

L. S. WEED.
Filter.

No. 218,351.

Patented Aug. 5, 1879.

Fig. 1.

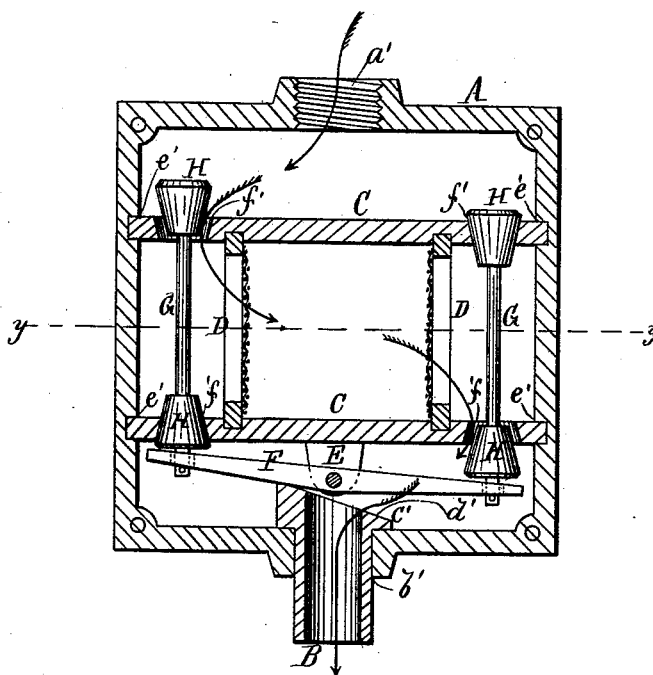
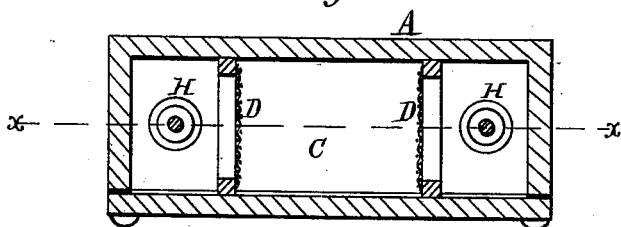


Fig. 2.



WITNESSES:

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IMPROVEMENT IN FILTERS.

Specification forming part of Letters Patent No. **218,351**, dated August 5, 1879; application filed July 1, 1879.

To all whom it may concern:

Be it known that I, LEVI S. WEED, of the city, county, and State of New York, have invented a new and Improved Filter, of which the following is a specification.

Figure 1 is a sectional elevation of the device on line *xx*, Fig. 2. Fig. 2 is a sectional elevation of the same on line *xx*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a cheap, simple, and effective device to be attached to the faucet of a water-pipe, or to the pipe above the faucet, for filtering water.

The invention consists of a rectangular box provided on one side with a female screw to secure it to the faucet or pipe, and opposite this, centrally on the other side, with an orifice, in which is fitted a flanged spout that may be revolved, and the inner end of which is beveled to serve as a cam with which to control the movement of the puppet-valves inside of the box, for the purpose of reversing at any time the current of water flowing through the filter; and it further consists of two laterally-removable shelves provided with holes, furnishing seats for the valves, between which are set in grooves, or against ledges on them, two removable sieves, which, together with the shelves, form a rectangular inclosure, for holding the material through which the water is filtered; and it consists, further, of a lug projecting downward from the lower shelf, in which is pivoted a beam, carrying on each end a valve-rod, that passes up through the holes in the shelves, and on each rod are fixed two conical valves, that fit into the said holes, and all of whose points are directed inward to the water-spaces on the outsides of the sieves.

In the drawings, A represents the box containing the filter, and provided with female screw *a'* and orifice *b'*, in the latter of which is placed the spout B, whose inner portion is enlarged, so as to form a shoulder, *c'*, and has a beveled face, *d'*. Proper packing placed between this shoulder and the box makes the joint water-tight. Within the box are the shelves C, set in side grooves, *e'*, and at a sufficient distance from the inlet and outlet sides

of the box to leave ample space for the working of the valves. Set in grooves on the inner faces of these shelves, or against ledges fixed to them, are the two wire-gauze or perforated partitions D; and in the space thus inclosed by the shelves and partitions is to be placed the filtering material, which may consist of charcoal, quartz fragments, fibrous material, or any other substance suitable for the intended purpose.

To the lug E, projecting downward from the center of the lower shelf, is pivoted the cross-beam F, to each end of which is pivoted a valve-rod, G, carrying two conical valves, H, of rubber or other suitable material. These rods pass up through the holes *f'* in the shelves, and through the spaces between the perforated partitions and the opposite sides of the box.

When the device is attached to a water-pipe or faucet, and the spout B is turned as shown in the drawings, Fig. 1, so that its face presses on the left arm of the beam F and opens the left-hand upper valve and the lower right-hand valve, the water will flow through the box and filter in the direction indicated by the arrows; and if the spout be turned in the opposite way these valves will close and the other two open, so that the current will flow in the opposite direction through the filter. Thus it will be seen that the filter can be cleaned and washed out by reversal of the current of water at each water-drawing, if necessary, and without removing the device from its primary position—an advantage that is possessed by no other filter with which I am acquainted.

In the drawings the device is represented for attachment to the faucet of a water-pipe; but it is obvious that by some simple arrangement of a cut-off cock it may be attached directly to the water-pipe.

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

1. The within-described device, consisting of rectangular box A, provided with female screw *a'*, orifice *b'*, spout B, provided with shoulder *c'* and beveled face *d'*, shelves C, provided with holes *f'*, perforated or wire-gauze partitions D, lug E, cross-beam F, valve-

rods G, and conical valves H, constructed and arranged substantially as herein shown and described.

2. A filter in and through which the flow and reversal of the current of liquid is controlled by valves within the device, substantially as herein shown and described.

3. In a filter, the valves controlled by a lever, substantially as and for the purpose described.

4. In a filter containing four valves, the valves operated diagonally by one and the same motion, substantially as herein shown and described.

5. In a filter, the lever connected with the valve-rods operated by a cam or a beveled spout inserted through the outlet-orifice, substantially as herein shown and described.

6. The combination of the spout B with lever or beam F, valve-rods G, and valves H, substantially as herein shown and described.

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Witnesses:

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