

No. 748,471.

PATENTED DEC. 29, 1903.

C. A. BLUHM.
INCANDESCENT GAS BURNER.
APPLICATION FILED MAY 13, 1903.

NO MODEL.

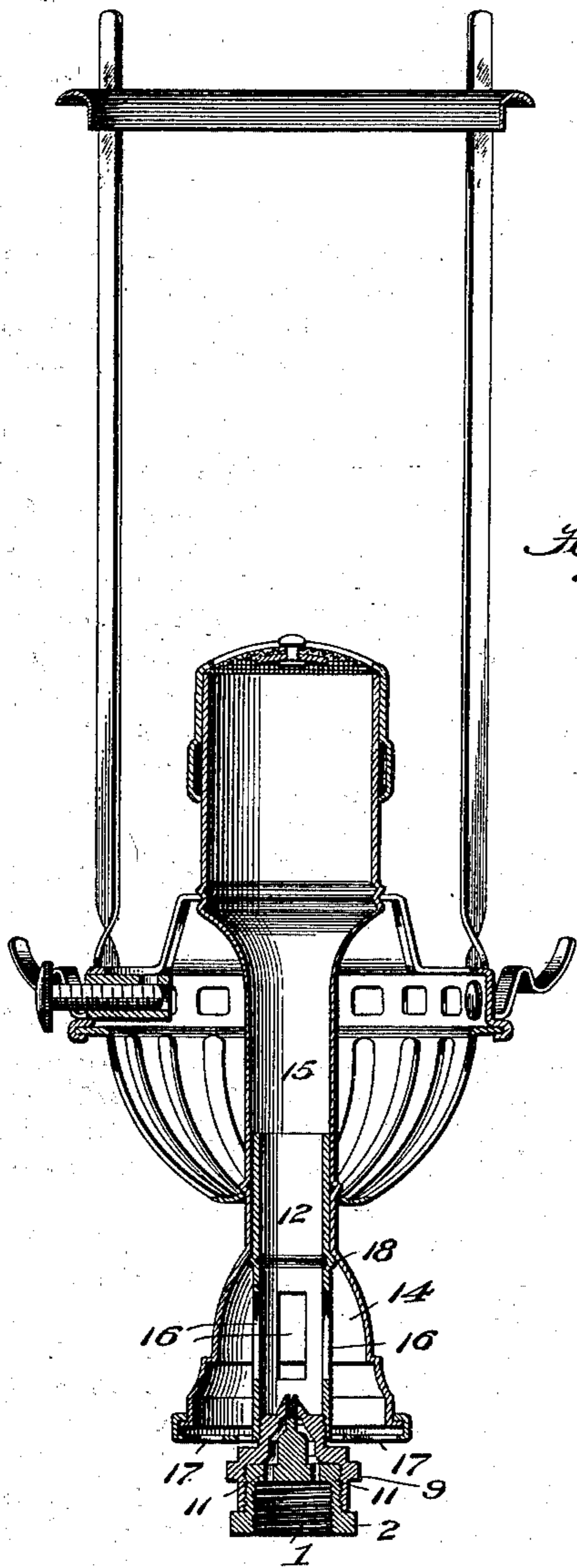


Fig. 1.

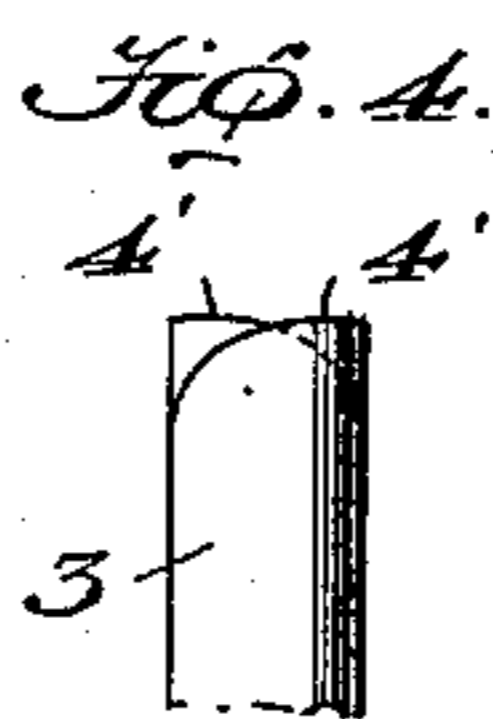


Fig. 4.

