

# HALSTEAD & COEYMAN.

## Gas Regulator.

No. 16,951.

Patented March 31, 1857.

Fig. 1.

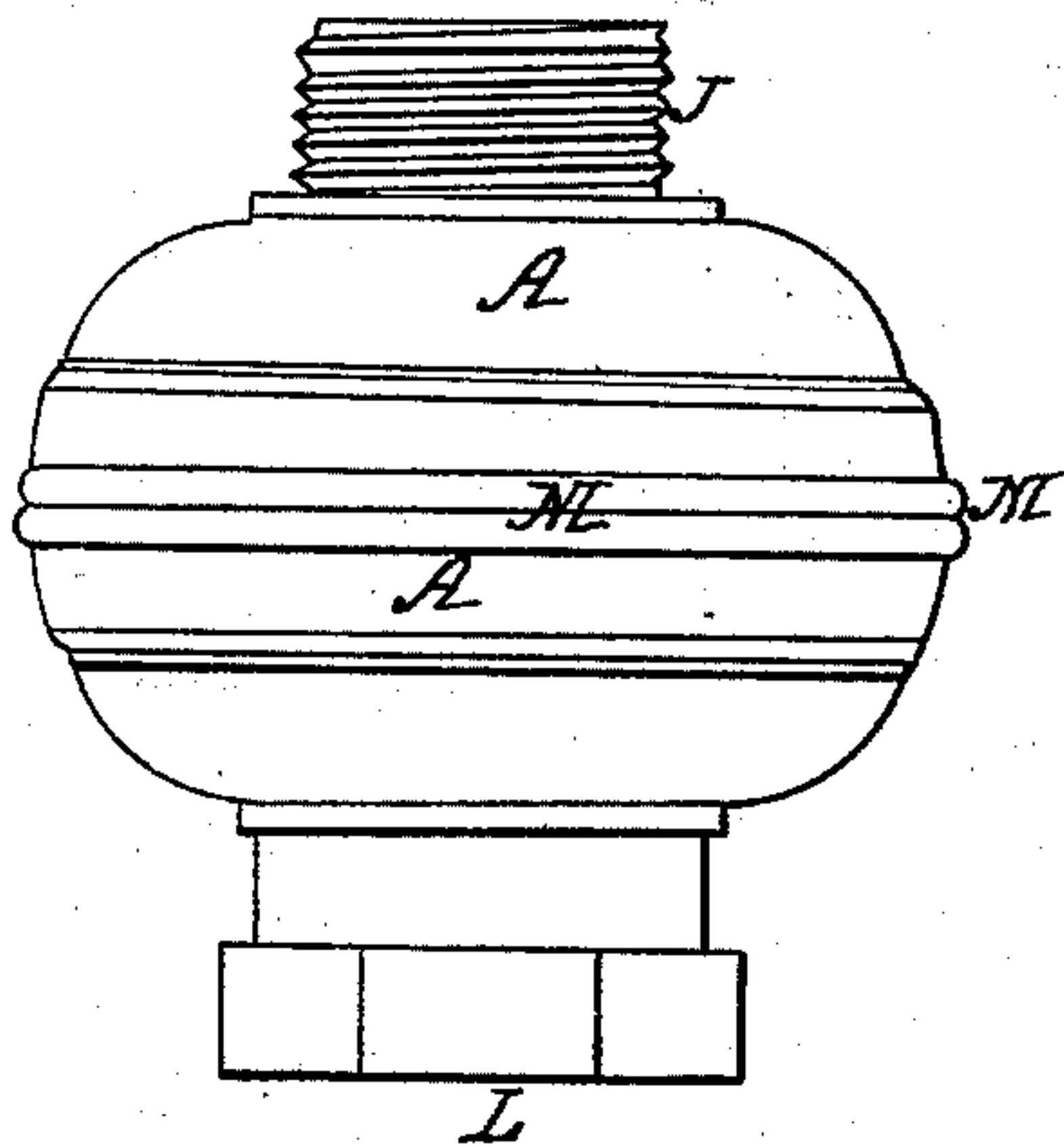


Fig. 4.

