

W. WICKERSHAM.  
FILTER.

No. 15,363.

Patented July 15, 1856.

Fig. 1

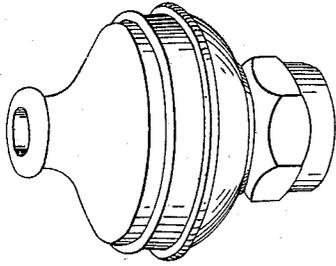
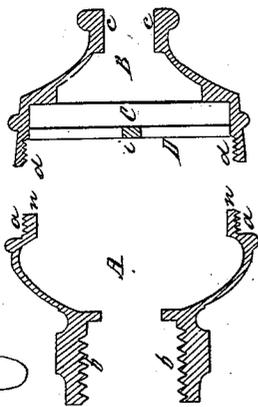


Fig. 2



Witnesses.  
Chas. M. Lovell  
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Fig. 3

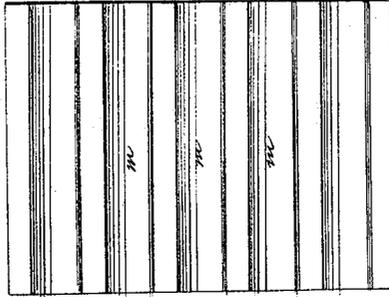


Fig. 5

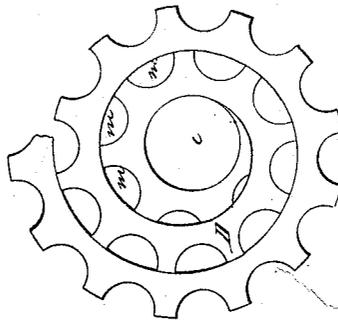
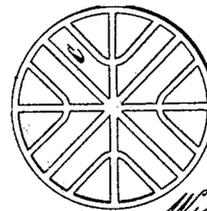
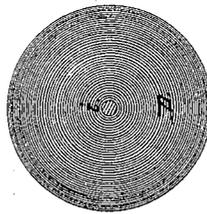


Fig. 4



Fig. 6



Inventor  
William Wickersham

# UNITED STATES PATENT OFFICE.

WILLIAM WICKERSHAM, OF BOSTON, MASSACHUSETTS.

## FILTERING MEDIUM.

Specification of Letters Patent No. 15,363, dated July 15, 1856.

To all whom it may concern:

Be it known that I, WILLIAM WICKERSHAM, of Boston, in the county of Suffolk, in the State of Massachusetts, have invented  
5 a new and useful Water-Filter; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, making a part of this specification, and to the letters  
10 and figures of reference marked thereon, the same letters designating the same part in different figures, in which—

Figure 1 is a perspective view of said water-filter. Fig. 2 is a longitudinal section of the same showing each part. Fig. 3  
15 is a support to the disk through which the filtering is performed. Fig. 4 is the filtering disk through which water and other fluids are passed to separate them from impurities. Fig. 5 shows a part of the filtering  
20 disk on an enlarged scale, exhibiting the apertures through said disk formed by the milling or engraving of one side of the thin strip of metal of which it is made. Fig. 6  
25 is an enlarged view of the milled side of the metallic strip before it is coiled into a disk, while Fig. 5 shows the edge of the same after the coil is commenced.

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

A, Fig. 2 represents a section of the upper part (B,) and also a screw (*b b*) in the upper part to attach it to a faucet.

35 B is the lower part showing the aperture (*c c*) through which the water passes out after being filtered, also the screw (*d d*) to attach it to the upper part.

C is a section of the support of the filter  
40 disk, the top view of which is seen in Fig. 3.

D is the filter disk, which I usually construct in the following manner: I take wire of any suitable metal, roll it to the requisite width and thickness, usually one tenth  
45 (1/10) of an inch wide, and about one one hundred and twentieth (1/120) of an inch in thickness. After annealing the strips of metal thus prepared, I run them between two rolls, one of which is finely milled or  
50 engraved in such a manner as to press into one side of said strips, small transverse grooves (*m m m* Figs. 5 and 6) extending from one edge to the other. These trans-

verse grooves (*m m m*) in said strips of metal when coiled into a disk (D) form apertures for the water to pass through the  
55 said disk as will be seen by inspecting a portion of the disk at Fig. 5 and the formation of the grooves on an enlarged scale at Fig. 6. If the metal when thus prepared for said  
60 disk is of a corrodible nature, it is coated over with silver or other metal not liable to corrosion to prevent corrosion while in use; then it is closely wound into a spiral disk of the requisite size and the end of the strips  
65 fastened by soldering or otherwise. Four, or such number of holes as may be deemed necessary, are drilled from the edge to the center or nearly so of said disk, and wires driven into said holes and fastened by screw  
70 or otherwise to prevent any part from slipping out of its place by falling or other rough usage, as seen in section at D' Fig. 4. When all parts are finished, the support (C) and filter disk (D) are placed into the lower  
75 part (B) as shown in the section Fig. 2. The upper part (A) is screwed into the lower in such a manner that the lower extremity (*n n*) comes close onto the disk, when it is ready for use. 80

The apertures (*m m m*) are of uniform size from one side of the disk to the other, and on that account animalculæ or sediment which will not pass entirely through will  
85 rest on the upper side of the disk and can be readily removed by turning the disk the other side up and allowing the water to run through the other way giving it an important advantage, as in all other filters which  
90 I have seen, such objects are liable to become entangled below the surface of the filter so that they cannot be removed. The apertures (*m m m*) may be made of any degree of fineness, for any purpose simply by engraving the milling rolls sufficiently fine. 95

What I claim as my invention and desire to secure by Letters Patent, is—

1. The use of a disk in water filters, formed of flattened wire or narrow strips of metal grooved transversely by either milling  
100 or engraving in such a manner that when said strips are formed or wound into a disk said grooves will form apertures for the water or other fluids to pass through said disk in the process of filtering as herein described. 105

2. The method of making the filter disk less liable to injury and more firm by inserting pins from the edge to or nearly to the center through the different layers of metallic strips of which it is made to hold them in their places; this method of fastening the disk together I claim only in combination

with the spiral filter-disk all substantially as herein described.

WILLIAM WICKERSHAM.

Witnesses to signature:

CHAS. W. SWETT,  
A. L. FERNALD.