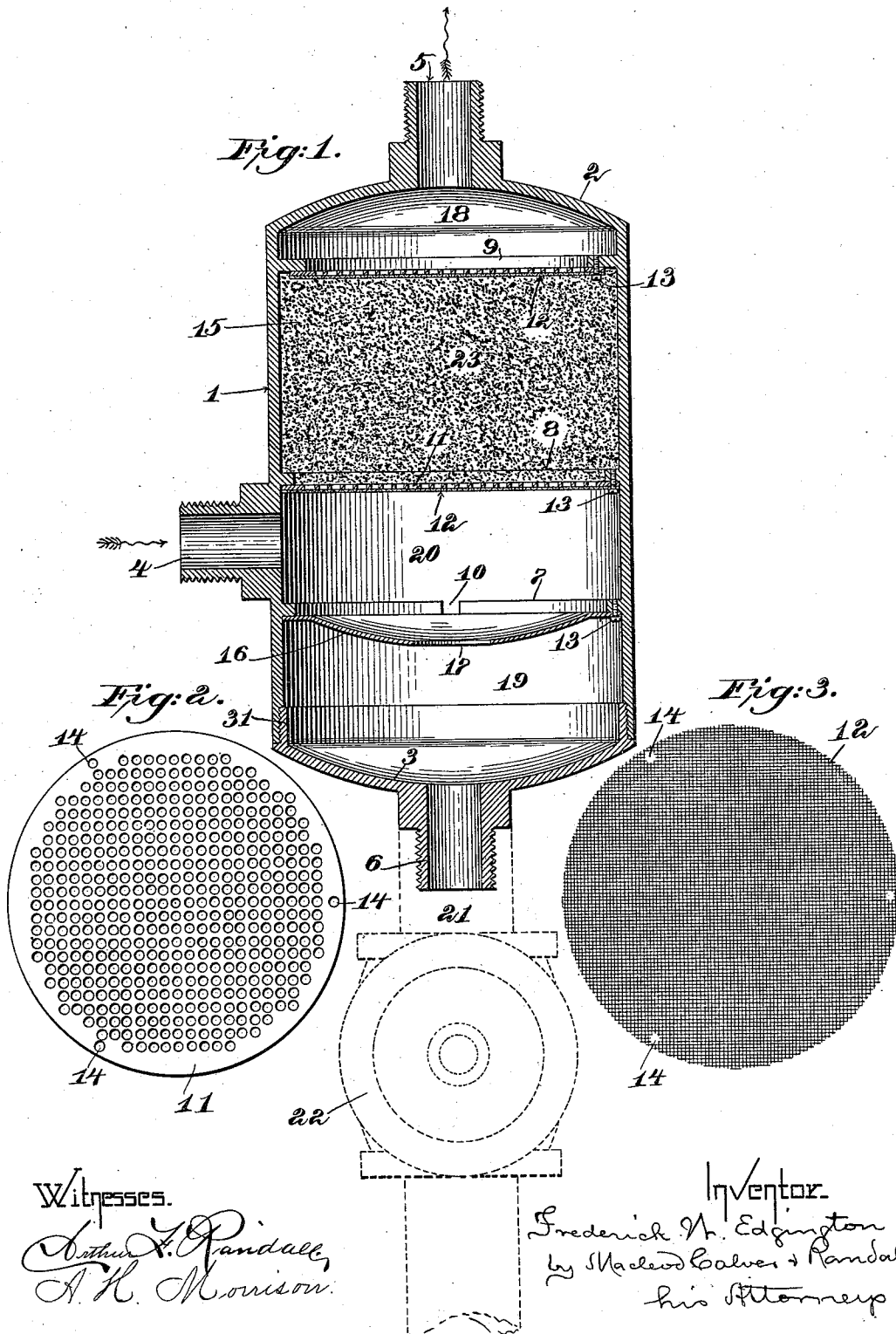


(No Model.)

F. W. EDGINGTON.
WATER FILTER.

No. 555,685.

Patented Mar. 3, 1896.



UNITED STATES PATENT OFFICE.

FREDERICK W. EDGINGTON, OF AMHERST, MASSACHUSETTS.

WATER-FILTER.

SPECIFICATION forming part of Letters Patent No. 555,685, dated March 3, 1896.

Application filed May 25, 1895. Serial No. 550,633. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. EDGINGTON, a citizen of Great Britain, residing at Amherst, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Water-Filters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide a water-filter of simple and compact character and inexpensive construction which shall be efficient in operation and shall be provided with means for collecting and retaining the sediment that is carried by the entering water, and which also shall be so constructed as to facilitate the removal of said sediment.

The invention consists in certain features of improved construction and in the novel combination and arrangement of parts, and first will be described with reference to the accompanying drawings, after which the characteristic features thereof will be particularly pointed out and distinctly defined in the claim at the close of this specification.

Figure 1 of the drawings shows in vertical section a water-filter embodying my invention in the best form thereof which I have yet devised. Fig. 2 is a plan of one of the perforated disks which I employ as backings for the wire-gauze disks. Fig. 3 is a view of one of the wire-gauze disks.

