

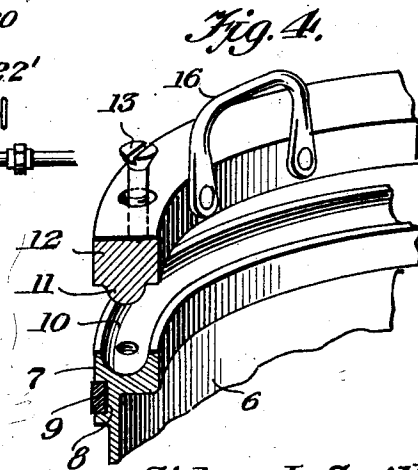
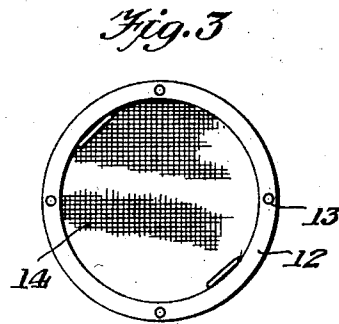
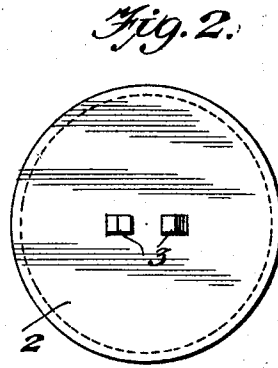
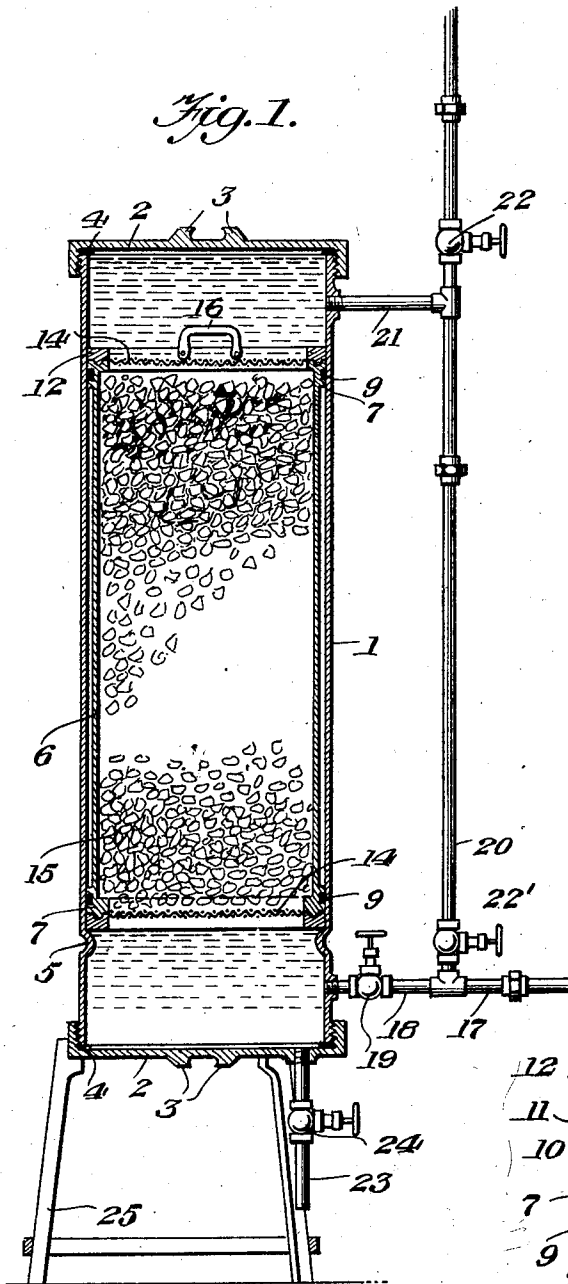
May 17, 1927.

1,629,418

S. L. SMITH

FILTER

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UNITED STATES PATENT OFFICE.

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FILTER.

Application filed September 22, 1926. Serial No. 137,089.

This invention relates to a filter, the general object of the invention being to provide a filter, the filtering medium of which can be easily removed for the purpose of re-charging, repairing and the like, with simple means for attaching the screens at the ends of the medium to the cylinder which carries the medium.

A further object of the invention is to provide means for causing the water to pass in a reverse direction through the device for cleaning the same.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a longitudinal sectional view through the device.

Figure 2 is a view of one of the caps.

Figure 3 is a top plan view of the screening medium.

Figure 4 is a fragmentary perspective view showing the manner of clamping a screen in place.

In these views, 1 indicates the casing or body of the device, which is of cylindrical form and has its ends screw threaded to receive the end caps 2. Each cap is provided with a pair of lugs 3 so that a bar or the like can be placed between the lugs in order to screw the cap firmly on the cylinder to make a tight joint. Each cap is provided with a gasket 4. An annular internal rib or bead 5 is formed in the cylinder 1 adjacent its lower end which forms a rest for the filtering medium. This medium comprises a cylinder 6 which has its ends enlarged, as at 7, each end having a groove 8 therein for receiving a packing ring 9 which engages the interior wall of the cylinder 1 to make a water-tight joint between two cylinders. Each enlargement 7 is provided with a groove 10 in its upper face for receiving an annular bead 11 formed on a ring 12 which is fastened to each enlargement 7 by the screws 13. A screen 14 is placed at each end of the cylinder 6 and is held in place by being clamped between each en-

largement 7 and each ring 12, the groove and bead engaging the edge of the screen and thus firmly holding it in place. The filtering material is shown at 15 and may be of any suitable type, such as sand and gravel or the like. The top ring 12 is provided with handles 16 so that the filtering medium can be easily removed from the outer cylinder.

The supply pipe 17 is connected with the lower end of the casing 1 by the branch 18 which has a valve 19 therein. An upright pipe 20 is connected with the supply pipe and this pipe 20 is connected with the top of the filter by the branch 21 and a valve 22 is placed in the pipe 20 above the branch 21. This pipe 20 also has a valve 22' in its lower end. A drain pipe 23 is attached to the bottom cap of the filter and has a valve 24 therein. The filter is adapted to rest on the supporting frame 25.

From the foregoing, it will be seen that by closing the valves 22' and 24 and opening the valves 19 and 22, water will pass into the bottom of the filter and then pass upwardly through the filtering medium to the top of the filter and will pass therefrom through the pipe 21 and be delivered to the point of use through the top part of the pipe 20. As the water passes through the filtering medium, it will be freed of all impurities, as will be understood. When the filter is to be cleaned, the valves 19 and 22 are closed and the valves 22' and 24 opened. Then the water will pass upwardly through the pipe 20, through the branch 21 into the top of the filter and then pass downwardly through the filtering medium and discharge through the pipe 23. Thus the filter will be flushed and cleaned by the water moving in a reverse direction from what it does when the filter is in operation. When the filtering material is to be renewed, the top cap is removed and the filtering medium pulled from the outer casing or cylinder by means of the handle 16. Then the screens are removed and the filtering material dumped out and new material put in place. The screens are then replaced and the device put back in the outer casing.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several

parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A filter of the class described comprising
5 a casing, a screw cap closing each end thereof, a filtering medium in the casing comprising a cylinder containing filtering material, gaskets between the cylinder and the casing, a screen at each end of the cylinder, a ring

fastened to each end of the cylinder for 10
holding the screen in place, each ring having a rib and each end of the cylinder having a groove for receiving the rib and the edge of the screen and a handle on the top 15
ring.

In testimony whereof I affix my signature.

SIDNEY L. SMITH.