

C. H. EDWARDS.
Gas-Regulators.

No. 151,210.

Patented May 26, 1874.

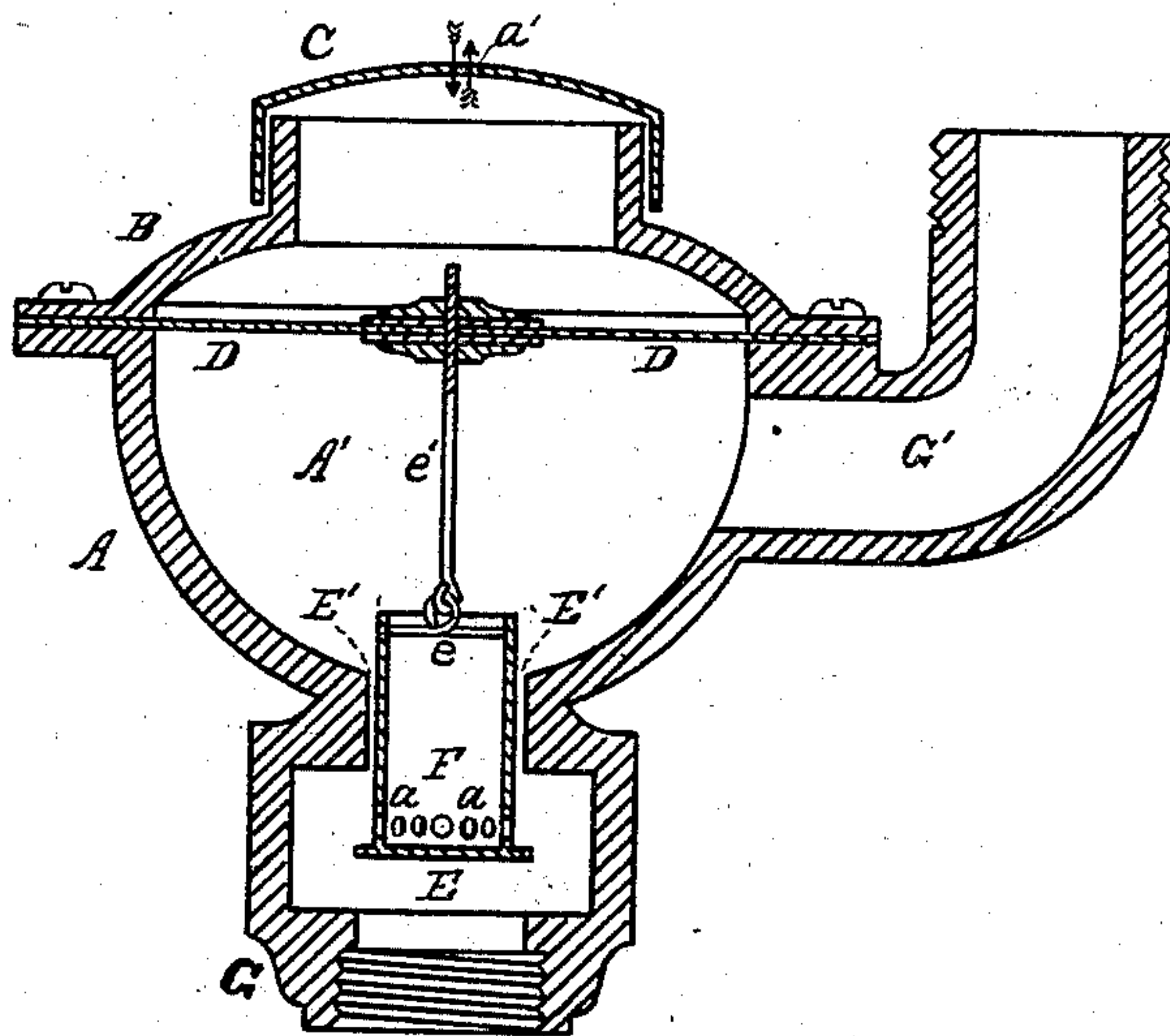


Fig 1

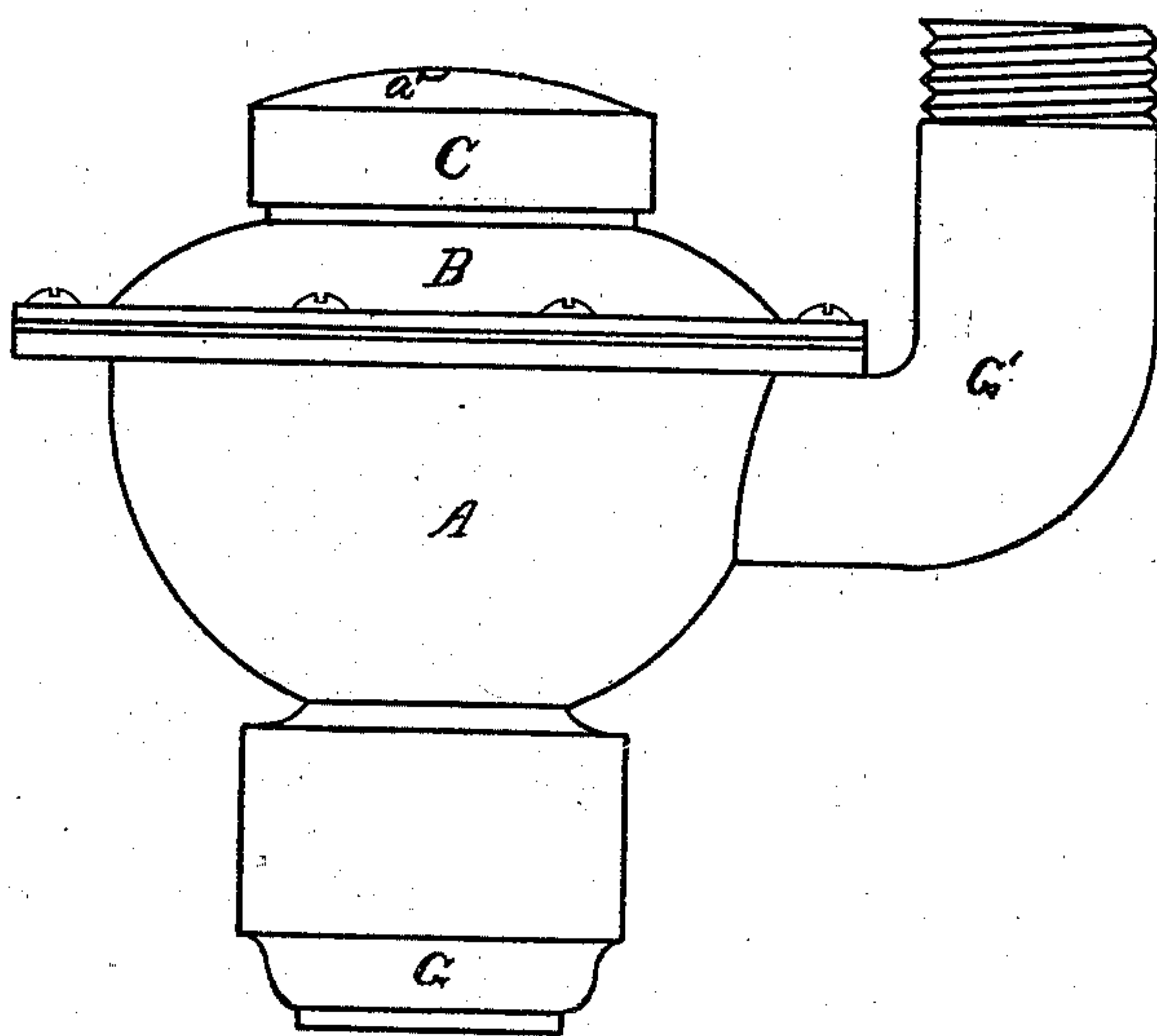


Fig 2

WITNESSES

H. A. Ferring
Wm. H. Phelps

INVENTOR

Charles H. Edwards
By Bradley & Harman
his attys.

UNITED STATES PATENT OFFICE.

CHARLES H. EDWARDS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN GAS-REGULATORS.

Specification forming part of Letters Patent No. 151,210, dated May 26, 1874; application filed January 31, 1874.

To all whom it may concern:

Be it known that I, CHARLES H. EDWARDS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Regulators, of which improvements the following is a full, clear, and exact description, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part hereof, and in which—

Figure 1 is a vertical central section of a gas-regulator embodying my invention, and Fig. 2 a side elevation of the same.

Like letters of reference indicate like parts.

In the drawing, A represents the base of the shell of the regulator, B a cap applied to the part A, and C a supplemental cap applied to the part B. D is a gas-tight diaphragm clamped between the parts A and B. This diaphragm is made of leather, rubber, or other suitable gas-tight material which will yield somewhat to an uneven pressure of gas. A' is the main chamber of the regulator. E is also a chamber, communicating with the chamber A' by means of the opening E'. F is a cup, having a closed bottom extending somewhat beyond its sides, as shown. *aa* are perforations near the bottom of the cup F. This cup is fitted into the opening E', but not so nicely as to be thereby prevented from being readily moved vertically therein. It is also sufficiently deep to have a broad bearing in the said opening, and a vertical play therein sufficient to cover and uncover the openings *aa* without passing entirely out of the opening E'. The top of the cup F is open. G is a nozzle through which the gas enters the device, and G' is an eduction. *a'* is an opening in the cap C.

