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G. PORST.

GAS REGULATOR.

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Fig. 1.

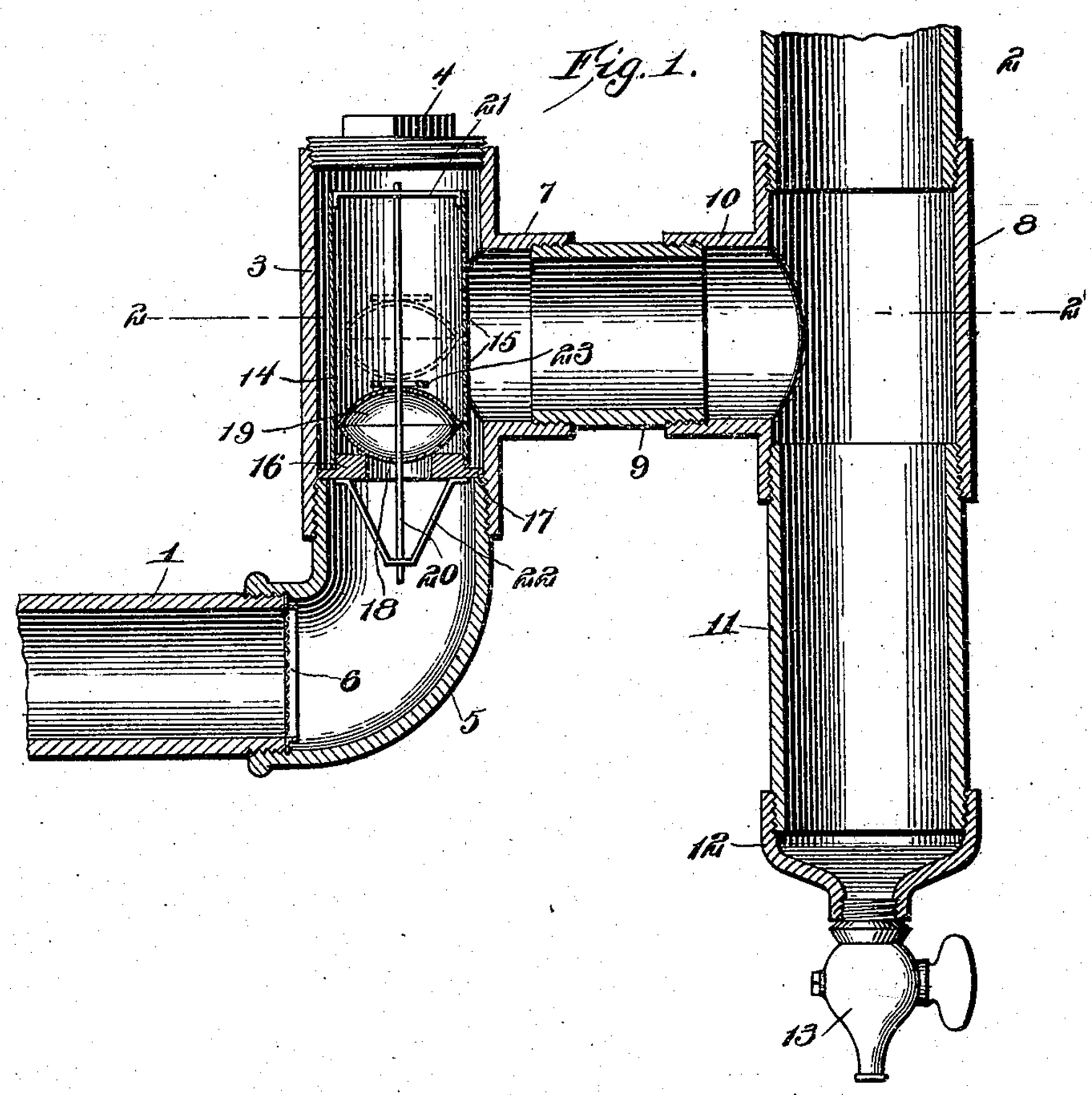
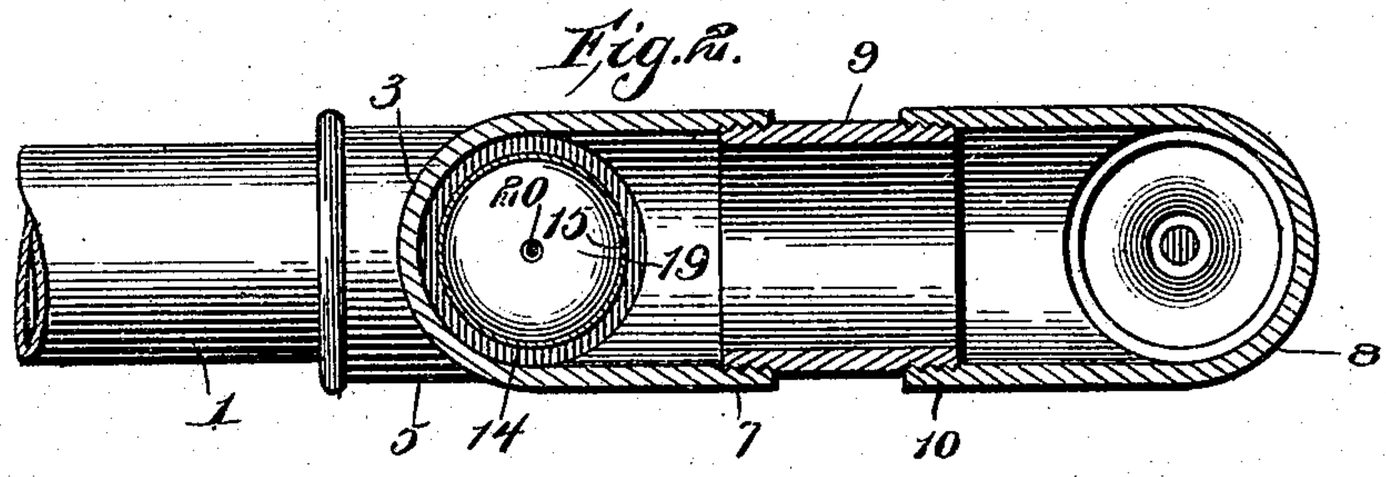


