(No Model.)

L. B. HOIT.

FILTER.

No. 534,067. Patented Feb. 12, 1895.

Fig. 1.

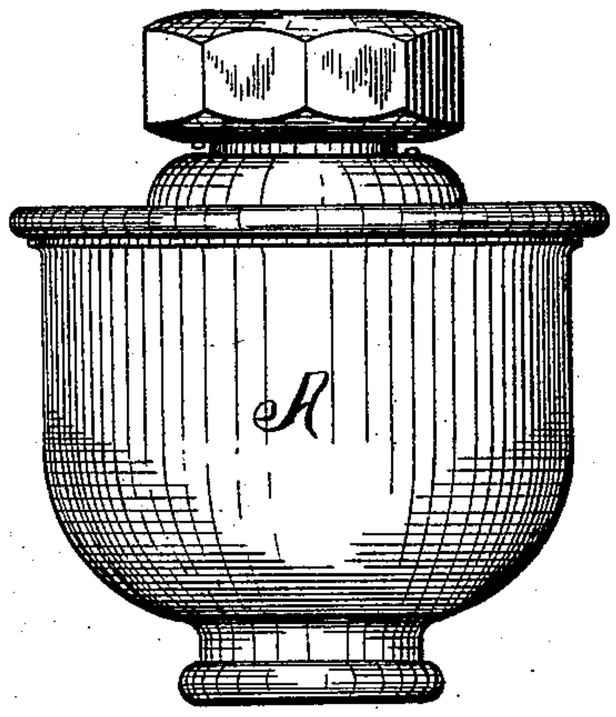


Fig. 2.

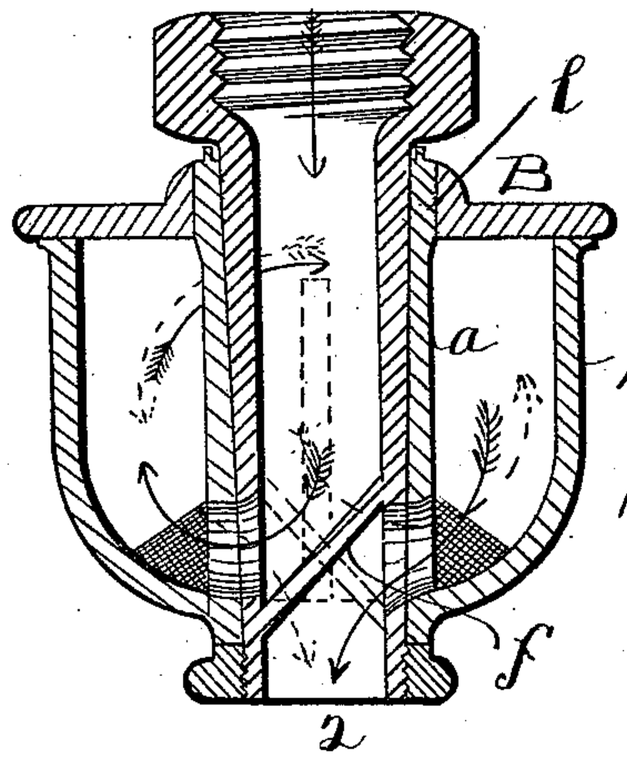


Fig. 3.

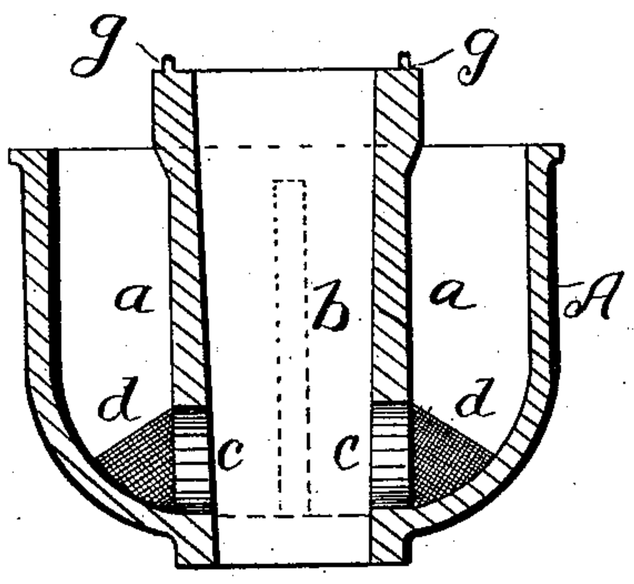


Fig. 5.

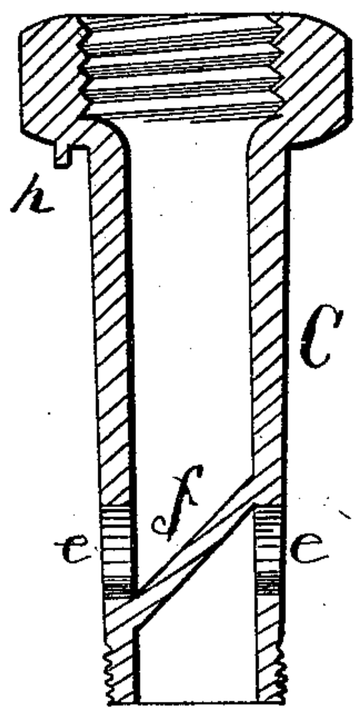


Fig. 4.

