No. 788,742. PATENTED MAY 2, 1905.

T. M. WESTON.

REVERSIBLE FILTER.

APPLICATION FILED APR. 14, 1904.

Fig. 1.

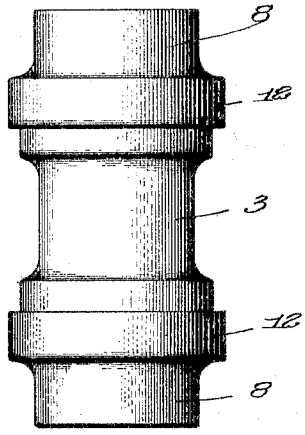


Fig. 2.

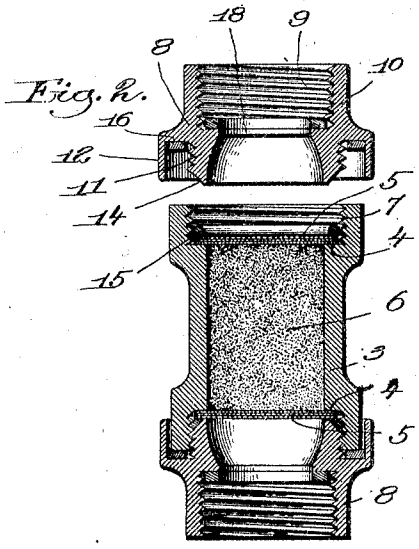


Fig. 3.

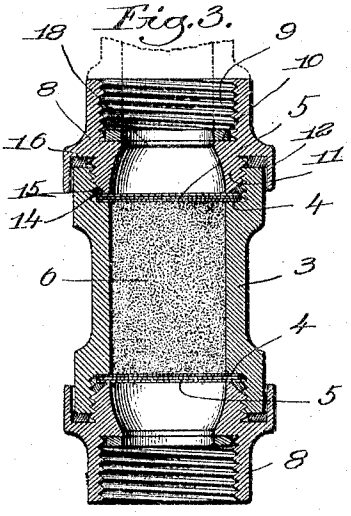
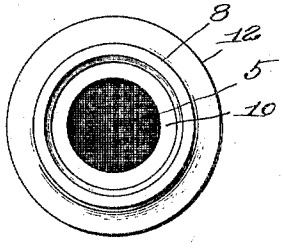


Fig. 4.



Witnesses:
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Inventor.
Thomas M. Weston,
by Crosby Gregory. Attys.

No. 788,742. Patented May 2, 1905.

UNITED STATES PATENT OFFICE.

THOMAS M. WESTON, OF MELROSE, MASSACHUSETTS.

REVERSIBLE FILTER.

SPECIFICATION forming part of Letters Patent No. 788,742, dated May 2, 1905.

Application filed April 14, 1904. Serial No. 203,101.

To all whom it may concern:

Be it known that I, THOMAS M. WESTON, a citizen of the United States, residing in Melrose, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Reversible Filters, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a reversible faucet-filter, and has for its object to provide a novel filter of this class which is easy to clean and repack, in which all joints between the parts are made absolutely water-tight, and in which there are no shoulders or annular recesses in which eddy-currents can form while the water is running, and which serve as chambers to catch dirt and other impurities. This latter I regard as perhaps the most important feature of my invention, because in a good many filters with which I am familiar such annular chambers do exist, and my experience in this line demonstrated that such chambers become filled or clogged with impurities which are gradually washed out when the filter is reversed, and thus are delivered in the water, which is supposed to be pure.

The features wherein my invention resides will be herein described and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of my improved filter. Fig. 2 is a sectional view of the same, one of the caps being detached. Fig. 3 shows a section through the filter as it is applied to the faucet, and Fig. 4 is a top plan view.

The filter comprises the body portion 3, having at each end a shoulder 4, on which rest sieves 5. I prefer to use a plurality of sieves of different degrees of fineness, though my invention is not limited to the use of any particular number or grade of sieves. Between the two sieves 5 and within the body 3 is filtering material 6, which may be of any suitable material or usual composition for cleansing and disinfecting water. The ends of the body portion 3 are screw-threaded interiorly, as at 7, and engaging said interior screw-threads at each end of the filter is a detachable cap or end piece 8. This end piece has a peculiar construction, it having the interior screw-threaded portion 9, which is screwed to the faucet, and the interior annular shoulder 10, on which the end of the faucet rests, and the depending exteriorly-screw-threaded portion 11, the screw-threads engaging the screw-threads 7 of the body portion 3. Said cap is also provided with an annular skirt or flange 12, which overlies and incloses the extreme end of the body portion.

