(No Model.)

A. FORD.

GAS REGULATOR.

No. 348,389. Patented Aug. 31, 1886.

FIG. 1.

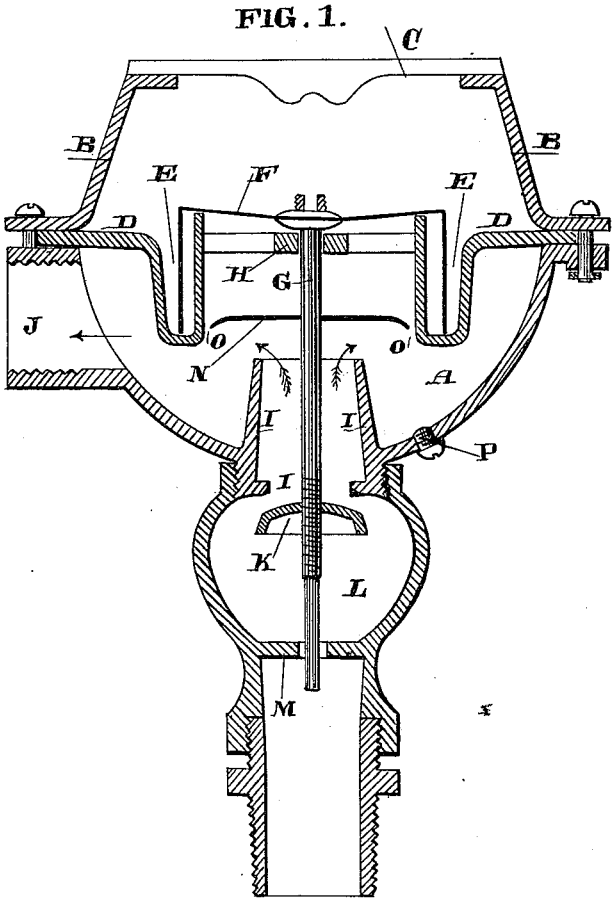
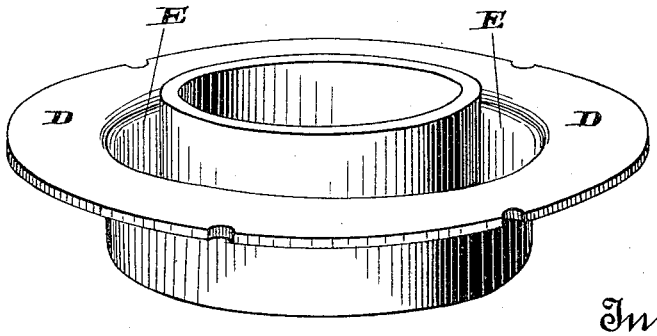


FIG. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

ARCHIBALD FORD, OF SAN FRANCISCO, CALIFORNIA.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 348,389, dated August 31, 1886.

Application filed May 12, 1886. Serial No. 201,999. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD FORD, of San Francisco, State of California, have invented an Improvement in Gas-Regulators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in gas-regulators; and it consists of an independent annular chamber containing a liquid to receive the edges of the bell-shaped float attached to the valve-stem, this annular chamber having a flange or means by which it may be fitted to any sectional gas-regulator chamber and take the place of a diaphragm.

My invention also consists of certain details of construction, and a means for discharging the condensed water and prevent its coming in contact with or interfering with the valve.

Referring to the accompanying drawings, Figure 1 is a section taken through the valve-casing, the regulating-chamber, and the float. Fig. 2 is a perspective view of the flanged annular chamber.

The exterior casing is composed of a lower semi-globular or basin-shaped portion, A, and an upper cap, B, which is fitted with a locking cover, C. The upper portion, B, is secured to the lower portion, A, by means of bolts, and between the flanges of these sections the flange D of the annular chamber extends, so as to be secured by the same bolts which hold the two parts together. The lower part, A, is permanently connected with the house-pipe, from which it need not be removed. The upper part, B, has an opening in its top large enough to allow the float and the valve-stem to be removed through it (after taking off the valve) without disturbing the liquid in the chamber or the other parts of the regulator. This flange D extends outwardly from the annular chamber E, within which a liquid is placed to receive the lower edge of the float F. This float is secured to the upper end of a stem, G, its sides being turned downward, so that the lower edge extends down into the liquid in the chamber E to form a seal.

An open space of considerable diameter is left within the inner sides of the chamber E, and across the space extends a perforated bar, H, which serves as a guide for the upper end of the stem G, thus holding the float F in proper position, so that its sides will descend into the annular trough or chamber E, and rest within the liquid contained in the chamber. By this construction the guides are all below the float, and there is no necessity for extending the stem above it for the purpose of guiding it. The gas-inlet opening is made in the lower side of the bowl A, and a flange, I, extends upwardly into the chamber to a height above the level of the passage J, through which the gas escapes, this passage being made in the side of the chamber, as shown. The gas enters through the opening in the bottom of the chamber, passing up through the passage I, and escapes through the passage J, as shown by the arrows.

The valve K is adjusted upon the stem G by screw-threads, so as to close against the bottom of the passage or opening I when the flow of gas becomes too great. This valve is contained within a globular chamber, L, which has a guide-bar, M, formed with or secured across its lower portion, and the lower end of the stem passes through this guide, so that the movements of the valve K and the float F are perfectly maintained by the two guides H and M.

Within the space formed between the inner sides of the chamber E is fixed a plate, N, having openings around the sides, so that any moisture or water of condensation which is deposited upon this plate will flow down the inclined top to the outer edge and through the openings shown at O, thus falling into the basin A outside of the upwardly-projecting flange I. An opening is made in the lower part of this basin and closed by a screw-plug, as shown at P, so that whenever a large amount of water has collected it can be drawn out by the removal of this plug.

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

1. The annular flanged chamber secured within the exterior case or chamber, as shown, having the interior cylindrical space or opening with the transverse perforated bar or guide, in combination with the vertical stem having the inverted-bell-shaped float secured to the upper end and above the guide, a valve

adjustably secured so as to control the opening into the bottom of the exterior chamber, and a second perforated guide below the valve, through which the stem passes, substantially as described.

2. The annular flanged chamber secured within the exterior chamber of the regulator having a central space or opening through which the stem passes and carries the float and the valve, in combination with the plate extending across this chamber, and having openings or spaces around the edges for the discharge of the condensed moisture into the exterior chamber, substantially as described.

3. The exterior cup-shaped chamber A, having a flange projecting upwardly around the central ingress-opening, in combination with an annular flanged float-chamber having a plate extending across the interior open portion with discharge-openings around its edges, substantially as described.

In witness whereof I have hereunto set my hand.

ARCHIBALD FORD.

Witnesses:
S. H. NOURSE,
H. C. LEE.