Fig. 2.



Witnesses

Louis R. Hinricks

C. C. Hines.

Inventor

Gustav Porst.

By Victor J. Evans.

Attorney.

UNITED STATES PATENT OFFICE.

GUSTAV PORST, OF BALTIMORE, MARYLAND.

GAS-REGULATOR.

No. 847,818. Specification of Letters Patent. Patented March 19, 1907.

Application filed December 30, 1905. Serial No. 293,951.

To all whom it may concern:

Be it known that I, GUSTAV PORST, a citizen of the United States of America, residing at Baltimore city, in the State of Maryland, have invented new and useful Improvements in Gas-Regulators, of which the following is a specification.

This invention relates to a governor or controlling device for regulating the flow of gas between the meter and burners of the gas-service system of a building, the main object in view being to provide a simple, inexpensive, and reliable construction of device of this character whereby the flow of gas admitted will be proportionate to that consumed and whereby the pressure of the gas in the service-pipe may be reduced to prevent waste in consumption.

A further object is to provide a governing device which may be conveniently applied for use in any house-service pipe and which may be easily adjusted to compensate for variations of pressure in the mains of different systems and to correspondingly regulate the amount of gas admitted to the service-pipe to supply the burner or burners in use.

In the accompanying drawings, Figure 1 is a central vertical section of a governor embodying my invention, showing the same as arranged for use in a service-pipe. Fig. 2 is a horizontal section of the same, taken on line 2 2 of Fig. 1.

Referring to the drawings, the numerals 1 and 2, respectively, designate sections of the gas-service pipe of a building, the section 1 leading in practice from a meter and the section 2 forming a conductor for the passage of the gas to the burners. Interposed between these sections of the pipes is the gas controller or regulator constituting my invention. This regulator comprises a vertical valve shell or casing 3, threaded at its upper end to receive a closing-plug 4 and at its lower end for engagement with an elbow-coupling 5, connecting the same with the proximate end of the pipe-section 1. A screen 6 of suitable construction is disposed at the junction of said pipe-section and elbow to strain the gas and relieve the same of a portion of its impurities before it passes to the valve-casing.

