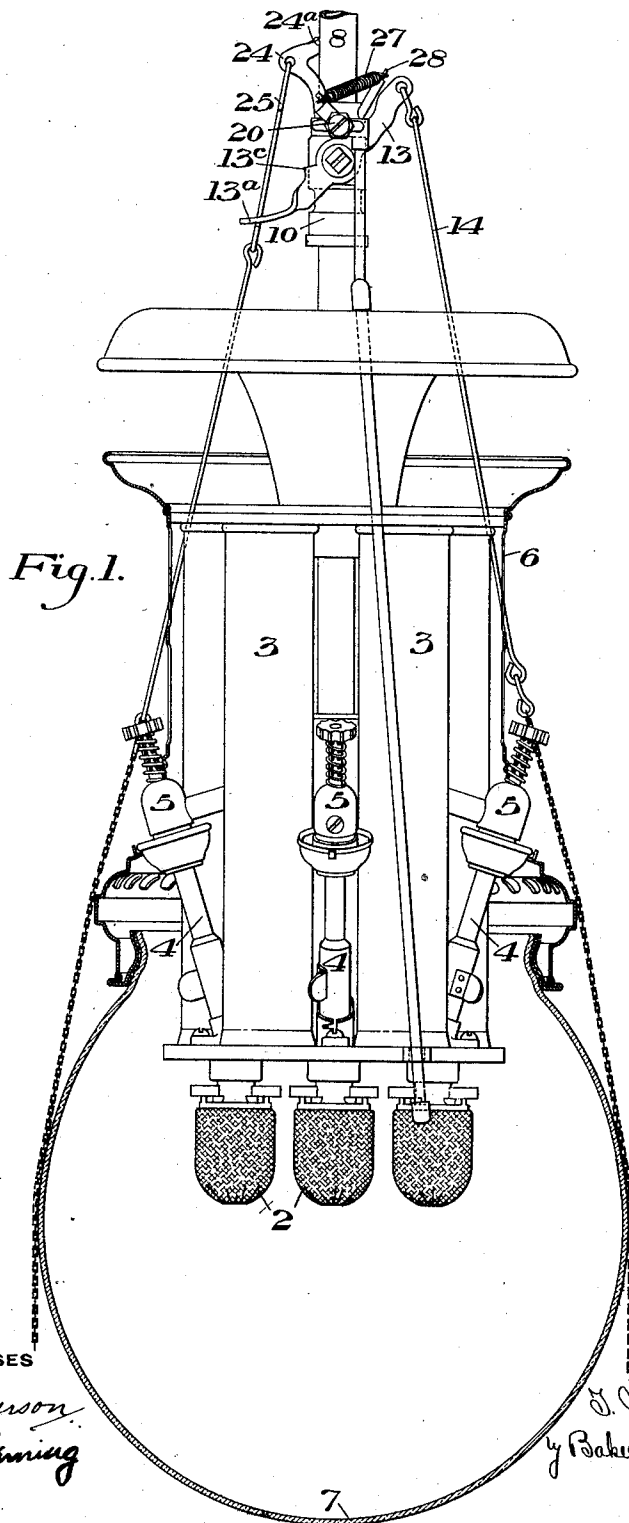


T. J. LITTLE, JR.
VALVE FOR GAS LAMPS.
APPLICATION FILED MAY 3, 1909.

1,003,001.

Patented Sept. 12, 1911.

