P. KELLER.

Gas-Burners.

No. 155,732. Patented Oct. 6, 1874.

Fig: 1.

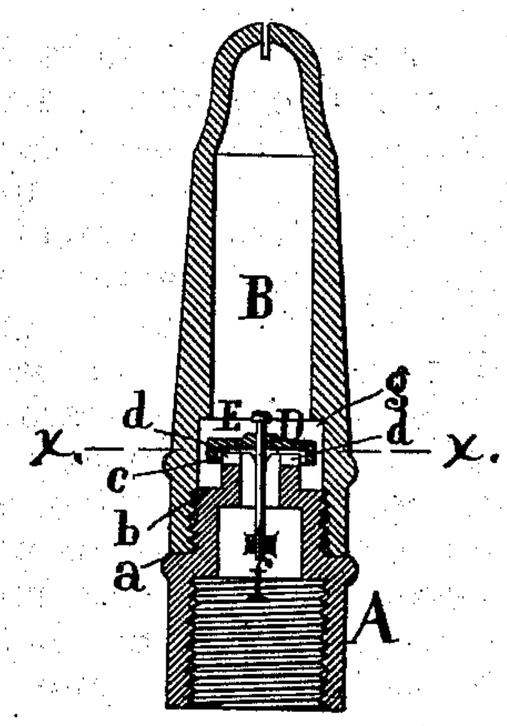


Fig. 2.

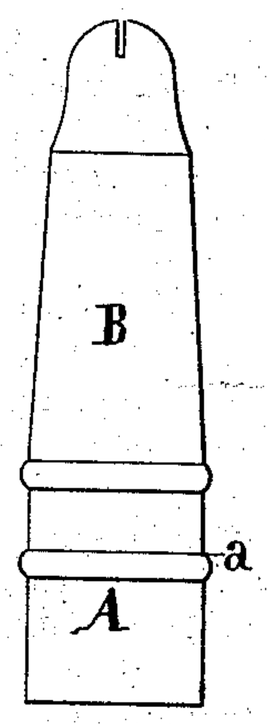
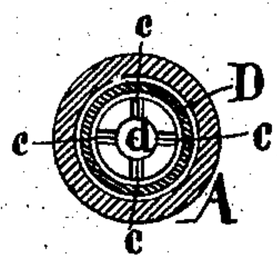


Fig: 3



Witnesses:

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per

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UNITED STATES PATENT OFFICE.

PETER KELLER, OF NEW YORK, N. Y.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **155,732**, dated October 6, 1374; application filed April 30, 1874.

To all whom it may concern:

Be it known that I, PETER KELLER, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a vertical central section of my burner. Fig. 2 is a side view thereof. Fig. 3 is a transverse section in the line *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention consists in the arrangement, in a gas-burner, of a gravitating check-valve for regulating the flow or supply of gas, which valve is fitted upon a notched or serrated seat in the interior of the burner, and guided in its movement on a stem rising from a plate arranged within the lower chamber of the base-section, in such a manner as to facilitate the lifting of the valve, and to preserve or maintain the flame when the pressure of the gas is insufficient to lift the valve off of its seat, as hereinafter explained.

In the drawing, the letters A B designate two parts or sections of a gas-burner made according to my invention, the lower or valve section A being provided with an internal thread for screwing upon a gas-pipe, while the upper or burner section B is provided with a like thread for screwing upon the valve-section. The said valve-section A is stepped, so as to form shoulders *a b c*, the lower one, *a*, of which constitutes the abutment of the burner-section B. The upper and inner shoulder, *c*, which is the upper rim of the valve-section A, forms a circular seat for the valve D. In or upon this last-named rim or valve-seat *c* are notches or serrations *d*. Above the middle step or shoulder, *b*, between the two sections A B, is a space or chamber, E, as shown, for the working of the valve D. This valve consists of a cup-shaped disk, of sheet metal or other suitable material, and is guided upon a stem, *e*, which is held in a cross-bar or star-shaped plate, *f*, arranged in the lower chamber of the base-section A. A sliding motion of the valve upon this stem *e* is possible to such an extent as the area of the chamber E will permit. When in its normal position the weight or gravity of the valve will cause it to rest or bear upon its seat *c*; but as soon as the pressure of the gas rises, and becomes sufficiently great to overcome such weight, the valve is lifted or moved away from its seat, to permit the emission or passage of the gas under and around it into the chamber E, whence the gas passes into the section B, and to the top of the burner.

By reason of the notches *d* in the surface of the valve-seat, an increased effective area of the valve D is presented to the gas in the action of the latter toward lifting said valve, and thereby the lifting thereof is to a great extent facilitated and insured.

As the pressure of the gas increases, the valve D is lifted to a greater extent, and the space or distance between it and the upper edge of the gas-chamber E (which space constitutes the outlet of such gas-chamber) is decreased or contracted, and by this means it is possible to deliver to the tip of the burner a regular and uniform flow of gas independent of the pressure in the gas-supply pipe.

If the pressure of the gas falls, and is insufficient to lift the valve out of its normal position upon the rim or seat *c*, the notches *d* therein will allow of an indirect and limited emission of gas to the chamber E and to the tip of the burner, so as to maintain the flame.

The valve in its upward movement by the pressure of the gas is arrested by the shoulder *g*, which constitutes the upper edge of the gas-chamber E; and, if desired, this shoulder may also be provided with notches *d*, to allow of a roundabout flow of gas. By this means the supply of gas to the tip of the burner is kept up at all times, irrespective of the position of the valve.

What I claim as new, and desire to secure by Letters Patent, is—

In a gas-burner composed of two sections, the lower section, A, formed with the shoulders *a b c*, and serrations *d*, in combination with the upper section, B, having shoulder *g*, and with the cup-shaped valve D, sliding on the stem *c* rising from the plate *f*, substantially as herein shown, for the purpose specified.

This specification signed by me this 20th day of April, 1874.

PETER KELLER.

Witnesses:

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CHAS. WAHLERS.