P. FONTAIN.

Gas Regulator.

No. 24,551. Patented June 28, 1859.

Fig. 1.

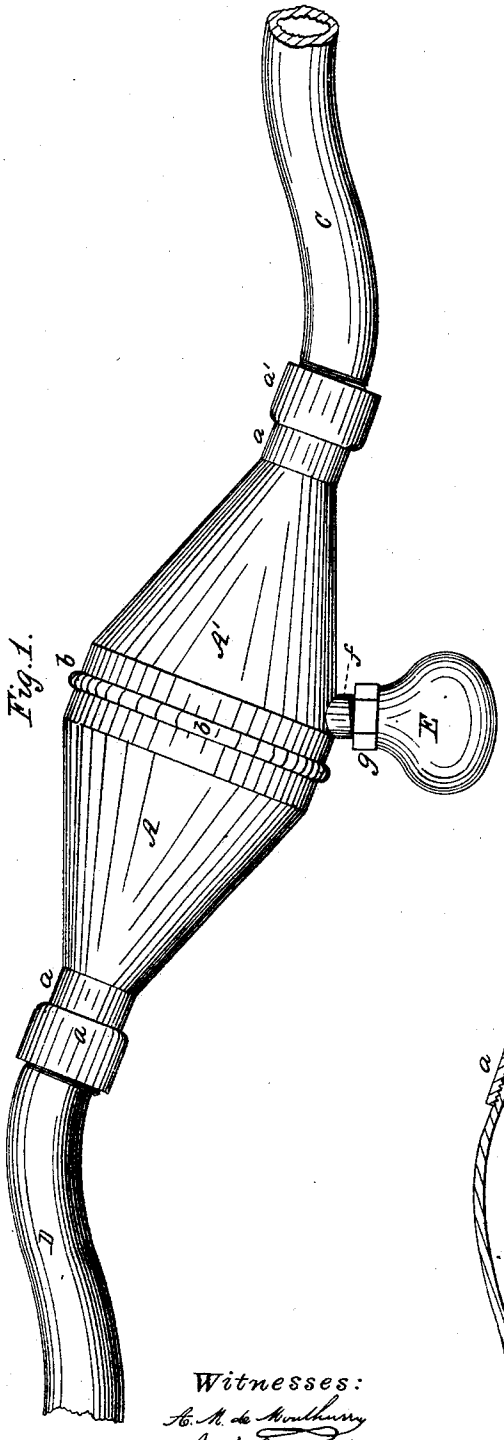
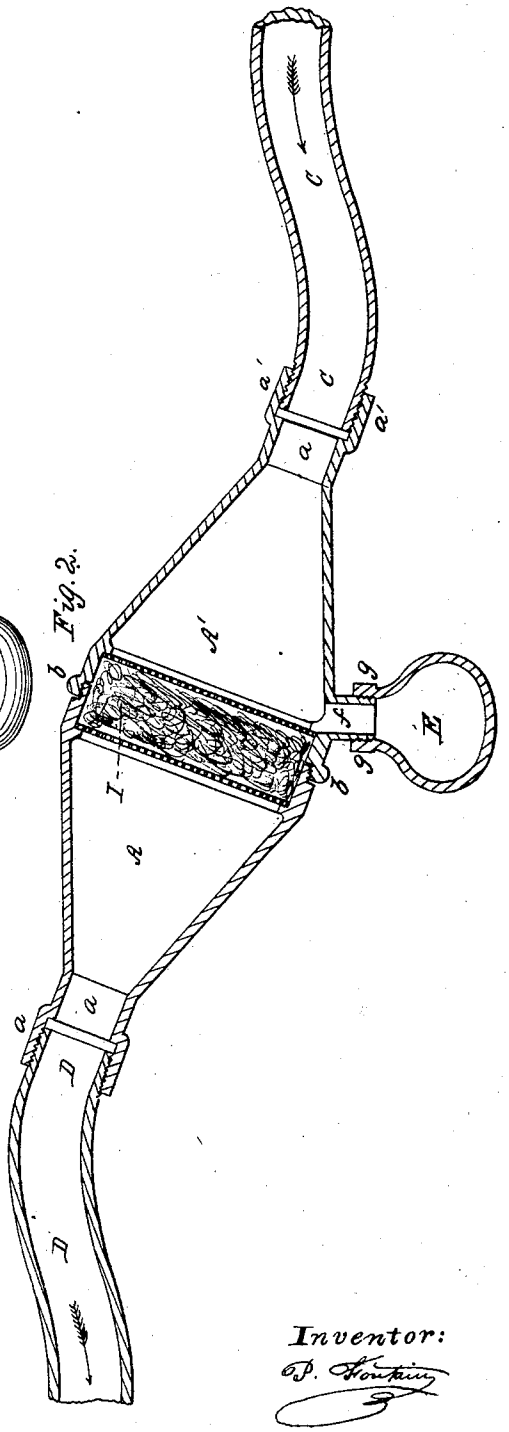


