(No Model.)

J. H. BARNES.

Filter for Water Service Mains.

No. 238,330. Patented March 1, 1881.

Fig. 1.

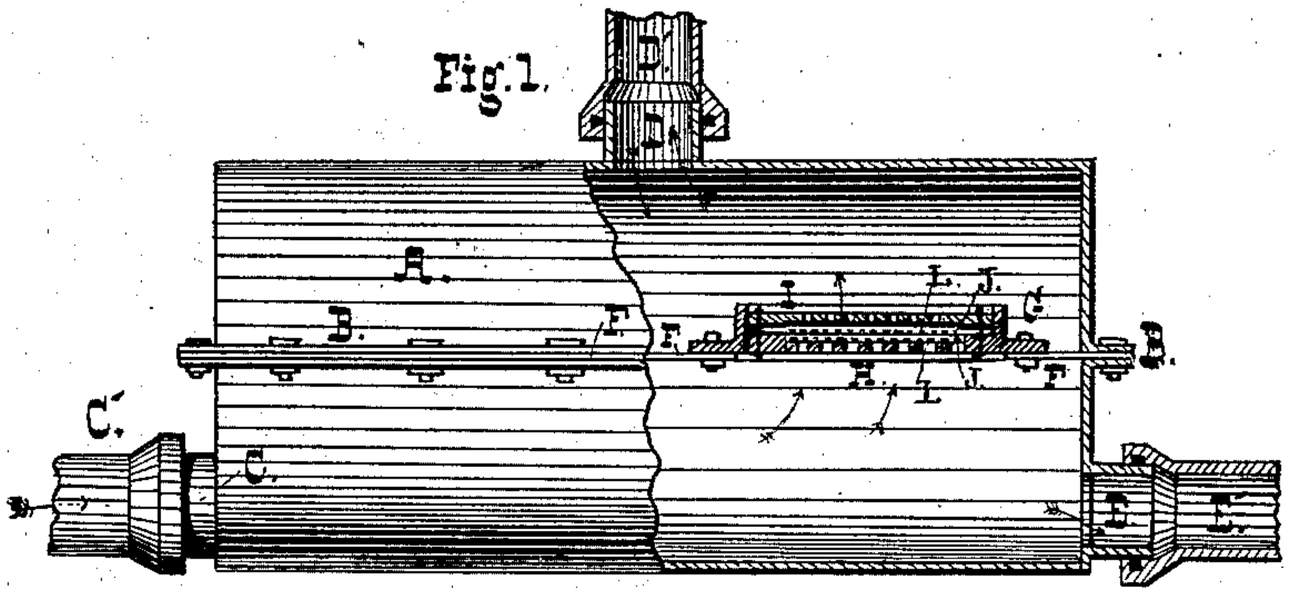


Fig. 2.

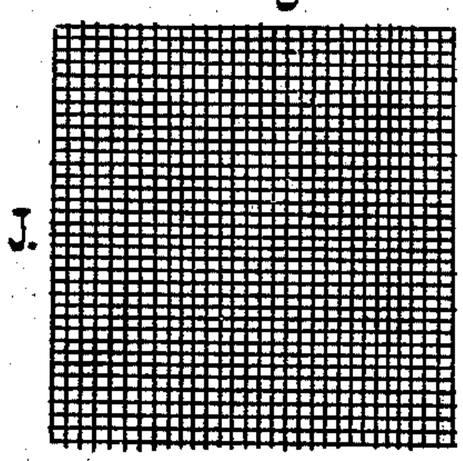


Fig. 3.

