

(No Model.)

M. G. WILDER.

GAS REGULATOR.

No. 353,342.

Patented Nov. 30, 1886.

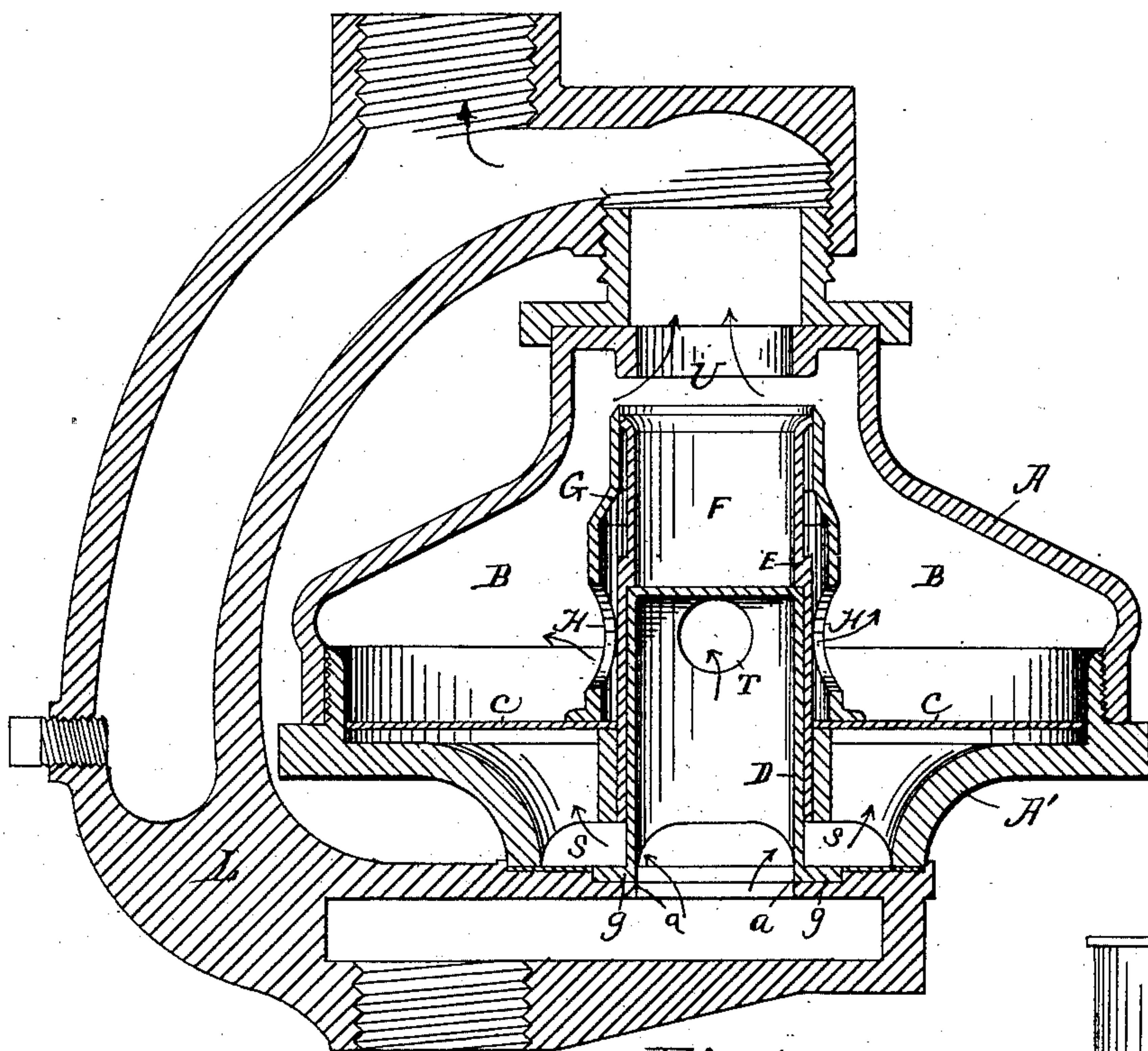


Fig. 1.

