G. L. SHEPARD.
Regulators for Gas-Burners.

No. 196,489. Patented Oct. 23, 1877.

Fig. 1.

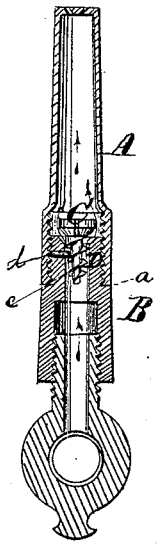

Fig. 2

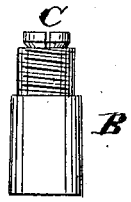

Fig. 3

Geo. L. Shepard

WITNESSES:

Benj. F. Carpenter.
E. F. Hurd.

INVENTOR:

UNITED STATES PATENT OFFICE.

GEORGE L. SHEPARD, OF NEW YORK, N. Y.

IMPROVEMENT IN REGULATORS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **196,489**, dated October 23, 1877; application filed August 15, 1877.

To all whom it may concern:

Be it known that I, GEORGE L. SHEPARD, of the city and county of New York, in the State of New York, have invented a new and Improved Gas-Regulator for Gas-Burners, of which the following is a specification:

The object of my invention is to improve the well-known gas-burner, with a view of economizing in the consumption of gas.

The nature of my invention consists in combining, with a gas-burner, a grooved automatically-regulating valve and a pin which will check the said valve in its upward strokes, as will be hereinafter explained.

In the annexed drawing, Figure 1 represents a vertical section through a gas-burner improved by me. Fig. 2 is a side view of the lower section of the gas-burner with my valve applied to it. Fig. 3 shows the valve which I use, in combination with a two-part gas-burner.

Similar letters of reference indicate corresponding parts.

The letter A designates the upper section of a two-part gas-burner, which section may be adapted to give any form of flame. B designates the lower section of the burner, having a male screw formed on it to receive the upper section A, and a shoulder, *a*, I may in practice use as a washer. The upper end of the lower section is flat, and forms a seat adapted to receive a valve, C, that may be beveled annularly, which may be flat, or it may be spherical or of any other shape which will effect the object in view. To wit, this valve C is constructed with a guide, D, which may be of any desired length, and which extends down into the bore of the lower section B, leaving between the periphery of the guide and the inner wall of the bore a space for the passage of gas up to said valve. This space may vary in size, according to the head or pressure of gas.

In practice I shall form an annular or a spiral flange or thread, *c*, on the stem of the valve, leaving a groove, in which is a pin or stud, *d*. The annular or spiral groove is of such size that it will allow the valve C to receive automatically a vertical motion, and adjust itself to the varying pressure, thereby enabling me to regulate the size of the vent at pleasure. At the same time I allow free vertical motion to my valve, limited only by the aforesaid flange.

I have represented in the drawings a gimlet-pointed screw-flange—that is to say, the stem of the valve is tapered at its lower end; but I do not confine myself to a stem having a thread of this form; neither do I confine myself to a valve stem or guide, D, which is flanged, as such guide may be formed without a flange.

What I claim is—

In a gas burner or regulator, a valve having a stem or guide, D, which is grooved, in combination with a stud, *d*, which will regulate the upward throw of the valve, substantially in the manner specified.

GEORGE L. SHEPARD.

Witnesses:

BENJ. F. CARPENTER,

E. F. HURD.