

No. 808,403.

PATENTED DEC. 26, 1905.

G. REASNER.  
GAS REGULATOR OR GOVERNOR.  
APPLICATION FILED APR. 3, 1905.

FIG. 2

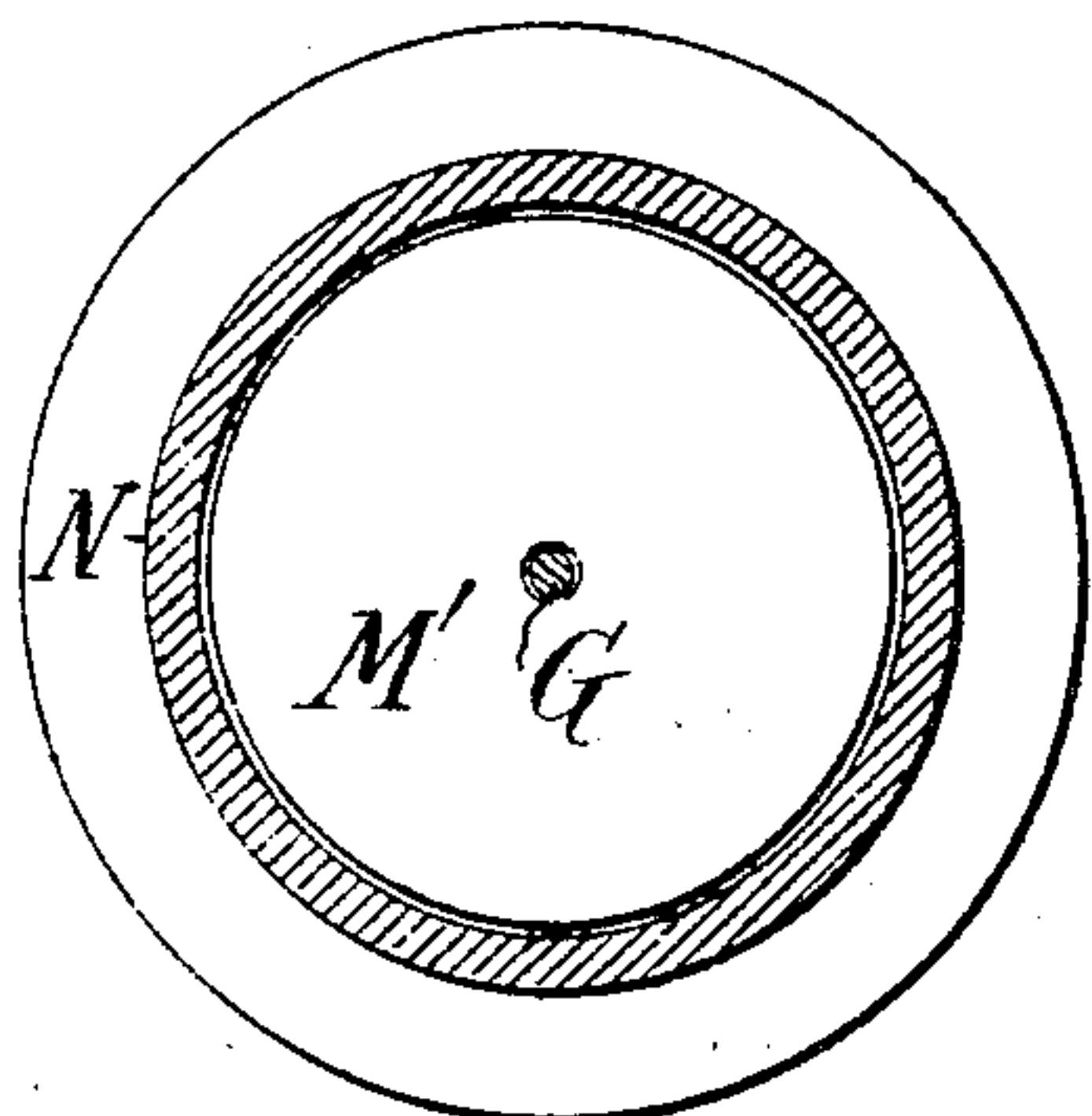


FIG. 3.

