

(No Model.)

2 Sheets—Sheet 1.

W. R. HANKS.  
WATER FILTER.

No. 503,597.

Patented Aug. 22, 1893.

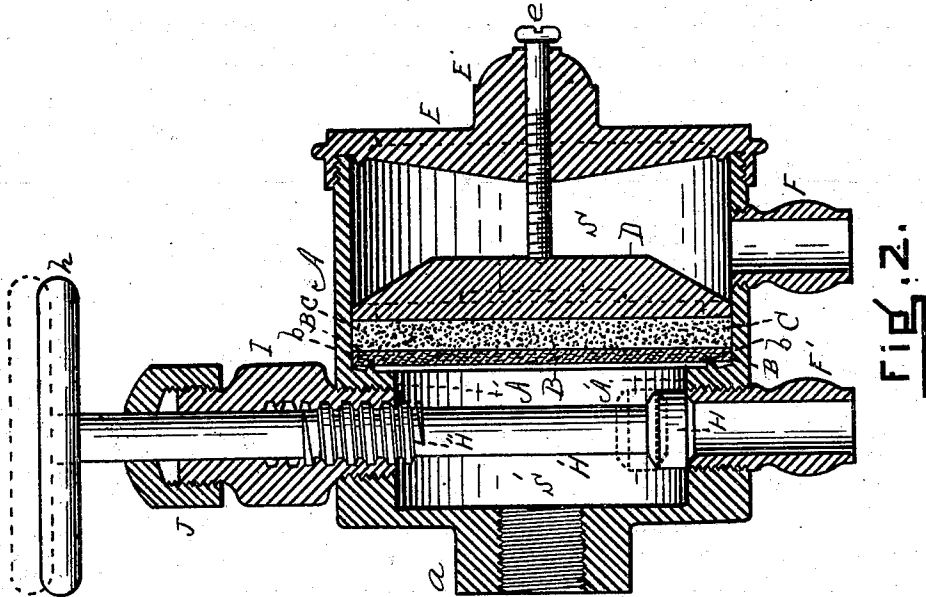


FIG. 2.

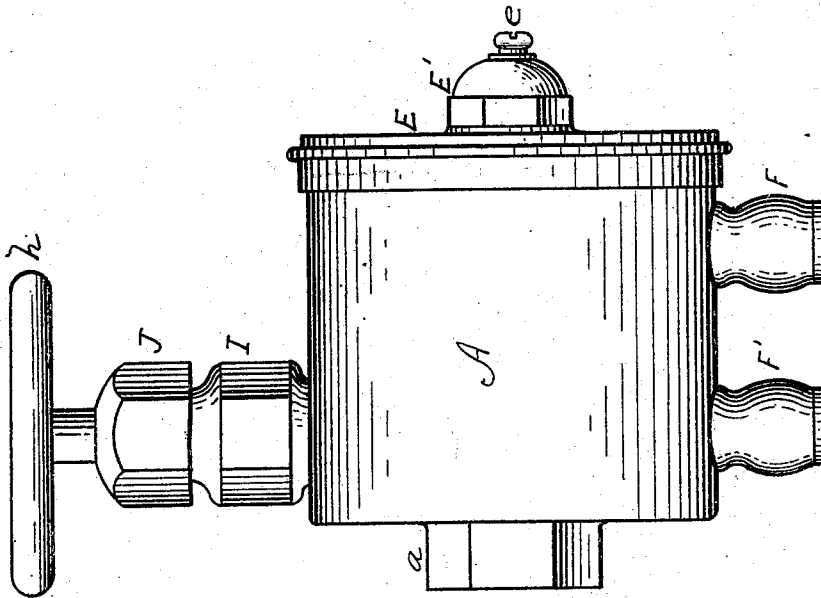


FIG. 1.

WITNESSES

J. M. Hartnett

B. M. Williams

INVENTOR

William R. Hanks

By his Atty

Sperry Williams

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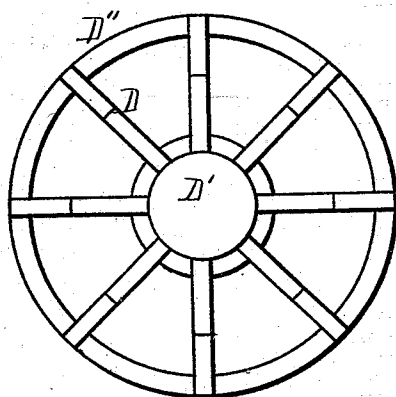


Fig. 3.

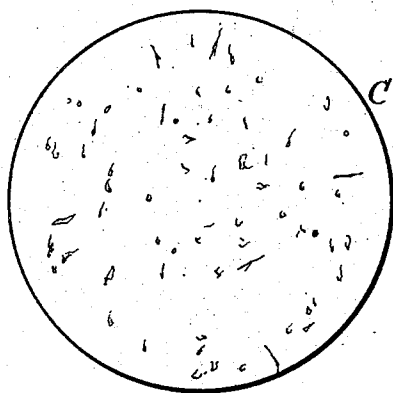


Fig. 4.

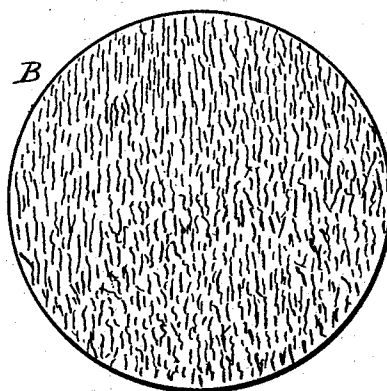


Fig. 5.