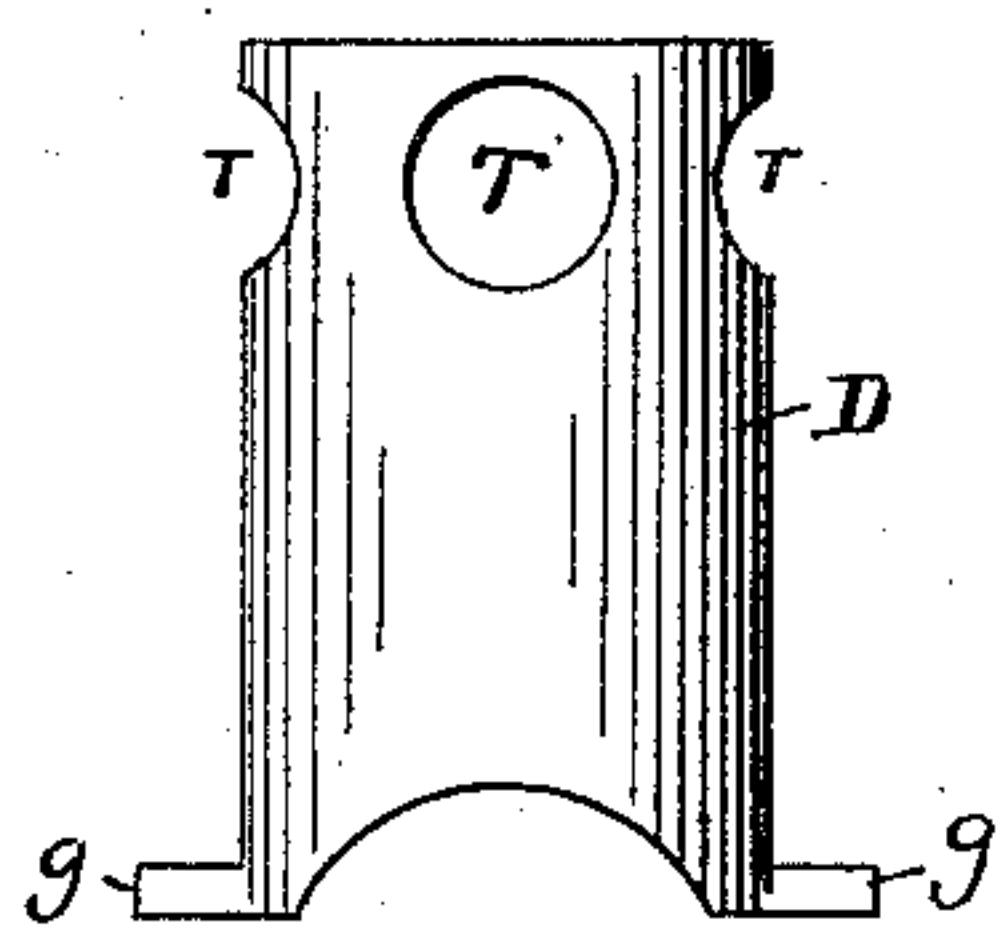


Fig. 2.