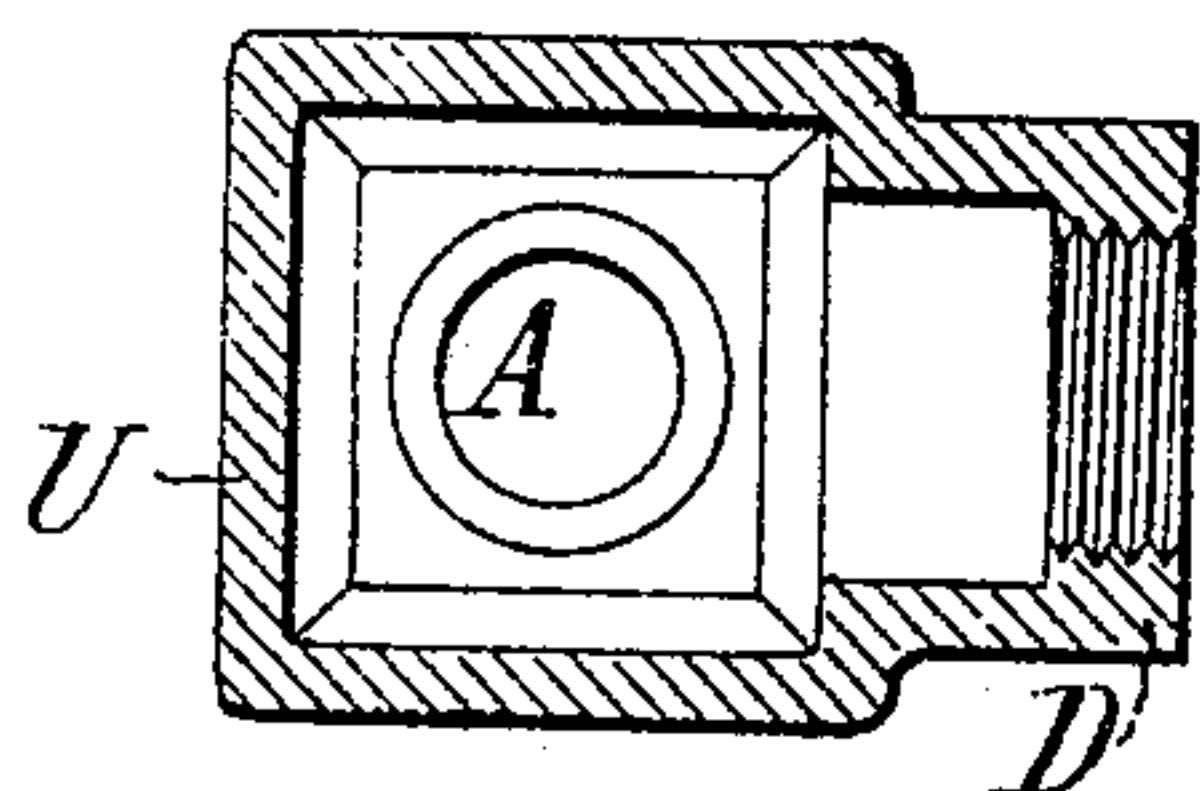
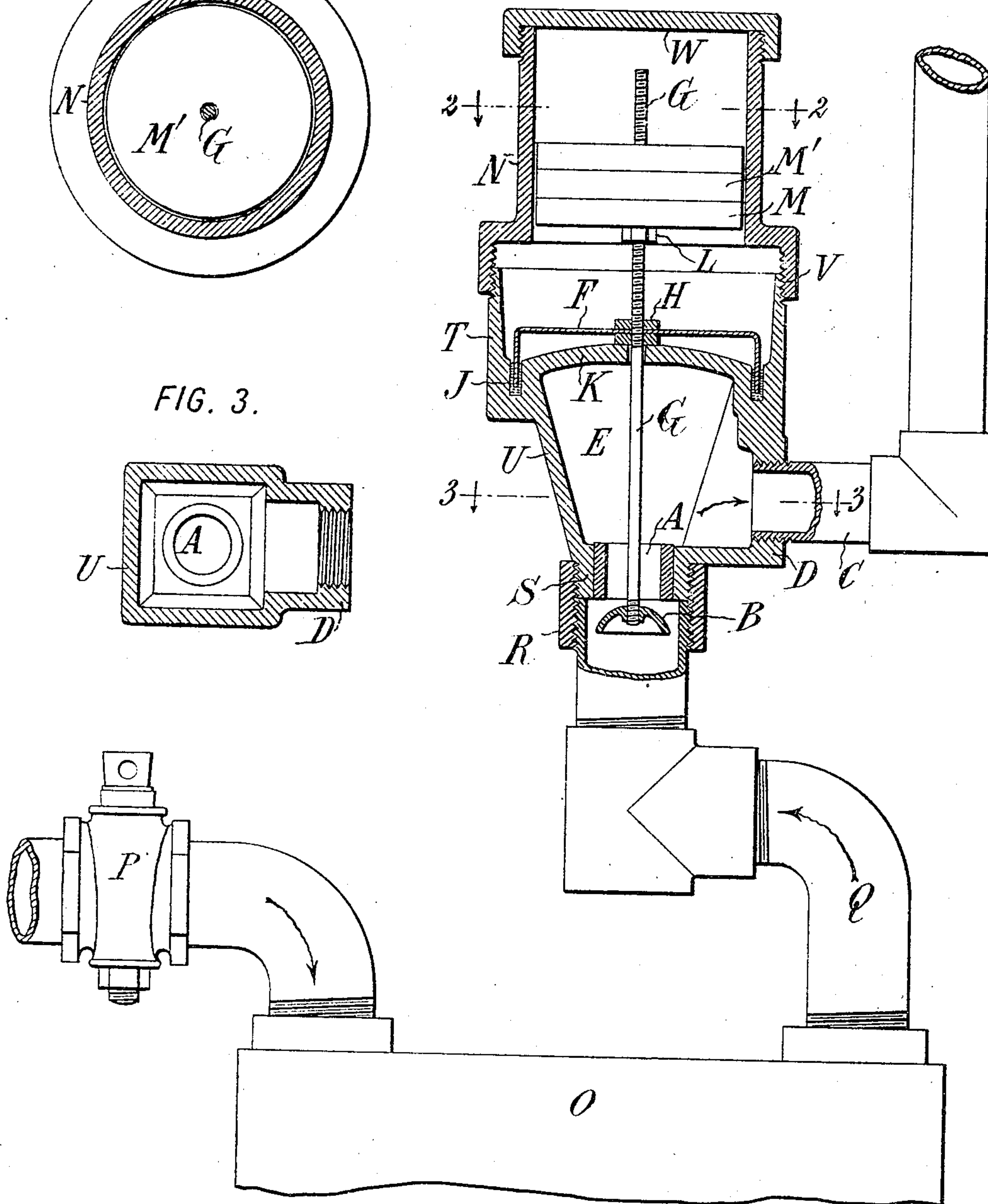


