

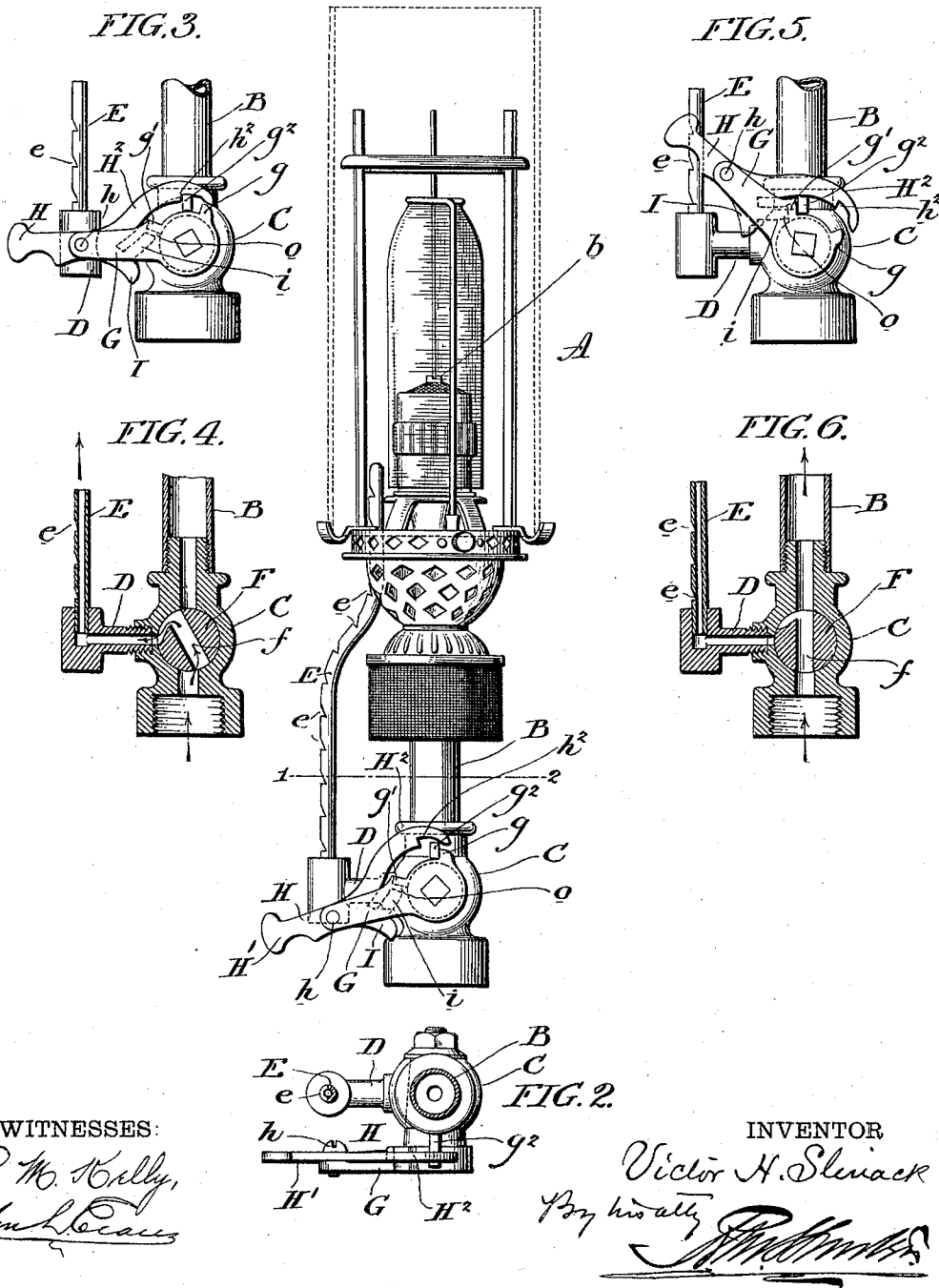
(No Model.)

V. H. SLINACK.
GAS BURNER.

No. 584,527.

Patented June 15, 1897.

FIG. 1.



UNITED STATES PATENT OFFICE.

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GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 584,527, dated June 15, 1897.

Application filed February 1, 1897. Serial No. 621,409. (No model.)

To all whom it may concern:

Be it known that I, VICTOR H. SLINACK, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Gas-Burners, of which the following is a specification.

