A. H. HUMPHREY.

GAS LAMP.

APPLICATION FILED SEPT. 11, 1909.

950,597. Patented Mar. 1, 1910.

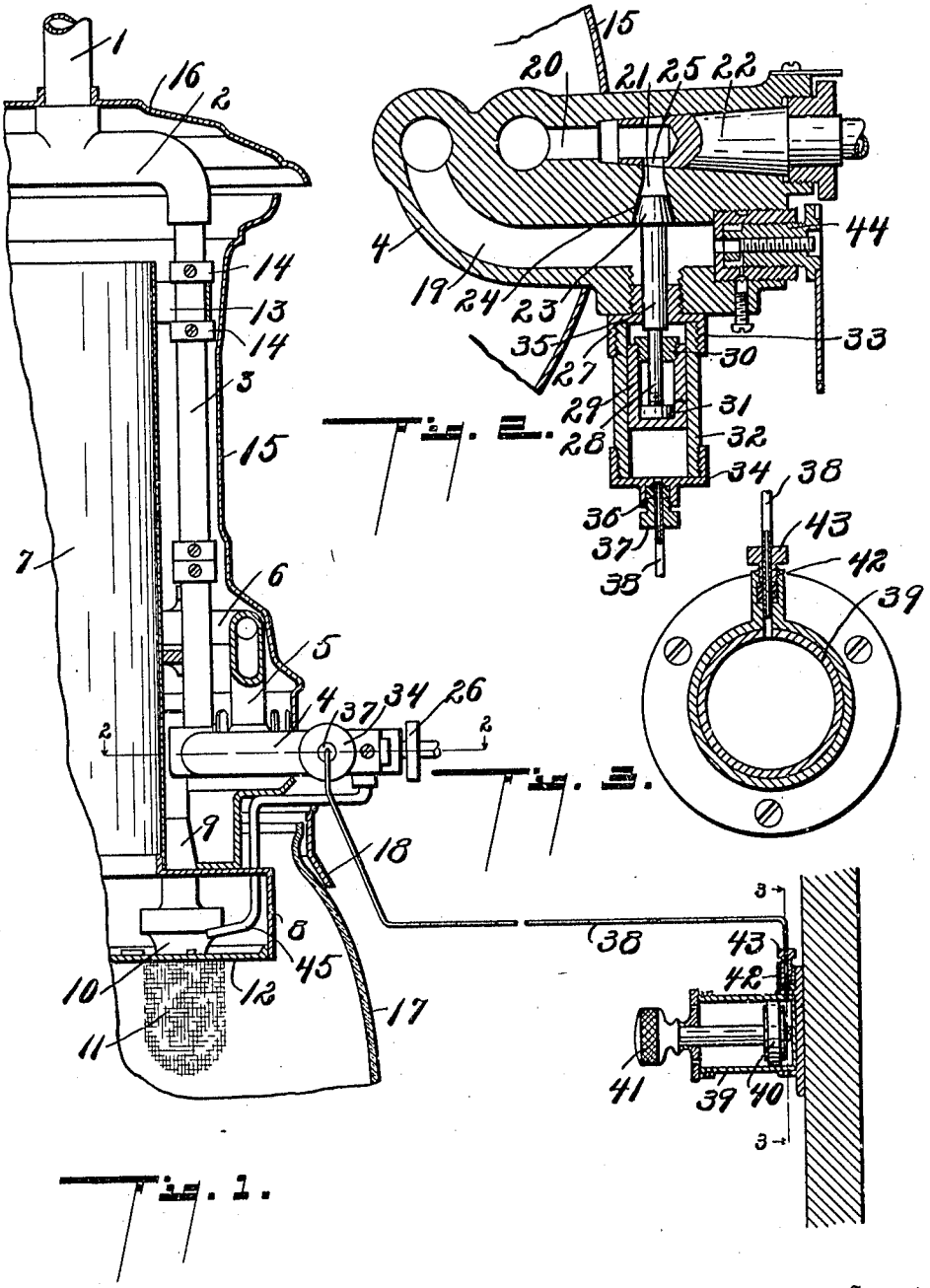

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses

F. Gertrude Tallman.

Margaret Glasgow.