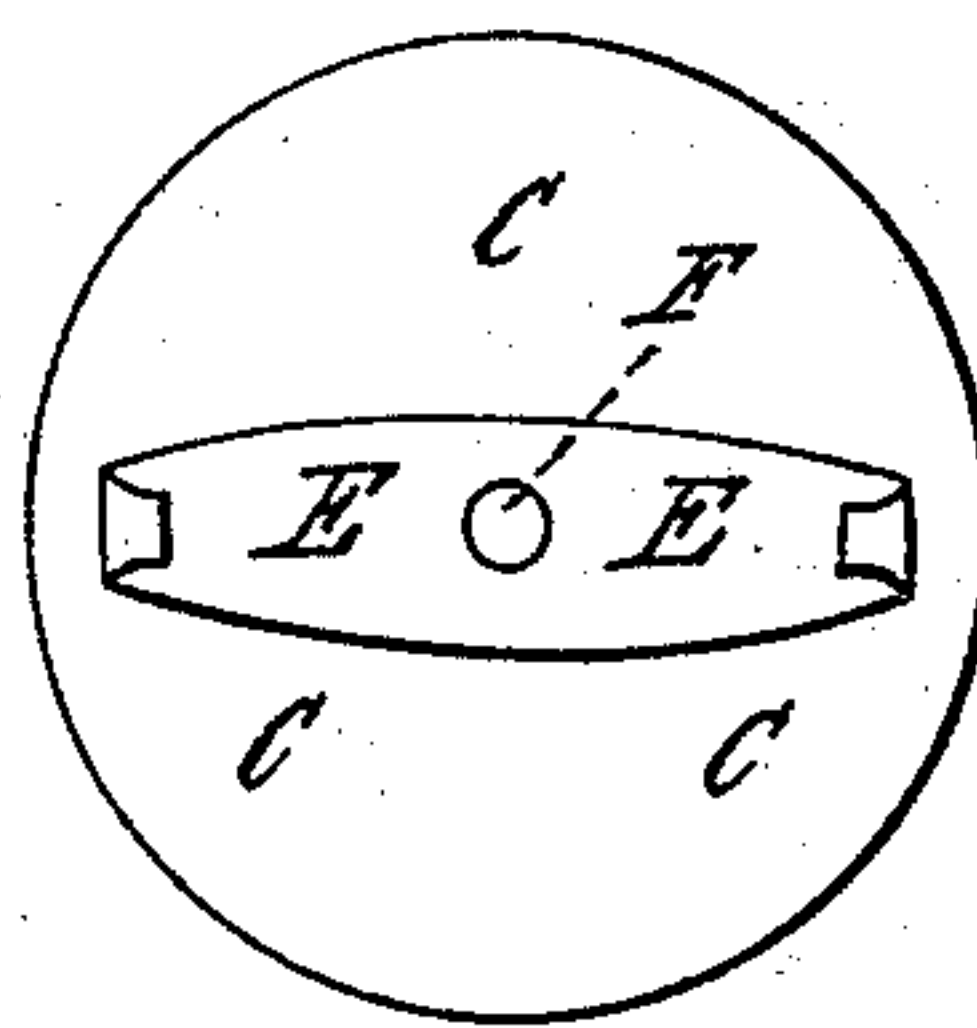


Fig. 2.