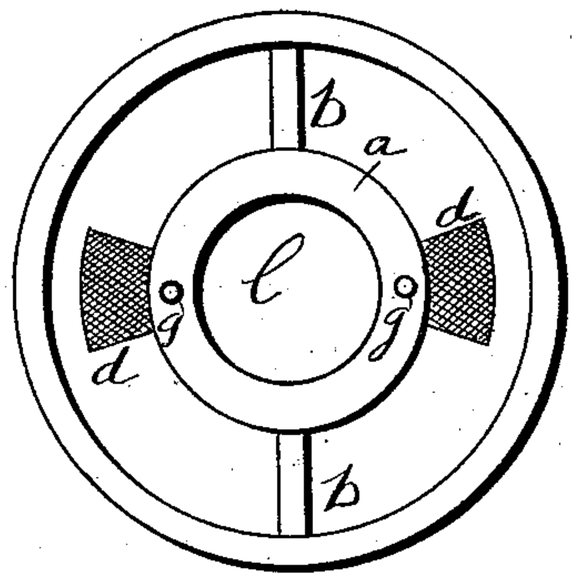
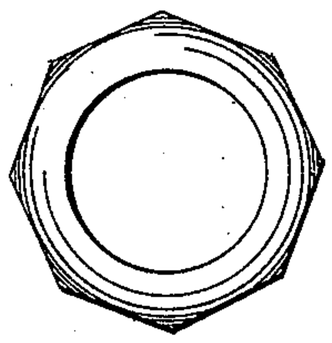


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEHMAN B. HOIT, OF GLENS FALLS, NEW YORK.

FILTER.

SPECIFICATION forming part of Letters Patent No. 534,067, dated February 12, 1895.

Application filed March 15, 1894. Serial No. 503,671. (No model.)

To all whom it may concern:

Be it known that I, LEHMAN B. HOIT, of Glens Falls, in the county of Warren, in the State of New York, have invented new and useful Improvements in Filters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to filters.

My object is to produce a self-cleansing filter, adapted to be easily and conveniently operated, so arranged that it may be secured to any hydrant or water pipe, cheap and durable in its construction, positive and effective in its operation, and of great utility; and to that end my invention consists in the several new and novel features of construction and combination of parts hereinafter described and specifically set forth in the claim hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1, is a side elevation of the filter, complete, detached. Fig. 2, is a vertical section thereof through the center. Fig. 3, is a vertical section of the body, the cap or top and plug being removed. Fig. 4, is a top plan view thereof. Fig. 5, is a vertical section of the hollow cylindrical plug. Fig. 6, is a top plan view thereof.

Similar letters and numerals of reference indicate corresponding parts.

—A— is the body, preferably cylindrical in form, diminished in size approaching its bottom, and is provided with a top or cap —B— having a central opening —1— and a threaded exit port at its lower end —2—, said body also having a cylindrical central core —*a*— extending above the top of the body, and partitions —*b*— extending to a point near the top of the body, as shown. The core —*a*— is also provided with lateral openings —*c*— at its base, and substantially opposite each other; and —*d*— is a screen composed of wire, gauze, or similar porous material, inclosing the exterior mouth of the opening —*c*— with the base, and inside of the body as shown in Figs. 2 and 3 of the drawings.

—C— is a hollow, cylindrical plug, threaded internally at its upper end by which it may be secured to the hydrant or water faucet, and externally at its lower end, and adapted to engage with the thread upon the nut for holding the plug in place within the body. The plug —C— is also provided with lateral ports —*e*— near its lower end and substantially opposite each other and in line with the openings —*c*— in the core, when the plug is in position.

—*f*— is a partition extending diagonally across the lower portion of the plug separating the ports —*e*—.

—*g*— are lugs upon the top of the core —*a*—, and —*h*— is a lug extending from the lower side of the annular rim of the top of the plug for the purposes of limiting the rotation of the plug to a one-half turn when said plug is screwed down into the body sufficiently to allow it to come in contact with the lugs —*g*—, its object being to keep the ports —*e*— always in line and concentric with the openings —*c*— so that the water may pass through the adjacent port and opening at the same time.

The filter is operated as follows, assuming the parts in the position shown in Fig. 2: The water first passes down through the plug —C— until it strikes the diagonal partition —*f*—, whence it passes through the port —*e*—, the opening —*c*— and up through the gauze pocket or partition —*d*—, thence up through the interior of the body and over the top of the short partitions —*b*— around the plug to the opposite side of the body, thence down through the opposite gauze pocket —*d*— out through the opening —*c*— through the port —*e*— in the plug, and thence out through the exit port —2—. It will thus be observed that the water having passed upwardly through one gauze pocket or screen and its upward movement being continued until it reaches the top, or so as to be enabled to pass over the partition —*b*— whereby the remaining sediment is allowed to drop down or settle in the base of the body, thence down through the opposite pocket, that the water will be clarified.

To cleanse the filter I simply reverse the body, that is, turn it one-half the way around, so as to change openings with the ports: that is, so as to have the partition —*f*— take the position shown in dotted lines in Fig. 2, when the water will be forced in the reverse motion from that above outlined, and carry whatever sediment may have collected upon the current

side of the gauze, when the water was moving in the opposite direction, out through the exit port. It will be observed by this arrangement the filter is never disturbed.

It will be observed that by arranging the partitions as shown it permits the two outlets of the filter to be near each other and at the same time gives a longer travel or circulation of the water in a given height or length.

What I claim is—

A filter, comprising a body having inlet and outlet ports, and provided with a central core having openings at its lower end, a porous pocket inclosing said openings with the bottom of the body upon the inside, partitions in said body extending to a point adjacent to the top of the body, and a hollow plug having ports at its lower end and diagonal partition separating said ports, as set forth.

In witness whereof I have hereunto set my hand this 12th day of March, 1894.

LEHMAN B. HOIT.

In presence of—
LYMAN JENKINS,
HENRY V. MIDDLEWORTH.