2 SHEETS-SHEET 1.



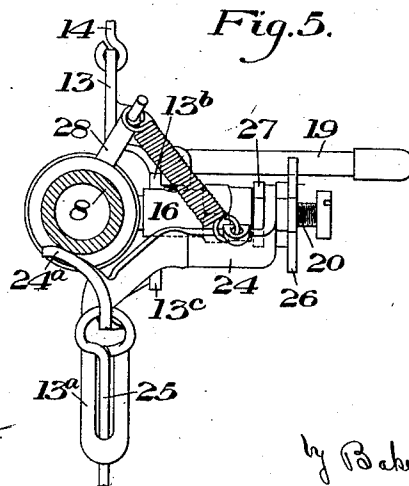
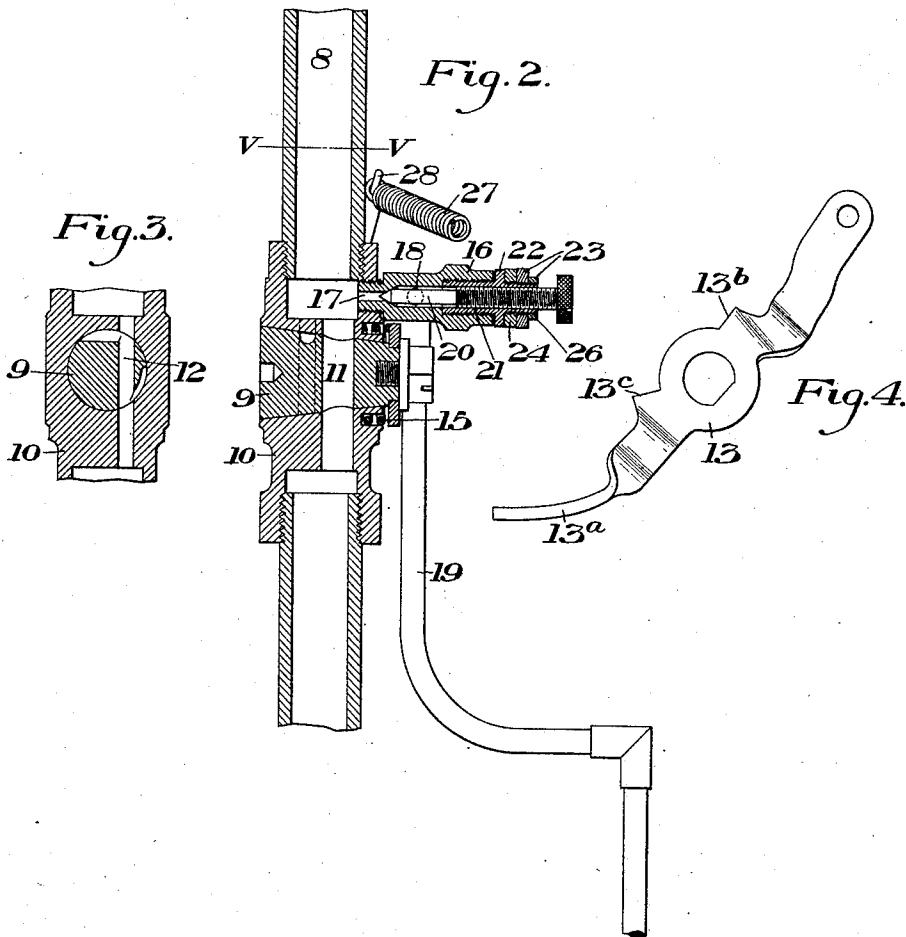
WITNESSES

R. A. Balderson
E. B. Blinnig

INVENTOR

T. J. Little, Jr.
by Baker, Byrnes & Carmichael
his Attys.

Patented Sept. 12, 1911.
2 SHEETS—SHEET 2.



INVENTOR
J. J. Little, Jr.
by Bechert, Byrnes & Parmelee,
his Attys.

UNITED STATES PATENT OFFICE.

THOMAS J. LITTLE, JR., OF WOODBURY, NEW JERSEY, ASSIGNOR TO WELSBACH LIGHT COMPANY, OF GLOUCESTER CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

VALVE FOR GAS-LAMPS.

1,003,001.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed May 3, 1909. Serial No. 493,451.

To all whom it may concern:

Be it known that I, THOMAS J. LITTLE, JR., of Woodbury, in the county of Gloucester and State of New Jersey, have invented a new and useful Improvement in Valves for Gas-Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation illustrating my improved valve applied to a lamp of the inverted type; Fig. 2 is a vertical section showing the pilot and main valves; Figs. 3 and 4 are detail views hereinafter referred to; and Fig. 5 is a horizontal section taken on the line V—V of Fig. 2.

My invention has relation to valves for gas lamps, and is more particularly designed to provide a novel pilot light valve adapted to be used with various forms of lamps, particularly cluster lamps either of the upright or inverted type, and which is arranged to give a long flash to the pilot light at the time the main gas supply is turned on to the burners.

The nature of my invention will be best understood by reference to the accompanying drawings in which I have shown one embodiment thereof, and which will now be described, it being premised, however, that various changes may be made in the details of construction and arrangement of the parts, without departing from the spirit and scope of the invention as defined in the appended claims. While in these drawings I have shown the invention as applied to a cluster lamp of the inverted type, I wish it to be distinctly understood that my invention is not limited thereto and that it is equally applicable to lamps of the upright type.

In these drawings, the numeral 2 designates the burners of a cluster lamp of the inverted type; 3 the draft tubes or chimneys; 4 the Bunsen tubes; 5 the controlling valves for said tubes; 6 the lamp casing; 7 the globe and 8 the supply pipe for the burners to which my improved valve arrangement is applied.

9 designates the main valve which may be of the usual character and which consists of a turning plug seated in the valve casing 10, and having a main through port 11 and auxiliary port 12 (see Fig. 3), which is arranged to be opened in advance of the

main port so as to give a gradual supply to the burners at the time the gas is turned on.