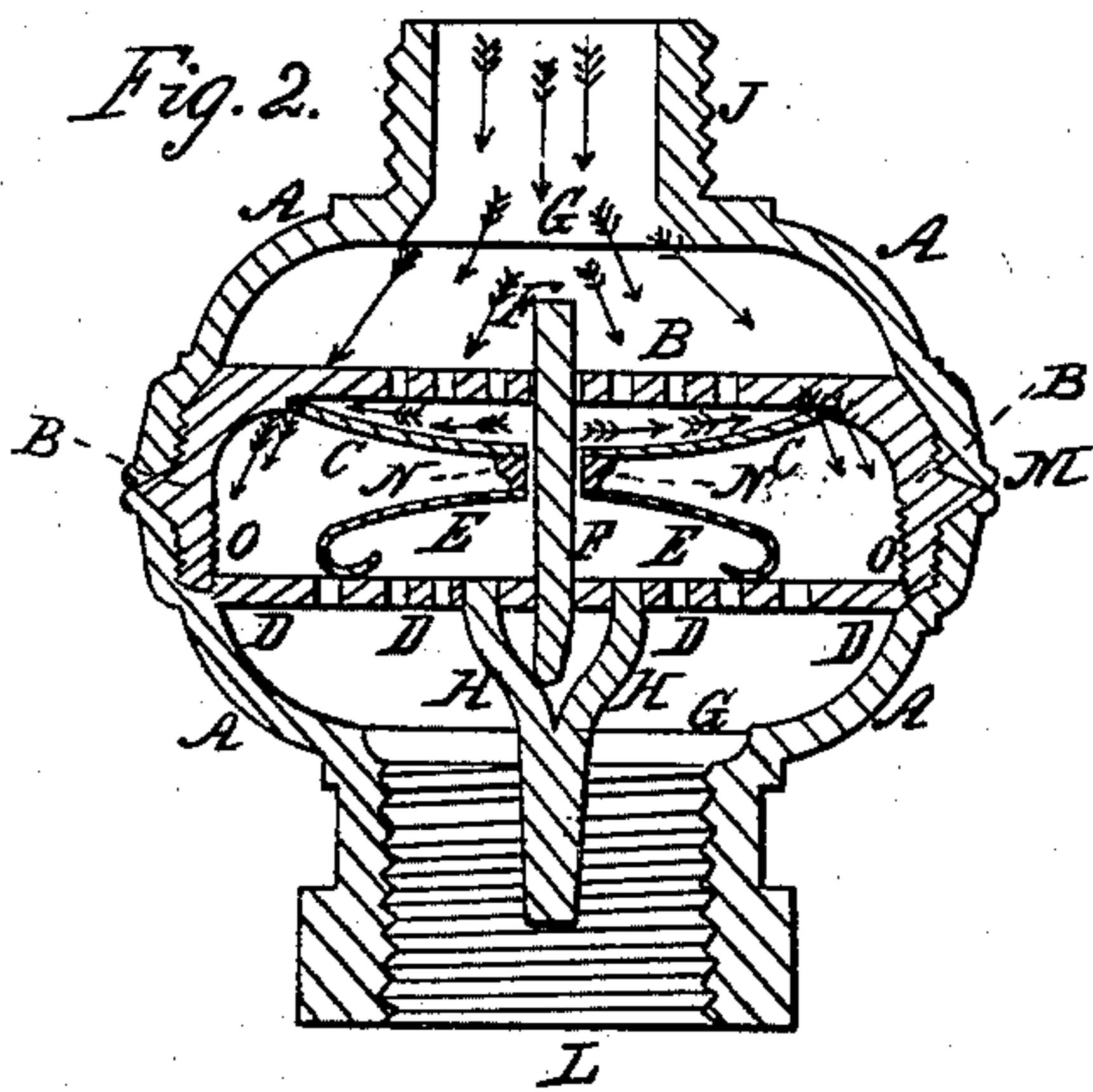


Fig. 3.