FIG. 1



WITNESSES:  
*Fred White*  
*Rene Meune*

INVENTOR:  
*George Reasner*,  
By Attorneys,  
*Arthur C. Fraser & Co.*



# UNITED STATES PATENT OFFICE.

GEORGE REASNER, OF NEW YORK, N. Y.

## GAS REGULATOR OR GOVERNOR.

No. 808,403.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed April 3, 1905. Serial No. 253,614.

*To all whom it may concern:*

Be it known that I, GEORGE REASNER, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Gas Regulators or Governors, of which the following is a specification.

This invention aims to provide certain improvements in regulators for maintaining a constant pressure upon gas at the jets where it is burned, notwithstanding fluctuations in pressure in the service-pipes and notwithstanding the number of jets in use or variations in the size of the pipes or variations in the pressure at different times of day or other variations.

This invention provides a regulator the special advantage of which is in the uniformity of pressure maintained notwithstanding the jarring of the regulator or other objectionable influences and which can be very cheaply and easily erected or removed.

Other improvements are referred to in detail hereinafter.

The accompanying drawings illustrate an embodiment of the invention.

Figure 1 is a longitudinal section of the regulator connected into a system of piping. Fig. 2 is a horizontal section on the line 2 2. Fig. 3 is a horizontal section thereof on the line 3 3.

Referring to the embodiment of the invention illustrated, the regulator is provided at its lower or inlet end with a valve-seat A and a valve B, both preferably of brass, and the valve seating by an upward movement. The gas passes out of the regulator through a pipe C, the end of which is screwed into a boss D at the side of the regulator and passes thence into the house or factory or wherever the burners may be located. The gas-chamber E is limited at its upper end by a float F, comprising an inverted cup of sheet metal fastened at its center fixedly on the valve-stem G by means of set-nuts H and having its edge dipping into a seal of mercury J in a trough formed at the sides of the chamber. A diaphragm K may be provided for engaging the valve-stem loosely to guide it. When the gas enters the chamber E, it tends to lift the float F, and consequently to close the valve B, and the valve will remain open only so long as the weight upon the valve overbalances the upward pressure on the float. In order to adjust the weight on the valve so as to vary the pres-

sure at the burners, provision is made for applying disks of determined weight to press downward on the valve. For this purpose the valve-stem is provided with a nut or flange L, and a number of disks M M', &c., of different weight or of equal weights may be placed one after another upon the upper end of the valve-stem, so as to press downward upon the valve with a determined pressure.

