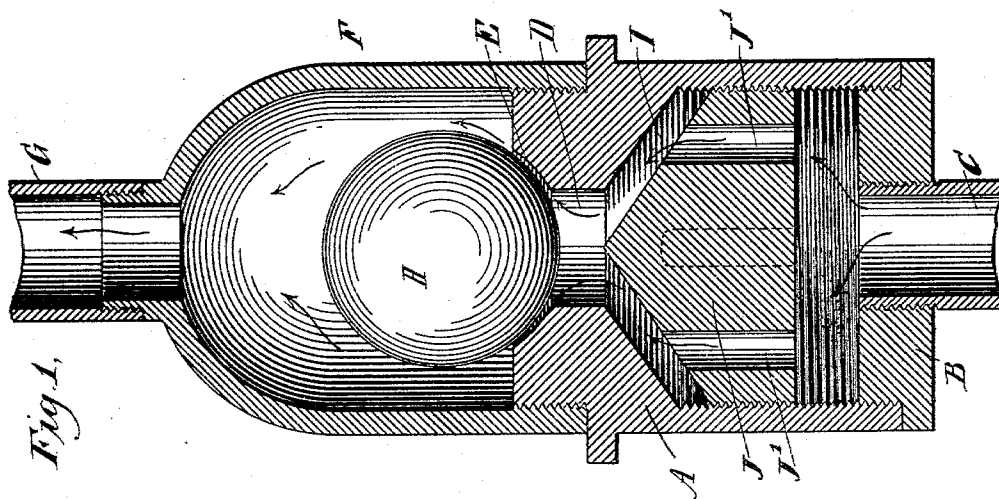
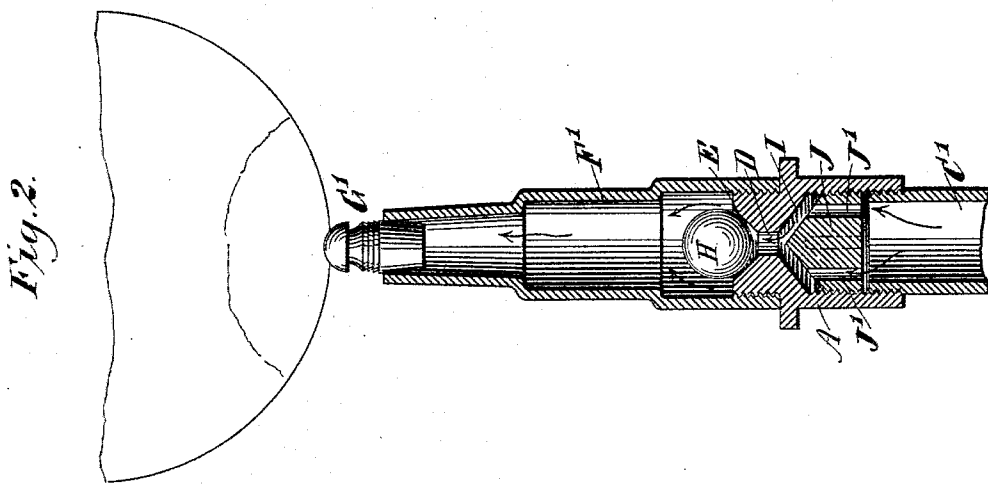


(No Model.)

G. W. BROWNE.
AUTOMATIC FLUID GOVERNOR.

No. 584,172.

Patented June 8, 1897.



WITNESSES:

Edward Thorpe
Geo. F. Hooper,

INVENTOR
G. W. Browne.

BY *[Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE W. BROWNE, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF,
WILLIAM F. MCKENNA, AND ROBERT S. BACHIA, OF SAME PLACE.

AUTOMATIC FLUID-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 584,172, dated June 8, 1897.

Application filed March 23, 1896. Serial No. 584,480. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BROWNE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Automatic Fluid-Governor, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved governor for automatically regulating the flow of fluids, the governor being more especially designed for use on gas-supply pipes and the like.

I will describe a fluid-governor embodying my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement arranged in a gas-supply pipe, and Fig. 2 is a like view of the improvement arranged in a gas service-pipe at or near the gas-burner.

The improved automatic fluid-governor illustrated in Fig. 1 is provided with a casing A, closed at its lower end by a screw-plug B, connected with a supply-pipe C next to the gas-meter in the cellar of a house, so that the gas after it is measured passes through the pipe C into the casing A. The latter is provided in its top with a longitudinal bore D, terminating in a bell-shaped mouth E, opening into a chamber F, screwing on the upper end of the casing, and connected with a pipe G for delivering gas to the various branch pipes in the house.

The mouth E is adapted to receive a ball H, and the inner end of the bore D leads into a chamber I, the size of which can be regulated by a movable bottom J, screwing in the casing A and having a number of openings J' for the gas to pass from the pipe C into the chamber I. The top of the bottom J is made conical, and the top of the chamber I is similarly beveled, as plainly indicated in Fig. 1, so that the gas after passing through the openings J' readily passes through the bore D and through the bell-shaped mouth E into

the chamber F and to the pipe G. It is well known that the ball H is held out of contact with the surface of the mouth E by the gaseous pressure acting on the ball H against the vacuum formed on the under side of the ball by the gas flowing through the mouth E. Now it will be seen that when the governor is connected with a gas-main whose average pressure is five feet per hour and the governor is adjusted so as to give little or no resistance at that rate and it is desirable to reduce the flow of gas to three feet per hour then the operator screws the bottom J up in the casing A to reduce the size of the chamber I and consequently diminish the supply of gas to the bore D and mouth E, so that the gas not only flows through the bore in less quantity but with increased velocity. This causes a greater vacuum under the ball, which in turn causes the gaseous pressure on the top of the ball to move the latter farther into the mouth E, and the flow of gas is diminished until a three-foot flow is obtained. It will be seen that when this flow is once obtained no more than three feet per hour can possibly pass through the governor into the pipe G, no matter how great an increase of pressure may be had on the gas-main, as any increased force will only create an increased vacuum on the ball H and a consequent reduction of the space between the ball and the surface of the mouth E.

In large establishments absolute control by a general governor is not always obtained, as the gas is retarded by friction in the pipes and by vacuum strictures in the bends of the pipes. To overcome this defect, I prefer to place the governor close to the burner F', carrying the tip G', as illustrated in Fig. 2. In this case the casing of the burner F' screws on the casing A, and the lower end of said casing is directly screwed upon the gas-pipe C', the governor itself remaining the same, it being understood that the movable bottom J is screwed up or down to increase or diminish the size of the chamber I according to the amount of gas desired to flow through the tip G'. Thus it will be seen that by the arrangement described the operator is enabled to ad-

just the governor so as to have control of the amount of the gas consumed in a given time. It will further be seen that the device is very simple and durable in construction and not liable to get out of order.

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

1. An automatic fluid-governor, comprising a casing provided with a longitudinal bore terminating at one end in a bell-shaped mouth a valve for engaging in said mouth, and a chamber connected with the other end of said bore and connected with the supply, said chamber having a movable and perforated bottom for increasing or diminishing the ca-

capacity of the chamber, substantially as shown and described.

2. A fluid-governor, comprising a casing having a longitudinal bore terminating in a bell-shaped mouth forming a valve-seat, a ball-valve therefor, a shell on the casing forming a chamber above the valve-seat, and an adjustable bottom in the casing having perforations and a conical top, the top wall of the chamber in the casing also being conical, substantially as shown and described.

GEORGE W. BROWNE.

Witnesses:

THEO. G. HOSTER,
JNO. M. RITTER.