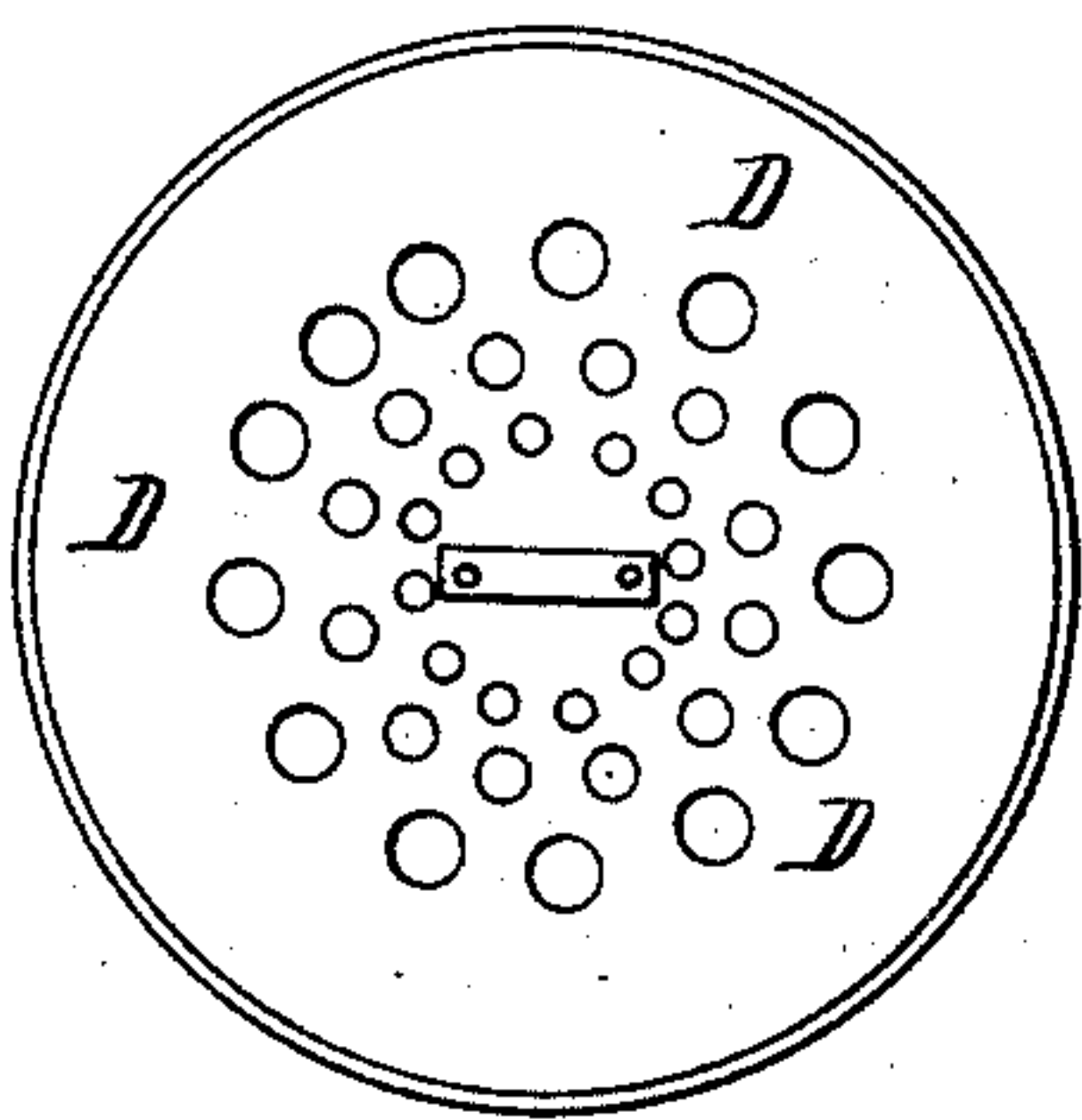