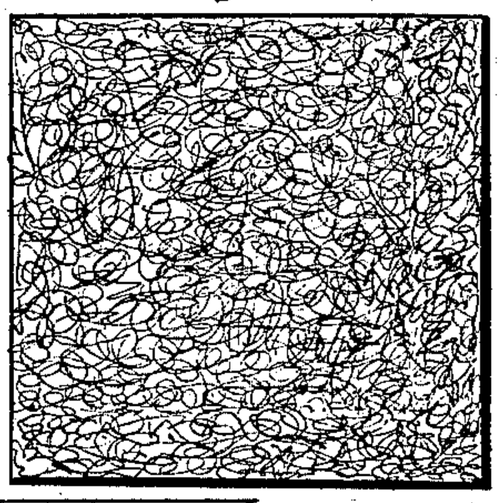
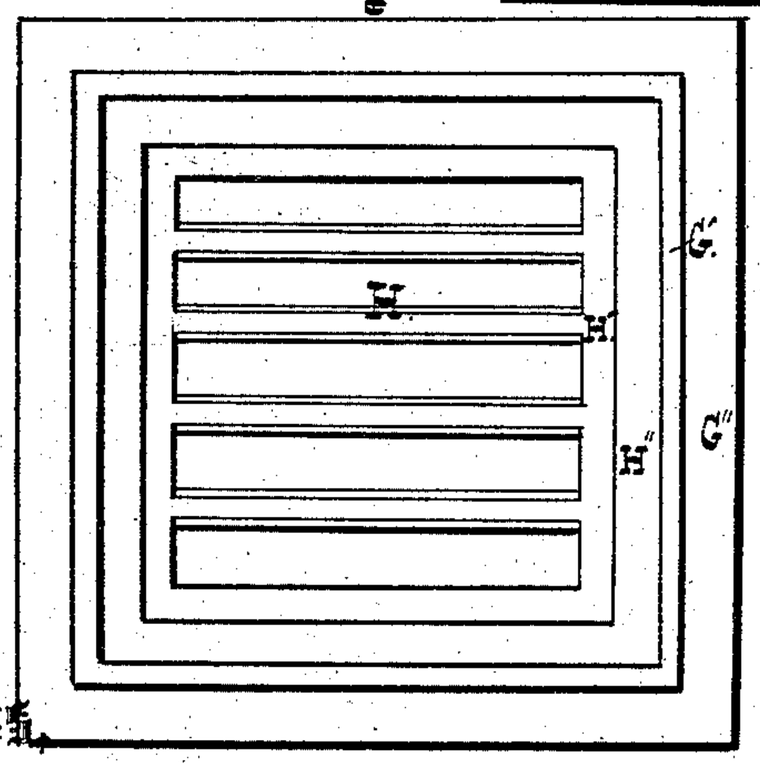


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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FILTER FOR WATER-SERVICE MAINS.

SPECIFICATION forming part of Letters Patent No. 238,330, dated March 1, 1881.

Application filed June 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BARNES, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Filters for Water-Service Mains; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of the device. Fig. 2 is a plan of the wire screen; Fig. 3, a similar view of the filter-mat; and Fig. 4 is a similar view of the filter-casing proper.

My invention has for its object to provide a convenient and efficient filter, adapted for attachment to the service water-mains of cities, and so constructed as to admit of its being readily cleaned as occasion requires.

In the accompanying drawings, A is a casing, cylindrical in cross-section, and consisting of two parts bolted together, as shown at B. It is provided with spigots C, D, and E, to which the inlet-main C′, the outlet-main D′, and discharge-main E′ are connected in the usual manner.

Between the flanges of the cylinder A is secured a plate, F, having a number of apertures over which the filter-casings are secured. These are shown in detail in Figs. 3, 4, and 2 of the drawings, and consist of chambers G, having circumferential flanges G″, through which bolts pass, securing them upon the plate or diaphragm F, and over the apertures therein. The chambers G are provided with vertical flanges G′, inside of which is a seat, H″, next to the flange. Within this is a second seat, H′, and a central grating, H, consisting of upwardly-beveled bars, as shown.

J J are gratings of wire-gauze, of a size to fit within the seat H″ and rest upon the seat H′, and L is a mat of felting, larger than the gratings J, and adapted to rest upon the seat H″.

I is the upper plate, having numerous perforations, as shown in Fig. 1, and provided with a seat corresponding with H′ in the filter-plate G.

In operation, a grating, J, is laid in place on the seat H′, and the felt mat L is placed thereon, its edges resting on the seat H″. A second grating, J, is then placed on the mat in proper position to register with the countersunk portion of the plate I, which is then placed over it and secured in position by means of bolts. The casings G are finally bolted to the plate F, as shown.

In operation, the water is led in at the main C′, and passes upward through the filters and out at the main D′, the outlet-pipe E′ being, of course, normally closed. When it is desired to cleanse the filters the pipe D′ is closed and the pipe E′ opened, when the rush of the water over the bottoms of the filters speedily removes any matter adhering thereto. To more thoroughly clean the filters the normal current is reversed by simply closing the main C′, and allowing the water to pass from the main D′ downward through them and out at the main E′.

Referring to certain details of construction, it may be stated that the edges of the mat L, being clamped tightly between the seat H″ and the plate I, serve as a washer and prevent the passage of the water except through the mat itself.

The bars of the grating H are beveled upwardly, so as to offer a contracted space below, in order to stop any coarse matter suspended in the water, while not materially diminishing the filtering-surface of the mat.

Any desired number of filters may be used, and they may be made of any desired size or shape.

The casing A may be made of any suitable material—metal or masonry—and is provided with a man-hole, through which access is gained to its interior for removing or cleaning the filters.

What I claim is—

1. In combination with the casing A, having spigots C D E and central diaphragm, the filter-casing G, having lower beveled bars, a wire-gauze partition, a felt mat, and an upper perforated plate, combined as set forth.

2. In combination with the casing G and plate I, provided with countersunk seats, as described, the gratings J and mat L, arranged substantially as set forth.

3. In combination with the gratings and mat, the casing G, having a series of upwardly-beveled bars, and the plate I, as set forth.

4. The casing G, having seats H″ H′ and flange G′, in combination with the gratings J and mat L, as set forth.

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