My invention relates to gas-burners; and it consists of the improvements which are set forth in the following specification and are shown in the accompanying drawings.

In gas-burners, such as the Welsbach burners, employing an incandescent mantle and shade, owing to the inaccessibility of the orifice of the burner to the lighter, it has been usual to employ a by-pass and perforated tube leading from the valve to the space about the burner, through which when the valve is partially turned a portion of the gas escapes and when ignited by the torch communicates the flame to the gas escaping from the orifice of the burner. To light the burner, the valve is only partially opened, so that part of the gas passes through the by-pass to the igniting-tube. When the burner is lighted, the valve is fully opened, thus turning on the full head of gas to the burner and shutting off the by-pass.

Difficulty has been experienced in operating the valve with certainty, so as at first to only partially open it to the by-pass, and unless care is exercised it is too fully opened, so that more or less gas escapes through the burner. By the time the valve is turned back into the partially-opened position to permit the lamp to be lighted sufficient gas has escaped to more or less fill the space within the shade, and when this large volume of gas is ignited there is great liability of an explosion, resulting in injury to the delicate incandescent mantle.

It is the object of my invention to overcome this difficulty by a simple contrivance which will insure the first partial opening of the valve to enable the igniting-tube to be lighted and will permit the valve to be then fully opened.

In carrying out my invention I employ, in combination with the valve by which the supply of gas is controlled and suitable means for operating it, a locking device by which the

means for operating the valve are automatically arrested or locked in an intermediate position with the valve partially opened.

Further devices are also employed for unlocking these devices and permitting the valve to be fully turned.

In the preferred embodiment of my invention I employ as the means for automatically locking the valve in the intermediate position an auxiliary lever, carried by the lever or devices for operating the valve and having a locking member adapted to engage a fixed locking member when the lever has been moved to a slight extent. By suitable operation this auxiliary lever may be further operated so as to release the locking devices and enable the valve to be fully operated.

In the accompanying drawings, Figure 1 is a side elevation of a gas-burner embodying my invention. Fig. 2 is a sectional plan view of the same on the line 1 2 of Fig. 1. Fig. 3 is a side elevation of the lower portion of the burner, showing the valve in the partially-opened position. Fig. 4 is a vertical sectional view of the same. Fig. 5 is a side elevation similar to Fig. 3, showing the valve fully opened; and Fig. 6 is a vertical sectional view of the same.

A is the lamp or upper portion of the burner, which may be of any convenient construction.

B is the gas-feed tube which feeds the burner *b*.

C is the valve-barrel communicating with the feed-tube B and the gas-supply pipe and provided with a by-pass D, from which the perforated igniting-tube E leads upward into the lamp A.

F is a valve in the valve-barrel C, having a passage-way *f* so constructed that when the valve is partially turned into an intermediate position, as shown in Fig. 4, it will open communication from the supply-pipe to the by-pass D only, so that part of the gas will escape through the perforations *e* of the igniting-tube E, while the supply to the burner *b* remains closed.

G is a lever on the stem of the valve F, by which the valve may be operated. Stops *g* *g'* on the lever G, adapted to strike a lug *g*²

on the valve-barrel, limit the extreme movements of the lever and valve to fully open or fully close the valve.

When the valve is to be partially opened for the purpose of lighting the burner, the lever G is moved into an intermediate position, as shown in Fig. 3.

So far as the apparatus has been described it is known and the particular construction of these parts is immaterial to my invention. I shall now particularly describe my improvements as applied thereto.

H is a lever fulcrumed, as at h , to the lever G, with one end H' extending outward beyond the fulcrum and the other end extending upward on the other side in the form of a finger H^2 over the lug or stop g^2 . The finger H^2 is provided with a notch, projection, or shoulder h^2 adjacent to the lug g^2 , but at a slight distance therefrom, when the lever G and valve F are in the closed position, as shown in Fig. 1.

I is a finger or extension of the lever H, extending downward on the side of the fulcrum opposite to the end H' .

