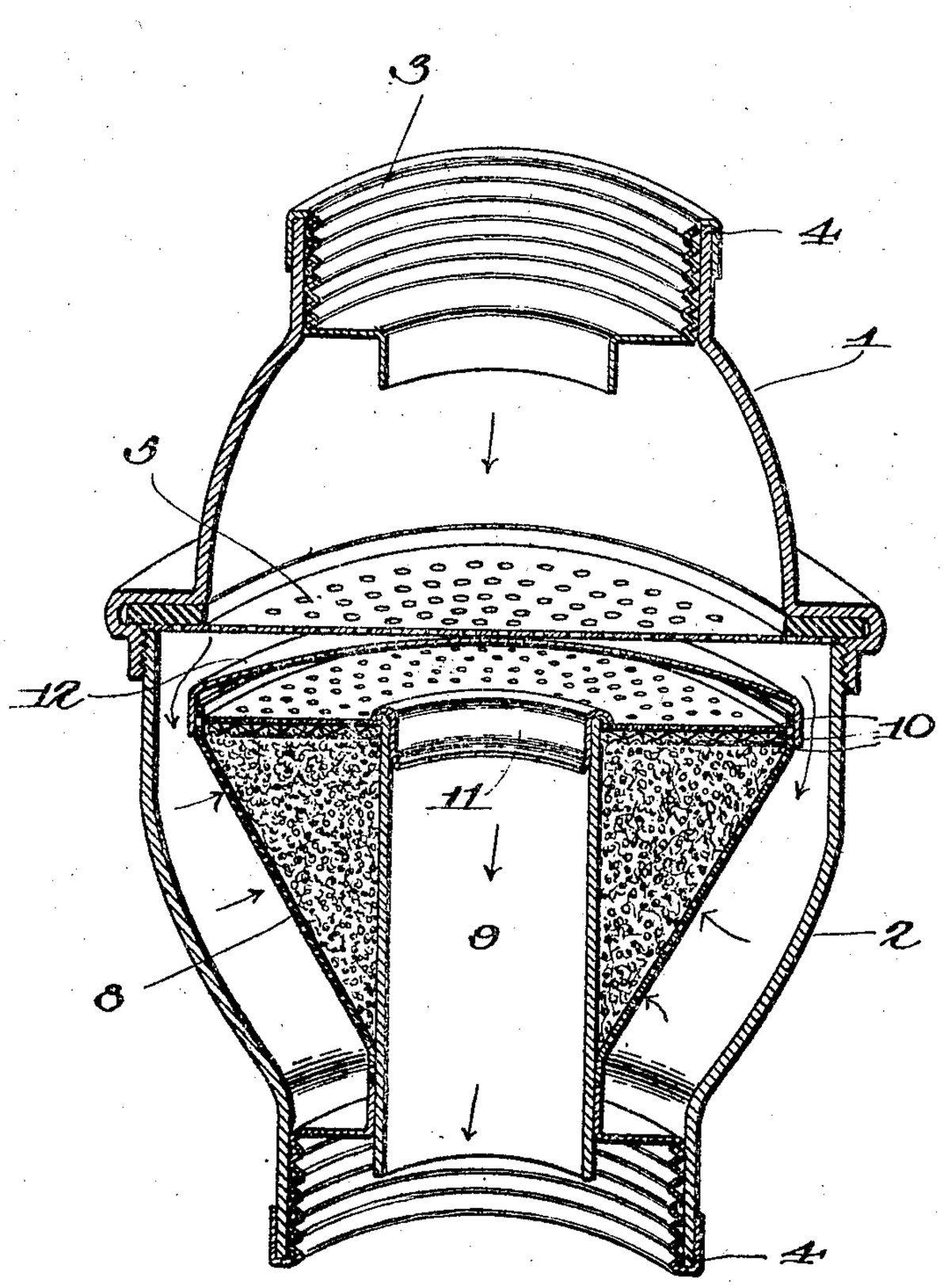
No. 795,703. PATENTED JULY 25, 1905.

W. JONES.

FILTER.

APPLICATION FILED NOV. 9, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLARD JONES, OF AUBURN, MAINE.

FILTER.

No. 795,703. Specification of Letters Patent. Patented July 25, 1905.

Application filed November 9, 1904. Serial No. 232,034.

To all whom it may concern:

Be it known that I, WILLARD JONES, a citizen of the United States, residing at Auburn, in the county of Androscoggin and State of Maine, have invented a new and useful Filter, of which the following is a specification.

This invention relates to filters, and has for its principal object to provide a filter in which all of the parts are readily detachable and may be separated and removed without the aid of any tools, so that the filtering material or screens may be cleansed or renewed when necessary without the calling in of a plumber or other expert.