An important feature of the invention is the provision of a guide to prevent any substantial movement of the weights M M', except in a vertical direction, and also to prevent lateral movement of the stem G, which would tend to irregularity in the operation of the valve B. The invention is of special value in workshops or other places where there is constant jarring and where previous gas-regulators without special means for preventing such defects have been found to give an irregular pressure and to require more or less constant attention to keep them in satisfactory operation.

Preferably the weights M M' are circular in plan, and a cylindrical guide N is provided, into which they fit loosely. Thus they are permitted to move freely up and down, but are not permitted to have any substantial lateral movement such as would affect the position of the valve B on its seat. The valve-stem G passes through holes in the weights slightly larger than the valve-stem, so that there is substantially no possibility of lateral movement of the stem.

The ordinary gas-meter is indicated at O, with a cock P, leading from the service-pipe and with an outlet branch Q, connected by a union R with the externally-threaded boss S at the inlet end of the regulator. This is the usual arrangement. Any suitable variation thereof may be used.

For mounting or erecting the regulator and for simplicity in manufacturing the same I have designed it in the form shown. A lower member is formed in a single casting, constituting the cylindrical portion T, in which the water seal and the float are carried and at the lower portion of which is the integral diaphragm K, the greater portion of the gas-chamber E below the cylindrical portion T being a non-circular, preferably pyramidal, extension U of square cross-section and with a boss D at one side. The valve-stem is so well guided by the weights M M' and by the float F that it is not essential to use a diaphragm for this purpose. By omitting this



diaphragm the casting may be considerably simplified. The boss D may be threaded internally for the reception of the pipe going to the gas-burners, while a circular boss S at the lower end is preferably threaded externally to leave room for the valve B within the pipe connected thereto. The square cross-section of the portion U of the regulator facilitates its connection with the adjacent pipe by means of a wrench, and the tapering form makes it unnecessary to adjust the wrench accurately, as the wrench can be placed at a height corresponding to its opening. It will be observed that three sides of the portion U are plain.

Preferably the guide or cylinder N is a separate casting having a flange V for attachment to the upper end of the cylindrical member T by means of a screw-thread or otherwise. Preferably a cap W covers the upper end of the guide N.

Though I have described with great particularity of detail a specific apparatus embodying the invention, yet it is not to be understood that the invention is limited to the specific apparatus shown and described. Various modifications thereof in detail and in the arrangement and combination of the parts may be made by those skilled in the art without departure from the invention.

What I claim is—

1. In a gas-regulator in combination, a valve B opening downward, a stem G, a float F attached to said stem and subjected to the pressure of the gas in an upward direction, a flange L on said stem, circular weights M having central apertures fitting said stem closely,

and a cylindrical member N surrounding said weights closely and guiding the same so as to prevent lateral movement thereof and to hold said stem firmly against lateral movement.

2. In a gas-regulator in combination, a seat A a valve B closing in an upward direction, a stem G extending upward from said valve, a float F attached to said stem and subjected to an upward pressure from the gas, a series of weights M supported upon said stem, and a casing comprising a lower portion of non-circular cross-section and having a screw-threaded opening surrounding the seat A, an intermediate portion carrying a liquid seal for said float, and an upper portion forming a guide for said weights.

3. In a gas-regulator in combination, a casing having an inlet-opening at its bottom, a gas-chamber above said opening, an annular liquid-seal chamber above said gas-chamber, and substantially concentric with said opening, a valve-seat surrounding said opening, a valve seating thereon and a stem carrying said valve at its lower end, passing through said gas-chamber, and carrying a float fitting within said annular liquid-seal chamber, and said casing having a portion above said liquid-seal chamber, forming a guide for said weight substantially concentric with said valve-seat.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE REASNER.

Witnesses:

DOMINGO A. USINA,  
FRED WHITE.