Inventor

Alfred H. Humphrey

By Campbell & Campbell

Attorneys

UNITED STATES PATENT OFFICE.

ALFRED H. HUMPHREY, OF NEW YORK, N. Y.

GAS-LAMP.

950,597. Specification of Letters Patent. Patented Mar. 1, 1910.

Original application filed January 25, 1909, Serial No. 474,111. Divided and this application filed September 11, 1909. Serial No. 517,269.

To all whom it may concern:

Be it known that I, ALFRED H. HUMPHREY, a citizen of the United States, residing at New York city, New York, have invented certain new and useful Improvements in Gas-Lamps, of which the following is a specification.

This invention relates to improvements in gas lamps.

My invention relates particularly to improvements in valves for gas lamps and I have illustrated the same herein as applied and adapted to a gas lamp of the type illustrated in Letters Patent No. 878,397, issued to me on the 4th day of February, 1908, as that is one of the forms in which I have embodied the same in use.

The main objects of this invention are, first, to provide an improved pneumatically actuated valve which is not likely to become so stuck or wedged that it can not be readily freed or operated through the pneumatic actuating means. Second, to provide an improved gas lamp in which the valve can be operated from a distance, or at the lamp to control the delivery of gas through the burner.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The structure described constitutes one effective embodiment of my invention. Other embodiments would be readily devised by those skilled in the art.

The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a detail partially in vertical section of a gas lamp embodying the features of my invention. Fig. 2 is an enlarged detail taken on a line corresponding to line 3—3 of Fig. 1 showing details of the valve mechanism. Fig. 3 is an enlarged detail taken on a line corresponding to line —3—3 of Fig. 1 showing details of the valve actuating device.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, 1 represents the gas delivery pipe which is provided with a coupling 2 from which depends the gas delivery pipe extension 3. At the lower end of this extension is a valve casing 4; the delivery pipe 5 connects the valve casing to the gas delivery ring 6, these parts being the same in general arrangement as shown and described in my patent herein-before referred to.

The chimney 7, in the structure illustrated, is provided with an outwardly and downwardly projecting flange 8 at its lower end. The mixing tube 9 of the main burner 10 is arranged through this flange 8 and suitably connected to the gas delivery ring. The mantle 11 is suspended from the mantle holder 12. The chimney is preferably supported on the gas delivery pipe 3 by means of a suitable clip 13 which engages the collars 14 on the pipe. The outer casing 15 is arranged to embrace the gas delivery pipe 3, the ring 6 and other parts arranged above the chimney flange 8. The valve casing 4 being arranged to project from this casing as clearly appears in the drawing. Above the outer casing 15 is a deflector 16. The globe 17 is carried by a suitable globe supporting band 18. These parts here described are substantially those illustrated in my patent before referred to.

The valve casing 4 is provided with an inlet passage 19 and a discharge passage 20, the delivery pipe 3 being connected to the inlet passage and the connecting pipe 5 to the discharge passage. The passages 19 and 20 are connected by the passage or port 21. The passage or port 21 is controlled by the rotary valve 22 and the reciprocating valve 23, the reciprocating valve being adapted to seat in a suitable seat 24 formed at the inlet end of the passage 21. This seat is preferably tapered and the valve 23 correspondingly tapered, as is illustrated. The valve 22 is provided with ports 25 which are adapted to be brought into register with the port or passage 21. The valve 22 is provided with a suitable lever 26 by means of which it may be adjusted. The stem 27 of the valve 23 is provided with a reduced portion 28 at its outer end which projects into the hollow plunger or valve actuating member 29. The

plunger 29 is provided with a plug 30 at its inner end through which the valve stem is arranged, the plug being preferably threaded into the plunger. On the end of the valve stem is a cylindrical nut 31 which has a sliding fit in the plunger and which coacts with the plug to maintain the alinement of the plunger and the valve stem. A plunger cylinder is provided, preferably consisting of a cylindrical body 32 in an inner and outer head 33 and 34 respectively into which the body is threaded. The inner head 33 is provided with a threaded nipple 35 which is threaded into the valve casing 4. The valve stem 27 is arranged through the inner head, having a reciprocating or sliding fit therein. By thus forming and arranging the parts of this valve and the cylinder plunger they are readily formed and assembled and effectively retained in alinement. The outer cylinder head 34 is preferably provided with a gland nipple 36 for the flange 37 by which the conduit or tube 38 is connected to the cylinder. This tube 38 is connected to the cylinder 39 of the pump or actuating device.