WITNESSES

*J. M. Hartnett*  
*B. W. Williams*

INVENTOR

*William R. Hanks*  
By his Atty.  
*Sherry Williams*

# UNITED STATES PATENT OFFICE.

WILLIAM R. HANKS, OF WELLESLEY, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOSEPH E. SELFE, OF SAME PLACE.

## WATER-FILTER.

SPECIFICATION forming part of Letters Patent No. 503,597, dated August 22, 1893.

Application filed April 10, 1893. Serial No. 469,644. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. HANKS, a citizen of the United States, residing at Wellesley, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Water-Filters, of which the following is a specification.

This invention relates to that class of water-filters which are intended to be secured to a faucet and it is so constructed that the water may be passed through the apparatus and be filtered or not during its passage as desired.

The invention consists in the novel construction and arrangement of parts hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved filter. Fig. 2 is a vertical section of the same. Fig. 3 is a face elevation of the "spider" or frame, below described, removed. Fig. 4 is an elevation of the porous disk made of plaster-of-paris, removed. Fig. 5 is an elevation of the felt disk, removed.

Similar letters of reference indicate corresponding parts.

A represents a cylindrical case provided with the internally screw-threaded inlet-tube *a*, made preferably hexagonal in shape, whereby it is adapted to be screwed onto the faucet. The rear portion of this case is made somewhat thicker than the front portion so that an annular shoulder *A'* is formed, as shown in Fig. 2. The face of this shoulder is formed up into an annular bead or ring *b*.

B is a disk of felt or analogous textile substance which rests against the annular bead *b*, said bead pressing into the soft surface of the felt so as to prevent any passage in that direction, save through the felt disk.

C is a disk made of plaster-of-paris or other analogous porous substance, such as concrete, and certain varieties of stone.

The disk C is placed next to the disk B as shown, and both these disks fit into the front or larger chamber S and separate it from the rear or smaller chamber S'.

D is a "spider" made of substantially the shape shown in Fig. 3, and consisting of a

solid central portion D', radial spokes D and ring D''. The diameter of this spider is substantially the same as that of the disks B and C.

E is the cap which is screwed onto the front edge of the cylindrical case A, and forms the front wall of the chamber S. This cap has a central projection E' which is horizontally perforated and threaded to receive the screw *e*, and is preferably made hexagonal in shape for convenience in screwing the cap on the case. After the cap E has been screwed upon the case A, the screw *e* is set against the central portion of the spider D, which forces the plaster-of-paris disk C against the felt disk B, and the felt disk against the bead or rib *b*. Thus the screw effectually closes any passage from the chamber S' into the chamber S, save through the disks and the spaces between the spokes in the spider. The two chambers S and S' are provided respectively with outlet tubes F and F'.

H is a valve whose stem H' is threaded at H'' and is thus adapted to be raised and lowered in the plug I, which is internally threaded for the purpose, and externally threaded so as to screw into the upper wall of the rear portion of the case. This stem H' is provided with a hand-wheel *h* and a stuffing-box J, both said stuffing-box J and plug I being made hexagonal in shape for obvious reasons.

In Fig. 2 the valve H is shown in full lines as seated upon the upper end of the outlet F' and in broken lines as raised from its seat. When the valve is raised, the water passing into the chamber S' through the inlet *a*, passes out unfiltered through the pipe F'. When the valve is on its seat, as shown in full lines in Fig. 2, the water is forced through the chamber S' into and through the felt disk B and plaster-of-paris disk C, thence through the spaces between the radial spokes D of the spider into the chamber S and out through the pipe F. All the impurities, foreign substances, living organisms, &c., are driven, and left, against the rear face of the felt disk B. It is hence an easy matter, by simply lifting the valve H, to wash all these impurities out

through the pipe F', and by lowering it back onto its seat, to cause the apparatus to again act as a filter.

To cleanse the apparatus or replace either of the disks, it is simply necessary to loosen the screw *e* and remove the cap E and spider D.

It is obvious that the valve may be kept raised, if desired, when the water is not to be used for drinking purposes.

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

1. The herein described improved water-filter comprising the case A provided with the internal annular shoulder A', a disk or wall composed of filtering material resting against said shoulder, the spider consisting essentially of the central portion D', spokes D and rim D'', the cap E, screw *e* extending through said cap horizontally, and setting against said spider, outlet pipes F' F located on opposite sides of the filtering substance,

and a valve H whose stem is screwed into the casing whereby the valve is adapted to be raised and lowered, substantially as described. 25

2. In a water-filter, in combination, the case A provided with the annular shoulder A' the surface of which is formed into the annular bead *b*, inlet pipe *a* and outlet pipes F F', the disk B of felt or analogous material resting against said shoulder, the disk C of plaster-of-paris or analogous material resting against said disk B, the spider D D' D'' pressing against said disk C, the cap E provided with the screw *e* setting against said spider, and the valve H, seated on the outlet pipe F' and provided with a valve-stem whereby it is adapted to be raised and lowered, substantially as set forth. 30 35

WILLIAM R. HANKS.

Witnesses:

HENRY W. WILLIAMS,  
J. M. HARTNETT.