(No Model.)

G. E. FORD.

GAS GOVERNOR.

No. 556,667. Patented Mar. 17, 1896.

FIG. 1.

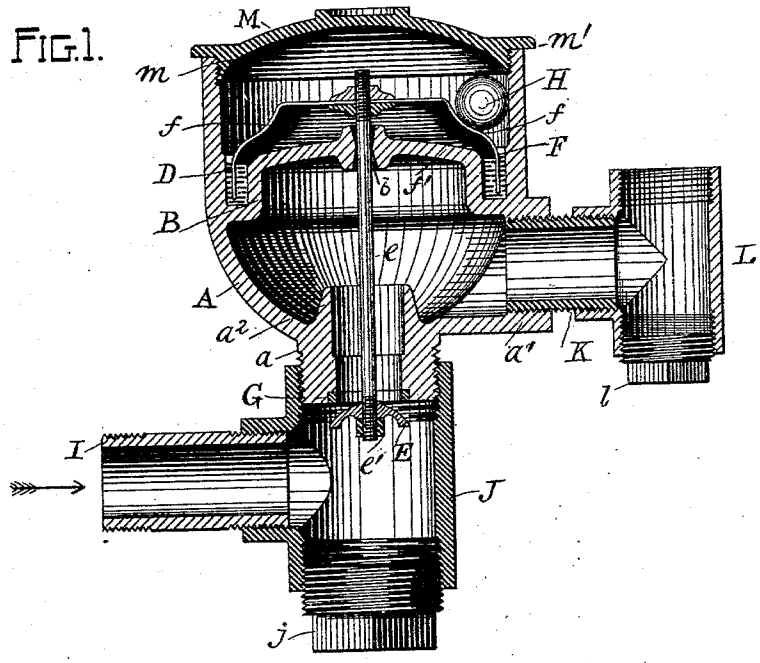
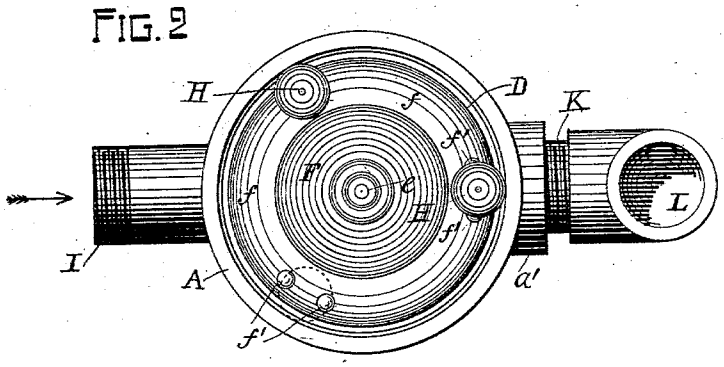


FIG. 2



WITNESSES

Marcus S. Levi.

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atty

UNITED STATES PATENT OFFICE.

GEORGE E. FORD, OF GOLDEN GATE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO CHARLES W. FORD, OF SAME PLACE.

GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 556,667, dated March 17, 1896.

Application filed May 31, 1895. Serial No. 551,296. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. FORD, a citizen of the United States, residing at Golden Gate, in the county of Alameda and State of California, have invented a certain new and useful Improvement in Gas-Governors, of which the following is a specification.

This invention relates to regulators that are used for controlling the flow of gas supplied from street-mains to house-burners under varying pressure and in which a valve suspended from a float partly immersed in a sealing-liquid governs the opening through which the gas is allowed to pass.

The object of the invention is to provide for the class of regulators aforesaid a valve and float so constructed and operated as to secure always a well-regulated flow of gas to the burners and particularly avoid vibration and the quivering of lights. This object is accomplished by the gas-governor illustrated in the drawings hereto annexed, in which—

Figure 1 is a central sectional elevation of the entire regulator; and Fig. 2, a plan thereof, the cover being removed.

In said figures, the letter A represents a cup-shaped casing provided with a tubular bottom *a* and a tubular opening *a'* at one side. B is a centrally-raised partition that divides said casing into two compartments, the lower one of which is adapted to receive the gas that is to be fed to the burners and the upper one designed to contain the sealing-fluid.

a is the gas-inlet, and *a'* the gas-outlet, consisting respectively of the tubular bottom and side of the casing above mentioned. The inlet projects somewhat inwardly at a^2, forming an annular depression around the bottom of the casing wherein sediment from the gas is deposited. The sealing-liquid is confined at the sides of the upper compartment within an annular trough D, formed between the inner walls of the casing and the central raised portion of partition B.

By preference all the above-named parts of the device are cast in one piece.

The inlet-opening is controlled by a valve E held by a stem *e* passing through a hole *b* in the center of the partition B and secured to a bell-shaped float F, located within the upper compartment of the casing. This valve may be of any convenient shape and is arranged to close on a seat formed of a brass ring G, located at the inner lower edge of the inlet-opening. It is secured to its stem by screw-threads and maintained in position by a lock-nut *e'*. The edges of the float are arranged to play in the sealing-liquid contained in the trough, the sealing-liquid preferred being mercury.

The float F is formed with an annular depression or groove *f*, which runs around its upper edge, as shown. Within this depression are placed small spheres or balls H that rest partly against the inner sides of the casing. These spheres or balls may either be loose and left free to roll around or move along the groove *f*, or else be held in a fixed position therein, as particular cases may require. Any suitable means may be employed to keep the spheres at a desired place, such as studs or indentations punched in the float, as at *f'*. By preference a little play is allowed the spheres so confined. Whether movable or not, the spheres bear upon the outer edge of the float and operate to steady it at all times, keeping the valve suspended therefrom in a true position. Their size or weight is regulated according to the pressure of the gas where the governor is to be used, the material of which they are made being varied to suit. Thus aluminum spheres may be employed where the pressure is light, clay spheres for medium pressures, and leaden spheres for high pressures.

The governor is connected with the supply-pipes by means of a nipple I and T-coupling J, the latter having at the lower end a plug *j* that can be removed to let out "condensations" of gas due to changes in the weather, &c. The house-pipes are likewise connected with the governor by means of a nipple K and a T-coupling L, also provided with a removable plug *l* at the lower end.

M is the cover of the casing, to which it is secured by screw-threads, the cover having a downwardly-projecting flange *m*, provided with an external thread adapted to engage an internal thread in the inner upper edge of the casing. Said cover has also a laterally-

extending flange m', that is seated upon the rim of the casing.

The operation of the above-described gas-governor is similar to that of other regulators of the same type and will be readily understood by persons skilled in the art to which my invention appertains without setting it forth in detail. It will be remarked, however, that the spheres or balls located at the edge of the float have the peculiar property of stopping the vibration so noticeable in other gas-governors and which is the cause of that tremor or quivering of the flame produced by gas passing through such governors. Spheres bearing on the edge of the float have, further, the tendency to maintain the valve in proper position with regard to the inlet-opening when the body of the regulator is not plumb or is otherwise improperly set.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A gas-governor provided with a valve-controlling float and spheres on the outer edge thereof, the said spheres contacting with the wall of the governor.

2. A gas-governor comprising a float having a depression or groove around its edge and spheres lodged between the wall of the governor and the float therein, within said depression or groove.

3. A gas-governor comprising a float having a depression or groove at the edge, spheres in said depression or groove contacting with the body of the governor, and means for confining said spheres.

4. In a gas-governor, the combination of a casing, a valve-controlling float therein, and spheres or balls bearing partly on the edge of the float and partly on the inner side of the casing.

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

GEORGE E. FORD. [L. S.]

Witnesses:
A. H. STE. MARIE,
HENRY P. TRICOU.