By arranging the valve casing as I have described, that is, so that it projects from the outer casing 15, and being on the outside of the chimney, it is without the path of the products of combustion so that the valve will not be rendered inoperative on account of the heat from the burner. Further, by the arrangement of the valve 23 and its actuating means as described, the plunger cylinder is not connected with the gas passage of the valve casing so that it is not likely to become gummed up or to collect any substance which would be likely to interfere with its operation, and this in connection with its location renders it very unlikely that the valve will become inoperative.

By providing the lost motion connection for the valve actuating member to the valve, the valve is opened and closed with a tappet or blow-like action so that it is readily freed and actuated by the pneumatic actuating means provided therefor.

In the structure illustrated I show a pilot valve 44 for the pilot 45. As the details of this valve form no part of this structure I do not describe the same herein. Claims to the pneumatic valve proper are made in my copending case, Serial No. 474,111 of which this is a divisional application.

I have illustrated and described my improvements in one form in which I have embodied them in practice and I find that form to be very satisfactory. I am, however, aware that the same are capable of considerable variation in structural details without departing from my invention, and I desire to be understood as claiming the same, not only in the form illustrated, but broadly as well.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer casing; a burner; a pilot light; a valve casing arranged at the lower end of said gas delivery pipe to project from said outer casing, said valve casing having suitable passages therein; a rotary valve arranged in said casing; a flash pilot valve arranged in said casing; a reciprocating valve arranged in said casing and adapted to control the passage leading to said rotary valve; a plunger having a lost motion connection with said reciprocating valve; a plunger cylinder mounted upon said valve casing on the outside of said lamp casing; and means for creating suction or pressure as desired, connected to said cylinder.

2. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer casing; a burner; a pilot light; a valve casing arranged at the lower end of said gas delivery pipe to project from said outer casing, said valve casing having suitable passages therein; a rotary valve arranged in said casing; a flash pilot valve arranged in said casing; a reciprocating valve arranged in said casing and adapted to control the passage leading to said rotary valve; a plunger having a lost motion connection with said reciprocating valve; and means for actuating said plunger, said reciprocating valve being arranged on the outside of said lamp casing.

3. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer casing; a burner; a valve casing arranged at the lower end of said gas delivery pipe to project from said outer casing, said valve casing having suitable passages therein; a rotary valve arranged in said casing; a reciprocating valve arranged in said casing and adapted to control the passage leading to said rotary valve; a plunger having a lost motion connection with said reciprocating valve; a plunger cylinder mounted upon said valve casing on the outside of said lamp casing; and means for creating suction or pressure as desired, connected to said cylinder.

4. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer casing, a burner; a valve casing; a rotary valve arranged in said casing; a reciprocating valve arranged in said casing and adapted to control the passage leading to said rotary valve; a plunger having a lost motion connection with said reciprocating valve; and means for actuating said plunger, said reciprocating valve being arranged on the outside of said lamp casing.

5. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer

casing; a burner; a valve casing arranged to project from said outer casing; a reciprocating valve; a plunger having a lost motion connection with said valve; a plunger cylinder mounted on the outside of said outer casing on the outside of said lamp casing; and means for creating suction or pressure as desired, connected to said cylinder.

6. In a gas lamp, the combination with a gas delivery pipe, of a chimney; an outer casing; a burner; a valve casing arranged to project from said outer casing; a reciprocating valve; a plunger having a lost motion connection with said valve; and means for actuating said plunger, said reciprocating valve being arranged on the outside of said lamp casing.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

ALFRED H. HUMPHREY. [L. S.]

Witnesses:
M. F. ROUNTREE,
L. A. WOODS.