The device is applied by attaching the nozzle G either to the meter or to a pipe leading to it, and the nozzle G' is connected to a pipe leading to the burner. When there is an even and proper pressure of gas, the direc-

tion of the latter is from the meter into the nozzle G and chamber E, and from thence through the openings *aa* and the cup F into the chamber A', and from thence through the nozzle G' to the burner. When there is too great a pressure, the diaphragm D will yield upwardly, carrying the cup F with it, and partly closing the openings *aa*, thus avoiding a "blow" at the burner. As the pressure decreases the cup F will descend, thus opening the perforations *aa* and admitting the proper volume of gas to the burner. The flame will thus be supplied with the same quantity of gas at all times. The opening *a'* admits air to the chamber above the diaphragm D, so as to allow the latter to play freely as it is operated upon by the gas. The caps B and C are not essential, except for the purpose of protecting the diaphragm D and preventing lodgment thereon of dust and other foreign matter liable to prevent its proper action. The chamber E also serves as a drip-chamber. The diaphragm D may be weighted to regulate the flow of gas. The flanged bottom of the valve F operates to shut off the flow at the valve when the gas is turned off at the burner.

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

The cup or valve F, having vertical sides and an open top, and a closed flanged bottom extending outward from the sides and provided with the perforations *aa* arranged in its sides, the said valve being freely suspended in the port or opening E' arranged between the receiving-chamber E and the discharging-chamber A', and connected to the yielding diaphragm D, arranged across the latter chamber, all substantially as shown and described, and for the purposes set forth.

CHARLES H. EDWARDS.

Witnesses:

F. F. WARNER,
N. C. GRIDLEY.