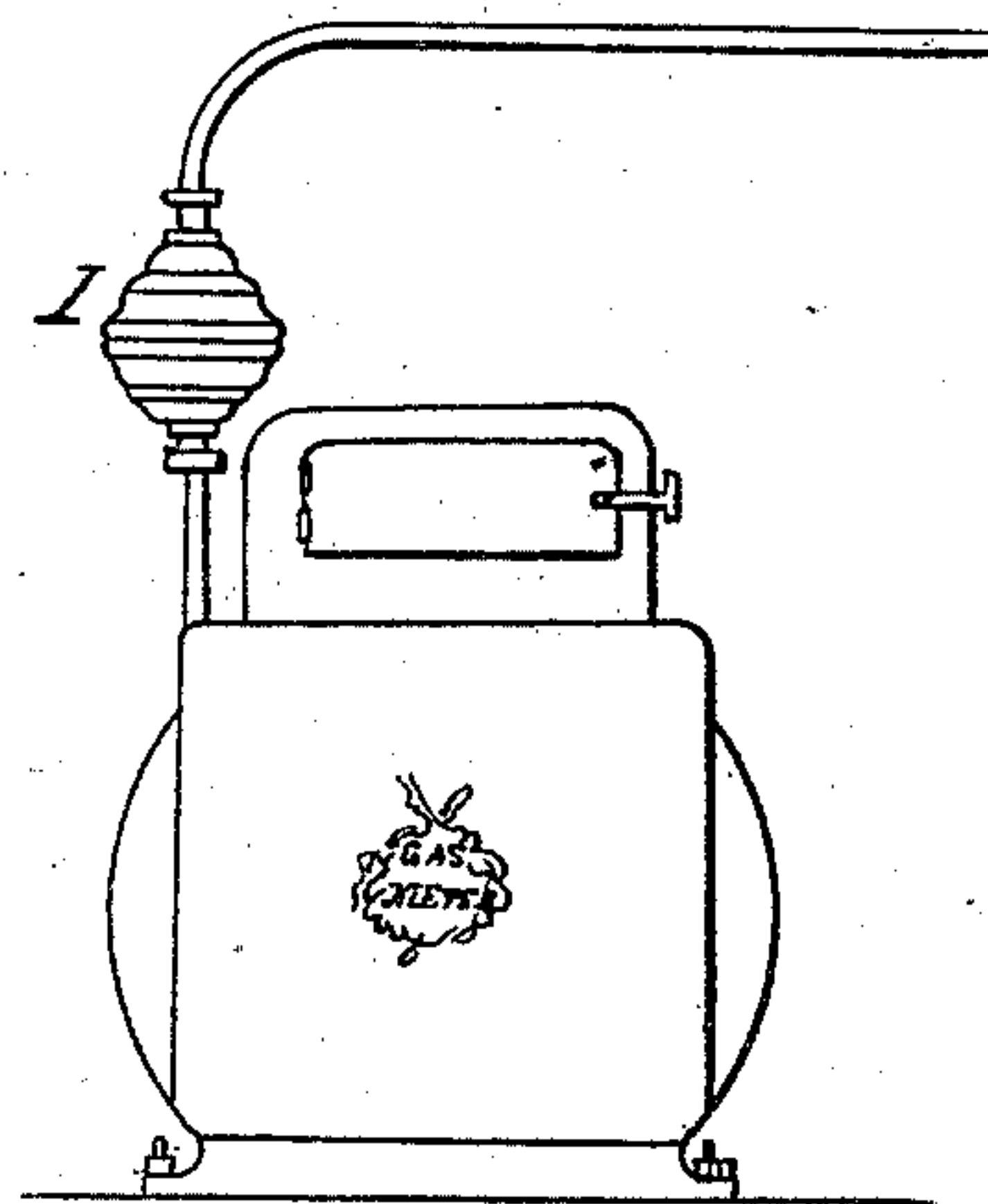


