

(No Model.)

C. J. HAMILTON.
GAS GOVERNOR.

No. 402,442.

Patented Apr. 30, 1889.

Fig. 1.

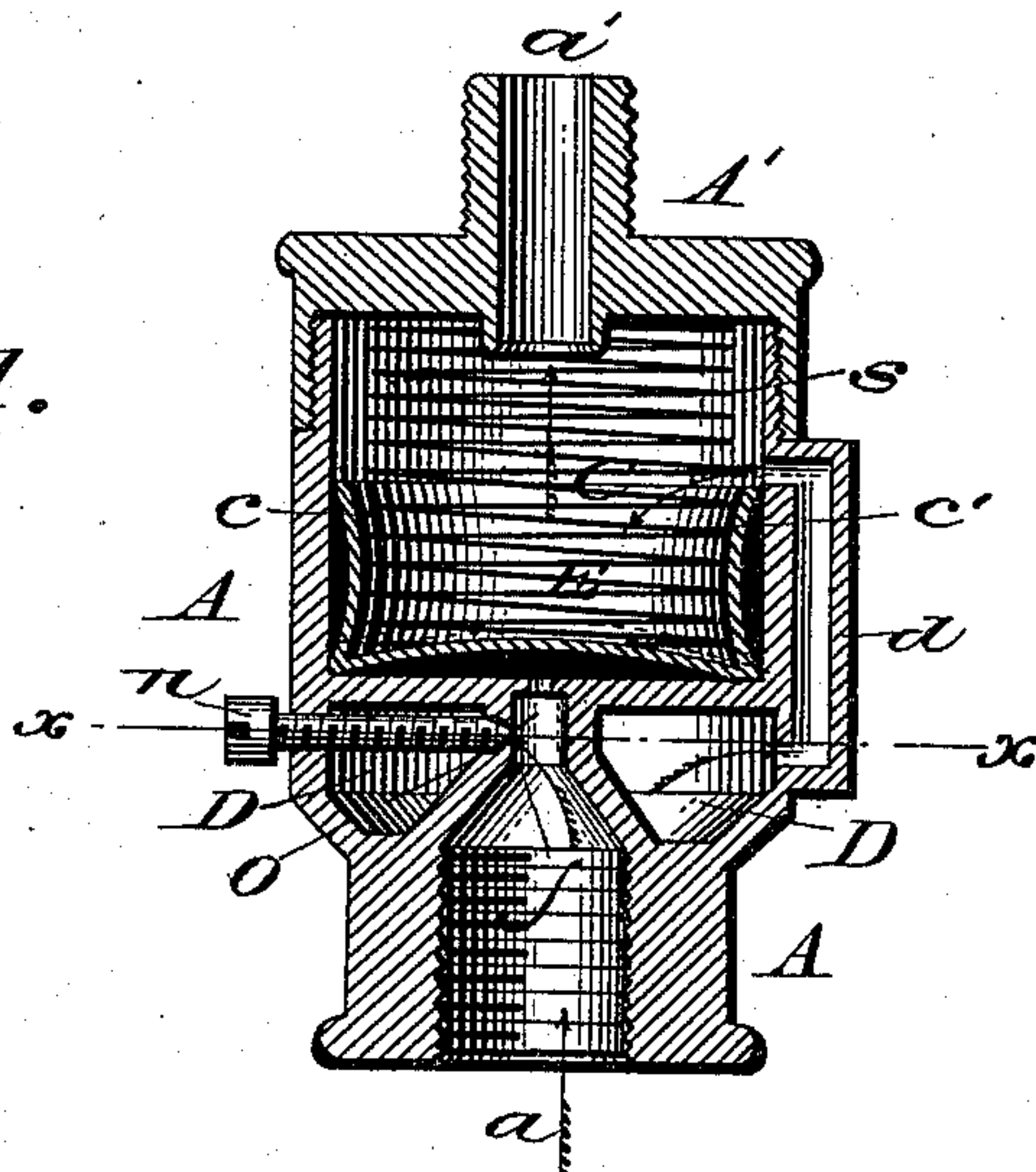
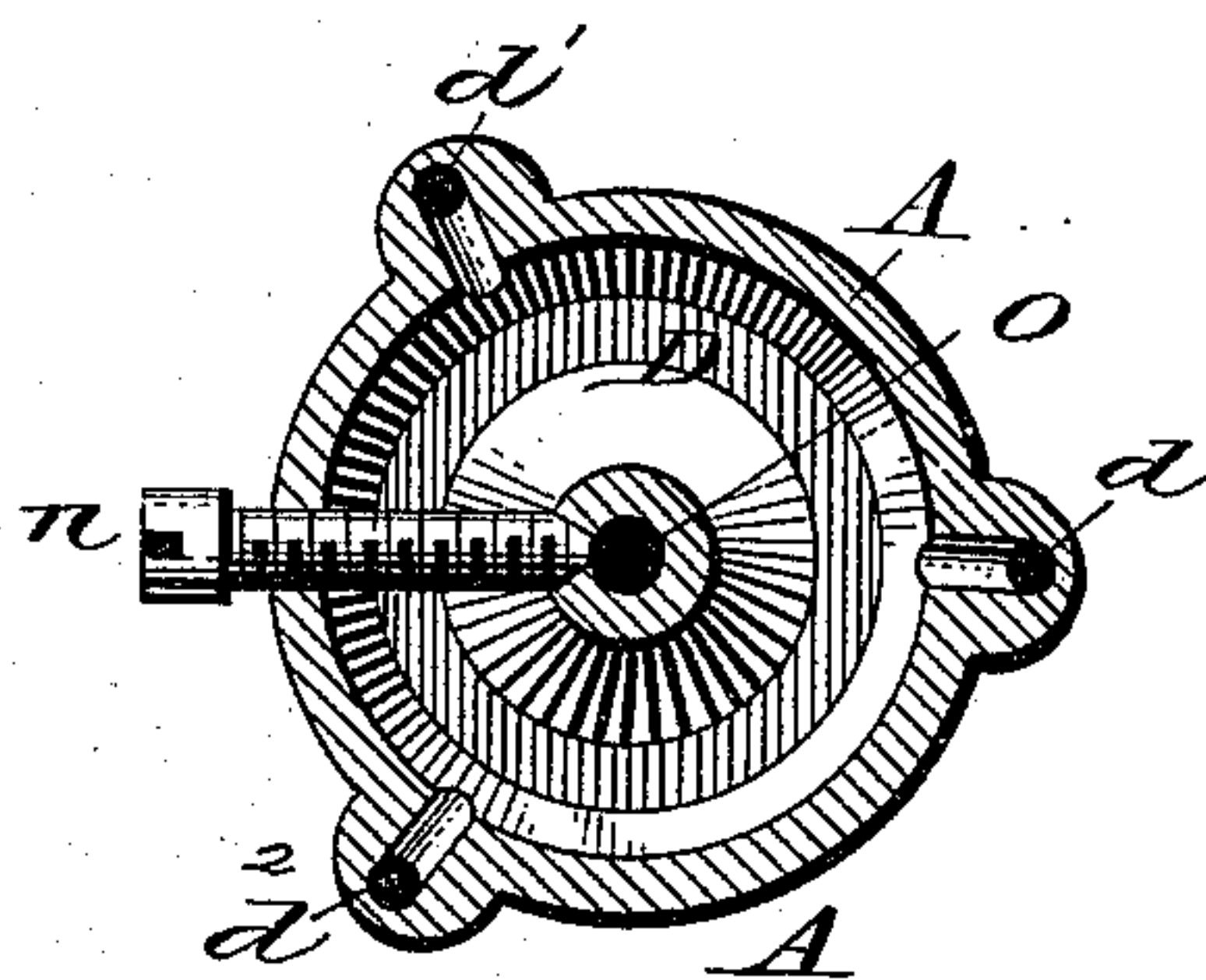