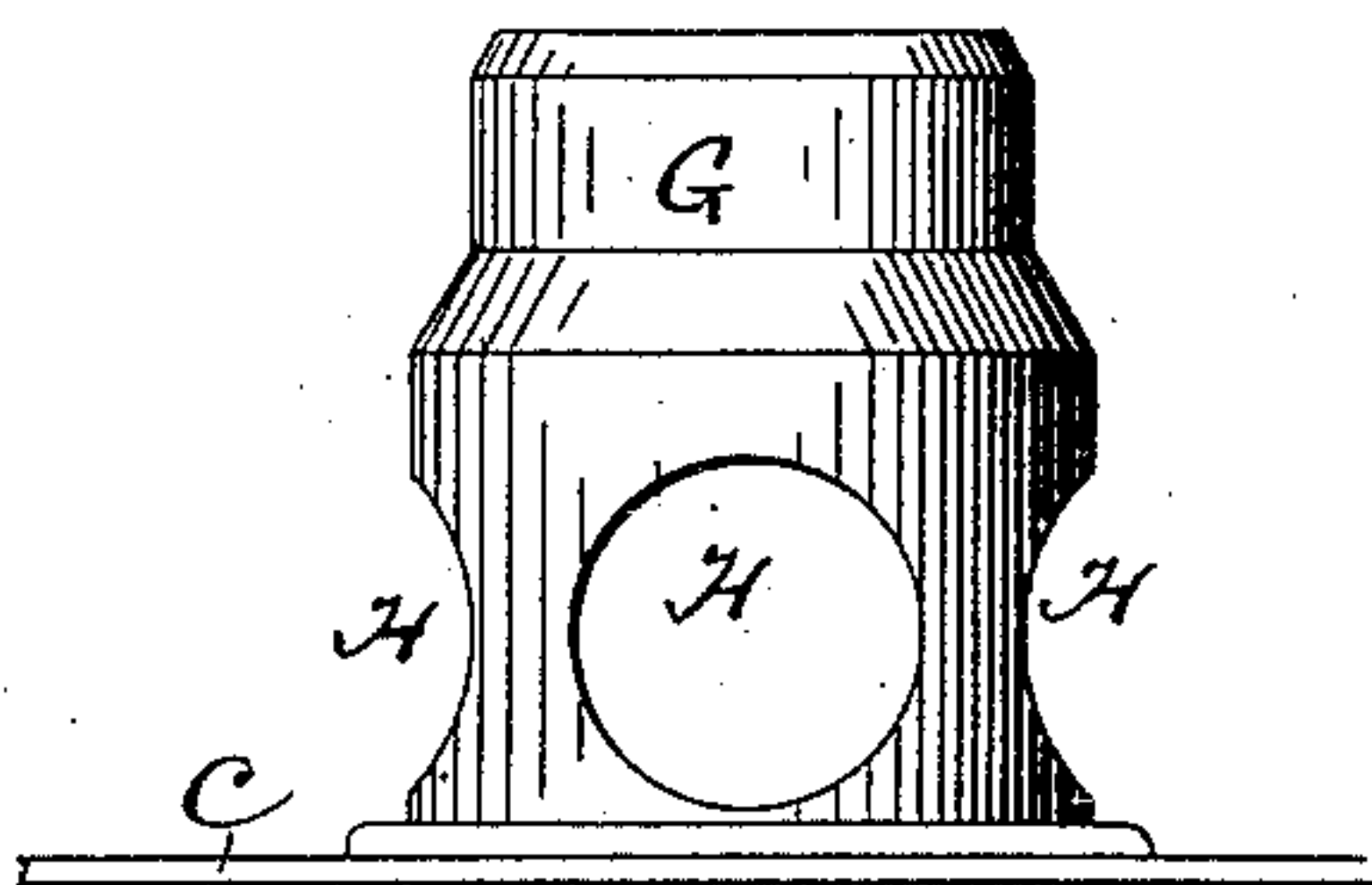


Fig. 4.

