A. W. PORTER.

Street-Lamp Regulator.

No. 203,769. Patented May 14, 1878.

Fig. 1.

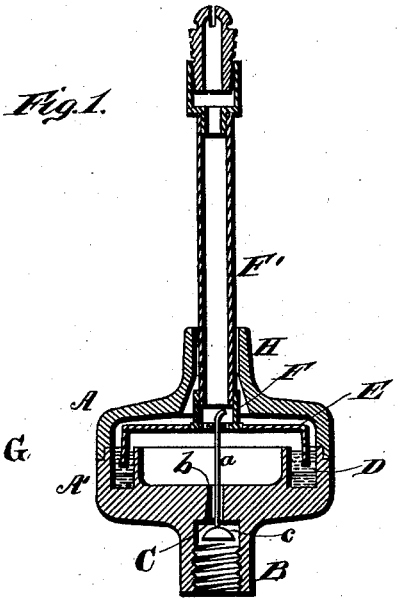


Fig. 2.

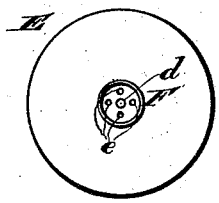


Fig. 3.

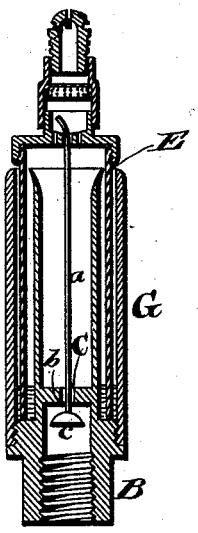
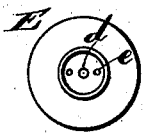


Fig. 4.



WITNESSES

Robt. Everett

George E. Upham

INVENTOR.

Alonzo W. Porter.

Gilmore, Smith & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALONZO W. PORTER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-FOURTH HIS RIGHT TO GEO. L. SHOREY, OF LYNN, MASS.

IMPROVEMENT IN STREET-LAMP REGULATORS.

Specification forming part of Letters Patent No. **203,769**, dated May 14, 1878; application filed April 20, 1878.

To all whom it may concern:

Be it known that I, ALONZO W. PORTER, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Street-Lamp Regulators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a central vertical section of my street-lamp regulator, and Fig. 2 is a detail view thereof. Fig. 3 is a central vertical sectional view of a modification, and Fig. 4 is a detail view thereof.

This invention relates to details in the construction of that class of governors used mostly in combination with single burners in lighting streets, the purpose of such burners being to prevent undue consumption of gas, which would occur under changes of head or pressure, above that needed to properly supply the burners.

My invention consists, first, in the peculiar construction, as shown and described, by which the burner is united with the metallic diaphragm or float, rising and falling with the same by the pressure of the street-gas; secondly, in the peculiar construction and arrangement by which the passage or orifice which conveys the gas from under the float leads directly to the burner-tube without passing into any chamber or compartment as it escapes from under the float to the burner, and making the burner-tube serve the double purpose as a passage for the gas from the float to the burner and a receptacle for shot or other small weight to regulate the action of the float when needed; and, finally, in the novel construction and arrangement of the parts, as will be hereinafter more fully set forth.

Fig. 1 of the drawing shows, in vertical section, an elevation of a gas-light governor so made as to embody the details which are of my invention.

The letter A represents the governor-case, and the lower part of said case consists of a cast-iron cup, A′, with a lower screw-threaded extension, B, to receive or fit a gas-pipe. At the lower end of this extension is a small passage or aperture, C, forming a triple function, to wit: first, for the passage of the gas to the cup; second, a guide for the valve-stem *a;* and, third, a seat, *b*, for the hemispherical valve *c*.

Between the outer and inner surfaces of the cup is an annular space or channel, D, to admit the flange of the float E and the mercury and glycerine seals. In the center of the float or diaphragm is a small orifice, *d*, through which the valve-stem *a* is passed, and said valve-stem is held in place by a short curvature or bend of the stem. (See Fig. 1.) Around this orifice *d* are a series of suitable perforations, *e*, for the free passage of gas to the burner-tube. On top of the float, and surrounding these orifices, is a small cup or socket, F, from which the burner-tube rises to the burner-tip.

The burner-tube F′ is screwed or slipped into the socket. In this burner tube or cup F may be placed shot or other small weights, to give a proper counterpoise to the pressure of the gas.

The upper part of the governor G is made as an inverted cup, with a conical upward extension, H, forming a collar or sleeve around the burner-tube, furnishing a guide for the burner-tube, and causing the tube and float to rise and fall vertically.

The upper part of the case rests upon the lower part of the case, and affords a shield to the float and seals, also serving as a guide for the burner-tube.

The operation of the governor above described is similar to that of others of this class, with this exception, that, instead of the gas passing into a chamber above and thence to the burner, or diverging into a passage from below the float and thence sinuously to the burner, in my case the gas passes directly from the top of the float, on a right line with the entrance of the gas to the float, the burner moving upward and downward as the float rises and falls, thus giving the float a free action, not retarded by any reactionary pressure of gas, which may be crushed above it, and

enabling me to secure a compact, symmetrical, and cheap device.

To prevent the mercury from insensible evaporation and waste, a little glycerine is used or placed on top of the mercury seal.

Fig. 3 of the accompanying drawing is a modification of my invention without the cap or upper part of the case.

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

1. The combination, with a float having on its upper surface a cup or socket surrounding a series of perforations in the float, of the burner-tube F and valve *c*, arranged substantially as described, and for the purpose set forth.

2. In a gas-burner governor, the burner-tube F′, having the float E attached to its lower end, said float being provided with a central perforation for the passage of the rod *a*, bent at its upper end, and provided with the valve *c* at its lower end, substantially as described, and for the purpose set forth.

3. The cup A′, provided with a circular receptacle near its circumference for mercury, and a central recess having a central gas-passage, in combination with the burner-tube F′, float E, bent valve-rod *a*, with valve *c*, and the inverted cup A, substantially as described, and for the purpose set forth.

4. In a gas-burner governor, a float having on its upper surface a cup or socket surrounding a series of perforations in the float, in combination with the burner, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALONZO W. PORTER.

Witnesses:

J. FRED. ACKER, Jr.,

JOS. B. LOOMIS.