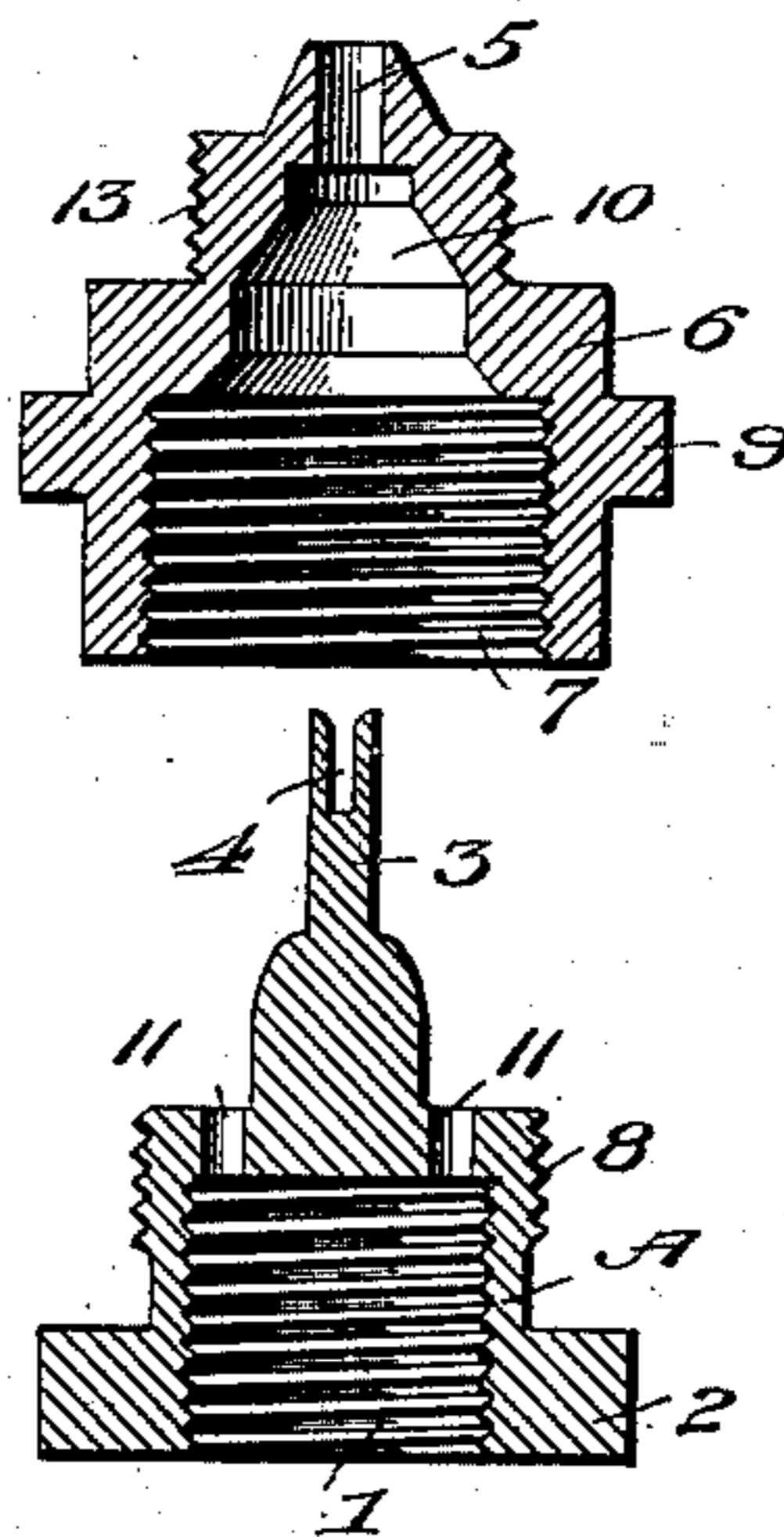


Fig. 2.