The end of the flange portion 11 is beveled, as at 14, and said beveled portion is adapted to engage a gasket 15, of rubber or similar elastic material when the parts of the filter are assembled. I also prefer to use another gasket or washer, 16, in the recess or groove formed between the flanges 11 and 12, said gasket engaging the end of the body 3. When the parts are assembled, therefore, the joint between each cap 8 and body 3 is doubly packed, and thus an absolutely-tight water-joint is effected. The length of the flange 11 is such that when the parts are assembled its ends engage the adjacent sieves 5 and hold them in position, thus doing away with the spring or wire ring usually used in filters for this purpose and which causes an eddy that soon becomes filled with dirt that is free to drop out any time the filter is reversed.

Each cap has a peculiar interior shape—that is, the interior diameter at the base of the flange 11 is the same as the interior diameter of the filter-body 3, while the interior diameter of the most contracted portion or throat 18 is the same as the interior diameter of the faucet. The portion of the cap between the end of the flange 11 and the throat 18 is tapered or curved, as shown. This I regard as very important, because when the filter is assembled and applied to the faucet there are no annular chambers formed by abrupt shoulders or between such shoulders on the faucet side of the filtering material, in which dirt and other impurities can gather.

With my construction, therefore, as soon as the filter is reversed the first flushing of water absolutely cleans the interior of the cap at the lower end, and there is no danger that any impurities which have accumulated in such a

chamber will be gradually dislodged after the faucet is supposed to have been flushed out.

The improved faucet is extremely simple to manufacture and effective in operation.

While I have shown herein the preferred form of my invention, I do not wish to be limited to the exact construction shown, as various changes in the shape of the parts may be made without departing from the invention.

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

1. In a reversible faucet-filter, a hollow body portion having a central bore, said bore being enlarged at each end of the body portion thereby forming outwardly-facing shoulders, the enlarged portions of the bore being interiorly screw-threaded, sieves resting on said shoulders and filtering material between the sieves, a cap on each end of the body portion, each cap having an exteriorly-screw-threaded portion to engage the interiorly-screw-threaded portion of the body, and an encircling flange between which and the exteriorly-screw-threaded portion, the end of the body is received, said exteriorly-screw-threaded portion of the cap engaging the sieve and clamping the same between itself and the shoulder of the body portion, and also having a tapered end and a gasket engaging said tapered end, each cap having smooth interior walls and having a diameter at its inner end equal to the smaller diameter of the bore of the body.

2. In a reversible faucet-filter, a hollow body portion having a central bore, said bore being enlarged at each end of the body portion thereby forming outwardly-facing shoulders, the enlarged portions of the bore being interiorly screw-threaded, sieves resting on said shoulders, filtering material between the sieves, a cap on each end of the body portion, each cap having an exteriorly-screw-threaded portion to engage the interiorly-screw-threaded portion of the body, and an encircling flange between which and the exteriorly-screw-threaded portion, the end of the body is received, said exteriorly-screw-threaded portion of the cap having a beveled end, and a gasket engaged by said beveled end.

3. In a reversible faucet-filter, a tubular body portion, the bore of which is enlarged at each end to form outwardly-facing shoulders, said enlarged portions of the bore being interiorly screw-threaded, sieves resting on said shoulders, filtering material between the sieves at opposite ends of the body portion, and a cap on each end of the body portion, each cap having at one end an exteriorly-screw-threaded portion to engage the interiorly-screw-threaded portion of the body and at the other end being constructed to be secured to a faucet, the bore of each cap having smooth walls and being at its outer end of exactly the same diameter as the smaller diameter of the bore of the body portion.

4. A reversible faucet-filter comprising a body having at each end interior screw-threads terminating at an outwardly-facing shoulder, sieves on each of said shoulders, filtering material between the sieves, and a cap at each end of the faucet, each cap having its outer end formed for attachment to a faucet, and at its inner end having an exteriorly-threaded nose to engage the interior screw-threads of the body, and a flange concentric with the nose, said flange lying outside of the end of the body when the parts are assembled, a gasket between the end of the nose and the interior walls of the body, and another gasket between the nose and said flange of the cap and seating on the end of the body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS M. WESTON.

Witnesses:
A. A. WELCOME,
JOSEPH LOVALLY.