No. 727,588. PATENTED MAY 12, 1903.

W. C. CLARKE.

GAS BURNER.

APPLICATION FILED JULY 17, 1902.

NO MODEL.

Fig. 1,

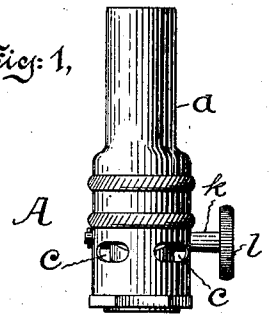


Fig. 2,

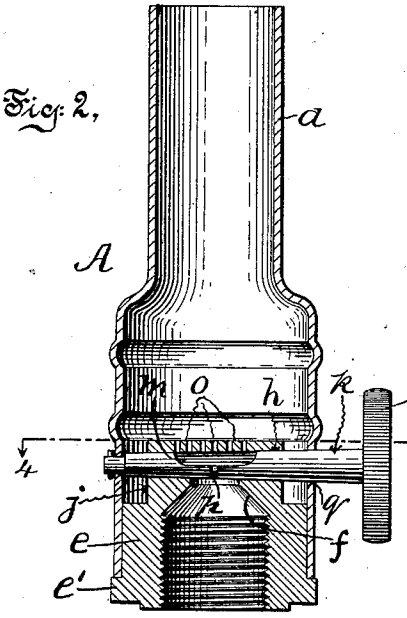
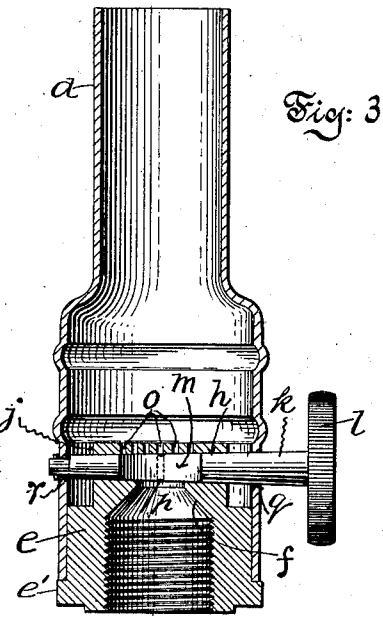


Fig. 3,



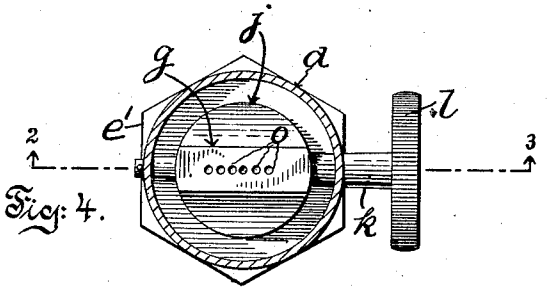


Fig. 4.

Witnesses
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Inventor
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By his Attorney
S. Walter Brown

THE HORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 727,588. Patented May 12, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM C. CLARKE, OF NEW YORK, N. Y., ASSIGNOR TO DE LERY LIGHT COMPANY, A CORPORATION OF NEW JERSEY.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 727,588, dated May 12, 1903.

Application filed July 17, 1902. Serial No. 115,887. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. CLARKE, a citizen of the United States of America, and a resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to improvements in gas-burners.

The invention particularly relates to an occluding-valve for regulating the supply of gas to a Bunsen burner, the purpose of the valve being to permit the user to regulate the gas-supply to suit the various conditions of gas-pressure and quality met with in practice.

The invention especially consists in such a construction of the occluding-valve and valve-body as permits the user to vary the supply of gas admitted to the burner within wide limits, but prevents him from accidentally shutting the gas-supply off. The occluding-valve is also so constructed and arranged that it is rotated with the same motion as the common lamp-wick adjuster of kerosene-lamps is operated in raising and lowering a lamp-wick, this rotary motion being a very convenient and familiar one and therefore the most suitable and popular one for a gas-burner. The occluding-valve is further arranged above the air-ports and inside the pillar, so that any leakage of gas is within the uptake of the flow of gas, which experience shows to be a distinct advantage. These several results are attained by the construction shown on the accompanying drawings and hereinafter described.