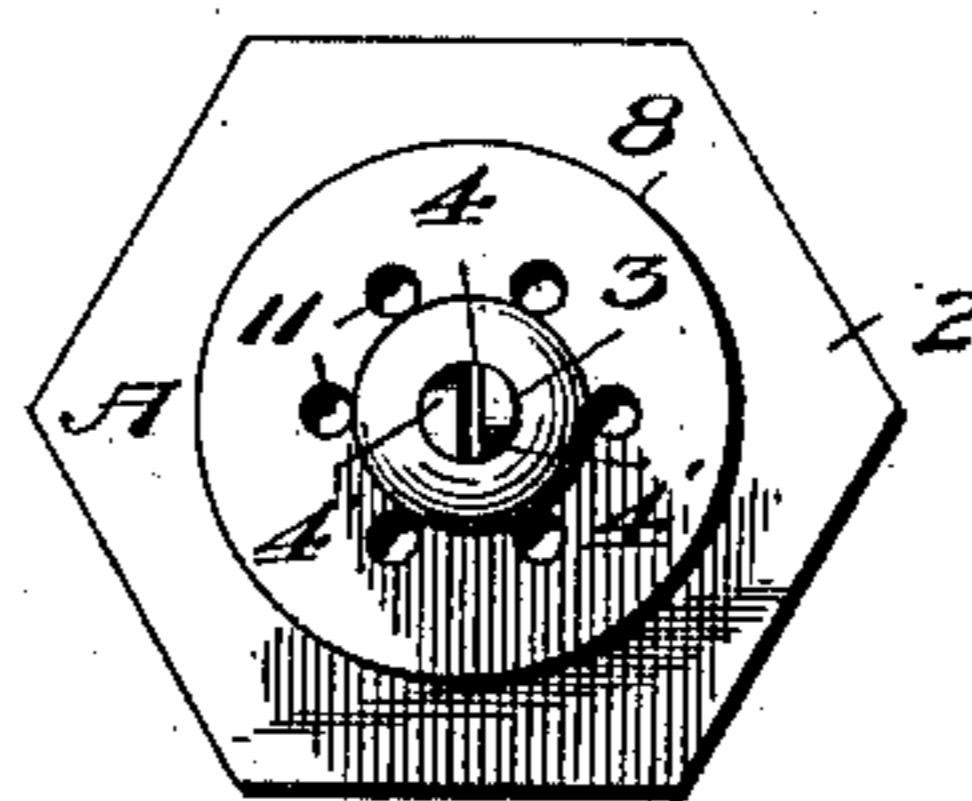


Fig. 3.

Witnesses:

Wm. C. Anderson
Jno. J. Pelligan

Inventor:

Charles A. Blum
Thos. E. DuBois
Atty's

UNITED STATES PATENT OFFICE.

CHARLES A. BLUHM, OF MICHIGAN CITY, INDIANA.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 748,471, dated December 29, 1903.

Application filed May 13, 1903. Serial No. 156,941. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BLUHM, a citizen of the United States, and a resident of Michigan City, in the county of Laporte and State of Indiana, have invented a new and useful Improvement in Incandescent Gas-Burners, of which the following is a specification.

My invention relates to an improvement in adjustable gas-valves for the discharge of gas therefrom for incandescent gas-burners adapted to receive any form of gallery now on the market, and to provide improved means for carrying the gas and commingled air horizontally under all conditions and distributing it from the outlet of the adjustable valve by a horizontal discharge from the slot in the valve through the orifice surrounding the same to the top or highest point of the mantle, and in connection with these features to provide for a proper and circular discharge of gas and supply of air, whereby the light continues without variation when the valve is adjusted and as long as the gas is turned on. Failure to recognize this requirement has resulted in a lack of success in the construction in many, if not all, of the valves for discharge of gas in incandescent gas-burners at present on the market. The reason for this is that in the burners as generally constructed and on the market there has been and is much annoyance and trouble always to get the exact mixture of gas and air to make the most effective combustion. The reason for this is that the gas in passing through the small opening or in passing through the small opening or openings in the disk generally used and on the market causes the passages to become clogged by corrosion of the gas after being used awhile, and the result is a variation in openings of the disk. This variation in the size of the openings creates a heavier discharge of gas through the larger openings located at one side, and thereby passing the flame at one side of the mantle, and with the same regulation of air the flame and heat are carried to one side, causing the mantle to burn out and give only a partial and imperfect flame on the opposite side, producing a gloomy lighting of the mantle and almost in every instance should the burner remain in a state of corrosion result

in breaking of chimney. Furthermore, a burner constructed on the above-stated plane cannot be cleaned from corrosion without destroying the regulation size openings in the disk for the exact discharge of gas for combustion.

It is an object of my present invention to overcome this objection by the use and in the construction of an adjustable valve, said valve consisting of a valve-body having a stem in its center, said stem having a slot at its upper end in connection with a surrounding casing the length of the slot, said valve-body being adapted to be screwed up or down to regulate the size of the opening of the slot for the amount of discharge of the gas and at the same time spreading the gas as it discharges through the orifice. My valve for the burner is so constructed that should the slot or valve become clogged by corrosion it can be easily removed and cleaned and replaced again for use. Furthermore, results are attained in my present invention by a proper regulation of the gas-supply, whereby the full force of the gas is maintained and the variation in the supply of air in the burner is not permitted to change the spread of gas issuing through the orifice.