At 1 is shown the casing or shell of the filter. This preferably is cylindrical in its general form, and has at the upper end thereof, as shown in Fig. 1, a head 2 which is integral therewith. At 3 is the lower head, it being provided with a screw-threaded flange 31, which fits within the correspondingly screw-threaded lower end of the casing or shell 1. At 4 is a tube, formed with the body or shell 1, and communicating through its passage with the interior of the body or shell slightly below mid-length of the latter. This tube is screw-threaded exteriorly for the application of a union or coupling by means of which to connect it with the pipe through which the water comes. At 5 is a similar tube, formed integral with the fixed head 2, and communicating through its passage with the interior of the body or shell at the upper end thereof, the said tube 5 being screw-threaded exte-

riorly to facilitate the application of a union or coupling by means of which to connect with it the pipe which leads to the point at which the water is used. The filter herein shown and described is designed especially for application to the pipes which supply a dwelling-house with water, and preferably will be applied at the point where the pipes connecting with the main enter the house and join the pipe within the latter. The tube 4 constitutes the inlet for the filter, and is to be joined with the service-pipe leading from the main. The tube 5 constitutes the outlet for the filter, and is to be joined with the pipe which leads the water to the desired points in the house. The removable head 3, likewise, is provided with a tube 6, similarly screw-threaded exteriorly, for connection with a drain-pipe. Interiorly the body or shell is provided with three flanges 7, 8, and 9, which are formed integral with the inner surface of the said body or shell. The lowest of these rims or flanges, which is designated by the numeral 7, is below the point at which the tube 4 communicates with the interior of the body or shell. The rim or flange 8 is located above the said tube 4, and the rim or flange 9 is located near the upper end of the body or shell 1 at a slight distance below the head 2. The lowest rim or flange, 7, is notched vertically, as at 10, and the top rim or flange, 9, is somewhat wider than the other two—that is to say, it projects farther toward the center of the body or shell than the said other two.

To the under side of each of the rims or flanges 8 and 9 is applied a perforated metal disk 11, one of which is shown separately in Fig. 2, and beneath each of the said disks 11 is applied a disk of wire-cloth 12, one of which is shown separately in Fig. 3. The perforated disk 11 and wire-cloth disk 12 are secured to their rim or flange 8 or 9 by screws 13, which pass through holes 14, formed in the said disks adjacent to the edges thereof, the heads of the screws being below the disks, while their threaded stems enter threaded holes that are provided therefor in the rims or flanges. The reason for making the top rim or flange 9 wider than the lower two is to enable the disks 11 and 12, which are applied to the said top rim or flange, to be made sufficiently small in diameter to be passed up-

wardly by the two lower rims or flanges, 7 and 8, and yet extend completely across the opening within the said rim or flange 9. The lower disks, 11 and 12, are of a size to fit
5 against the lower surrace of the rim or flange 8, and in order to provide for the passage of the said disks by the lowest rim or flange, 7, I provide in the latter the notch or notches 10 already referred to. The space 23 between
10 the two sets of disks 11 and 12 is filled with suitable filtering material (indicated at 15) and constitutes a filtering-chamber.

To the underside of the lowest rim or flange, 7, I attach by screws 13 a diaphragm 16, having a central hole or passage 17 therethrough,
15 the said diaphragm 16 preferably being dishd or concaved somewhat, as indicated in Fig. 1, and being arranged with the concavity uppermost. The space 18 above the upper
20 disks, 11 and 12—that is to say, between the said disks and the fixed head 2—constitutes an accumulating-chamber to provide for containing a supply of water sufficient to insure a continuous flow out through the outlet 5.
25 The space 19 below the diaphragm 16 is a sediment-chamber, into which sediment deposited by the water which enters the central space 20 between the diaphragm 16 and the lower disks, 11 and 12, passes through the central opening 17 in the diaphragm 16. The
30 downwardly-sloping upper sides of the diaphragm facilitate the passage of the said sediment to and through the opening 17. The inner surface of the fixed head 2 is rounded
35 and its walls gradually converge to the outlet 5 to facilitate the movement of the water from the accumulating-chamber 18 through the said outlet. The diaphragm 16 prevents disturbance of the contents of the sediment-

chamber 19 by the water flowing in through 40 the inlet 4. I have indicated in dotted lines in Fig. 1 a pipe 21, screwed onto the exterior of the tube 6 of the lower head, 3, and provided with a stop-cock, the handle of which latter is intended to be represented at 22. 45 When it is desired to clear or flush out the sediment from the filter, this handle 22 may be moved to open the stop-cock, whereupon the flow of water downwardly through the opening 17, in the diaphragm 16, into the cham- 50 ber 19, and through the outlet 6 will effectually remove such sediment as may be contained in the chamber. Normally the stop-cock is intended to be closed.

What I claim is—

The water-filter consisting of the body or shell 1, the fixed head 2, the removable head 3, the inlet 4 in the side of the body or shell, and the outlets 5 and 6 in the respective heads, the rims or flanges 7, 8 and 9, on the 60 interior of the said body or shell, the bottom one of said rims or flanges being notched as at 10 and the top one being wider than the other two, the perforated disks 11 and wire-cloth disks 12 secured to the two upper rims 65 or flanges and having the filtering-chamber between them, the diaphragm 16 with its opening secured to the bottom rim or flange, the sediment-chamber below the said diaphragm, and the accumulating - chamber 70 above the top pair of disks, all substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK W. EDGINGTON.

Witnesses:

WM. A. MACLEOD,
CHAS. F. RANDALL.

