(No Model.)

B. F. DAY.

GAS GOVERNOR.

No. 384,132. Patented June 5, 1888.

FIG. 1.

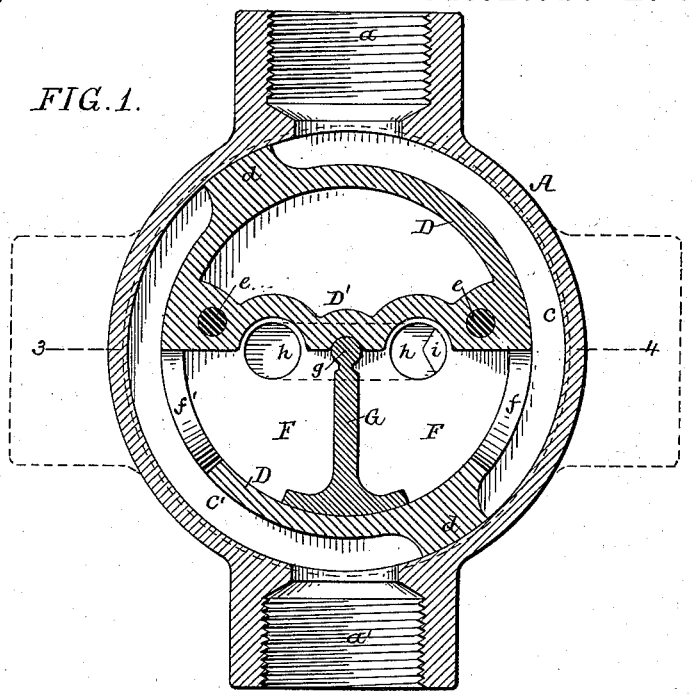


FIG. 2

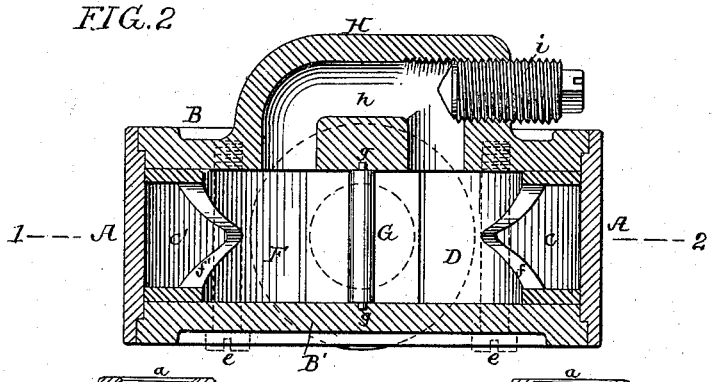


FIG. 3.

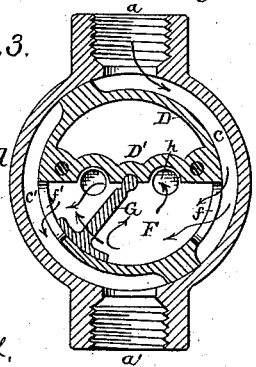
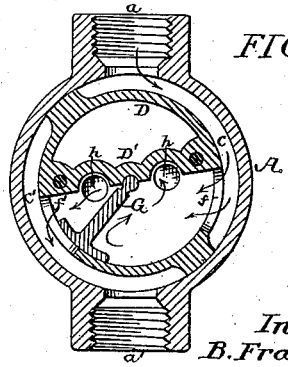


FIG. 4.



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UNITED STATES PATENT OFFICE.

B. FRANK DAY, OF SELLERSVILLE, PENNSYLVANIA.

GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 384,132, dated June 5, 1888.

Application filed March 8, 1888. Serial No. 266,500. (No model.)

To all whom it may concern:

Be it known that I, B. FRANK DAY, a citizen of the United States, and a resident of Sellersville, Bucks county, Pennsylvania, have invented certain Improvements in Gas-Governors, of which the following is a specification.

The object of my invention is to construct a simple and effective gas-governor that can be applied to either the main or branch pipes, so that the burner will give a steady flame at all times irrespective of the pressure of gas.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved governor on the line 1 2, Fig. 2. Fig. 2 is a transverse section on the line 3 4, Fig. 1. Fig. 3 is a diagram showing the action of the gas on the pendulum, and Fig. 4 is a view showing the inner casing adjusted to accord with a certain volume of gas.