13 is an operating lever for the main valve, which is rigidly secured to the projecting end or stem of the valve and to which is attached the usual operating cord or chain 14. 15 is the usual spring for holding the valve in its seated position. Above this main valve, the valve casing 10 is provided with a lateral screw-threaded opening in which is secured the plug or nipple 16, having a port 17 leading therein from the supply pipe 8, and communicating at one side through the port 18 with the pilot light supply pipe 19. The port 17 is controlled by a needle valve 20, whose shaft or stem has a threaded engagement with a sleeve or bushing 21, which is screw-threaded into the outer end portion of the plug or nipple 16. Rigidly secured to this sleeve or bushing intermediate a flange or collar 22 thereof and a nut 23 is the pilot valve operating lever 24, to which is attached an operating cord or chain 25. The normal flow of gas to the pilot light is controlled by the adjustment of the needle valve which can be screwed in or out in the sleeve or bushing, and the adjustment is secured by the lock nut 26.

27 is a closing spring for the needle valve, one end of which is connected to the operating lever 24, and the other end of which is secured to a fixed stud or projection.

The operation is as follows: On pulling the chain 25, attached to the pilot operating valve lever 24, this lever is pulled down, thereby turning the bushing 21 on its screw thread to move the bushing outwardly, thereby carrying out the needle valve, so as to admit a larger supply of gas to the pipe 19 and to the pilot light burner. As the lever 24 is pulled down, it contacts with the projecting arm 13^a of the main valve operating lever 13, and thereby actuates said lever to move it to the position shown in Fig. 1, in which the main valve is fully open. The main valve lever 13 is provided with the stop shoulder 13^b, which contacts with the plug or nipple 16, to limit the opening movement of the valve and is also provided at the opposite side of its pivot with a stop projection 13^c, which, by contact with the opposite side of the plug or nipple 16, limits the closing movement of the valve. The main valve is closed by means of the chain 14, and when this chain is pulled, the main

lever merely moves back to its closed position, without affecting the position of the pilot light lever. When the chain 25 is released after lighting the lamp, the spring 27
 5 draws the pilot light valve back to its normal position. The action of the pilot light valve is to give a long continuous flash at the time the main supply is turned on, the length of this flash being regulated by the
 10 operator pulling the chain.

The pilot valve operating lever 24 is provided with the curved arm or extension 24^a, which has a bearing against the opposite side of the supply pipe 8 in the manner
 15 shown in Fig. 5, thereby tending to draw or force the needle in and take up any lost motion or wear in the screw bushing.

The advantages of my invention result from the seating of the needle valve in the
 20 screw threaded sleeve or bushing or in an equivalent member which is capable of being moved when the pilot light lever is actuated to move the valve outwardly, and thereby increase the supply of gas flowing by the
 25 valve. Heretofore great difficulty has been experienced in preventing leaking at the pilot light valve by reason of the fact that such valve when of the usual sliding character must be made loose enough to prevent
 30 sticking. In the device described, the pressure is so low owing to the throttling action of the needle valve that the bearing may be made with considerable looseness without leakage. The needle valve can, as described,
 35 be readily adjusted in the sleeve or bushing to regulate the normal supply of gas to the pilot light, as may be desired. The construction is also a very simple one which is capable of ready adjustment and can be
 40 used with the ordinary main valve. It will be understood, however, that my invention is not limited to the use of a main valve of any particular character, and that various changes may be made in the details of construction and arrangement of the pilot light
 45 valve within the scope of the appended claims, without departing from the spirit and scope of the invention.

I claim:

50 1. A pilot light valve for gas lamps having a casing, an endwise movable member

in said casing, an inlet from the gas supply pipe always open to the casing, an outlet from said casing to the pilot light, an adjustable valve extending through the movable member arranged to adjust the size of
 55 the inlet opening, and actuating means attached to the endwise movable member and arranged to effect the endwise movement of the valve and said member to vary the size
 60 of the inlet opening to the casing; substantially as described.

2. In a pilot light valve for gas lamps, a casing member having a port leading therein from the gas supply pipe, an outlet communicating with the pilot light supply pipe, a sleeve member having a threaded bearing in said casing member, a needle valve extending through said sleeve member for controlling said inlet port and having a threaded
 70 bearing in the sleeve member, an actuating lever attached to the sleeve member, manual means for actuating said lever in one direction to withdraw the valve from the port leading from the gas supply to
 75 admit more gas and spring means for actuating the lever in the other direction to return the valve to its normal position; substantially as described.

3. A pilot light valve for gas lamps having a casing, a movable member having a
 80 screw threaded engagement with said casing, an inlet from the gas supply pipe always open to the casing, an outlet from said casing to the pilot light, an adjustable valve
 85 extending through the movable member arranged to adjust the size of the inlet opening, an actuating lever attached to the endwise movable member and arranged to rotate said member, the screw threaded en-
 90 gagement being arranged to effect an endwise movement of the valve and said member to vary the size of the inlet opening to the casing, and a return spring for returning the valve and the movable member to their normal
 95 positions; substantially as described.

In testimony whereof, I have hereunto set my hand.

THOMAS J. LITTLE, JR.

Witnesses:

JOSEPH H. JOHNSON,
 L. E. SMITH.