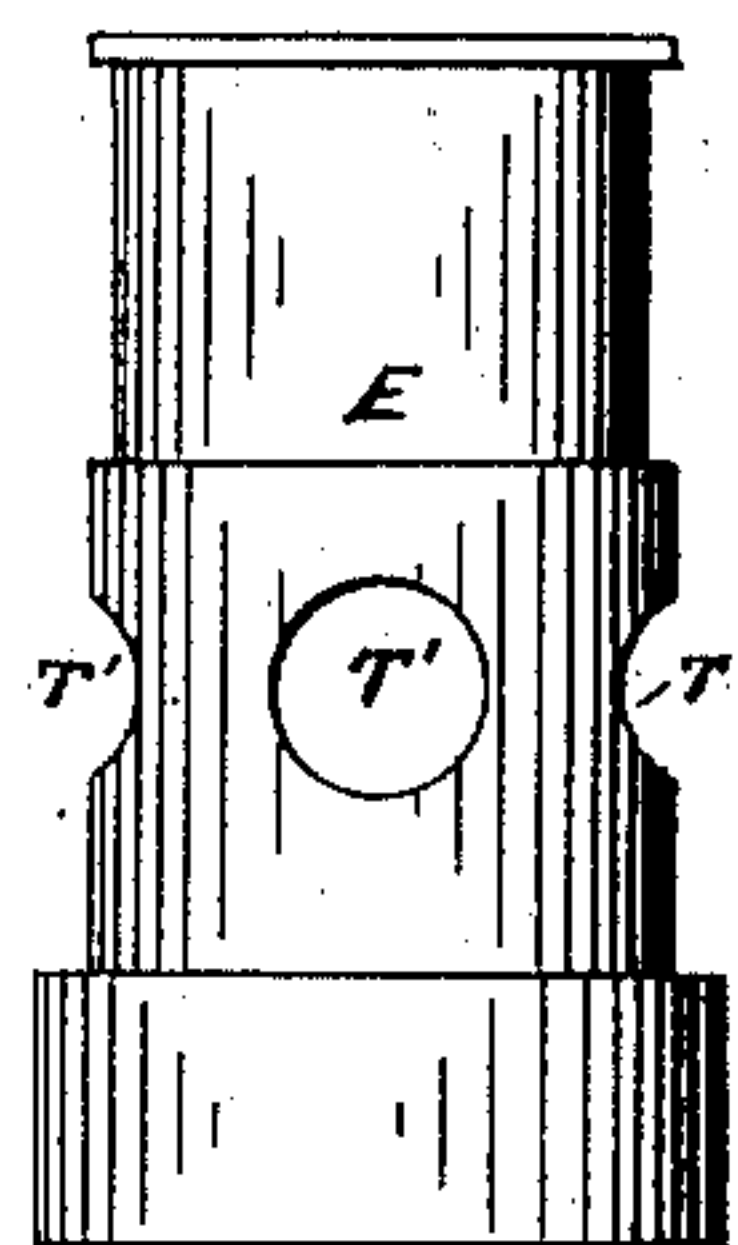


Fig. 5.

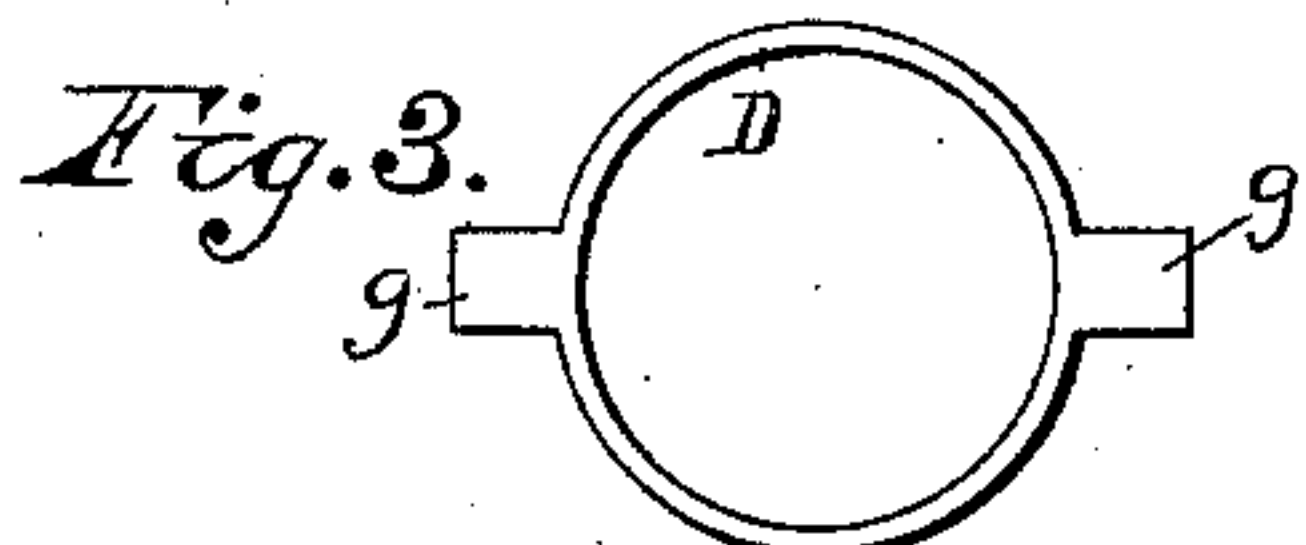


Fig. 3.