Fig. 5.





# UNITED STATES PATENT OFFICE.

C. J. HALSTED AND J. COEYMAN, OF NEW YORK, N. Y., ASSIGNORS TO DICKERS, GODINE & HALSTED.

## GAS-REGULATOR.

Specification of Letters Patent No. 16,951, dated March 31, 1857.

*To all whom it may concern:*

Be it known that we, CHARLES J. HALSTED and JOHN COEYMAN, of the city, county, and State of New York, have invented certain new and useful Improvements in Gas-Regulators; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form part of this specification, of which—

Figure 1 is the exterior view of the regulator in a vertical position. Fig. 2, is a vertical sectional view of the same showing the interior arrangement of the parts embracing our invention as hereinafter described. Fig. 3, is a perforated plate (D Fig. 2) through which the gas passes from plate B (Fig. 2) perforated identically in like manner. Fig. 4 is the plate or valve (C) in the form of a hollow dish exhibiting the convex side and the flat form of the spring E, E, Fig. 5, is a gas meter showing the regulator on our improved plan, attached to main or service pipe at (I).

The nature of our invention consists in attaching to the main or service pipe leading to the meter, our improved regulator so constructed as to preclude the possibility of unavoidable waste of gas.

In order that our invention may be more clearly understood we will proceed to describe the construction and operation of the same, reference being had to the accompanying drawings:

The same letters of reference indicate corresponding parts in the several figures.

A Fig. 1 is the shell or exterior view of screw cut at the bottom being on the inside of the same at O, that by having a corresponding screw cut upon the edge of the perforated plate D, D, D, D it may be screwed in it thus forming a chamber between the two perforated plates B and D.

B, B, Fig. 2 is a circular perforated plate the surface of which is represented by Fig. 3, the same having sides extending downward, upon the outside of which a screw thread is cut, upon which the two parts forming the shell (A) are screwed in opposite directions until they have been screwed together forming a perfect joint at M. The said sides to the plate B, B, have also a screw cut at the bottom being on the inside of the same at O, that by having a corre-

sponding screw cut upon the edge of the perforated plate D, D, D, D, it may be screwed in it, thus forming a perforated chamber between two perforated plates B and D. 60

From the center of the perforated plate D, is the shaft (F) resting upon the said plate and extending upward through the spring E, E, washer N and circular plate or valve C, and the perforated plates B, B, the said valve (C) being pressed upward against the perforated plate B, B, by the spring E, E. 65

Now supposing the regulator to be adjusted upon the service pipe, with the burner closed, drawing no gas therefrom, it will be perceived at a glance that as the spring (E, E) rests upon the plate D, D, D, D, pressing upward against the washer (N) and valve (C) that the said valve (C), about the edge or circumference, would be firmly pressed upward against the underside of the plate B, thus preventing the circulation of any gas, whatever, between the regulator and the meter and burners. 80

When the gas is lighted, the same being drawn through the regulator and meter, it passes through the gauze wire screen, (G) perforated plate B, B, upon the valve (C), pressing the said valve downward until the gas finds its way over the outer edge or circumference of it, passing down (as represented by the arrows marked out) through the perforated plate D, D, D, D—thence through the lower gauze wire screen (G) to the meter, and from thence to the burners. The object of the said gauze wire screen is to exclude from the body of the regulator all foul matter, also to prevent explosions. 85 90

Should it be found after turning on the gas at a single burner, and lighting it, that more gas escapes than is used, or in other words, that the pressure of gas is too great, we have but to unscrew the connection of the regulator to the meter or service pipe at L, taking hold of the piece of metal H (the same being firmly fastened to the bottom of the perforated plate D, D, D, D to serve as a handle) and turn the said perforated plate, screwing the same upward, giving the spring E, E greater pressure against the valve C, until the surplus pressure of gas is counteracted, and the quantity of gas escaping reduced to that desired. Once having the valve so regulated or adapted to the use 105 110



of one burner, there can be no difficulty in getting by it the exact quantity, or complement of gas for any number of burners to the extent of the capacity of the said regulator.

The advantages derived from the use of our said regulator, are preventing the action of the gas in the pipes operating upon the meter or the indicators thereof when the burners are closed; and also by attaching it to the service pipe instead of attaching it to the distributing pipe in the usual manner, the consumer is saved the expense of the gas represented as having been used by the indicators of the meter when the burners are entirely closed.

Although we have represented the shell or exterior part of the regulator as being in two parts and screwed together in the peculiar manner described, we do not claim the same.

Having thus fully described the nature of our invention, we would state that, we are

aware that a double compensating valve, actuated, through the pressure of gas on a flexible diaphragm, has been used in a regulator. This we do not claim, but

What we do claim as new and desire to secure by Letters Patent is,

A gas regulator, to be located between the meter and main gas pipe, and composed of the perforated plate B, having a flange upon it provided with external and internal screw threads, and a plate D, similarly perforated, provided with a screw which runs into said internal screw thread on the plate D, and adjustable therein by its stem H, when said plates are combined with a single valve C, and adjustable spring E, and the whole arranged within the shell A, substantially in the manner and for the purpose set forth.

CHARLES J. HALSTED.  
JOHN COEYMAN.

Witnesses:

WRIGHT DURYEA,  
FRANKLIN BROWN.