My present invention further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation and partly in section of my improved burner with the gallery supported thereon. Fig. 2 is an enlarged sectional view of the valve and thimble detached. Fig. 3 is a plan view of the valve, and Fig. 4 is a detail.

A represents the valve-body, it being counterbored and screw-threaded, as at 1, whereby to screw on the gas pipe or fixture, its base being angular or otherwise formed at 2 to facilitate turning it. At the upper end of the valve-body a plug-shaped valve 3 is formed, this being cylindrical in cross-section and slotted a short distance, and these divided ends tapered or rounded off in opposite directions, as shown in Fig. 4, at its upper end, and its function being to admit of a fine adjustment of the valve in the casing 5 of the thimble 6, the bore of which the plug-valve is

adapted to fit, whereby to adjust the discharge to a nicety. This thimble is interiorly screw-threaded, as at 7, to turn on the external threads 8 of the valve-body, and the outer edge of the thimble is milled or otherwise constructed at 9 to facilitate holding and turning it. Shoulders *a* and *b* form abutments to limit further inward movement and prevent strain coming on other parts when screwed together the full limit.

The special function of the slotted tapering plug-valve and its cooperating parts will now be described. By reason of the taper at the split ends of the plug the gas issues in an annular uniform upward discharge, which without the taper would be flat and flaring or very much the shape of the discharge from an ordinary gas-tip. The peculiar shape of the taper causes the discharging gas to impinge against the cylindrical wall of the surrounding casing, thus insuring the annular shape of the gas flow.

Within the thimble the gas-chamber 10 is formed, and the holes 11 11 in the valve-body supply gas from the fixture to this chamber, with which they communicate. A tube 12 screws on the threads 13 of the thimble and connects the air-chamber 14 and mixing-chamber 15 of the gallery, this tube being provided with slots 16 16 for the ingress of air supplied through openings 17 17 in the lower end of the gallery. A circumferential ridge 18 on this tube supports the gallery rotatably in position.

The burner is attached by simply applying a wrench to the base 2 and screwing it upon the fixture. Then to adjust the flow of gas the thimble 6 is turned to the right or left by manipulating the milled portion 9, the valve being opened by turning it to the right and closed by turning it to the left, and by means of the slitted end 4 and the oppositely-tapering extremities 4' 4' the flow of gas is regulated, as may be desired. Of course this adjustment does not require frequent repetition, as a single adjustment usually serves for an indefinite period. Still, whenever occasion may require it a readjustment may be made by simply turning the thimble to the right or left a greater or less degree accordingly as required.

Attention is called to the fact that my improved valve is of such construction that it is adapted to receive any form of gallery now on the market, so that it may be used wherever an incandescent mantle is employed.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without depart-

ing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. A gas-burner comprising a valve-body and thimble constructed and adapted to screw together and inclose a gas-chamber between them, one part having a cylindrical casing and the other a slotted plug which fits said casing and enters therein from the direction of the inclosed chamber.

2. A gas-burner comprising a valve-body and a thimble constructed and adapted to screw together and inclose a gas-chamber between them, one part having a cylindrical casing and the other an integral slotted plug which fits the casing and is adjustable therein.

3. A gas-burner comprising a valve-body and thimble constructed and adapted to screw together, said parts each having shoulders thereon adapted to abut and limit their inward movement, one part having a cylindrical casing at its tip and the other a slotted plug, fitted and adjustable thereto.

4. A valve for gas-burners comprising a cylindrical casing, a valve-body adjustably connected therewith, said valve-body having a slotted plug-valve the ends of which are so constructed that they cause the issuing gas to impinge against the walls of the cylindrical casing with adequate pressure to create an annular discharge of gas.

5. A gas-burner comprising a thimble counterbored to form a tip at one end for the discharge of gas and a chamber leading to the tip and a screw-threaded lower end, and a valve-body adapted to screw into the thimble and having gas-ducts therein which communicate with said chamber, the valve-body provided with a split or slitted plug-valve which fits the tip-orifice, the ends of the valve tapered in opposite directions.

6. A valve for gas-burners comprising a cylindrical casing, a valve-body adjustably connected therewith, said valve-body having a slotted plug-valve the ends of which taper in opposite directions whereby to cause the issuing gas to impinge against the walls of the cylindrical casing with adequate pressure to create an annular discharge of gas.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES A. BLUHM.

Witnesses:

JARED H. ORR,
HENRY H. BLUHM.