Fig. 2.



Witnesses:

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N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

PETER FONTAIN, OF PHILADELPHIA, PENNSYLVANIA.

GAS-PURIFIER.

Specification of Letters Patent No. 24,551, dated June 28, 1859.

To all whom it may concern:

Be it known that I, PETER FONTAIN, of Philadelphia, county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Gas Regulators or Purifiers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention has for its object a regulation and cleansing of the stream of the gas as it flows from the meter (by means of an apparatus arranged in the pipe leading from the meter to the burners) in order that a steady current of pure gas may be supplied to the burners; and to this end my invention consists in constructing the regulator (through which the whole stream of gas has to pass when it leaves the meter) with a filter which detains all dirt which may pass through the meter and dissipates the current of gas over a large surface and through many minute channels and in arranging near the bottom, or lower side of the filter a reservoir in such manner as to catch and hold all the impure matter which is arrested by the filter, as will be hereinafter described.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

In the accompanying drawings forming part of this specification Figure 1, represents a side elevation of my improved gas regulator and purifier—and Fig. 2, represents a vertical longitudinal section through the center of the same. The arrows represent the direction in which the stream of gas would flow through the apparatus.

Similar letters denoting the same parts in the different views A, A′, represent two frustuminal shells, which are illustrated as being screwed together at their bases (being furnished with a knurled rim *b*, by which they may be easily separated or united) and which are formed into coupling joints at their apexes *a*, *a*, with a coupling flange *a′*, *a′*, into which are screwed the ends of the pipes C, and D the former of which (C) is supposed to connect with the meter and the latter D, to supply the burners; near the base of each frustum (A, A′,) is arranged within it and properly secured a perforated disk *i*, *i′*, in such manner that when the two frusta are united the two disks *i*, *i′*, shall be such distance apart as to admit of suitable strata or a mat, I, of hair, hay, or any other suitable material being confined between them.

The apparatus is so arranged (as will be seen by the drawing) with the pipes that while it connects at each end with one of them it has the line of the bottom of one of its sides horizontal (or nearly so) and to this side at its lowest point, and adjacent to the bottom of the filter is secured the receiver E, which is a simple bag or box of any form, as is screwed (by means of its nut *g*) onto a hollow teat, *f*, (furnished with a male thread) which projects downward from the apparatus.

The stream of gas as it flows from the meter along the pipe, C, enters the shell A′, and "filling into" a larger space is diffused over the perforated disk, or diaphragm, *i*, through which it passes and thence through the filter mat I and the other disk *i′* into the frustum A, in which it is condensed into a smaller space and flows out in a steady stream through the pipe D leading to the burners. As the stream of gas comes against the disk, *i*, and then into the mat I, the dirt contained in the gas is nearly, if not quite all arrested; that which does not get through the disk, *i*, falling down into the receiver E, and that which gets through, and partially into the mat I, working gradually down and also getting into the receiver E, which may be removed when deemed expedient and cleaned out.

It will be seen that by arranging between the meter and burners are apparatus such as hereinbefore described; the stream of gas will not only be checked in its unsteady current and changed into an even flow but will also be perfectly cleansed or purified.

I do not wish to limit my apparatus to

any particular form or size, or to the employment of any particular material between the disks *i*, *i'*, but having described the construction and operation of my improved regulator and purifier—

What I claim therein as new and desire to secure by Letters Patent is—

The receptacle or receiver E, in combination with the filtering and purifying apparatus arranged and operating substantially as described for the purpose set forth.

In testimony whereof I have hereunto set my hand this thirtieth day of April 1859.

P. FONTAIN.

Witnesses:
J. N. McIntire,
A. M. De Monthurr.