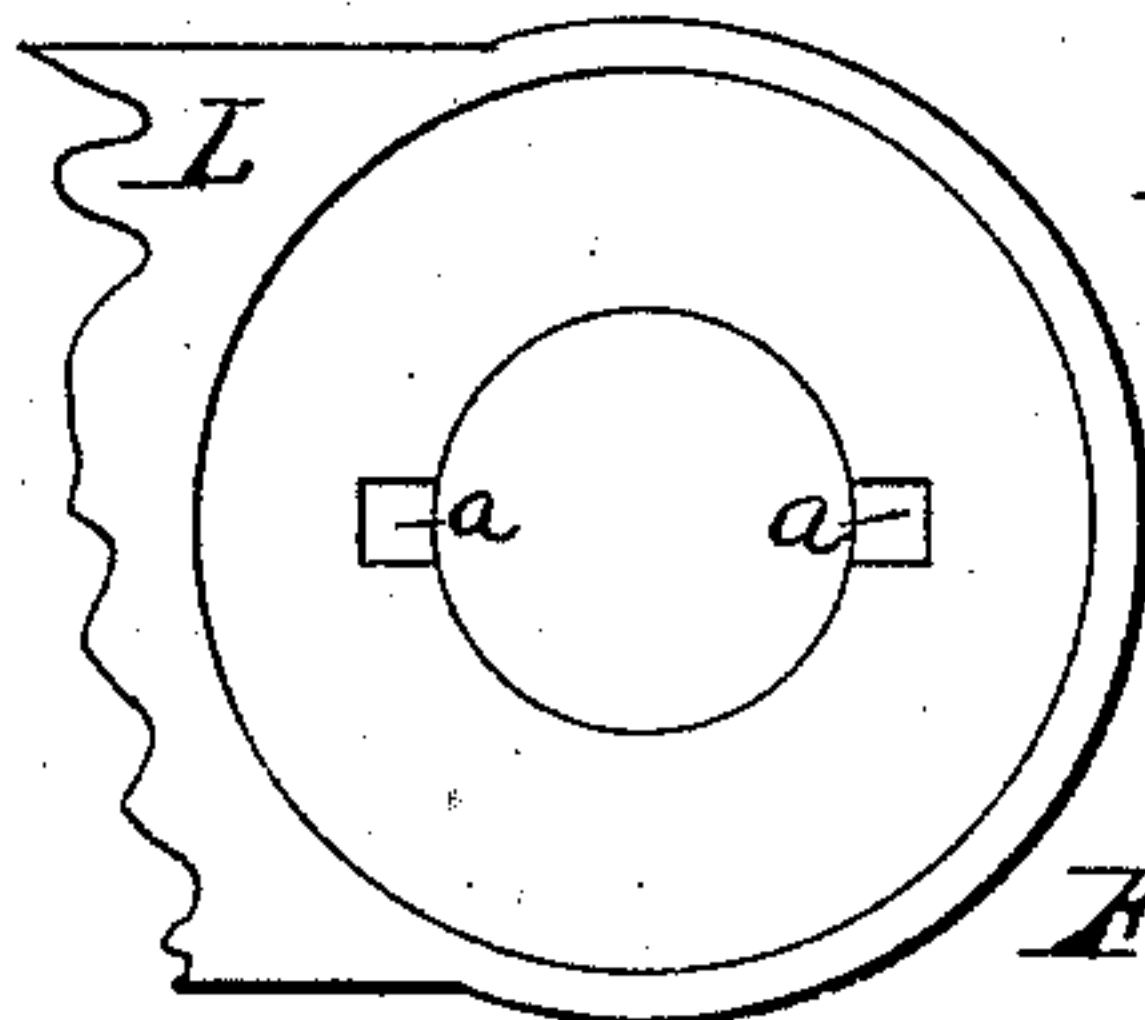
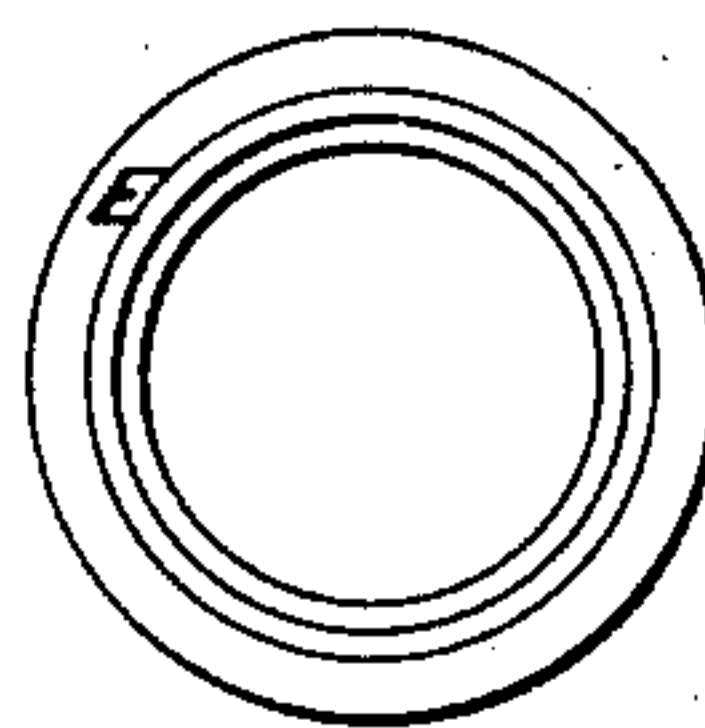


Fig. 7.