A further object of the invention is to provide a filter in which all of the parts are formed of sheet metal, which may be stamped or spun, and thus avoid the expense of castings and the time and labor involved in finishing the same.

A still further object of the invention is to provide a novel and efficient form of filter in which a dirt-collecting chamber is arranged in such manner that any foreign matter carried by the water will tend to accumulate at the bottom of the chamber without clogging the foraminous material used for screening purposes.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawing, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

The accompanying drawing illustrates in sectional perspective a filter constructed in accordance with the invention.

Similar numerals of reference are employed to indicate corresponding parts throughout the drawing.

The casing of the filter is formed of two sections 1 and 2, having interengaging threaded portions at their meeting edges, and as the device is one of that class employed for attachment to an ordinary bib or faucet each of the sections is provided with a threaded socket member 3, formed of a separate piece of metal having a grooved portion for the reception of the end flange 4 of the casing, and after insertion in the groove the two parts are united by solder or similar material. This tends to materially cheapen the expense of construction, inasmuch as the socket members may be made in quantities of comparatively thin sheet metal by forming dies of ordinary construction. Between the two parts of the casing is a rather coarse filtering-screen 5, which will serve to retain the larger impurities and can be readily cleaned from time to time by merely uncoupling the two sections of the casing.

Within the outer section 2 of the casing is placed an inverted-cone-shaped casing 8, formed of foraminous material, and through said casing extends a vertically-disposed tube 9, the lower end of the tube passing directly through the smaller end of the casing and extending also through a flange carried by the threaded socket member, the casing 8 resting upon and being supported by said socket member in such manner that a clear passage is afforded around the casing for the flow of the liquid to be filtered. The tube fits within the end of the casing, the joint being sufficiently tight to prevent leakage; but when the filter is to be cleaned the tube may be withdrawn with comparatively slight exertion, although generally it will not be found necessary to remove the tube from within the casing. The casing 8 contains a suitable filtering medium—such, for instance, as bone-char—and the top of said casing receives one or more disks 10, formed of foraminous material. The disks are generally provided with perforations of different diameter, the disk having the smaller perforations being lowermost, and these are pressed tightly down within the upper part of the casing and serve to hold the filtering medium in position and at the same time form a support for the upper end of the tube 9. The disks are held in place by a small sleeve or collar 11, fitting down within the tube 9 and held therein by friction. The upper end of the sleeve or collar is provided with an overhanging flange in contact with the screening-disks 10, so that the latter will be maintained in place, but may be readily removed by withdrawing the sleeve or collar.

The top of the casing 8 is inclosed by an approximately dome-shaped cover 12, this being formed of impervious material, so that no liquid can flow directly through the top of the chamber; but this cover may also be readily detached when necessary.

When the parts are assembled and in posi-

tion for use, the liquid flows down into the upper chamber 1, passing thence through the filtering-screen 5 and when striking the cap or cover 12 is diverted to the sides of the casing, passing down within the latter, thence upward through the perforations in the tapering side wall thereof. The water thence passes through the filtering medium and upward through the screening-disks 10, after which it escapes through the tube 9, and finally through the outlet at the bottom of the section 2 of the casing.

When the filter is to be cleansed, the sections of the main casing are unscrewed and the screen 5 lifted out, after which the remaining parts may be readily detached without the aid of any tools whatever. The screens may be kept perfectly clean and the filtering medium renewed as often as occasion requires.

Having thus described the invention, what is claimed is—

1. The combination in a filter, of a sectional casing, a screen disposed between the sections of the casing, an inverted-cone-shaped casing having foraminous walls and provided with an impervious top, a tube extending through the bottom of the casing and to a point under the top thereof, a filtering medium surrounding the tube, and screening-disks surrounding the tube and serving to confine the filtering medium in position.

2. The combination in a filter, of a two-part casing having a threaded connection, a screen clamped between the two parts of the casing, an inverted-cone-shaped casing disposed within the main casing and having foraminous walls, a tube extending through the bottom of the cone-shaped casing and terminating at a point below the top thereof, a filtering medium surrounding the tube, removable screening-disks surrounding the upper portion of the tube, a ring or collar frictionally held within the upper portion of the tube and having a flange for locking the screening-disks in position, and an impervious cap or cover for said cone-shaped casing.

3. The combination in a filter, of a two-part casing, each of the parts having a terminal flange, a threaded socket member receiving said flange, a screen clamped between the two parts of the casing, a tube extending through an opening in the lower socket member, a conical casing supported by the tube and formed of foraminous material, a filtering medium surrounding the tube, filtering-disks surrounding the upper portion of the tube, a flanged ring or collar held in the upper portion of the tube and serving to confine the screening-disks in place, and a dome-shaped cap or cover of impervious material for said cone-shaped casing.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLARD JONES.

Witnesses:

J. H. JOCHUM, Jr.,

ARCHIBALD BULLOCH.