A is the outer casing, which is merely a shell having inlet and outlet ports *a a'*, which are screw-threaded to be adapted to any suitable connections, *a* being the inlet-port, and *a'* the outlet-port.

B B' are two side plates adapted to be clamped upon the shell A, and between these two side plates is a ring, D, the latter with the side plates forming a box inclosing a chamber, F, said ring being of somewhat smaller diameter than the shell A, so that between the shell and ring is formed a passage for the gas, two lugs, *d d*, on the ring D dividing this annular passage into two ways, *c c'*, the passage *c* communicating with the inlet *a*, and the passage *c'* communicating with the outlet *a'*.

The ring D has a dividing-plate, D', and through this plate pass the securing-bolts *e e*, said bolts being headed at one end to bear upon one side plate and adapted to be screwed into the opposite side plate, as shown by dotted lines in Fig. 2.

The chamber F has two ports, *f f'*—one on each side—the port *f* opening into the inlet-passage *c*, and the port *f'* opening into the outlet-passage *c'*, and these ports are preferably tapered in form, as shown in Fig. 2.

Dividing the chamber F into two compartments is a pendulum, G, pivoted at *g* to the side plates, B B', said pendulum being widened at the bottom, forming a comparatively broad surface, and the pendulum itself fitting snugly in the chamber, preventing as much as possible the direct passage of gas through the chamber from one portion to the other. The chambers are, however, connected by a side passage, *h*, this passage being in the present instance formed in an enlargement, H, on the side plate, B. A plug-valve, *i*, in the form of a screw, governs the flow of gas through this passage. By turning this screw one way or the other more or less gas can pass through from the inlet to the outlet.

The operation of the device is clearly shown in Fig. 3 by the arrows. When the gas is turned into the meter, it passes through the inlet *a*, passage *c*, and through the port *f*. As the pendulum is very sensitively pivoted, the pressure forces the pendulum to one side, as shown, thereby cutting off a portion of the outlet-port *f'*. The gas in its passage travels through the side passage, *h*, then to the opposite side of the chamber F, and through the partially cut-off port *f'* to the outlet *a'*. While the flow of gas is steady, the pendulum will remain in a certain position, as shown; but in case of an increase of pressure the pendulum moves in the direction of its arrow and cuts off more of the outlet-port *f'*, while when the pressure decreases the pendulum recedes, enlarging the opening of said port. When it is desired to regulate opening of the port by other means than the pendulum, so as to adjust the meter to a certain burner, for instance, the securing-bolts *e e* are slackened and the two side plates, B B, and ring D are turned to an extent depending upon the volume desired, as shown, for instance, in Fig. 4, the bolts being then tightened again. Now, if the pressure of gas is to be regulated to the same extent as indicated in Fig. 3, the pendulum will move to the position shown in Fig. 4; but the ring D being turned, as shown, the outlet-port *f'* will be cut off to a greater extent.

I have shown the inlets and outlets for the governor in a vertical position; but it will be understood that they can be horizontal, as shown by dotted lines in Fig. 1, or reversed, or at any angle required, the normal position of the pendulum being always perpendicular, no matter what the adjustment of the box or casing may be.

I claim as my invention—

1. The combination, in a gas-governor, of the box provided with inlet and outlet ports, a chamber formed in said box, and a regulating-pendulum therein dividing said chamber into two portions, with a passage providing a communication between the two parts of the chamber, substantially as and for the purpose set forth.

2. The combination of the outer shell, A, having the inlets and outlets, a box adjustably secured within said casing and provided with inlet and outlet ports, said box having a chamber, a regulating-pendulum dividing said chamber, and a communicating passage between the two portions of the chamber, substantially as set forth.

3. The combination of the casing A, side plates, B B′, a passage, *h*, formed in one of said plates, a ring, D, of smaller diameter than the casing, thus forming a passage, said ring and plates inclosing a chamber, a regulating-pendulum therein, and inlet and outlet ports for said chamber, substantially as set forth.

4. The combination of a ring, D, having a tapered outlet-port, *f′*, said ring forming a chamber, and a pendulum in said chamber, with a side passage communicating with both divisions of the chamber, substantially as set forth.

5. The combination, in a gas-governor, of the ring provided with inlet and outlet ports, a chamber formed in said ring, a pendulum therein dividing said chamber into two portions, and a passage communicating with the two parts of the chamber, with regulating-valve in said passage, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

B. FRANK DAY.

Witnesses:
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