Fig. 6.



WITNESSES:
Chas. A. Mahony
Matthew W. Kase

INVENTOR
Moses G. Wilder
by his attorney
Chas. A. Rutter.

UNITED STATES PATENT OFFICE.

MOSES G. WILDER, OF PHILADELPHIA, PENNSYLVANIA.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 353,342, dated November 30, 1886.

Application filed February 14, 1885. Serial No. 155,932. (No model.)

To all whom it may concern:

Be it known that I, MOSES G. WILDER, a citizen of the United States, and a resident of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Gas or Fluid Regulators, of which the following is a specification.

The object of my invention is to furnish a device for regulating or controlling the flow of gas to gas burners or furnaces, so as to maintain a constant delivery of a predetermined quantity in a given time. The invention may also be used for controlling various other fluids under pressure.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate similar parts throughout the several views, Figure 1 is a central sectional elevation of a regulator and yoke embodying my improvement; Fig. 2, a side elevation of inside cylinder, D, showing lugs for locking into the yoke; Fig. 3, a plan of bottom part of cylinder D; Fig. 4, a side elevation of valve and part of disk or float; Fig. 5, a side elevation of tube which surrounds cylinder D; Fig. 6, a plan of bottom part of Fig. 5, and Fig. 7 a plan of the lower seat of the yoke, showing recesses into which lugs on cylinder D lock.

A A' are two parts forming the shell or body of the regulator.

B is the gas-chamber, within which the disk or float C is placed, and in which it can move freely up or down.

D is a cylinder open at its bottom to the supply-pipe, and closed at its top, and furnished with an opening or openings T, through which the gas may pass to the gas-chamber B.

E is a tube surrounding cylinder D, which is furnished with holes or openings T', corresponding with the holes or openings T in cylinder D.

F is a chamber open at its top, its bottom being formed by the top of cylinder D, and its sides by the upper end of tube E. Moisture or other impurities from the gas will settle in this chamber and be prevented from coming in contact with and injuring the working parts of the device.

The float or disk C, Figs. 1 and 4, carries

upon it a valve, G, which rises and falls with the said float. This valve, which is cylindrical in form, and which surrounds the tube E, Figs. 1 and 5, is furnished with perforations H, through which the gas, after it passes through openings T T' in cylinder D and tube E, passes to the gas-chamber B. The upper part of the valve G is beveled off, as shown, so as to form a knife-edge, which will form the least impediment to the free passage of the gas to the burners.

The gas enters the lower part of the chamber B under the check or float C, through openings S S in the lower shell, A', of the regulator, while it can only enter the upper part of chamber B through the adjustable openings T T', and as the area of the openings T T' is smaller than the area of the openings S, it is evident that if the gas flows freely to the burner through the opening U there would be a greater pressure under the float than over it; therefore the float would be lifted and held at a point where the flow of gas into and out of the chamber B would be equal. The cylinder D, Figs. 1, 2, and 3, projects somewhat below the lower shell, A', of the regulator, and is furnished with lugs g, which fit into corresponding recesses, a, in the frame L, Figs. 1 and 7. The cylinder D is held immovably in place by the lugs g and recesses a, and the amount of gas which enters the gas-chamber B may be regulated by simply turning the shell A A' on its axis. This turning causes the tube E to be turned around the cylinder D, and the holes T T' in the cylinder and tube may be made to coincide to cause a great amount of gas to enter the gas-chamber; or they may be partially closed to diminish the flow of gas to the gas-chamber. In Fig. 1 the tube E is shown partly closing the opening T in cylinder D.

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

1. The combination, in a gas-regulator, of an outer shell or case, a centrally-situated tube connected to said outer case, and furnished with openings, as described, a cylinder within said tube closed at its top and open at its bottom, and furnished with openings corresponding to the openings in said outer tube,

and with lugs adapted to lock in the supporting-frame, and a disk or float and valve, all arranged and operating substantially as set forth.

- 5 2. The herein-described device for opening or closing the holes T in cylinder D, and for regulating the amount of gas which passes through said holes into the gas-chamber B, and, in combination with said cylinder, con-

sisting of tube E, secured to the outer shell or case, A A', and furnished with openings T', corresponding to said holes T, said openings T being opened or closed by turning said shell or case upon its axis, substantially as set forth.

MOSES G. WILDER.

Witnesses:

W. H. NORRIS,

CHAS. A. RUTTER.