally adjusting said head part and cap part in relation to each other.

Signed at Trenton, in the county of Mercer and State of New Jersey, this 2d day of March, A. D. 1904.

WILLIAM RUSSELL WHITEHEAD.

Witnesses:

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WALTER J. BINDER.