Fig. 2.



WITNESSES:

P. F. Nagle.
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Cornelius J. Hamilton,
by his Attorney,
Horace Pettit

UNITED STATES PATENT OFFICE.

CORNELIUS J. HAMILTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
JAMES H. WILSON, OF SAME PLACE.

GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 402,442, dated April 30, 1889.

Application filed December 15, 1888. Serial No. 293,748. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS J. HAMILTON, of the city of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Gas-Governors; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification.

My invention has relation to governors for the regulation of the flow of gas or other gaseous fluids in order to obtain an even pressure; and it consists in features hereinafter particularly described.

The object of my invention is to produce an automatic spring-pressure gas-governor simple in construction and operation and use, that can be used interchangeably for either an up or down current.

In the accompanying drawings similar letters of reference refer to similar parts.

Figure 1 is a longitudinal sectional view of the governor. Fig. 2 is a cross-sectional view on the line xx of Fig. 1.

A is the casing and outside walls of the governor.

A' is the top or cap of the governor, screwed or otherwise secured thereto, while a is the inlet pipe or tube, and a' is the outlet connecting with the burner directly or indirectly. The inlet a and the outlet a' are provided with screw-threads, by which means the governor is attached to the gas-pipes. A float, E, is provided in the chamber C, fitting closely the walls of said chamber C, yet at the same time free to move up or down therein, the sides c' of the float E extending about half-way up the walls of the chamber C. A spiral pressure-spring, s , of a proper ascertained tension, is provided in said chamber C, having its upper bearing against the inside of the top or cap A' and its lower bearing within the float E. A chamber, D, is constructed below the chamber C and connected therewith by means of the tubes $d d' d^2$, the lower edge of the mouths of which said tubes $d d' d^2$ enter the chamber C on a line with the top of the sides c' of the float E when said float is in its normal position. From the inlet a an orifice, f , is provided in the wall of the chamber D, connecting said inlet a with said chamber D,

while a second opening or orifice, o , connects the inlet a with the chamber C beneath the float E. The orifice f is provided with a valve, n , to regulate its size and the flow of gas there-through. As the gas enters at the inlet a at an ordinary or set pressure, the spring s , pressing down the float E, prevents the gas from entering into the chamber C through the orifice o , the float E being practically gas-tight in the chamber C. The gas therefore enters through the valved orifice f into the chamber D, and from there passes through the tubes $d d' d^2$ into the chamber C, and thence up through the outlet-tube a' on to the burner. Should, however, the pressure of the gas be increased above this ordinary or set pressure to which the spring s is regulated, the increased pressure of the gas entering through the orifice o , bearing against the bottom of the float E, will slightly raise it, and in so doing the edges c' of the float E will consequently partially close the mouths of the tubes $d d' d^2$, through which the gas is flowing into the chamber C, and thereby partially cut off and diminish the increased flow of gas into the chamber C and to the burner through the outlet a' . The spring s is so regulated that the mouths of the tubes $d d' d^2$ are only partially closed by the increased pressure of any reasonable force. The greater the pressure of gas the more nearly are the mouths of the orifices $d d' d^2$ closed, and consequently the natural flow of gas diminished. In this manner the flow of gas into the chamber C is rendered uniform and even, though the pressure of gas as it enters the inlet a may be irregular and uneven.

The flow of gas, as hereinbefore stated, into the chamber D from the inlet a is regulated by the valve n , which, being turned, diminishes or increases the size of the orifice f .

As will be noticed in the drawings, the bottom of the float E, I make concave as well as the sides, which prevents angular displacement and enables me to do away with the center-guide-post employed in some gas-governors.

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

1. In a gas-governor, the inlet-tube a , the orifices f and o , the valve n , the chambers D

and C, the connecting-tubes $d d' d^2$, and the outlet a' , in combination with a spring-regulated float, E, substantially as hereinbefore set forth and described.

5 2. In a gas-governor, the chambers D and C, connected, respectively, with the inlet and outlet tubes a and a' , said chamber D connected with said chamber C by the tubes $d d' d^2$ and the chamber C connected with the inlet-tube a by the orifice o , the float E, provided
10 to fit closely in the chamber C, and the spring s , in the manner and for the purpose substantially as hereinbefore set forth and described.

15 3. In a gas-governor having inlet and outlet tubes or orifices a and a' , the chambers C

and D, the chamber D connected with the inlet-tube by the valved orifice f , the tubes $d d' d^2$, connecting the chambers D and C, the orifice o , connecting the chamber C with the inlet-tube, the outlet-tube being also connected
20 with the chamber C, the float E, provided in the chamber C, having the sides c' , and the spring s , in the manner and for the purpose substantially as set forth and described.

In witness whereof I have hereunto set my
hand this 10th day of December, A. D. 1888.

CORNELIUS J. HAMILTON.

Witnesses:

REESE M. FLEISCHMANN,

HORACE PETTIT.