When the valve is closed, the levers G and H occupy the position shown in Fig. 1. To light the lamp, the end H' of the lever H (the outer end of which rests upon the lug g^2 , thus preventing the lever H from rocking on its fulcrum h) is first pressed upward, and consequently the levers H and G are rocked together until the shoulder h^2 of the lever H strikes the lug g^2 , when further movement is arrested. The parts are then in the positions shown in Figs. 3 and 4, with the valve partially turned, so as to be open to the by-pass D. The light is then applied to the igniting-tube E, the flame from which extends up to a point adjacent to burner b . The finger I is then pressed upward, and being on the opposite side of the fulcrum h it lifts the lever H, so as to disengage the notch or shoulder h^2 of the finger H^2 from the lug g^2 . The movement of the lever H beyond what is sufficient to permit the finger H^2 being raised sufficiently to disengage the notch h^2 from the lug g^2 is prevented by a projection i on the lever which strikes a lug o on the lever G. (See dotted lines, Figs. 1, 2, and 5.) The lever G is thus rocked until the stop g' strikes the lug g^2 , when the valve is fully opened, and as the valve opens sufficiently to let a portion of the gas pass to the burner b the escaping gas is ignited by the flame from the igniting-tube E. As the valve F is thus turned the port to the by-pass is closed. There is thus no liability of any gas escaping from the burner b before it is lighted and the danger of explosion is entirely avoided.

To close the valve, the levers H and G are pulled back into the position shown in Fig. 1.

While I have shown the lug g^2 , which acts as the limit-stop for the lugs g g' , also used as the lug to engage the notch or shoulder h^2 , a separate lug may be employed.

The lever H is an auxiliary movable piece

carried by the operating-lever G, through which the latter is moved, and the notch or shoulder h^2 and lug g^2 constitute a locking device for locking the levers H and G in an intermediate position with the valve F partially turned.

The details of construction may be varied without departing from my invention.

Having now particularly described the preferred construction and mode of operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a gas-burner having a by-pass, igniting-tube communicating therewith and valve for supplying a portion of the gas to the by-pass when partially turned, the combination with a rocking lever for operating the valve positively connected with it, of an auxiliary movable piece pivoted to the lever through the operation of which the lever and valve may be reciprocated.

2. In a gas-burner having a by-pass, igniting-tube communicating therewith and valve for supplying a portion of the gas to the by-pass when partially turned, the combination with a lever for operating the valve, of an auxiliary movable piece carried by the lever through the operation of which the lever may be moved, and a locking device to lock said auxiliary movable piece in an intermediate position.

3. In a gas-burner having a by-pass, igniting-tube communicating therewith and valve for supplying a portion of the gas to the supply-tube when turned into an intermediate position, the combination with the valve-operating lever, of an auxiliary lever pivoted thereto and provided at one end with a locking-shoulder adapted to strike an obstruction or stop on the valve-body of the burner to lock the levers in an intermediate position.

4. In a gas-burner having a by-pass, igniting-tube communicating therewith and valve adapted when partially turned to supply a portion of gas to the by-pass, the combination with the valve-operating lever, of an auxiliary lever pivoted thereto and provided with extensions on each side of the fulcrum and a finger having a notch or shoulder, and a fixed stop adapted to engage the notch or shoulder and arrest the auxiliary and operating levers when the auxiliary lever is moved by action on one extension and to be out of the path of the notch or shoulder when the lever is moved by action on the other extension.

5. The combination in a gas-burner with the by-pass, igniting-tube and valve, of the operating-lever G, the auxiliary lever H pivoted to the lever G and having extensions H' and I on opposite sides of the fulcrum and the finger H^2 provided with the notch or shoulder h^2 , and the fixed stop g^2 , combined and operating substantially as and for the purpose specified.

6. The combination in a gas-burner with the by-pass, igniting-tube and valve, of the operating-lever G, the auxiliary lever H piv-

oted to the lever G and having extensions H' and I on opposite sides of the fulcrum and the finger H² provided with the notch or shoulder h², and the fixed stop g², the levers H and G being also provided with the stops i and o, combined and operating substantially as and for the purpose specified.

7. In a gas-burner the combination with a valve by which the supply of gas is controlled, of means for operating the valve, and a device for locking the said means in an intermediate position whereby the valve is in a partially-opened condition.

8. In a gas-burner the combination with a

valve by which the supply of gas is controlled, of means for operating the valve, a locking device for locking the means which operates the valve in an intermediate position whereby the valve is in a partially-opened position, and means for releasing said locking device and permitting the valve to be fully opened.

In testimony of which invention I have hereunto set my hand.

VICTOR H. SLINACK.

Witnesses:

ERNEST HOWARD HUNTER,
R. M. KELLY.