

H. Houston.

Nozzle Filter.

N^o 86.158.

Patented Jan. 26, 1869.

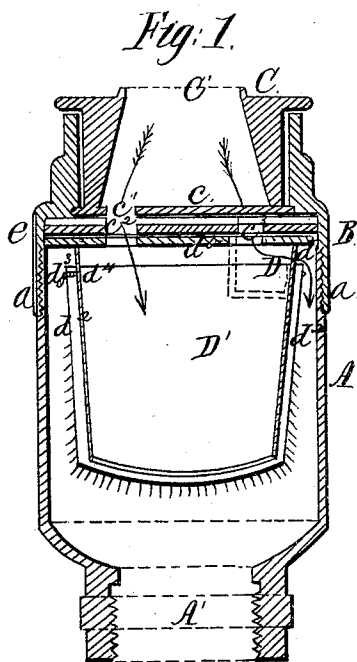


Fig. 1.

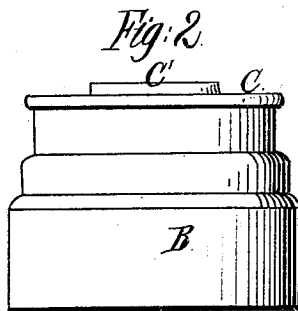


Fig. 2.

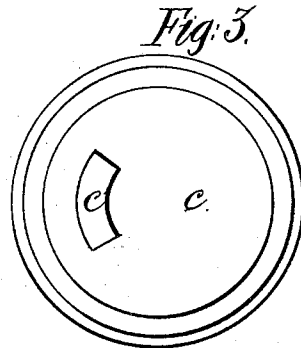


Fig. 3.

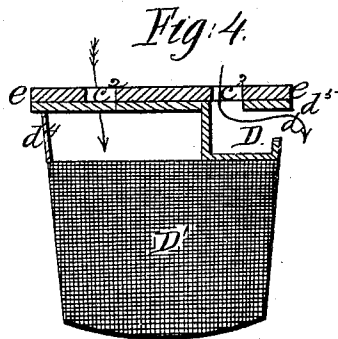


Fig. 4.

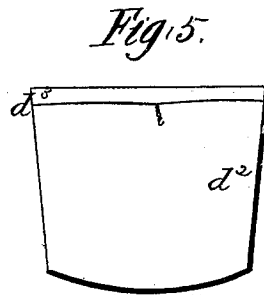


Fig. 5.

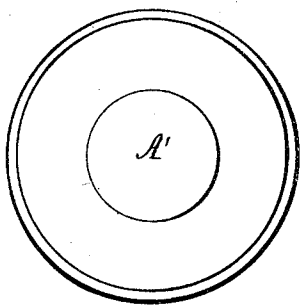


Fig. 6.

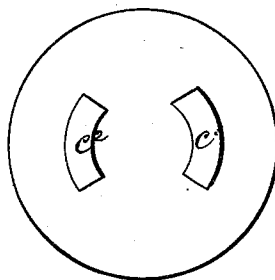


Fig. 7.

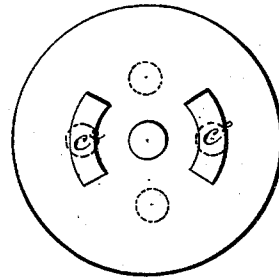


Fig. 8.

Witnesses:

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HUGH HOUSTON, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 86,158, dated January 26, 1869; antedated January 11, 1869.

IMPROVEMENT IN NOZZLE-FILTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HUGH HOUSTON, of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Filters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing; and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a vertical section of the filters.

Figure 2 is an elevation of the cap-piece.

Figure 3 is a plan view of the top valve.

Figure 4 is a section of the perforated cone.

Figure 5 is the felt or cloth covering of the cone.

Figure 6 is a down-looking view of the bottom part.

Figures 7 and 8 are different plans of the lower valves.

The nature of my invention consists in the peculiar arrangement of the several valves, and their openings in a filtering-nozzle, which can be screwed on to water-supply pipes, and in combining them with a conical felt or cloth-covered perforated chamber, for the purpose of filtering water, and in the peculiar construction of the cone, so that, by a mere turn of the valve, water can be filtered, or by reversing the motion, it will be discharged through a side opening without filtering, and the same method can be used, at any moment, to cleanse the filterer, the whole acting on the well-known principle of an ordinary register.

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

A is the outer casing or tube.

B is the cap, which screws on to the tube A, at *a a*.

C is the reversible tube, with its opening *C'*, having the bottom part *c* formed as a valve with the opening *c'*, and which, by a half turn in either direction, brings the opening over the openings below, or can be turned away from it, or by changing it half-way around will bring its opening *c'* immediately over the opening *c''*, which forces the water into the discharge-chamber D, and overflows by the sluice-way *d*, and so on down the tube A, outside the cone.

D is the discharge-chamber, in the upper part of the cone D', which latter is made of perforated metal or fine-meshed wire, which is to be covered with felting or cloth, and for convenience of removal, when necessary, this cover is to be fastened, at the top, with a small wire, as at *d''*, which can be twisted, and thus draw the felt tightly around the cone, where the wire cloth or perforated sheet is joined to the case *d'*.

Between the plate *c* and the middle plate *e* is a leather or India-rubber, or equivalent washer, *e'*, having holes corresponding with the openings in *e*, and the one, *c'*, in *c*.

In the cap-plate *d''* of the filter-cone D' are two openings, *c''* and *c'''*.

c'' lets the water pass into the middle of the cone, and thus, by pressure, it is forced through the perforations of the plate or the meshes of the wire cloth, and then through the felting or cloth cover; or if, when the channel above is turned, the opening *c'*, in the entrance-tube, is turned over the opening *c''*, the water will descend directly into the sluice-passage D, and through the outlet *d*, and so on, outside of the filterer D'.

In place of the segment-formed passages *c'* and *c''* and *c'''*, an arrangement of circular holes can be adapted, so as to match each other in a similar manner, either on the quarter or half turn, and still be within the scope of my invention.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent of the United States, is—

A filtering water-nozzle, adapted for the diversion of the current, by means of a register and lateral-escape passage, all substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HUGH HOUSTON.

Witnesses:

J. G. WELDON,
JNO. A. STRAIN.