Referring to the said drawings, Figure 1 is an elevation, about full size, of my improved burner, the head being omitted. Fig. 2 is a longitudinal section of the same on a larger scale and with the occluding-valve closed. Fig. 3 is a longitudinal section on the scale of Fig. 2, but with the occluding-valve open. Fig. 4 is a cross-section on the line 4 4 of Fig. 2.

The pillar *a* of the burner A is preferably of sheet metal of the usual shape, as shown, and provided with air-ports *c c*. In the lower end of said pillar *a* is the body *e* of the occluding-valve. Said body *e* has the chamber *f*, which is conically contracted and extended upwardly to communicate with the small gas-delivery holes *o o*, which are bored down through the flattened and conically-contracted upper end *g* of said body *e*, Fig. 4. Said body *e* is conically through-bored at *h* for the conical occluding-valve *k* and is internally threaded, as shown, for connection with a gas-supply pipe or with a gas-cock, it being understood that my device will be generally used on a gas pipe or fixture which has a main gas-cock independent of my device and by which the gas-supply can be entirely shut off, if desired. The valve *k* is cut away at one side for something less than half the diameter of said valve to form a port *m*, and a small groove *p* is formed around the opposite side of said valve, which groove *p* is preferably situated to be in line with the middle gas-delivery hole *o* when the occluding-valve is in the closed position of Fig. 2.

In assembling the parts the body *e* is pushed home to the flange *e'* into the pillar *a*, the smaller upper part *j* thereof being opposite the air-ports *c c*, so that an annular air-space is provided inside the said pillar, and the gas-escape holes *o o* being above—that is, on the burner side of—the said air-ports *c c*. The valve *k* is then inserted through a hole *q* in said pillar *a* and through the bore *h* in the body *e*, its other end projecting through a hole *r* in said pillar and being secured in the pillar by a cotter pin or nut. A wheel *l*, with milled edge, serves to turn said valve *k* as the wick-raising device of a kerosene-lamp is turned. When said valve *k* is in the position of Fig. 3, the gas has free passage through the port *m* to the holes *o o*. As the user turns said valve *k* in either direction he shuts off the gas gradually until the valve reaches the position wherein the valve is completely closed, except for the groove *p*, which furnishes sufficient gas to maintain a pilot-light that will ignite the larger stream of gas when the burner is fully opened without injurious explosions. Thus the user can rotate the valve by the wheel *l* in the common manner of a lamp-wick adjuster and in either direction to regulate the supply of gas to the needs of the burner and without the danger of entirely quenching the flame by his attempts to regulate the gas-supply.

I may of course provide the valve *k* with more than one groove *p*, but one groove is sufficient.

Now, having described my improvements, I claim as my invention—

1. The combination in a gas-regulating burner, of a pillar constituting a mixing-chamber, and an occluding-valve provided with orifices all of which communicate directly with the interior of said pillar, and a spindle in said valve capable of complete rotation, and said spindle being ported on one side and having a small peripheral groove on the other side which communicates with one of said orifices, substantially as described.

2. The combination in a gas-regulating burner, of a pillar constituting a mixing-chamber and provided with air-inlets and with a valve-body *e* having gas-orifices positioned above said air-inlets and between the same and the burner-head, all of which orifices communicate directly with the interior of said pillar, and an occluding-spindle *k* in said body *e* capable of complete rotation and cut away on one side and having a small groove *p* around the other side in communication with one of said orifices, substantially as described.

Signed at New York city this 16th day of July, 1902.

WILLIAM C. CLARKE.

Witnesses:
DAVID WALTER BROWN,
HENRY V. BROWN.