The casing 3 is of T form and is accordingly provided with a lateral outlet 7, connected by a T-coupling 8, and an interposed union 9 with the proximate end of the pipe-section 2, the union 9 connecting the outlet 7 of the valve-casing with the lateral inlet 10 of the coupling. A drip pipe or tube 11 hangs pendent from the coupling 8 and is threaded at its upper end for engagement therewith and at its lower end for the reception of a head or cap 12, supporting a petcock or drain-valve 13. The water and other impurities contained in the gas and deposited in the coupling 8 and section 2 of the service-pipe pass by gravity into the drip chamber or tube 11 and may be discharged therefrom whenever desired by opening the valve 13.

Arranged within the valve-casing 3 is a tube or valve-cylinder 14, provided in its side opposite the outlet 7 with a vertical row or series or plurality of series of ports 15. The lower end of the tube 14 is threaded to engage a head 16, having a flange 17 to rest upon the upper end of the elbow 5 and which may be clamped thereagainst by the casing 3 or secured in position in any other preferred manner. This head supports the valve-chamber or tube 14 and is provided with a port 18 and seat adapted to be closed and engaged, respectively, by a vertical movable gas-float or regulating-valve 19, arranged to slide vertically on a guide-rod 20, said rod extending through the chamber 14 and port 18 and being supported at its upper and lower ends by bracket-arms 21 and 22, fixed to the valve-chamber and the head.

The valve 19 snugly fits within the chamber 14 and is preferably of the hollow type, being composed of two concavo-convex sections suitably united and forming a valve-body which is approximately of elliptical form in transverse section. The upper and lower walls or sections of the body are formed with openings for the passage of the rod 20, which openings are of somewhat greater size or diameter than the rod, so that the flow of gas through the valve-chamber will when the valve is seated be reduced to the minimum, but not entirely cut off.

When the gas is turned off, the valve 19 seats upon the head 16 and prevents the passage of the gas to and through the ports 15, except through the small rod-openings in the valve-body. Upon turning on the gas the valve is lifted to a greater or less extent, according to the pressure of the gas, causing it to ascend in the chamber 14 and open communication between the pipe-section 1 and one or more of the ports 15, thus regulating the supply of gas to the burner in proportion to the amount being consumed and the pressure of the gas in the system. In order to

adapt the valve to interpose a resistance to the pressure of the gas behind it, which resistance may vary according to the pressure and the reduction of pressure desired, one or more weights 23 of annular form may rest upon the upper surface of the valve and surround the rod 20, so as to be supported thereby. Any number of these weights may be used, so that the operation of the valve—that is to say, its opening movement—may be controlled according to the pressure of the gas in the main to supply any desired number of cubic feet of gas per hour in accordance with the capacity of the burners and amount of gas being consumed, so as to effectually prevent the waste of gas from a too free supply from overpressure.

It will be seen that the invention provides a simple and effective construction of regulator which may be manufactured and installed at a comparatively low cost and without the necessity of modifying the arrangement of the pipes of a house-service system.

Having thus described the invention, what is claimed as new is—

1. A governor for gas-burners comprising a casing having inlet and outlet ports, a valve-chamber within the casing communicating at its lower end with the inlet-port and provided in its side with a plurality of ports communicating with the outlet-port, a guide-rod arranged within said chamber, and a hollow valve controlling the ports and slidably mounted on the guide-rod, said valve having openings in its walls for the passage of the rod and of greater size than the rod to form reduced gas-passages.

2. A governor for gas-burners comprising a casing having a bottom inlet and a side outlet, a ported head disposed below said outlet, a valve-chamber arranged within the casing and supported by said head and provided in its side opposite the outlet-passage with a vertical row of ports, a guide-rod extending through the valve-chamber, a hollow valve guided by said rod and controlling the ports, and a weight seated upon the valve and about the guide-rod.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAV PORST.

Witnesses:

ALBERT A. STOCKLEY,

HOWARD M. TOWLES.